

BULETIN TAHUNAN GEMPA BUMI TAHUN 2017



**BADAN METEOROLOGI KLIMATOLOGI DAN GEOFISIKA
STASIUN GEOFISIKA KLAS I WINANGUN MANADO**

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KATA PENGANTAR

Puji dan syukur kehadiran Tuhan Yang Maha Esa, Badan Meteorologi, Klimatologi, dan Geofisika (BMKG), Stasiun Geofisika Klas 1 Geofisika Manado, pada awal tahun 2018 dapat menerbitkan buletin gempa bumi sebagai salah satu produk informasi yang dipublikasikan Stasiun Geofisika Klas 1 Manado.

Buletin Gempa Bumi Stasiun Geofisika Klas 1 Manado tahun 2017 ini dibuat berdasarkan hasil analisa gempa bumi menggunakan software Analisa Sesicomp3. Besar harapan kami, agar buletin ini dapat memenuhi kebutuhan masyarakat dalam pelayanan data gempa bumi beserta seluruh parameternya.

Ucapan terimakasih ditujukan kepada seluruh pihak yang telah mendukung terbitnya buletin ini.

Manado, Januari 2018
KEPALA STASIUN GEOFISIKA KLAS 1
WINANGUN MANADO

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DATA STASIUN
STASIUN GEOFISIKA KLAS 1 WINANGUN MANADO

1. Kode Stasiun : MNI
2. Alamat Stasiun : Jl. Harapan No.42, Winangun Manado, Kotak Pos 1042
3. Koordinat Stasiun : 01°26'35" LU dan 124°50'21" BT
4. Batuan : Basalt Peroksin
5. Ketinggian : 128 Meter DPL
6. Instrument : Seiscomp3
7. Digitizer : LS-7000
8. Sensor : CMG-3T (BB), K-Seis100 (Acc)
9. Tahun Kalibrasi : -

PETUNJUK KHUSUS

Petunjuk Khusus yang digunakan Analisa Gelombang Seismik adalah sebagai berikut:

- a. *Date*
Menunjukkan tanggal terjadinya gempa bumi.
- b. *Time*
Menunjukkan waktu terjadinya gempa bumi yang terdiri atas HH:MM:SS
HH : Jam terjadinya gempa bumi
MM : Menit terjadinya gempa bumi
SS : Detik terjadinya gempa bumi
- c. *Latitude*
Menunjukkan lokasi lintang sumber gempa (episenter).
- d. *Longitude*
Menunjukkan lokasi bujur sumber gempa bumi (episenter)
- e. *Depth*
Menunjukkan kedalaman sumber gempa bumi, dinyatakan dalam km.
- f. *Mag*
Menunjukkan Magnitude atau kekuatan gempa bumi, dinyatakan dalam *Skala Richter (SR)*.
- g. *TypeMag*
Menunjukkan type magnitude yang digunakan dalam perhitungan kekuatan gempa bumi.
- h. *Region*
Menunjukkan
- i. *MMI*
Modified Mercally Intencity menunjukkan skala intensitas goncangan gempa bumi.
- j. *PGN*
Pusat Gempa Nasional.

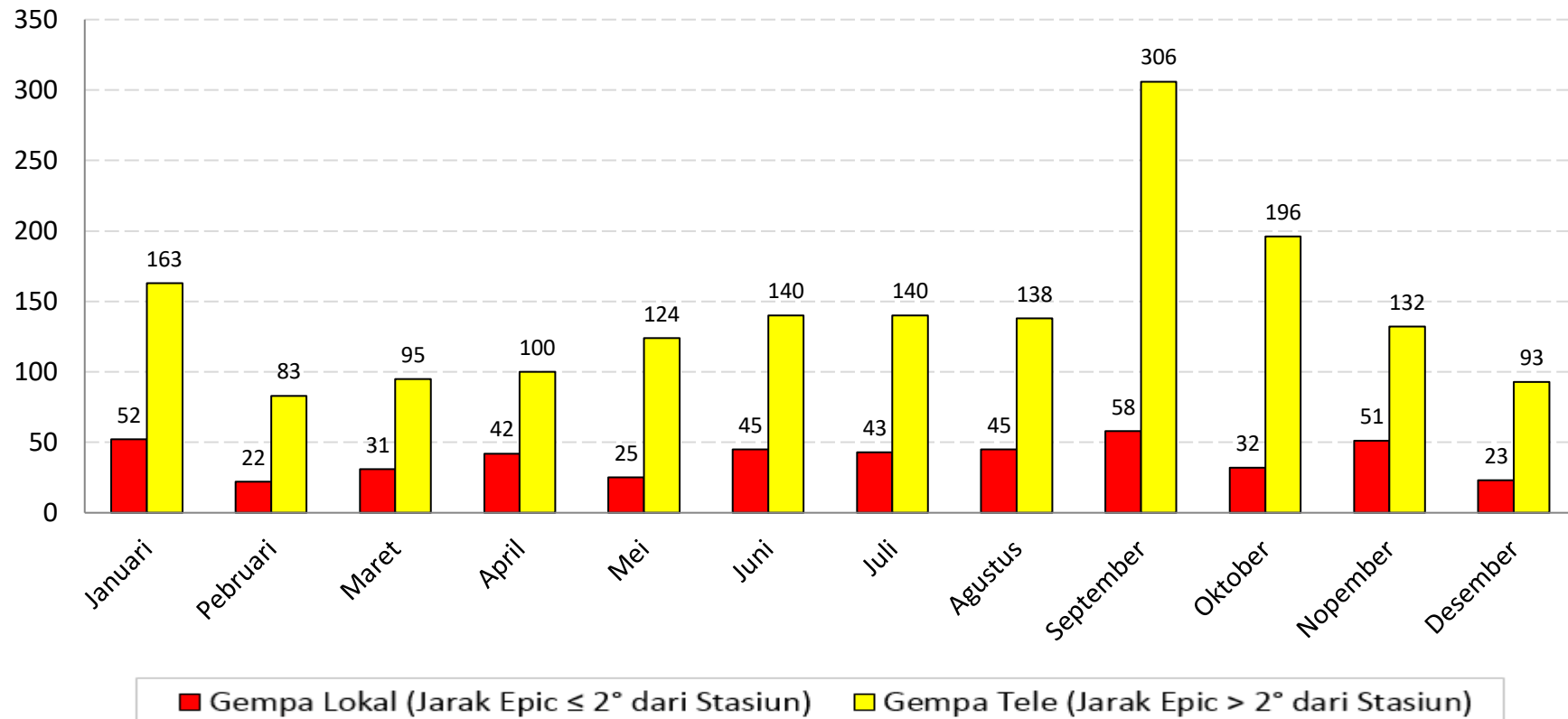
SKALA MODIFIED MERCALLI INTENSITY (MMI)

- I. Getaran tidak dirasakan kecuali dalam keadaan hening oleh beberapa orang.
- II. Getaran dirasakan oleh beberapa orang yang tinggal diam, lebih-lebih di rumah tingkat atas. Benda-benda ringan yang digantung bergoyang.
- III. Getaran dirasakan nyata dalam rumah tingkat atas. Terasa getaran seakan ada truk lewat, lamanya getaran dapat ditentukan.
- IV. Pada siang hari dirasakan oleh orang banyak dalam rumah, di luar oleh beberapa orang. Pada malam hari orang terbangun, piring dan gelas dapat pecah, jendela dan pintu berbunyi, dinding berderik karena pecah-pecah. Kacau seakan-akan truk besar melanggar rumah, kendaraan yang sedang berhenti bergerak dengan jelas.
- V. Getaran dirasakan oleh hampir semua penduduk, orang banyak terbangun. Jendela kaca dan plester dinding pecah, barang-barang terpelanting, pohon-pohon tinggi dan barang-barang besar tampak bergoyang. Bandul lonceng dapat berhenti.
- VI. Getaran dirasakan oleh semua penduduk, kebanyakan terkejut dan lari keluar, kadang-kadang meja kursi bergerak, plester dinding dan cerobong asap pabrik rusak. Kerusakan ringan.
- VII. Semua orang keluar rumah, kerusakan ringan pada rumah-rumah dengan bangunan dan konstruksi yang baik. Cerobong asap pecah atau retak-retak. Guncangan terasa oleh orang yang naik kendaraan.
- VIII. Kerusakan ringan pada bangunan-bangunan dengan konstruksi yang kuat. Retak-retak pada bangunan yang kuat. Banyak kerusakan pada bangunan yang tidak kuat. Dinding dapat lepas dari kerangka rumah, cerobong asap pabrik-pabrik dan monumen-monumen roboh. Meja kursi terlempar, air menjadi keruh, orang naik sepeda motor terasa terganggu.
- IX. Kerusakan pada bangunan yang kuat, rangka-rangka rumah menjadi tidak lurus, banyak lubang-lubang karena retak-retak pada bangunan yang kuat. Rumah tampak bergeser dari pondasinya, pipa-pipa dalam tanah putus.
- X. Bangunan dari kayu yang kuat rusak, rangka-rangka rumah lepas dari pondasinya, tanah terbelah, rel melengkung. Tanah longsor di sekitar sungai dan tempat-tempat yang curam serta terjadi air bah.
- XI. Bangunan-bangunan kayu sedikit yang tetap berdiri, jembatan rusak, terjadi lembah. Pipa dalam tanah tidak dapat dipakai sama sekali, tanah terbelah, rel melengkung sekali.
- XII. Hancur sama sekali. Gelombang tampak pada permukaan tanah, pemandangan menjadi gelap, benda-benda terlempar ke udara.

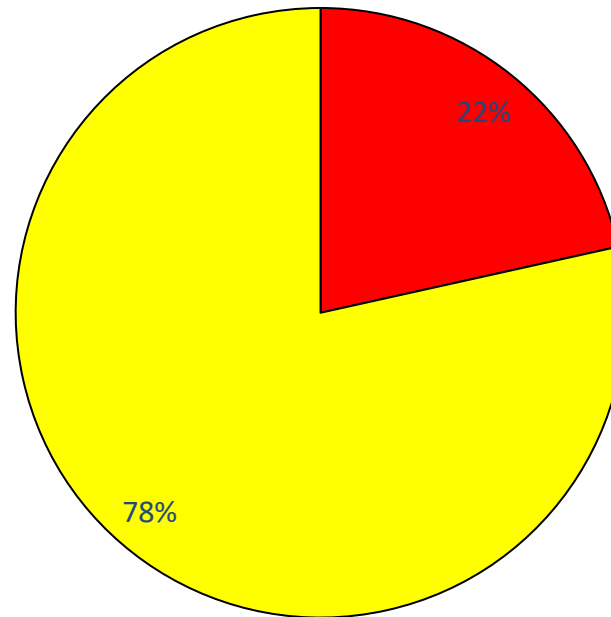
TABEL 1. FREKUENSI GEMPA BUMI DI WILAYAH PUSAT REGIONAL X
PERIODE TAHUN 2017

Bulan	Jumlah Gempa	Frekuensi				
		Gempa Lokal (Jarak epic $\leq 2^\circ$ dari Stasiun)	Gempa Tele (Jarak epic $> 2^\circ$ dari Stasiun)	$M < 3$	$3 \leq M < 5$	$M \geq 5$
Januari	215	52	163	58	146	11
Pebruari	105	22	83	28	75	2
Maret	126	31	95	23	99	4
April	142	42	100	13	116	13
Mei	149	25	124	30	117	2
Juni	185	45	140	58	119	8
Juli	183	43	140	61	116	6
Agustus	183	45	138	60	119	4
September	364	58	306	165	191	8
Oktober	228	32	196	67	158	3
Nopember	183	51	132	28	145	10
Desember	116	23	93	32	77	7
Total	2179	469	1710	623	1478	78

GRAFIK FREKUENSI GEMPA BUMI BERDASARKAN JARAK DI SULAWESI UTARA DAN SEKITARNYA TAHUN 2017

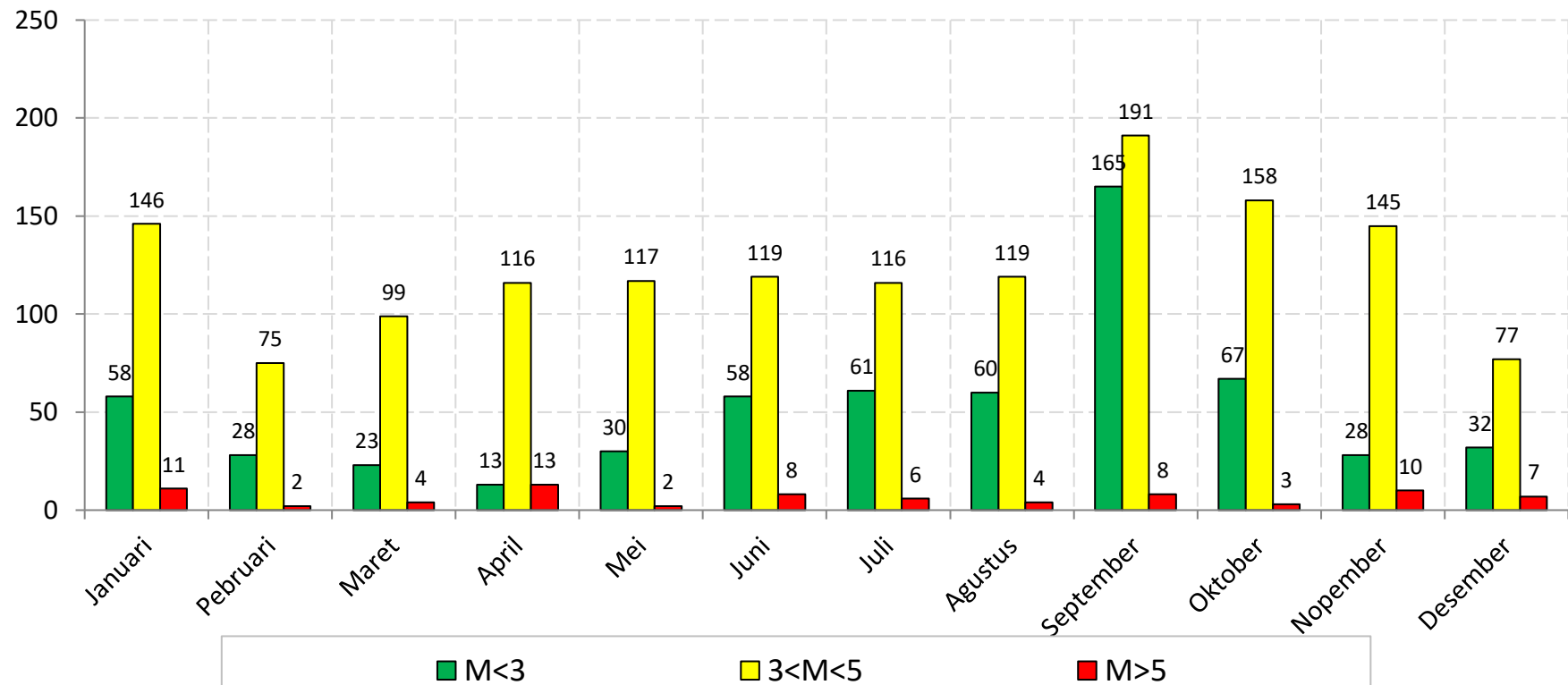


**PRESENTASE 1. FREKUENSI GEMPA BUMI BERDASARKAN JARAK
DI SULAWESI UTARA DAN SEKITARNYA TAHUN 2017**

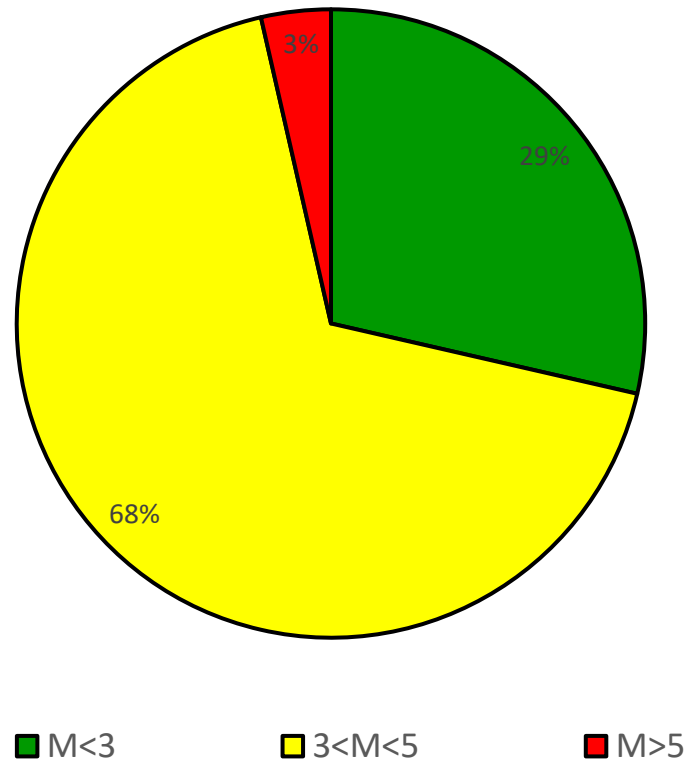


■ Gempa Lokal (Jarak Epic $\leq 2^\circ$ dari Stasiun) ■ Gempa Tele (Jarak Epic $> 2^\circ$ dari Stasiun)

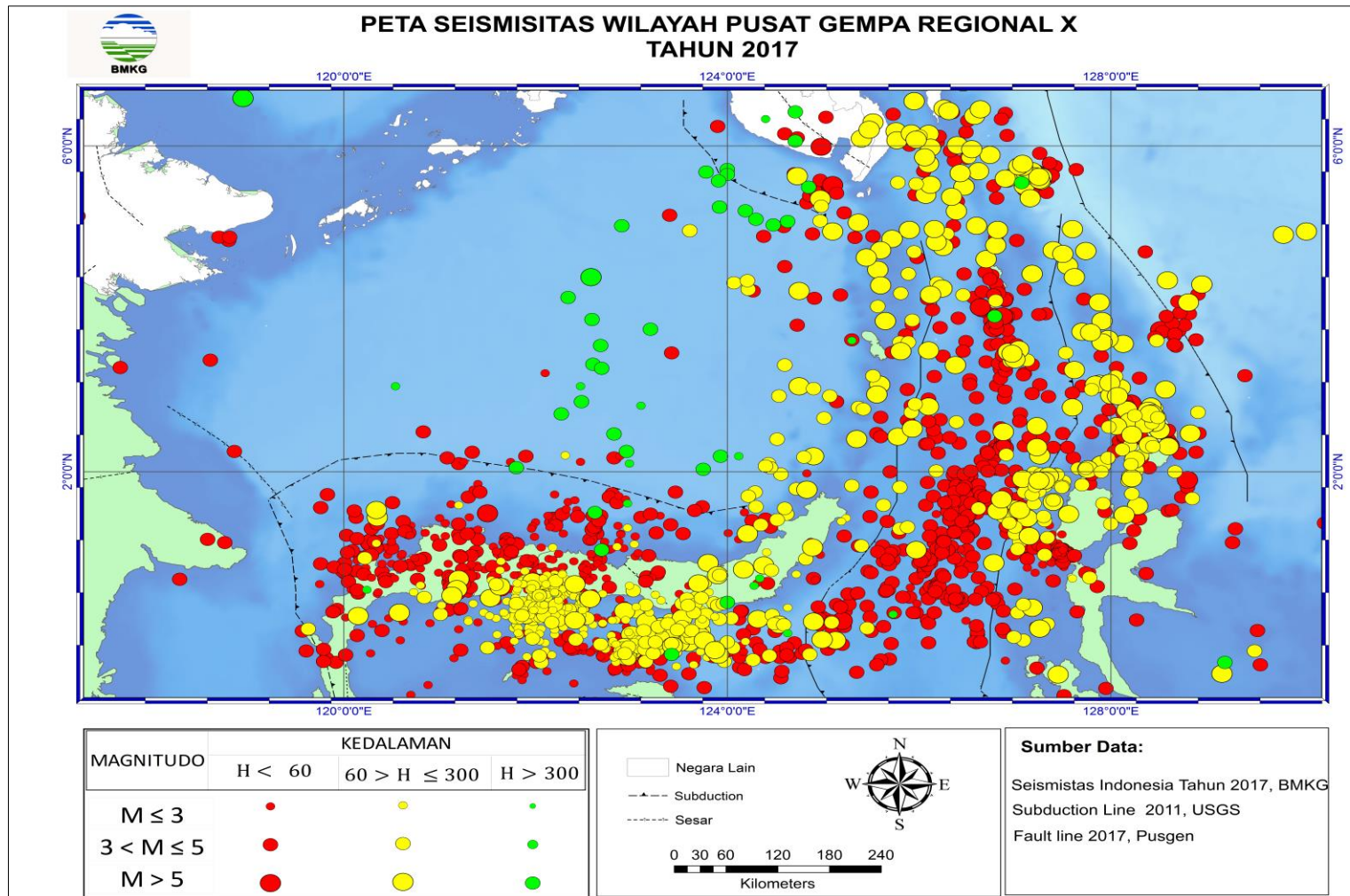
GRAFIK FREKUENSI GEMPA BUMI BERDASARKAN MAGNITUDO DI SULAWESI UTARA DAN SEKITARNYA TAHUN 2017



**PRESENTASE 2. FREKUENSI GEMPA BUMI BERDASARKAN MAGNITUDO DI
SULAWESI UTARA DAN SEKITARNYA TAHUN 2017**



PETA 1. SEBARAN EPISENTER GEMPA BUMI TAHUN 2017



**GEMPA BUMI DIRASAKAN
DI SULAWESI UTARA DAN SEKITARNYA
TAHUN 2017**

NO.	TANGGAL	JAM (WIB)	LINTANG	BUJUR	MAGNITUDE (SR)	KEDALAMAN (Km)	DIRASAKAN (MMI)	KETERANGAN
1	10/01/2017	13:13:48	4.44 LU	122.7 BT	7.3	618	Ternate (3 MMI)	322 km BaratLaut Kep- Sangihe, Sulut
2	13/01/2017	23:39:24	0.11 LS	125.12 BT	5.5	10	Kotamobago (4 MMI)	117 km Tenggara BolMongTmr, Sulawesi Utara
3	14/01/2017	18:41:19	1.35 LU	126.42 BT	5.4	10	Manado (3 MMI)	123 km BaratLaut Ternate, Maluku Utara
4	21/01/2017	12:16:31	2.82 LU	128.12 BT	5.6	10	Ternate (3 MMI)	59 km barat laut Pulau Morotai, Maluku Utara
5	29/01/2017	07:23:48	0.97 LU	127.46 BT	2.1	5	Jailolo (2 MMI)	8 km selatan Jailolo, Maluku Utara
6	26/02/2017	16:24:31	1.31 LU	122.45 BT	4.9	7	Limboto (2 MMI)	43 km BaratLaut Gorontalo Utara, Gorontalo
7	28/02/2017	09:34:12	1.44 LU	126.62 BT	4.6	15	Ternate (2 MMI)	108 km BaratLaut Halmahera Barat, Maluku Utara
8	03/03/2017	09:30:40	1.03 LU	127.05 BT	4	23	Ternate (2 MMI)	45 Km BaratLaut Ternate, MALUKU UTARA
9	08/03/2017	08:38:42	2.4 LU	128.52 BT	5.4	10	Daruba (3 MMI)	13 Km TimurLaut Pulau Morotai, Maluku Utara
10	14/03/2017	12:55:21	0.68 LU	121.13 BT	5.5	66	Toli-Toli (4 MMI)	37 km Timur Laut Parigimoutong, Sulawesi Tengah
11	17/03/2017	13:59:46	1 LU	126.11 BT	4.7	10	Bitung (4 MMI)	120 km Tenggara Bitung, SULUT
12	29/03/2017	10:30:26	2.76 LU	126.1 BT	5.4	115	Sangihe (4 MMI)	89 km TimurLaut SIAUTAGULANDANGBIARO, SULUT
13	29/03/2017	15:20:14	0.09 LS	124.44 BT	5	115	Luwuk (3 MMI)	70 km BaratDaya BOLAANGMONGONDOWSEL, SULUT
14	31/03/2017	18:21:01	0.31 LU	120.59 BT	5.6	71	Toli-Toli (3 MMI)	38 km BaratDaya PARIGIMOUTONG-SULTENG, Sulawesi Tengah
15	03/04/2017	08:00:52	1.98 LU	127.83 BT	3.9	8	Galela (2 MMI)	35 km Barat Laut Tobelo, Maluku Utara
16	10/04/2017	17:38:53	5.66 LU	127.23 BT	5.8	71	Naha- Sangihe (3 MMI)	188 km timur laut Kep-Talaud, Sulawesi Utara
17	18/04/2017	21:47:32	0.72 LU	127.4 BT	3.7	10	Ternate (3 MMI)	7Km BaratLaut TIDORE-KEP MALUT, MALUT
18	19/04/2017	15:06:51	0.58 LU	126.99 BT	3.8	16	Ternate (3 MMI)	47 km BaratDaya Ternate, Maluku Utara
19	19/04/2017	20:40:20	1.56 LU	128.27 BT	4.5	59	Tobelo (3 MMI)	34 km Tenggara Tobelo, Maluku Utara
20	26/04/2017	11:52:02	1.46 LU	128.13 BT	5	58	Galela (3 MMI)	26 km Tenggara Halmahera Utara, Malut
21	20/05/2017	19:08:34	1.61 LU	124.61 BT	3.4	32	MANADO (2 MMI)	29 km baratlaut Manado, SULUT
22	28/05/2017	18:04:32	0.48 LU	121.16 BT	4.9	34	Tolitoli (4 MMI)	6 km Timur Taopa Kab. Parigi Moutong , Sulteng
23	06/06/2017	23:42:49	0.05 LS	119.84 BT	3.8	16	Donggala (2 MMI)	Pusat gempa berada didarat 4 km barat Tambu Donggala, SULTENG
24	12/06/2017	11:30:32	3.93 LU	126.85 BT	5.1	10	Melonguane (2 MMI)	19 km Tenggara Kep. Talaud , SULUT
25	20/06/2017	21:47:46	2.1 LU	128.54 BT	4.9	5	Tobelo (3 MMI)	28 km Timur Laut Daruba, Malut
26	23/06/2017	18:55:56	0.94 LU	123.19 BT	4.7	29	Gorontalo (3 MMI)	9 Km BaratLaut Bolaang Mongondow Utara, Sulawesi Utara

27	27/06/2017	21:55:29	1.52 LU	126.82 BT	5.1	56	Ternate (3 MMI)	Pusat gempa berada diLaut, 88Km BaratLaut Halmahera Barat, MALUT
28	01/07/2017	12:11:33	2.28 LU	127.2 BT	5.1	61	Galela (2 MMI)	111 km BaratLaut Halmaherabarat, Maluku Utara
29	08/07/2017	01:47:56	1.23 LU	127.49 BT	2.7	9	Jailolo (2 MMI)	19 km timur laut Jailolo, Maluku Utara
30	08/07/2017	01:52:00	1.11 LU	127.31 BT	2.9	9	Jailolo (2 MMI)	18 km barat laut Jailolo, Maluku Utara
31	15/07/2017	19:12:22	0.41 LU	122.05 BT	6	100	Gorontalo (4 MMI)	40 km Baratdaya Boalemo, Gorontalo
32	19/07/2017	01:25:31	0.74 LU	123.27 BT	4.8	34	Gorontalo (4 MMI)	18 Km Tenggara Bolaang Mongondow Utara , Sulawesi Utara
33	05/08/2017	07:30:42	6.13 LU	125.46 BT	5.9	70	Naha (3 MMI)	270 km barat laut Kep. Talaud, Sulawesi Utara
34	27/08/2017	03:49:18	1.28 LU	122.65 BT	4.7	15	Gorontalo dan Kab. Gorontalo (3 MMI)	43 km TimurLaut Gorontalo Utara, Gorontalo
35	01/09/2017	05:57:37	0.17 LS	125.2 BT	5.4	10	Manado (2 MMI)	127 km Tenggara Bolaangmongondowtmr, Sulawesi Utara
36	27/09/2017	20:09:02	1.03 LU	127.39 BT	2.4	6	Jailolo (2 MMI)	9 km Barat Daya Jailolo, Maluku Utara
37	28/09/2017	01:06:04	1.05 LU	127.47 BT	3.7	5	Jailolo (4 MMI)	37 km Barat Daya Halmahera Barat, Maluku Utara
38	28/09/2017	01:12:45	1.05 LU	127.5 BT	3.6	5	Jailolo (3 MMI)	35 km Barat Daya Halmahera Barat, Maluku Utara
39	28/09/2017	11:29:29	0.98 LU	127.53 BT	4.2	2	Ternate (3 MMI)	11 km Tenggara Jailolo, Maluku Utara
40	28/09/2017	13:32:21	0.87 LU	127.52 BT	4.7	5	Jailolo (4 MMI)	20 Km Timur Laut Ternate, Maluku Utara
41	28/09/2017	14:00:33	1.04 LU	127.28 BT	3.7	10	Ternate (3 MMI)	21 Km Barat Daya Jailolo, Maluku Utara
42	28/09/2017	17:20:52	0.99 LU	127.53 BT	4.2	3	Jailolo (3 MMI)	11 km Tenggara Jailolo, Maluku Utara
43	28/09/2017	18:32:35	1 LU	127.52 BT	3.8	5	Jailolo (3 MMI)	9 km tenggara Jailolo, Maluku Utara
44	29/09/2017	00:00:58	0.96 LU	127.55 BT	4.9	10	Ternate (4 MMI)	15 km Tenggara Jailolo, Maluku Utara
45	29/09/2017	06:01:37	0.99 LU	127.54 BT	4.7	10	Sofifi (4 MMI)	11 km Tenggara Jailolo, Maluku Utara
46	29/09/2017	12:25:49	0.98 LU	127.55 BT	4.4	4	Ternate (1 MMI)	37 km timur laut Tidore, Maluku Utara
47	29/09/2017	14:29:22	1.01 LU	127.49 BT	2.7	5	Jailolo (3 MMI)	6km Tenggara Jailolo, Maluku Utara
48	29/09/2017	17:20:18	0.94 LU	127.61 BT	3.8	4	Jailolo (3 MMI)	21 km Tenggara Jailolo, Malut
49	29/09/2017	17:31:23	0.99 LU	127.58 BT	3	9	Jailolo (2 MMI)	15 km Tenggara Jailolo, MALUT
50	29/09/2017	17:40:30	1.07 LU	127.43 BT	3.8	5	Jailolo (3 MMI)	4 km BaratLaut Jailolo, MALUT
51	29/09/2017	17:50:52	1.02 LU	127.51 BT	2.6	9	Jailolo (2 MMI)	8 km Tenggara Jailolo, MALUT
52	29/09/2017	18:00:50	0.99 LU	127.58 BT	3.6	9	Jailolo (3 MMI)	15 km Tenggara Jailolo, MALUT
53	29/09/2017	18:23:07	1.05 LU	127.52 BT	2	5	Jailolo (2 MMI)	6 km Tenggara Jailolo, Maluku Utara
54	29/09/2017	18:35:53	0.99 LU	127.57 BT	3.2	5	Jailolo (2 MMI)	14 km Tenggara Jailolo, MALUT
55	29/09/2017	19:48:57	1.02 LU	127.53 BT	4	4	Jailolo (4 MMI)	38 km BaratDaya Halmahera, MALUT
56	29/09/2017	20:12:04	1.07 LU	127.42 BT	3.5	6	Jailolo (3 MMI)	5 km BaratLaut Jailolo, MALUT
57	29/09/2017	20:20:35	1.11 LU	127.25 BT	3	5	Jailolo (3 MMI)	47 km BaratDaya Halmahera Barat, MALUT
58	30/09/2017	03:57:25	1.1 LU	127.36 BT	3.1	2	Jailolo (2 MMI)	13 km BaratLaut Jailolo, MALUT

59	30/09/2017	08:31:16	1.07 LU	127.45 BT	3	3	Jailolo (3 MMI)	2 km BaratLaut Jailolo, MALUT
60	30/09/2017	17:30:01	1.8 LU	128.78 BT	5.2	10	Morotai (4 MMI)	63 km TimurLaut Halmahera Timur, MALUT
61	30/09/2017	17:58:18	0.98 LU	127.51 BT	3.4	5	Jailolo (3 MMI)	35 km TimurLaut Tidore, MALUT
62	01/10/2017	17:41:58	3.04 LU	128.25 BT	4.1	10	Morotai (2 MMI)	76 km BaratLaut PULAU MOROTAI, MALUT
63	01/10/2017	18:54:18	1.08 LU	127.51 BT	2.6	3	Jailolo (3 MMI)	5 km TimurLaut Jailolo, MALUT
64	01/10/2017	19:38:07	1.02 LU	127.45 BT	3	3	Jailolo (3 MMI)	5 km BaratDaya Jailolo, MALUT
65	02/10/2017	05:48:08	1.07 LU	127.18 BT	3.2	5	Jailolo (3 MMI)	53 km BaratLaut Tidore, MALUT
66	02/10/2017	09:22:56	1.05 LU	127.51 BT	3	3	Jailolo (3 MMI)	Pusat gempa berada didarat 5 km tenggara Jailolo, Maluku Utara
67	02/10/2017	09:41:01	1.11 LU	127.51 BT	2.5	4	Jailolo (3 MMI)	7 km Timurlaut Jailolo, Malut
68	03/10/2017	22:01:24	1.06 LU	127.47 BT	3	9	Jailolo (3 MMI)	0 km Tenggara Jailolo, MALUT
69	04/10/2017	00:03:12	2.68 LS	140.35 BT	4.5	10	Jayapura (3 MMI)	21 km Baratdaya Kab Jayapura, Papua
70	04/10/2017	06:39:28	1.01 LU	127.51 BT	3.5	5	Jailolo (2 MMI)	39 km BaratDaya HALMAHERABARAT, MALUT
71	04/10/2017	13:47:35	1.12 LU	127.19 BT	3.1	4	Jailolo (3 MMI)	52 km BaratDaya Halmahera Barat, Maluku Utara
72	04/10/2017	20:41:15	8.71 LS	118.48 BT	3.6	13	Bima (3 MMI)	24 km Tenggara Dompur, NTB
73	05/10/2017	04:49:36	1.06 LU	127.3 BT	3.1	5	Jailolo (2 MMI)	19 km Barat Jailolo, Maluku Utara
74	05/10/2017	04:55:24	1.11 LU	127.34 BT	3.1	5	Jailolo (3 MMI)	15 km BaratLaut Jailolo, Maluku Utara
75	05/10/2017	05:05:23	1.05 LU	127.48 BT	2.4	5	Jailolo (2 MMI)	2 km Tenggara Jailolo, Maluku Utara
76	05/10/2017	10:05:22	1.05 LU	127.45 BT	2.8	5	Jailolo (3 MMI)	2 km BaratDaya Jailolo, Maluku Utara
77	05/10/2017	11:01:16	1.08 LU	127.48 BT	3.2	5	Jailolo (3 MMI)	3 km TimurLaut Jailolo, Maluku Utara
78	05/10/2017	11:28:12	1.14 LU	127.37 BT	3.1	3	Jailolo (3 MMI)	34 km BaratDaya HALMAHERABARAT, MALUT
79	05/10/2017	11:59:10	1.05 LU	127.46 BT	3	1	Jailolo (3 MMI)	1 km BaratDaya JAILOLO, MALUT
80	05/10/2017	12:50:51	1.04 LU	127.48 BT	3.1	17	Jailolo (3 MMI)	3 km Tenggara JAILOLO, MALUT
81	05/10/2017	13:19:47	1.07 LU	127.51 BT	3.2	5	Jailolo (3 MMI)	5 km TimurLaut JAILOLO, MALUT
82	05/10/2017	14:46:41	1.09 LU	127.48 BT	3.1	1	Jailolo (3 MMI)	4 km TimurLaut JAILOLO, MALUT
83	05/10/2017	19:34:08	1.03 LU	127.6 BT	3.7	5	Jailolo (3 MMI)	15 km Tenggara Jailolo, Maluku Utara
84	05/10/2017	20:04:36	1.1 LU	127.32 BT	3.6	5	Jailolo (3 MMI)	17 km BaratLaut Jailolo, Maluku Utara
85	05/10/2017	20:32:15	1.07 LU	127.41 BT	3.3	5	Jailolo (3 MMI)	38 km Barat Daya Halmahera Barat, Maluku Utara
86	05/10/2017	21:03:02	1.09 LU	127.3 BT	3.2	5	Jailolo (2 MMI)	19 km BaratLaut Jailolo, Maluku Utara
87	05/10/2017	22:06:27	1.11 LU	127.19 BT	3.1	5	Jailolo (3 MMI)	52 km Barat Daya Halmahera Barat, Maluku Utara
88	06/10/2017	06:11:33	1.02 LU	127.58 BT	3.7	4	Jailolo (3 MMI)	13 km Tenggara Jailolo, Maluku Utara
89	06/10/2017	07:14:31	1.09 LU	127.38 BT	3.2	4	Jailolo (2 MMI)	38 km Barat Daya Halmahera Barat, Maluku Utara
90	06/10/2017	08:13:21	1.07 LU	127.47 BT	3.1	3	Jailolo (3 MMI)	1 km TimurLaut Jailolo, Malut
91	06/10/2017	08:20:28	1.05 LU	127.47 BT	3.1	13	Jailolo (3 MMI)	1 km Tenggara Jailolo, Malut
92	06/10/2017	08:30:52	1.05 LU	127.44 BT	2.7	2	Jailolo (2 MMI)	3 km BaratDaya Jailolo, Malut

93	06/10/2017	10:28:25	1.04 LU	127.44 BT	2.8	3	Jailolo (2 MMI)	Pusat gempa berada di. Darat 4 Km Barat Daya Jailolo-Malut, Maluku Utara
94	06/10/2017	11:23:45	1.07 LU	127.49 BT	3.1	1	Jailolo (2 MMI)	3 Km Timur Laut Jailolo- Malut, Maluku Utara
95	06/10/2017	16:23:42	0.47 LS	119.89 BT	4.7	20	Palu (3 MMI)	48 km Utara Palu, Sulawesi Tengah
96	06/10/2017	22:34:22	0.95 LU	127.53 BT	2.7	5	Jailolo (3 MMI)	33 km Timur Laut Tidore, MALUT
97	07/10/2017	16:25:05	1.05 LU	127.41 BT	3.2	5	Jailolo (3 MMI)	40 Km BaratDaya Halmahera Barat, Maluku Utara
98	07/10/2017	18:11:02	0.99 LU	127.51 BT	3.2	3	Jailolo (3 MMI)	9 km Tenggara Jailolo, MALUT
99	08/10/2017	11:11:20	1.02 LU	127.64 BT	3.6	5	Jailolo (3 MMI)	19 km Tenggara Jailolo, Maluku Utara
100	08/10/2017	11:59:43	1.13 LU	126.99 BT	3.5	5	Jailolo (3 MMI)	54 km Barat Laut Jailolo, Maluku Utara
101	08/10/2017	12:21:48	1.02 LU	127.58 BT	2.5	3	Jailolo (2 MMI)	13 km Tenggara Jailolo, Maluku Utara
102	08/10/2017	13:54:42	1.1 LU	127.33 BT	3.2	5	Jailolo (3 MMI)	16 km BaratLaut Jailolo, Maluku Utara
103	08/10/2017	17:37:19	1.01 LU	127.64 BT	3.2	5	Jailolo (3 MMI)	20 km Tenggara Jailolo , Maluku Utara
104	08/10/2017	18:21:14	1.07 LU	127.48 BT	2.8	28	Jailolo (2 MMI)	2 km BaratDaya Jailolo, Maluku Utara
105	08/10/2017	18:43:43	1.1 LU	127.47 BT	2.8	1	Jailolo (2 MMI)	4 km BaratLaut Jailolo, Maluku Utara
106	08/10/2017	18:52:57	1.03 LU	127.46 BT	2.9	2	Jailolo (2 MMI)	2 km BaratDaya Jailolo, Maluku Utara
107	08/10/2017	19:05:16	1.08 LU	127.49 BT	2.6	5	Jailolo (2 MMI)	3 km TimurLaut Jailolo, Maluku Utara
108	08/10/2017	21:26:18	1.03 LU	127.42 BT	3.1	2	Jailolo (3 MMI)	6 km BaratDaya Jailolo, Maluku Utara
109	08/10/2017	22:27:00	1.05 LU	127.46 BT	2	5	Jailolo (2 MMI)	1 km Baratdaya Jailolo, Maluku Utara
110	09/10/2017	00:37:33	1.09 LU	127.45 BT	3.2	3	Jailolo (3 MMI)	4 km BaratLaut Jailolo, Maluku Utara
111	09/10/2017	17:50:18	1.03 LU	127.61 BT	3.8	5	Jailolo (3 MMI)	16km Tenggara Jailolo, Maluku Utara
112	10/10/2017	03:00:01	1.06 LU	127.51 BT	3.1	4	Jailolo (3 MMI)	Pusat gempa berada didarat 5 km Timur Jailolo, MALUT
113	13/10/2017	22:02:05	1.2 LU	127.74 BT	4.7	8	Ternate (3 MMI)	23 km Tenggara Halmahera Barat, Maluku Utara
114	13/10/2017	23:38:53	1.05 LU	127.51 BT	2.6	4	Jailolo (2 MMI)	5 km Tenggara Jailolo, Maluku Utara
115	18/10/2017	20:34:27	0.76 LU	122.01 BT	2.1	37	Kotamubagu (3 MMI)	29 km BaratLaut BOALEMO, Gorontalo
116	18/10/2017	20:40:57	0.31 LS	122.98 BT	5.6	71	Luwuk (4 MMI)	95 km Barat Daya Gorontalo, Gorontalo
117	23/10/2017	20:09:46	0.97 LU	127.59 BT	3.7	5	Jailolo (3 MMI)	37 km Timur Laut Tidore, Maluku Utara
118	01/11/2017	01:24:37	1.91 LU	126.04 BT	4.7	11	Manado (2 MMI)	84 km Tenggara Siau Tagulandang Biaro, SULUT.
119	09/11/2017	10:11:03	1.89 LU	127.06 BT	5.3	74	Ternate (2 MMI)	83 km BaratLaut HALMAHERABARAT-MALUT, Maluku Utara
120	11/11/2017	21:02:59	1.06 LU	126.24 BT	4.6	14	Bitung (2 MMI)	131 km Tenggara Bitung, SULUT
121	18/11/2017	23:07:02	2.61 LU	128.17 BT	5.8	10	Morotai (4 MMI)	37 km BaratLaut PULAUMOROTAI, Maluku Utara
122	19/11/2017	01:36:41	2.46 LU	128.14 BT	5.4	10	Morotai (4 MMI)	30 km BaratLaut PULAUMOROTAI, Maluku Utara
123	19/11/2017	20:12:30	2.42 LU	128.12 BT	4.7	10	Daruba (1 MMI)	45 km baratlaut DARUBA, MALUT
124	22/11/2017	08:11:23	0.31 LU	124.52 BT	5.5	77	Limboto dan Bone Bolango (4 MMI)	45 km Tenggara BOLAANGMONGONDOWTMR, SULUT

125	30/11/2017	00:10:59	1 LU	127.53 BT	3.5	2	Jailolo (2 MMI)	10 km Tenggara JAILOLO, MALUT
126	06/12/2017	05:19:02	1.41 LU	122.56 BT	4.9	5	Gorontalo (2 MMI)	timur Laut Sumalata, Gorontalo
127	06/12/2017	23:06:56	0.64 LS	123.7 BT	5.5	10	Gorontalo (2 MMI)	104 km Timurlaut BANGGAIKEP, SULTENG
128	06/12/2017	23:42:49	0.05 LS	119.84 BT	3.8	16	Donggala (2 MMI)	4 km Barat Tambu Donggala, SULTENG
129	16/12/2017	04:27:31	0.65 LU	122.38 BT	5.1	63	KAB. BOALEMO (4 MMI)	13 km tenggara Boalemo, Gorontalo
130	18/12/2017	22:09:31	0.03 LU	123.47 BT	5.1	130	Gorontalo (3 MMI)	58 km Barat Daya Bolaangmongondowsel, Sulawesi Utara
131	20/12/2017	09:55:45	1.09 LU	127.48 BT	3.2	5	Jailolo (3 MMI)	37.5 km timur laut Ternate, Maluku Utara
132	21/12/2017	02:22:58	3.31 LU	117.74 BT	4.1	10	Tarakan (3 MMI)	17 Km Tenggara Tarakan, KALTARA
133	25/12/2017	19:47:38	3.89 LU	126.65 BT	5.1	10	Melonguane (4 MMI)	18 km BaratDaya Kep. TALAUD, Sulawesi Utara
134	27/12/2017	14:12:50	0.46 LU	121.12 BT	5.2	61	Toli-Toli (4 MMI)	37 Km Tenggara Parigimoutong , SULTENG
135	29/12/2017	00:20:21	3.98 LU	126.88 BT	5.7	16	Naha (4 MMI)	19 km Tenggara Kep. Talaud, Sulawesi Utara
136	31/12/2017	15:52:41	0.5 LU	122.53 BT	4.2	63	Kota Gorontalo (3 MMI)	17 Km BaratDaya Paguyaman, Gorontalo

DATA GEMPABUMI BULAN JANUARI 2017

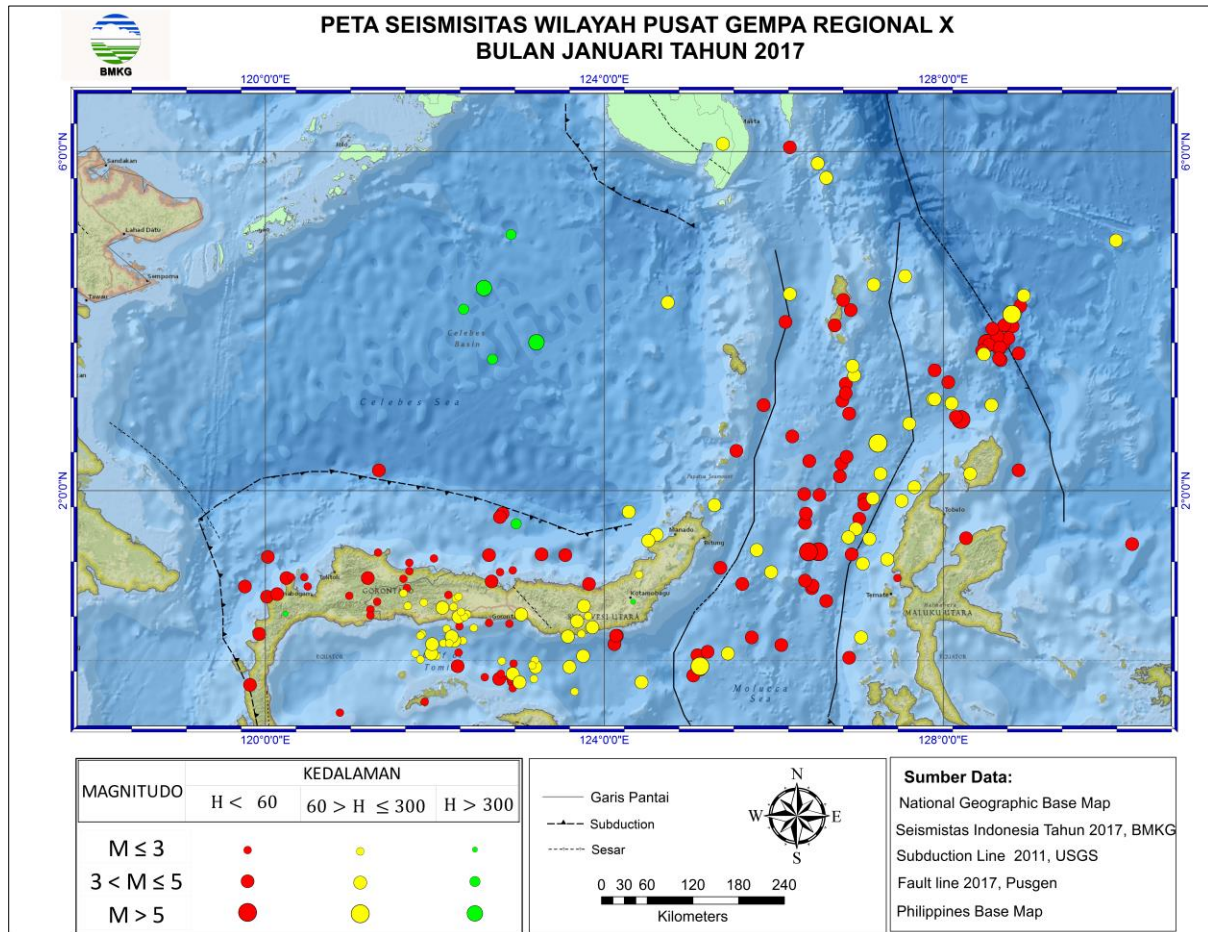
NO	DATE	OT (UTC)	EPICENTER		DEPTH (KM)	MAG	PGA (gals)			REMARKS
			LAT	LON			X	Y	Z	
1	01/01/2017	00:13:26	2.79	127.6	76	5	-	-	-	Northern Molucca Sea
2	01/01/2017	14:12:06	4.08	128.81	95	5.1	0.084928	0.113008	0.112588	North of Halmahera, Indonesia
3	01/01/2017	14:13:39	3.74	128.52	32	5.5	-	-	-	North of Halmahera, Indonesia
4	01/01/2017	14:17:52	3.94	128.82	10	4.8	-	-	-	North of Halmahera, Indonesia
5	01/01/2017	15:13:39	3.73	128.71	10	4.4	-	-	-	North of Halmahera, Indonesia
6	01/01/2017	15:27:24	0.54	122.39	63	1.8	-	-	-	Minahassa Peninsula, Sulawesi
7	01/01/2017	18:34:21	3.95	128.72	10	4	-	-	-	North of Halmahera, Indonesia
8	01/01/2017	19:40:44	0.85	126.45	10	3.6	-	-	-	Northern Molucca Sea
9	01/01/2017	21:36:04	3.01	128.57	155	4.4	-	-	-	North of Halmahera, Indonesia
10	02/01/2017	03:06:33	0.03	126.89	14	3.7	-	-	-	Northern Molucca Sea
11	02/01/2017	12:03:05	0.73	122.25	71	1.7	-	-	-	Minahassa Peninsula, Sulawesi
12	02/01/2017	14:47:22	1.67	127.01	16	3.7	-	-	-	Halmahera, Indonesia
13	02/01/2017	17:51:53	4.53	127.55	61	4.4	0.198383	0.239809	0.433330	Talaud Islands, Indonesia
14	02/01/2017	17:57:27	2.17	126.78	10	4	-	-	-	Northern Molucca Sea
15	02/01/2017	18:13:04	2.32	126.8	13	4	-	-	-	Northern Molucca Sea
16	02/01/2017	21:55:29	3.67	128.66	10	4.5	-	-	-	North of Halmahera, Indonesia
17	02/01/2017	22:07:47	-0.08	123.19	127	4.4	-	-	-	Minahassa Peninsula, Sulawesi
18	03/01/2017	06:55:20	3.8	128.77	50	4.1	-	-	-	North of Halmahera, Indonesia
19	03/01/2017	08:35:24	3.62	128.89	18	4.7	-	-	-	North of Halmahera, Indonesia
20	03/01/2017	09:11:20	4.3	128.95	77	4.5	0.120255	0.097896	0.114541	North of Halmahera, Indonesia
21	03/01/2017	10:20:57	1.55	126.97	123	4.2	-	-	-	Northern Molucca Sea
22	03/01/2017	12:01:57	-0.22	122.76	10	3.4	-	-	-	Minahassa Peninsula, Sulawesi
23	03/01/2017	13:29:20	0.23	122.33	138	2.4	-	-	-	Minahassa Peninsula, Sulawesi
24	03/01/2017	14:54:29	3.03	128.1	122	4.2	-	-	-	North of Halmahera, Indonesia
25	03/01/2017	20:21:48	4.18	128.91	15	4.4	-	-	-	North of Halmahera, Indonesia
26	03/01/2017	23:48:09	1.14	127.05	118	3.7	-	-	-	Halmahera, Indonesia
27	04/01/2017	03:27:13	0.85	121.67	27	2.9	-	-	-	Minahassa Peninsula, Sulawesi
28	04/01/2017	03:47:58	1.48	124.62	250	3.5	-	-	-	Minahassa Peninsula, Sulawesi
29	04/01/2017	09:11:08	0.88	126.46	13	4.1	-	-	-	Northern Molucca Sea
30	04/01/2017	11:41:12	-0.37	123.65	157.7	2.6	-	-	-	Minahassa Peninsula, Sulawesi
31	04/01/2017	12:40:08	1.27	121.33	10	2.5	-	-	-	Minahassa Peninsula, Sulawesi
32	04/01/2017	14:07:30	-0.619	120.88	3	2.9	-	-	-	Minahassa Peninsula, Sulawesi
33	04/01/2017	17:18:07	-0.16	122.78	18	3	-	-	-	Minahassa Peninsula, Sulawesi
34	04/01/2017	19:03:51	1.83	125.3	126	3.7	-	-	-	Northern Molucca Sea
35	04/01/2017	19:30:13	5.02	122.9	538	4.1	0.046797	0.083523	0.112256	Northern Molucca Sea
36	04/01/2017	19:49:21	0.4	122.29	43	2.5	-	-	-	Minahassa Peninsula, Sulawesi
37	05/01/2017	01:31:43	3.08	127.88	104	4.7	0.105003	0.079037	0.259300	Talaud Islands, Indonesia
38	05/01/2017	06:17:13	3.82	128.64	49	4.6	-	-	-	North of Halmahera, Indonesia
39	05/01/2017	06:44:35	3.55	122.68	557	4.6	-	-	-	Celebes Sea
40	05/01/2017	13:52:20	-0.26	124.44	63	3.1	-	-	-	Southern Molucca Sea
41	06/01/2017	02:47:21	-0.49	121.88	13	2.6	-	-	-	Minahassa Peninsula, Sulawesi
42	06/01/2017	10:33:44	3.72	128.54	10	4.6	0.149630	0.222863	0.354917	North of Halmahera, Indonesia
43	06/01/2017	11:46:40	-0.08	123.59	118	4.3	-	-	-	Minahassa Peninsula, Sulawesi
44	06/01/2017	20:58:25	0.46	123.68	232	3.8	-	-	-	Minahassa Peninsula, Sulawesi
45	07/01/2017	02:38:32	5.69	126.62	66	5	0.130590	0.101873	0.122208	Mindanao, Philippines
46	07/01/2017	07:54:42	-0.2	122.88	26	3	-	-	-	Minahassa Peninsula, Sulawesi
47	07/01/2017	12:25:23	1.9	127.07	21	4.6	-	-	-	Halmahera, Indonesia
48	07/01/2017	14:07:54	0	123.18	152	2.6	-	-	-	Minahassa Peninsula, Sulawesi
49	07/01/2017	14:18:23	0.96	121.63	36	2.7	-	-	-	Minahassa Peninsula, Sulawesi
50	07/01/2017	22:07:25	0.51	122.28	77	3.2	-	-	-	Minahassa Peninsula, Sulawesi
51	08/01/2017	07:47:27	3.95	126.72	10	4.1	0.099910	0.066026	0.099658	Talaud Islands, Indonesia
52	08/01/2017	09:03:42	1.73	122.8	19	3.8	-	-	-	Minahassa Peninsula, Sulawesi
53	08/01/2017	10:10:54	0.31	121.85	183	2.2	-	-	-	Minahassa Peninsula, Sulawesi
54	08/01/2017	12:39:10	0.87	120.5	2	2.6	-	-	-	Minahassa Peninsula, Sulawesi
55	08/01/2017	16:07:35	0.7	126.62	32	3.8	-	-	-	Northern Molucca Sea
56	08/01/2017	17:29:26	0.62	122.09	75	3.8	-	-	-	Minahassa Peninsula, Sulawesi
57	08/01/2017	17:47:26	0.06	125.1	33	3.7	-	-	-	Southern Molucca Sea
58	08/01/2017	17:59:05	0.9	125.63	6	3.2	-	-	-	Northern Molucca Sea
59	08/01/2017	19:41:16	1.25	126.92	56	3.2	-	-	-	Northern Molucca Sea

60	08/01/2017	23:10:57	0.54	122.38	75	2	-	-	-	Minahassa Peninsula, Sulawesi
61	09/01/2017	10:58:30	1.62	126.37	22	3.5	-	-	-	Northern Molucca Sea
62	09/01/2017	12:41:28	2.56	127.23	68	5.2	0.133414	0.146640	0.157753	Northern Molucca Sea
63	09/01/2017	13:32:40	3.91	128.58	16	4.8	-	-	-	North of Halmahera, Indonesia
64	09/01/2017	20:30:23	0.69	124.34	363	3	-	-	-	Minahassa Peninsula, Sulawesi
65	09/01/2017	22:32:25	1.75	124.29	293	3.7	-	-	-	Minahassa Peninsula, Sulawesi
66	09/01/2017	23:05:53	4.95	130.04	107	4.7	-	-	-	North of Halmahera, Indonesia
67	09/01/2017	23:51:23	-0.24	122.98	62	3	-	-	-	Minahassa Peninsula, Sulawesi
68	10/01/2017	06:13:48	4.39	122.58	629	7.2	0.836681	1.256902	1.268321	Celebes Sea; Pusat gempa berada di Laut 322 km Barat Laut Kep-Sangihe, Sulut; dirasakan di Ternate (3 MMI)
69	10/01/2017	06:25:41	3.75	123.2	630	5.3	-	-	-	Celebes Sea
70	10/01/2017	23:22:39	0.97	120.25	34	3.1	-	-	-	Minahassa Peninsula, Sulawesi
71	11/01/2017	02:14:10	0.2	122.1	140	1.9	-	-	-	Minahassa Peninsula, Sulawesi
72	11/01/2017	02:20:58	0.29	124.15	26	3.6	-	-	-	Minahassa Peninsula, Sulawesi
73	11/01/2017	05:54:57	0.79	121.63	69	2.9	-	-	-	Minahassa Peninsula, Sulawesi
74	11/01/2017	07:17:38	0.51	122.35	84	1.8	-	-	-	Minahassa Peninsula, Sulawesi
75	11/01/2017	08:28:25	1.91	127.17	109	3.6	-	-	-	Halmahera, Indonesia
76	11/01/2017	09:20:34	1.09	125.37	49	4.3	0.089785	0.118738	0.134011	Northern Molucca Sea
77	11/01/2017	12:32:20	0.05	122.02	262	1.8	-	-	-	Minahassa Peninsula, Sulawesi
78	11/01/2017	19:07:20	1.15	121.7	10	2.8	-	-	-	Minahassa Peninsula, Sulawesi
79	11/01/2017	20:15:12	3.54	128.68	45	4.7	-	-	-	North of Halmahera, Indonesia
80	11/01/2017	21:11:03	2.2	128.32	224	3.4	-	-	-	Halmahera, Indonesia
81	11/01/2017	21:25:47	3.61	128.48	267	3.9	-	-	-	North of Halmahera, Indonesia
82	12/01/2017	00:37:42	3.69	128.67	10	4.4	-	-	-	North of Halmahera, Indonesia
83	12/01/2017	01:30:42	0.23	122.23	181	4.2	-	-	-	Minahassa Peninsula, Sulawesi
84	12/01/2017	01:49:29	3.28	128.06	13	4.1	-	-	-	North of Halmahera, Indonesia
85	12/01/2017	05:31:57	-0.06	123.15	123	3	-	-	-	Minahassa Peninsula, Sulawesi
86	12/01/2017	12:06:00	0.31	123.73	155	2.8	-	-	-	Minahassa Peninsula, Sulawesi
87	12/01/2017	12:52:20	0.54	123.02	74	3.2	-	-	-	Minahassa Peninsula, Sulawesi
88	12/01/2017	15:16:30	0.75	120.02	10	3.5	-	-	-	Minahassa Peninsula, Sulawesi
89	12/01/2017	16:53:50	0.57	122.31	80	2.6	-	-	-	Minahassa Peninsula, Sulawesi
90	12/01/2017	21:33:25	6.05	126.19	10	4.6	0.045573	0.059590	0.071785	Mindanao, Philippines
91	13/01/2017	03:39:47	0.6	121.24	33	3	-	-	-	Minahassa Peninsula, Sulawesi
92	13/01/2017	05:55:57	0.09	122.28	31	2.3	-	-	-	Minahassa Peninsula, Sulawesi
93	13/01/2017	08:11:14	2.64	126.22	10	3.5	-	-	-	Northern Molucca Sea
94	13/01/2017	11:41:19	1.28	126.53	14	5.5	0.070971	0.061178	0.079668	Minahassa Peninsula, Sulawesi
95	13/01/2017	15:17:41	0.52	123.81	253	2.6	-	-	-	Minahassa Peninsula, Sulawesi
96	13/01/2017	16:39:27	-0.07	125.13	61	5.5	-	-	-	Southern Molucca Sea; Pusat gempa berada di Laut 117 km Tenggara Bolaang Mongondow Tmr, Sulawesi Utara; dirasakan di Kotamobago (4 MMI)
97	13/01/2017	17:22:41	0.29	121.83	144	1.7	-	-	-	Minahassa Peninsula, Sulawesi
98	13/01/2017	17:48:16	0.63	122.22	68	1.6	-	-	-	Minahassa Peninsula, Sulawesi
99	13/01/2017	17:51:00	1.84	127.07	36	3.2	-	-	-	Halmahera, Indonesia
100	13/01/2017	18:21:49	-0.13	125.14	16	3	-	-	-	Southern Molucca Sea
101	13/01/2017	23:06:49	2.91	126.89	51	4.3	-	-	-	Northern Molucca Sea
102	14/01/2017	02:24:18	0.08	121.96	239	3.2	-	-	-	Minahassa Peninsula, Sulawesi
103	14/01/2017	02:32:23	0.37	122.14	127	2.5	-	-	-	Minahassa Peninsula, Sulawesi
104	14/01/2017	03:43:56	1.2	121.99	20	2.4	-	-	-	Minahassa Peninsula, Sulawesi
105	14/01/2017	05:53:05	4.14	122.34	700	4.2	-	-	-	Celebes Sea
106	14/01/2017	08:25:34	1.04	122.77	25	2.4	-	-	-	Minahassa Peninsula, Sulawesi
107	14/01/2017	11:41:21	1.28	126.41	45	5.3	-	-	-	Northern Molucca Sea; Pusat gempa berada di laut 123 km Barat Laut Ternate, Maluku Utara; dirasakan di Manado (3 MMI)
108	14/01/2017	20:45:07	0.64	123.76	258	3.2	0.069414	0.048408	0.046052	Minahassa Peninsula, Sulawesi
109	15/01/2017	00:13:31	1.22	120.03	10	3.2	-	-	-	Minahassa Peninsula, Sulawesi
110	15/01/2017	02:37:27	1.3	125.8	103	3.4	-	-	-	Northern Molucca Sea
111	15/01/2017	07:35:36	1.96	126.36	54	3.9	-	-	-	Northern Molucca Sea
112	15/01/2017	08:01:01	0.76	120.99	15	2.8	-	-	-	Minahassa Peninsula, Sulawesi

113	15/01/2017	12:34:18	2.24	128.89	10	3.8	0.104876	0.078204	0.105304	Halmahera, Indonesia
114	15/01/2017	16:21:21	2.24	121.34	36	3.7	-	-	-	Celebes Sea
115	15/01/2017	21:27:58	2.04	127.66	114	3.7	-	-	-	North of Halmahera, Indonesia
116	16/01/2017	05:32:05	0.78	120.14	10	4.7	0.100479	0.074176	0.099705	Minahassa Peninsula, Sulawesi
117	16/01/2017	07:05:14	0.87	119.76	10	3.1	-	-	-	Minahassa Peninsula, Sulawesi
118	16/01/2017	14:03:42	0.68	121.87	79	2.2	-	-	-	Minahassa Peninsula, Sulawesi
119	16/01/2017	16:17:12	0.55	120.24	310	2.8	-	-	-	Minahassa Peninsula, Sulawesi
120	16/01/2017	19:30:41	-0.09	125.1	10	3.3	-	-	-	Southern Molucca Sea
121	17/01/2017	00:27:54	1.25	123.26	10	3.1	-	-	-	Minahassa Peninsula, Sulawesi
122	17/01/2017	04:00:01	0.28	122.2	145	3.1	-	-	-	Minahassa Peninsula, Sulawesi
123	17/01/2017	07:49:13	0.19	124.12	18	3.6	-	-	-	Minahassa Peninsula, Sulawesi
124	17/01/2017	11:11:13	-0.24	122.93	30	4.2	-	-	-	Minahassa Peninsula, Sulawesi
125	17/01/2017	13:21:40	0.27	127.03	82	3.2	-	-	-	Halmahera, Indonesia
126	17/01/2017	13:43:26	-0.22	122.91	10	2.7	-	-	-	Minahassa Peninsula, Sulawesi
127	17/01/2017	17:46:25	-0.04	122.93	31	2.6	-	-	-	Minahassa Peninsula, Sulawesi
128	17/01/2017	19:05:48	4.13	126.91	10	3.9	0.055547	0.037486	0.061368	Talaud Islands, Indonesia
129	17/01/2017	20:48:21	3.42	127.9	23	3.8	-	-	-	Talaud Islands, Indonesia
130	17/01/2017	21:34:53	1.44	128.27	47	3.9	-	-	-	Halmahera, Indonesia
131	18/01/2017	02:30:29	1.24	123.54	10	3.9	-	-	-	Minahassa Peninsula, Sulawesi
132	18/01/2017	03:34:52	0.05	123.75	123	3.9	-	-	-	Minahassa Peninsula, Sulawesi
133	18/01/2017	04:32:22	2.47	125.56	23	4.3	-	-	-	Talaud Islands, Indonesia
134	18/01/2017	17:04:37	6.09	125.4	93	4.5	-	-	-	Mindanao, Philippines
135	18/01/2017	17:14:31	0.44	122.64	10	2.9	-	-	-	Minahassa Peninsula, Sulawesi
136	18/01/2017	23:09:55	0.77	122.16	10	1.8	-	-	-	Minahassa Peninsula, Sulawesi
137	18/01/2017	23:17:59	4.25	126.82	11	4.5	0.159785	0.096935	0.173370	Talaud Islands, Indonesia
138	19/01/2017	09:20:54	-0.29	119.82	10	3.4	-	-	-	Minahassa Peninsula, Sulawesi
139	19/01/2017	12:23:34	1.19	127.34	129	3.9	0.158647	0.132021	0.173709	Halmahera, Indonesia
140	19/01/2017	13:20:55	-0.16	122.9	121	2.7	-	-	-	Minahassa Peninsula, Sulawesi
141	19/01/2017	13:46:58	0.93	122.67	34	3.9	-	-	-	Minahassa Peninsula, Sulawesi
142	19/01/2017	19:28:04	1.73	126.38	19	3.9	-	-	-	Northern Molucca Sea
143	19/01/2017	23:38:43	-0.09	125.15	15	3.8	-	-	-	Southern Molucca Sea
144	20/01/2017	01:15:59	3.56	128.66	20	4.6	-	-	-	North of Halmahera, Indonesia
145	20/01/2017	03:43:41	10.36	126.68	63	5.5	0.148239	0.141659	0.229141	Philippines
146	20/01/2017	04:08:33	3.01	125.88	10	4	-	-	-	Talaud Islands, Indonesia
147	20/01/2017	17:04:39	1.61	122.96	389	3.8	-	-	-	Minahassa Peninsula, Sulawesi
148	20/01/2017	17:13:24	3.99	126.14	30	3.7	-	-	-	Talaud Islands, Indonesia
149	20/01/2017	21:54:35	1.24	122.64	10	3.8	-	-	-	Minahassa Peninsula, Sulawesi
150	21/01/2017	04:44:25	0.38	122.46	86	2.4	-	-	-	Minahassa Peninsula, Sulawesi
151	21/01/2017	05:16:34	2.84	128.21	55	5.7	0.223502	0.328750	0.412252	Halmahera, Indonesia; Pusat gempa berada di laut 59 km barat laut Pulau Morotai, Maluku Utara; dirasakan di Ternate (3 MMI)
152	21/01/2017	07:53:38	1.06	122.92	26	2.2	-	-	-	Minahassa Peninsula, Sulawesi
153	21/01/2017	09:55:57	2.87	128.15	10	4	-	-	-	Halmahera, Indonesia
154	21/01/2017	12:48:57	0.94	126.37	10	3.5	-	-	-	Northern Molucca Sea
155	21/01/2017	19:02:33	0.19	121.97	198	4.1	-	-	-	Minahassa Peninsula, Sulawesi
156	21/01/2017	19:18:49	1.01	124.41	230	2.8	-	-	-	Minahassa Peninsula, Sulawesi
157	21/01/2017	21:35:00	1.41	124.52	184	3.4	-	-	-	Minahassa Peninsula, Sulawesi
158	22/01/2017	04:49:30	4.22	124.75	282	5	0.103060	0.091176	0.130059	Minahassa Peninsula, Sulawesi
159	22/01/2017	10:32:29	0.97	121.21	25	4.2	-	-	-	Minahassa Peninsula, Sulawesi
160	22/01/2017	10:46:50	0.08	125.46	109	3.8	-	-	-	Northern Molucca Sea
161	22/01/2017	10:57:10	3.26	126.85	10	4.3	-	-	-	Talaud Islands, Indonesia
162	22/01/2017	11:42:42	1.95	126.54	10	4.3	-	-	-	Northern Molucca Sea
163	22/01/2017	12:09:29	0.64	121.68	80	2.3	-	-	-	Minahassa Peninsula, Sulawesi
164	22/01/2017	19:49:27	3.06	126.81	10	3.9	-	-	-	Talaud Islands, Indonesia
165	22/01/2017	21:41:41	3.36	126.95	88	3.8	-	-	-	Talaud Islands, Indonesia
166	22/01/2017	23:54:58	0.39	123.86	207	3.4	-	-	-	Minahassa Peninsula, Sulawesi
167	23/01/2017	02:28:06	1.05	121.7	10	2.2	0.151470	0.173098	0.130440	Minahassa Peninsula, Sulawesi
168	24/01/2017	10:19:31	-0.92	120.32	38	4.9	-	-	-	Minahassa Peninsula, Sulawesi
169	24/01/2017	18:52:02	7.23	126.82	53	4.7	-	-	-	Mindanao, Philippines
170	24/01/2017	23:40:39	0.31	119.93	13	3.3	0.119887	0.098600	0.127764	Minahassa Peninsula, Sulawesi
171	25/01/2017	06:15:39	1.43	127.13	125	4.4	0.098611	0.139308	0.129678	Halmahera, Indonesia
172	25/01/2017	07:41:32	3.15	126.85	10	4.2	-	-	-	Talaud Islands, Indonesia
173	25/01/2017	10:21:10	0.27	125.74	26	3.7	-	-	-	Northern Molucca Sea

174	25/01/2017	10:55:30	-0.13	122.9	21	2.7	-	-	-	Minahassa Peninsula, Sulawesi
175	26/01/2017	08:20:28	0.98	120.46	10	2.5	-	-	-	Minahassa Peninsula, Sulawesi
176	26/01/2017	19:09:09	3.65	128.46	10	4.5	0.165181	0.116084	0.115527	North of Halmahera, Indonesia
177	26/01/2017	21:54:42	-0.33	122.92	11	2.4	-	-	-	Minahassa Peninsula, Sulawesi
178	27/01/2017	04:41:28	0.43	122.88	13	2.3	-	-	-	Minahassa Peninsula, Sulawesi
179	27/01/2017	05:00:49	0.75	122.28	71	1.8	-	-	-	Minahassa Peninsula, Sulawesi
180	27/01/2017	11:12:58	1.88	127.51	134	3.8	-	-	-	Halmahera, Indonesia
181	27/01/2017	11:29:19	1.04	125.97	107	4.6	-	-	-	Northern Molucca Sea
182	27/01/2017	13:11:49	0.2	122.17	150	2.8	-	-	-	Minahassa Peninsula, Sulawesi
183	27/01/2017	14:58:09	2.2	127.26	78	4.8	0.077800	0.102837	0.147620	Northern Molucca Sea
184	27/01/2017	20:19:58	4.43	127.18	76	4.3	-	-	-	Talaud Islands, Indonesia
185	28/01/2017	03:22:54	7.19	126.41	210	4.6	0.083585	0.068230	0.095376	Mindanao, Philippines
186	28/01/2017	03:25:38	-0.16	122.92	150	3.4	-	-	-	Minahassa Peninsula, Sulawesi
187	28/01/2017	03:45:55	4.32	126.19	72	4.1	-	-	-	Talaud Islands, Indonesia
188	28/01/2017	04:12:36	2.35	126.42	10	3.6	-	-	-	Northern Molucca Sea
189	28/01/2017	07:35:36	0.9	123.82	10	3.5	-	-	-	Minahassa Peninsula, Sulawesi
190	28/01/2017	13:18:07	3.08	127.9	123	3.8	-	-	-	Talaud Islands, Indonesia
191	28/01/2017	20:57:01	-0.26	123	63	3.2	-	-	-	Minahassa Peninsula, Sulawesi
192	29/01/2017	00:28:48	0.97	127.46	5	2.1	-	-	-	Jailolo - Maluku Utara; Pusat gempa berada di laut 8 km selatan Jailolo, Maluku Utara; dirasakan di Jailolo (2 MMI)
193	29/01/2017	04:50:17	3.47	126.93	70	4.5	0.101505	0.076912	0.112641	Talaud Islands, Indonesia
194	29/01/2017	08:17:11	2.4	126.86	23	4.1	-	-	-	Northern Molucca Sea
195	29/01/2017	09:59:59	-0.22	122.9	17	3	-	-	-	Minahassa Peninsula, Sulawesi
196	29/01/2017	13:29:34	1.37	130.23	29	3.8	-	-	-	Irian Jaya Region, Indonesia
197	29/01/2017	15:05:47	1.69	122.77	19	3.2	-	-	-	Minahassa Peninsula, Sulawesi
198	29/01/2017	22:03:57	0.98	120.3	11	2.7	-	-	-	Minahassa Peninsula, Sulawesi
199	29/01/2017	22:52:15	-0.01	122.79	157	2.5	-	-	-	Minahassa Peninsula, Sulawesi
200	30/01/2017	00:42:18	0.1	125.22	12	4.1	-	-	-	Northern Molucca Sea
201	30/01/2017	04:41:18	-0.11	125.13	17	3.6	-	-	-	Southern Molucca Sea
202	30/01/2017	08:17:34	0.08	121.77	167	2.2	-	-	-	Minahassa Peninsula, Sulawesi
203	30/01/2017	08:29:03	-0.07	122.27	28	3.3	-	-	-	Minahassa Peninsula, Sulawesi
204	30/01/2017	09:16:28	0.53	121.24	30	2.4	-	-	-	Minahassa Peninsula, Sulawesi
205	30/01/2017	10:08:59	1.45	126.88	110	3.6	-	-	-	Northern Molucca Sea
206	30/01/2017	13:39:22	0.29	124.14	18	4.5	0.170704	0.160558	0.173601	Minahassa Peninsula, Sulawesi
207	30/01/2017	15:34:33	0.28	123.57	253	3.5	-	-	-	Minahassa Peninsula, Sulawesi
208	30/01/2017	17:49:46	-0.87	120.36	10	3	-	-	-	Minahassa Peninsula, Sulawesi
209	30/01/2017	20:32:49	5.86	126.52	184	3.9	-	-	-	Mindanao, Philippines
210	31/01/2017	01:08:51	-0.2	122.59	23	2.3	-	-	-	Minahassa Peninsula, Sulawesi
211	31/01/2017	05:55:17	0.69	121.32	21	2.4	-	-	-	Minahassa Peninsula, Sulawesi
212	31/01/2017	10:57:58	0.01	121.83	140	2.1	-	-	-	Minahassa Peninsula, Sulawesi
213	31/01/2017	15:16:09	0.18	126.09	12	3.2	-	-	-	Northern Molucca Sea
214	31/01/2017	15:32:09	-0.22	123.17	77	2.6	-	-	-	Minahassa Peninsula, Sulawesi
215	31/01/2017	17:25:42	-0.18	125.05	10	4.3	0.064545	0.078982	0.138588	Southern Molucca Sea

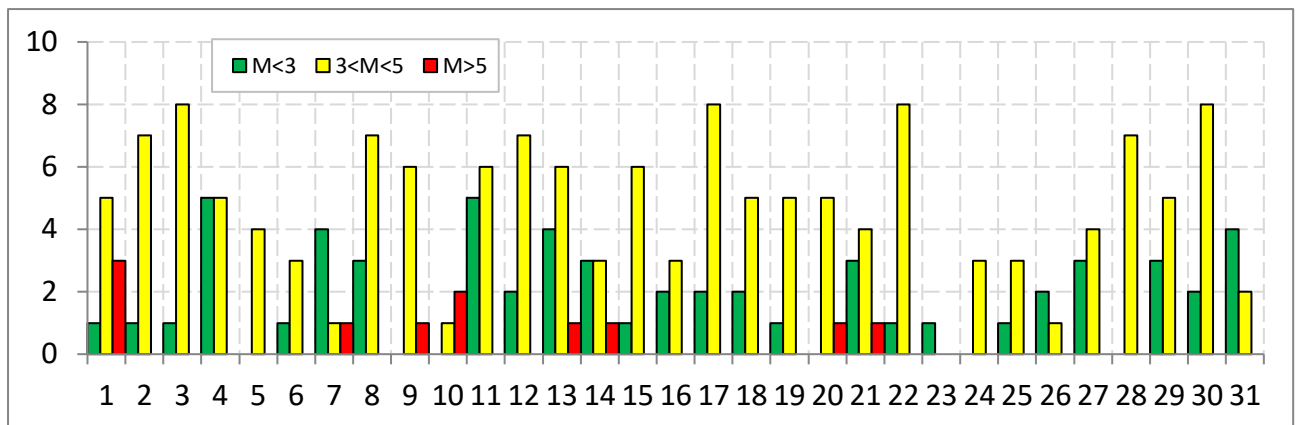
**PETA 2. DISTRIBUSI EPISENTER GEMPABUMI DAERAH SULAWESI UTARA
DAN SEKITARNYA
BULAN JANUARI 2017**



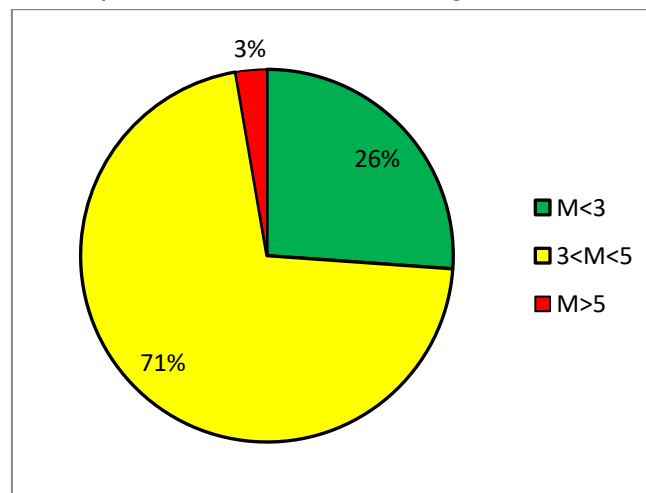
**TABEL 2. REKAPITULASI GEMPABUMI DAN TSUNAMI BERDASARKAN
MAGNITUDO BULAN JANUARI 2017**

Tanggal (UTC)	Magnitudo			Jumlah Total	Jumlah gempa signifikan	
	M<3	3<M<5	M>5		Dirasakan	Merusak
1	1	5	3	9	0	0
2	1	7	0	8	0	0
3	1	8	0	9	0	0
4	5	5	0	10	0	0
5	0	4	0	4	0	0
6	1	3	0	4	0	0
7	4	1	1	6	0	0
8	3	7	0	10	0	0
9	0	6	1	7	0	0
10	0	1	2	3	1	0
11	5	6	0	11	0	0
12	2	7	0	9	0	0
13	4	6	1	11	1	0
14	3	3	1	7	1	0
15	1	6	0	7	0	0
16	2	3	0	5	0	0
17	2	8	0	10	0	0
18	2	5	0	7	0	0
19	1	5	0	6	0	0
20	0	5	1	6	0	0
21	3	4	1	8	1	0
22	1	8	0	9	0	0
23	1	0	0	1	0	0
24	0	3	0	3	0	0
25	1	3	0	4	0	0
26	2	1	0	3	0	0
27	3	4	0	7	0	0
28	0	7	0	7	0	0
29	3	5	0	8	1	0
30	2	8	0	10	0	0
31	4	2	0	6	0	0
Jumlah gempa	58	146	11	215	5	0

Histogram 1. Gempabumi Berdasarkan Magnitudo Bulan Januari 2017



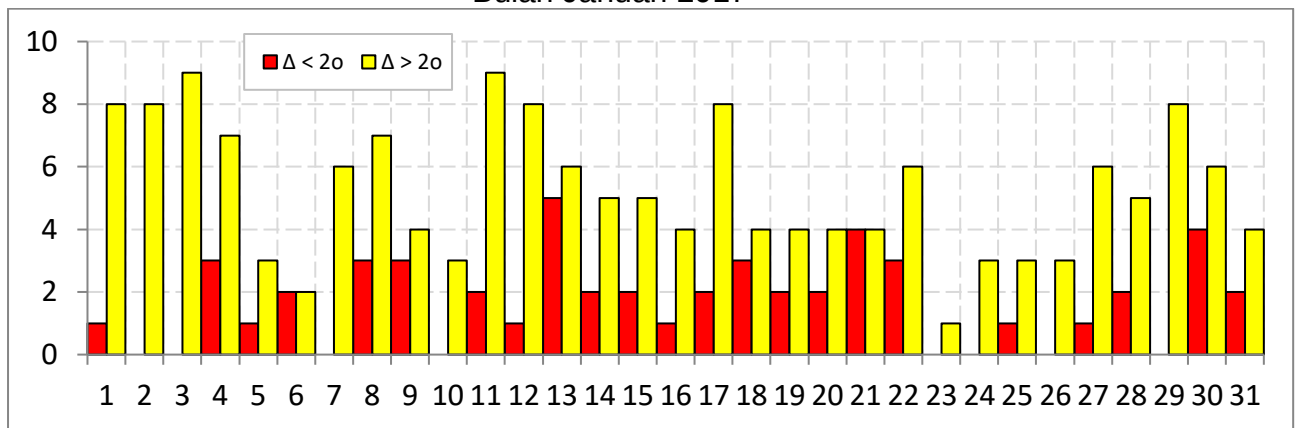
Persentase 3. Gempabumi Berdasarkan Magnitudo Bulan Januari 2017



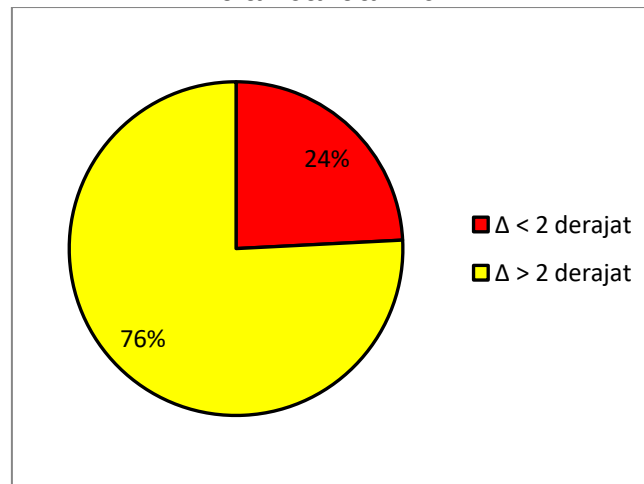
Tabel 3. Rekapitulasi Gempabumi dan Tsunami Berdasarkan Jarak Dari Stasiun

Tanggal	Jarak		Jumlah	Keterangan
	$\Delta \leq 2^\circ$	$\Delta > 2^\circ$		
01/01/2017	1	8	9	-
02/01/2017	0	8	8	-
03/01/2017	0	9	9	-
04/01/2017	3	7	10	-
05/01/2017	1	3	4	-
06/01/2017	2	2	4	-
07/01/2017	0	6	6	-
08/01/2017	3	7	10	-
09/01/2017	3	4	7	-
10/01/2017	0	3	3	-
11/01/2017	2	9	11	-
12/01/2017	1	8	9	-
13/01/2017	5	6	11	-
14/01/2017	2	5	7	-
15/01/2017	2	5	7	-
16/01/2017	1	4	5	-
17/01/2017	2	8	10	-
18/01/2017	3	4	7	-
19/01/2017	2	4	6	-
20/01/2017	2	4	6	-
21/01/2017	4	4	8	-
22/01/2017	3	6	9	-
23/01/2017	0	1	1	-
24/01/2017	0	3	3	-
25/01/2017	1	3	4	-
26/01/2017	0	3	3	-
27/01/2017	1	6	7	-
28/01/2017	2	5	7	-
29/01/2017	0	8	8	-
30/01/2017	4	6	10	-
31/01/2017	2	4	6	-
Jumlah gempa	52	163	215	-
Jumlah gempa seluruhnya				

Histogram 2. Gempabumi Berdasarkan Jarak
Bulan Januari 2017



Persentase 4. Gempabumi Berdasarkan Jarak
Bulan Januari 2017



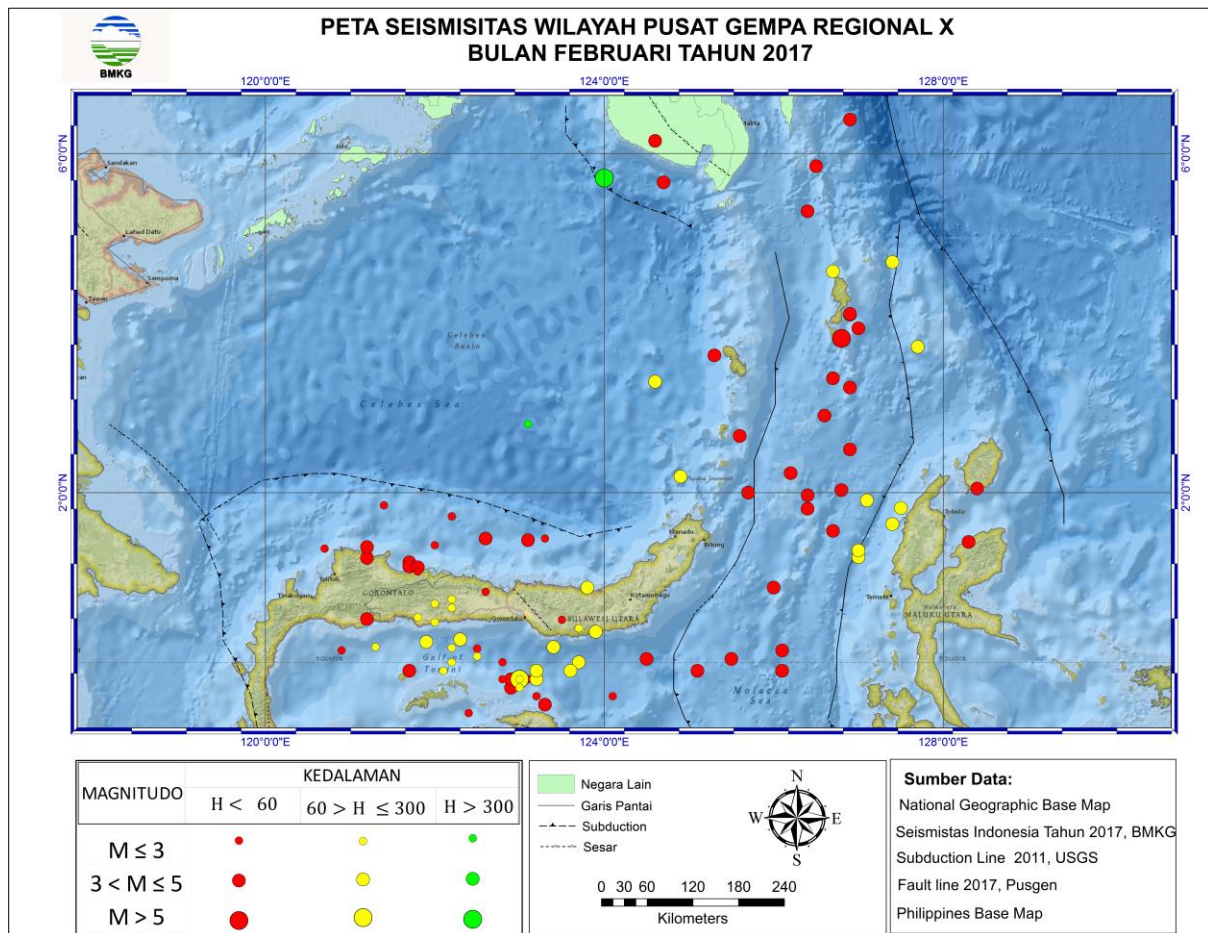
DATA GEMPABUMI BULAN PEBRUARI 2017

	DATE	OT (UTC)	EPICENTER		DEPTH (KM)	MAG	PGA (gals)			REMARKS
			LAT	LON			X	Y	Z	
1	01/02/2017	02:37:23	-0.1	122.1	253	2.7				Minahassa Peninsula, Sulawesi
2	01/02/2017	08:13:59	-0.9	121.3	10	3.6				Minahassa Peninsula, Sulawesi
3	01/02/2017	10:42:11	3.35	126.7	45	4				Talau Island
4	01/02/2017	20:53:15	0.14	126.1	10	4.1	0.011599	0.006437	0.012192	Northern Molucca Sea
5	01/02/2017	21:00:08	-0.2	122.9	24	3.2				Minahassa Peninsula, Sulawesi
6	01/02/2017	21:49:30	2.81	123.1	471	3.6				Celebes Sea
7	02/02/2017	08:14:43	1.44	123.1	10	3.1	0.015368	-0.010692	0.013661	Minahassa Peninsula, Sulawesi
8	02/02/2017	15:27:37	0.29	122.3	158	2.4				Minahassa Peninsula, Sulawesi
9	02/02/2017	17:11:13	1.46	123.3	10	3				Minahassa Peninsula, Sulawesi
10	02/02/2017	22:30:11	0.5	123.5	10	3				Minahassa Peninsula, Sulawesi
11	02/02/2017	22:48:47	0.74	122.2	75	2.1				Minahassa Peninsula, Sulawesi
12	04/02/2017	05:53:35	0.88	126	10	3.6				Northern Molucca Sea
13	04/02/2017	15:42:59	0.17	122.2	142	2.6				Minahassa Peninsula, Sulawesi
14	04/02/2017	18:02:32	5.66	124.7	16	4.9				Mindanao, Philippines
15	05/02/2017	00:01:00	1.82	127.5	166	3.8				Halmahera, Indonesia
16	05/02/2017	07:26:35	-0	123.7	68	4.3				Minahassa Peninsula, Sulawesi
17	05/02/2017	11:14:13	0.24	121.9	185	4.3				Minahassa Peninsula, Sulawesi
18	05/02/2017	15:07:55	6.4	126.9	10	4.5	0.010556	-0.006742	-0.00890	Mindanao, Philippines
19	05/02/2017	16:38:29	-0.5	123.3	20	3.9				Mindanao, Philippines
20	05/02/2017	17:34:33	2.03	126.8	10	3.9				Northern Molucca Sea
21	05/02/2017	21:43:32	1.38	122	10	2.8				Minahassa Peninsula, Sulawesi
22	06/02/2017	07:21:49	-1.1	126.9	32	3.7				Southern Molucca Sea
23	06/02/2017	11:23:00	1.18	121.7	12	3.1				Minahassa Peninsula, Sulawesi
24	06/02/2017	12:42:40	0.88	123.8	238	4.8				Minahassa Peninsula, Sulawesi
25	06/02/2017	16:43:38	2.51	126.9	10	3.8				Northern Molucca Sea
26	07/02/2017	02:41:04	1.34	120.7	30	3				Minahassa Peninsula, Sulawesi
27	07/02/2017	03:20:24	0.18	121.3	152	2.7				Minahassa Peninsula, Sulawesi
28	07/02/2017	04:02:21	0.64	122.2	73	2				Minahassa Peninsula, Sulawesi
29	08/02/2017	01:08:04	1.24	127	83	3.6	0.012131	0.0090159	-0.00752	Northern Molucca Sea
30	08/02/2017	21:32:24	-0.1	126.1	56	4.1				Southern Molucca Sea
31	08/02/2017	23:54:18	0.36	123.9	195	4.1	0.026122	0.0164354	0.023071	Minahassa Peninsula, Sulawesi
32	09/02/2017	04:37:19	0.83	122.6	28	2.6				Minahassa Peninsula, Sulawesi
33	10/02/2017	02:03:59	-0.2	122.8	51	2.7				Minahassa Peninsula, Sulawesi
34	10/02/2017	02:24:48	1.23	121.2	39	3.1	0.012986	-0.008953	0.018628	Minahassa Peninsula, Sulawesi
35	10/02/2017	03:42:51	1.42	128.3	55	3.5				Halmahera, Indonesia
36	10/02/2017	06:16:07	0.07	122.5	124	2.6				Minahassa Peninsula, Sulawesi
37	10/02/2017	18:28:02	-0.2	123	74	5.2	0.010679	0.016128	0.014110	Minahassa Peninsula, Sulawesi
38	10/02/2017	23:26:01	1.63	127.4	129	4.9				Halmahera, Indonesia
39	11/02/2017	01:54:33	1.13	121.7	18	3.2	0.022954	0.0114675	0.012157	Minahassa Peninsula, Sulawesi
40	12/02/2017	05:55:06	0.04	124.5	22	4.5				Minahassa Peninsula, Sulawesi

41	12/02/2017	16:27:09	3.31	124.6	233	3.8				Celebes Sea
42	13/02/2017	03:40:30	2.67	125.6	10	4.2				Talaud Islands, Indonesia
43	14/02/2017	00:47:13	2.19	124.9	201	4.7				Celebes Sea
44	14/02/2017	11:27:29	3.62	125.3	18	3.9	-0.01095	-0.013163	0.012555	Talaud Islands, Indonesia
45	14/02/2017	17:35:41	-0.4	124.1	15	3				Southern Molucca Sea
46	14/02/2017	20:47:21	4.1	126.9	39	4.7	-0.00441	-0.002857	-0.00444	Talaud Islands, Indonesia
47	15/02/2017	12:20:35	1.12	121.8	10	3.1				Minahassa Peninsula, Sulawesi
48	15/02/2017	14:07:31	3.82	126.8	60	5.1	0.023156	0.017467	0.01853	Talaud Islands, Indonesia
49	15/02/2017	22:28:04	2.91	126.6	10	4.2				Northern Molucca Sea
50	16/02/2017	02:43:07	2.23	126.2	32	4.1	-0.01726	0.0175357	0.026195	Northern Molucca Sea
51	16/02/2017	09:13:03	0.18	123.4	233	3.4	0.011992	0.0116802	0.017524	Minahassa Peninsula, Sulawesi
52	16/02/2017	13:35:24	1.91	127.1	64	4.4				Halmahera, Indonesia
53	17/02/2017	09:54:20	0.04	125.5	20	3.5				Northern Molucca Sea
54	17/02/2017	11:56:24	1.85	121.4	10	2.5				Minahassa Peninsula, Sulawesi
55	17/02/2017	21:33:13	3.94	127	50	4.6				Talaud Islands, Indonesia
56	18/02/2017	07:10:31	-0	122.2	152	2.3				Minahassa Peninsula, Sulawesi
57	18/02/2017	07:36:08	0.4	123.7	153	3				Minahassa Peninsula, Sulawesi
58	18/02/2017	11:24:04	4.11	126.9	31	4				Talaud Islands, Indonesia
59	19/02/2017	00:18:44	1.97	126.4	23	3.7				Northern Molucca Sea
60	19/02/2017	01:00:19	-0.2	122.8	17	2.9				Minahassa Peninsula, Sulawesi
61	19/02/2017	09:16:41	-0.1	121.7	24	3.1				Minahassa Peninsula, Sulawesi
62	19/02/2017	12:08:27	0.16	122.5	10	2.2				Minahassa Peninsula, Sulawesi
63	19/02/2017	14:11:22	-0.2	123.1	57	3				Minahassa Peninsula, Sulawesi
64	19/02/2017	15:31:48	5.71	124	508	4.5				Mindanao, Philippines
65	19/02/2017	16:33:58	0.14	120.9	10	2				Minahassa Peninsula, Sulawesi
66	19/02/2017	17:23:25	1.32	127	104	3.5				Northern Molucca Sea
67	19/02/2017	23:17:37	-0.3	122.9	16	3.1				Minahassa Peninsula, Sulawesi
68	20/02/2017	01:01:19	1.72	122.2	33	2.9				Minahassa Peninsula, Sulawesi
69	20/02/2017	08:28:39	0.53	121.8	117	1.9				Minahassa Peninsula, Sulawesi
70	20/02/2017	10:42:40	0.47	122	175	1.5				Minahassa Peninsula, Sulawesi
71	20/02/2017	14:08:34	0.69	122	73	2				Minahassa Peninsula, Sulawesi
72	21/02/2017	07:52:26	1.81	126.4	10	3.9				Northern Molucca Sea
73	21/02/2017	11:50:37	5.32	126.4	13	4.3				Mindanao, Philippines
74	21/02/2017	12:29:02	-0.3	123	80	3				Minahassa Peninsula, Sulawesi
75	22/02/2017	01:23:13	2	125.7	31	4.1				Northern Molucca Sea
76	22/02/2017	05:31:47	4.72	127.4	73	5				Talaud Islands, Indonesia
77	22/02/2017	08:17:57	0.51	121.2	59	3.7				Minahassa Peninsula, Sulawesi
78	22/02/2017	21:53:02	-0.2	123.2	144	3.4				Minahassa Peninsula, Sulawesi
79	23/02/2017	01:50:13	7.23	125.7	10	4.7				Mindanao, Philippines
80	23/02/2017	03:06:57	6.15	124.6	27	4.7				Mindanao, Philippines
81	23/02/2017	11:25:27	-0.1	125.1	10	3.4				Southern Molucca Sea
82	23/02/2017	13:23:12	-0.6	122.4	18	2.7				Minahassa Peninsula, Sulawesi
83	23/02/2017	18:02:49	-0.2	122.9	12	2.3				Minahassa Peninsula, Sulawesi
84	23/02/2017	18:28:26	-0.2	123	100	2.7				Minahassa Peninsula, Sulawesi
85	23/02/2017	20:42:31	-0.4	123.2	10	2.6				Minahassa Peninsula, Sulawesi
86	24/02/2017	18:27:51	5.85	126.5	10	4.4				Mindanao, Philippines
87	24/02/2017	22:33:26	1.36	121.2	10	3.6				Minahassa Peninsula, Sulawesi

88	25/02/2017	03:56:06	0.27	122.3	163	4				Minahassa Peninsula, Sulawesi
89	25/02/2017	10:49:17	-0.1	123.6	65	4.3	-0.01322	0.006948	-0.01284	Minahassa Peninsula, Sulawesi
90	25/02/2017	21:08:48	-1	126.9	17	4.9				Southern Molucca Sea
91	26/02/2017	00:19:44	-0.2	122.9	10	3.7				Minahassa Peninsula, Sulawesi
92	26/02/2017	06:02:09	1.07	121.8	14	1.8				Minahassa Peninsula, Sulawesi
93	26/02/2017	08:29:00	-0.1	123.2	122	2.8				Minahassa Peninsula, Sulawesi
94	26/02/2017	08:39:47	-0.2	122.8	10	2.4				Minahassa Peninsula, Sulawesi
95	26/02/2017	09:05:31	2.05	128.4	26	4.5				Halmahera, Indonesia
96	26/02/2017	09:24:30	1.46	122.6	21	4.6	0.011579	0.019417	0.018148	Minahassa Peninsula, Sulawesi PGN = Info Gempa Mag:4.9 SR, 26-Feb-17 17:24:31 WITA, Lok:1.31 LU,122.45 BT (43 km BaratLaut GORONTALOUTARA), Kedlmn:7 Km ::BMKG-MNI Dirasakan di Limboto I SIG (II MMI) Tidak Berpotensi Tsunami.
97	26/02/2017	13:56:36	-0	122.8	10	2.7				Minahassa Peninsula, Sulawesi
98	27/02/2017	00:03:19	3.24	126.9	51	4.7	0.027652	0.019931	0.039736	Talaud Islands, Indonesia
99	27/02/2017	02:23:12	-0.2	122.8	13	2.4				Minahassa Peninsula, Sulawesi
100	27/02/2017	05:28:57	-0.1	123.2	127	4				Minahassa Peninsula, Sulawesi
101	27/02/2017	08:11:30	-1.1	127.4	64	3				Halmahera, Indonesia
102	27/02/2017	15:58:17	-1.1	129.3	10	3.1				Halmahera, Indonesia
103	28/02/2017	02:34:14	1.55	126.7	52	4.5	-0.02077	0.027538	0.03314	Northern Molucca Sea PGN = Info Gempa Mag:4.6 SR, 28-Feb-17 10:34:12 WITA, Lok:1.44 LU,126.62 BT (108 km BaratLaut HALMAHERABARAT-MALUT), Kedlmn:15 Km. Dirasakan I SIG di Ternate ::BMKG-MNI
104	28/02/2017	05:02:42	4.61	126.7	147	4.4				Talaud Islands, Indonesia
105	28/02/2017	06:36:16	3.72	127.7	163	4.5				Talaud Islands, Indonesia

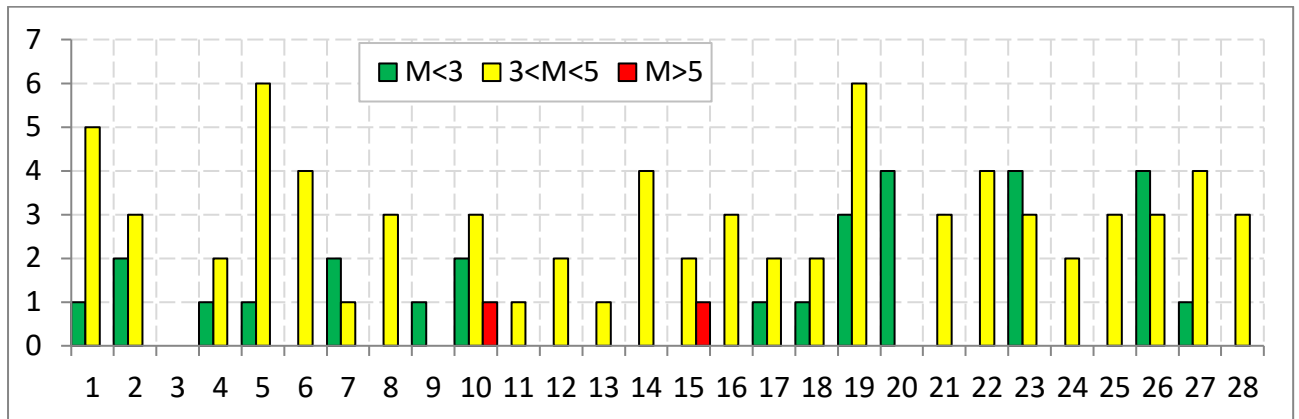
Peta 3. Distribusi Episenter Gempabumi Daerah Sulawesi Utara dan sekitarnya
Bulan Pebruari 2017



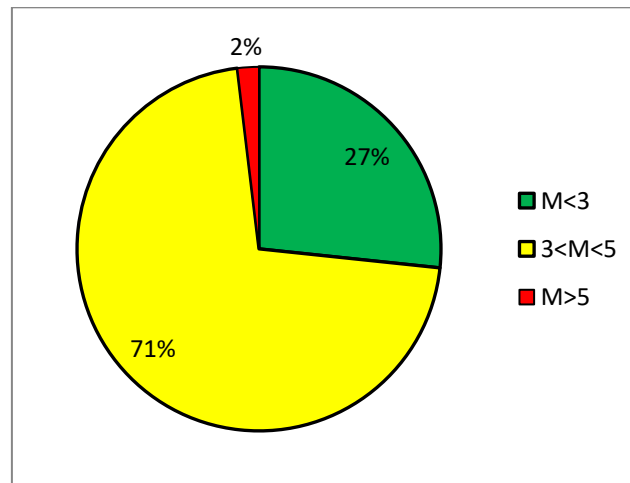
Tabel 4. Rekapitulasi Gempabumi dan Tsunami Berdasarkan Magnitudo
Bulan Pebruari 2017

Tanggal (UTC)	Magnitudo			Jumlah Total	Jumlah Gempa Signifikan	
	M<3	3≤M<5	M≥5		Dirasakan	Merusak
1	1	5	0	6	0	0
2	2	3	0	5	0	0
3	0	0	0	0	0	0
4	1	2	0	3	0	0
5	1	6	0	7	0	0
6	0	4	0	4	0	0
7	2	1	0	3	0	0
8	0	3	0	3	0	0
9	1	0	0	1	0	0
10	2	3	1	6	0	0
11	0	1	0	1	0	0
12	0	2	0	2	0	0
13	0	1	0	1	0	0
14	0	4	0	4	0	0
15	0	2	1	3	0	0
16	0	3	0	3	0	0
17	1	2	0	3	0	0
18	1	2	0	3	0	0
19	3	6	0	9	0	0
20	4	0	0	4	0	0
21	0	3	0	3	0	0
22	0	4	0	4	0	0
23	4	3	0	7	0	0
24	0	2	0	2	0	0
25	0	3	0	3	0	0
26	4	3	0	7	1	0
27	1	4	0	5	0	0
28	0	3	0	3	1	0
Jumlah gempa	28	75	2	105	2	0
Jumlah gempa seluruhnya						

Histogram 3. Gempabumi Berdasarkan Magnitudo
Bulan Pebruari 2017



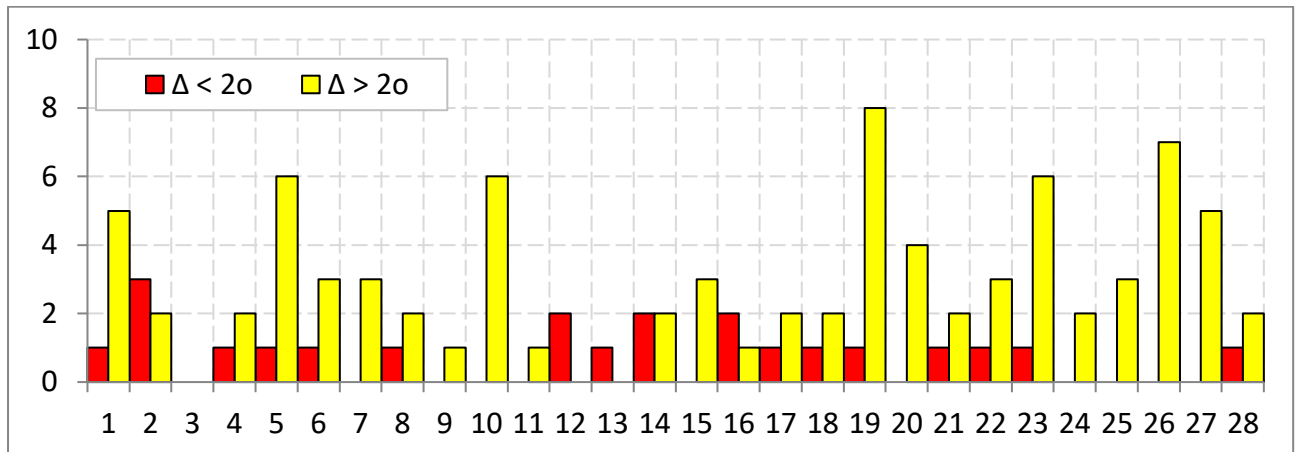
Persentase 5. Gempabumi Berdasarkan Magnitudo
Bulan Pebruari 2017



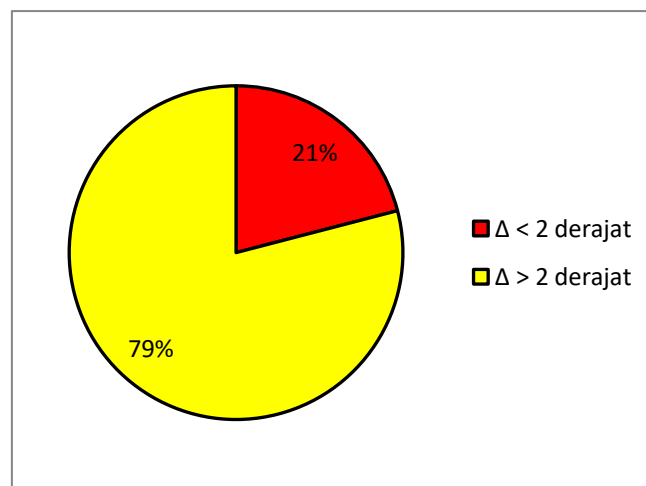
Tabel 5. Rekapitulasi Gempabumi dan Tsunami Berdasarkan Jarak Dari Stasiun
Bulan Pebruari 2017

Tanggal	Jarak		Jumlah	Keterangan
	$\Delta \leq 2^o$	$\Delta > 2^o$		
01/02/2017	1	5	6	-
02/02/2017	3	2	5	-
03/02/2017	0	0	0	-
04/02/2017	1	2	3	-
05/02/2017	1	6	7	-
06/02/2017	1	3	4	-
07/02/2017	0	3	3	-
08/02/2017	1	2	3	-
09/02/2017	0	1	1	-
10/02/2017	0	6	6	-
11/02/2017	0	1	1	-
12/02/2017	2	0	2	-
13/02/2017	1	0	1	-
14/02/2017	2	2	4	-
15/02/2017	0	3	3	-
16/02/2017	2	1	3	-
17/02/2017	1	2	3	-
18/02/2017	1	2	3	-
19/02/2017	1	8	9	-
20/02/2017	0	4	4	-
21/02/2017	1	2	3	-
22/02/2017	1	3	4	-
23/02/2017	1	6	7	-
24/02/2017	0	2	2	-
25/02/2017	0	3	3	-
26/02/2017	0	7	7	-
27/02/2017	0	5	5	-
28/02/2017	1	2	3	-
Jumlah gempa	22	83	105	-
Jumlah gempa seluruhnya				

Histogram 4. Gempabumi Berdasarkan Jarak
Bulan Pebruari 2017



Persentase 6. Gempabumi Berdasarkan Jarak
Bulan Pebruari 2017



Data Gempabumi Bulan Maret 2017

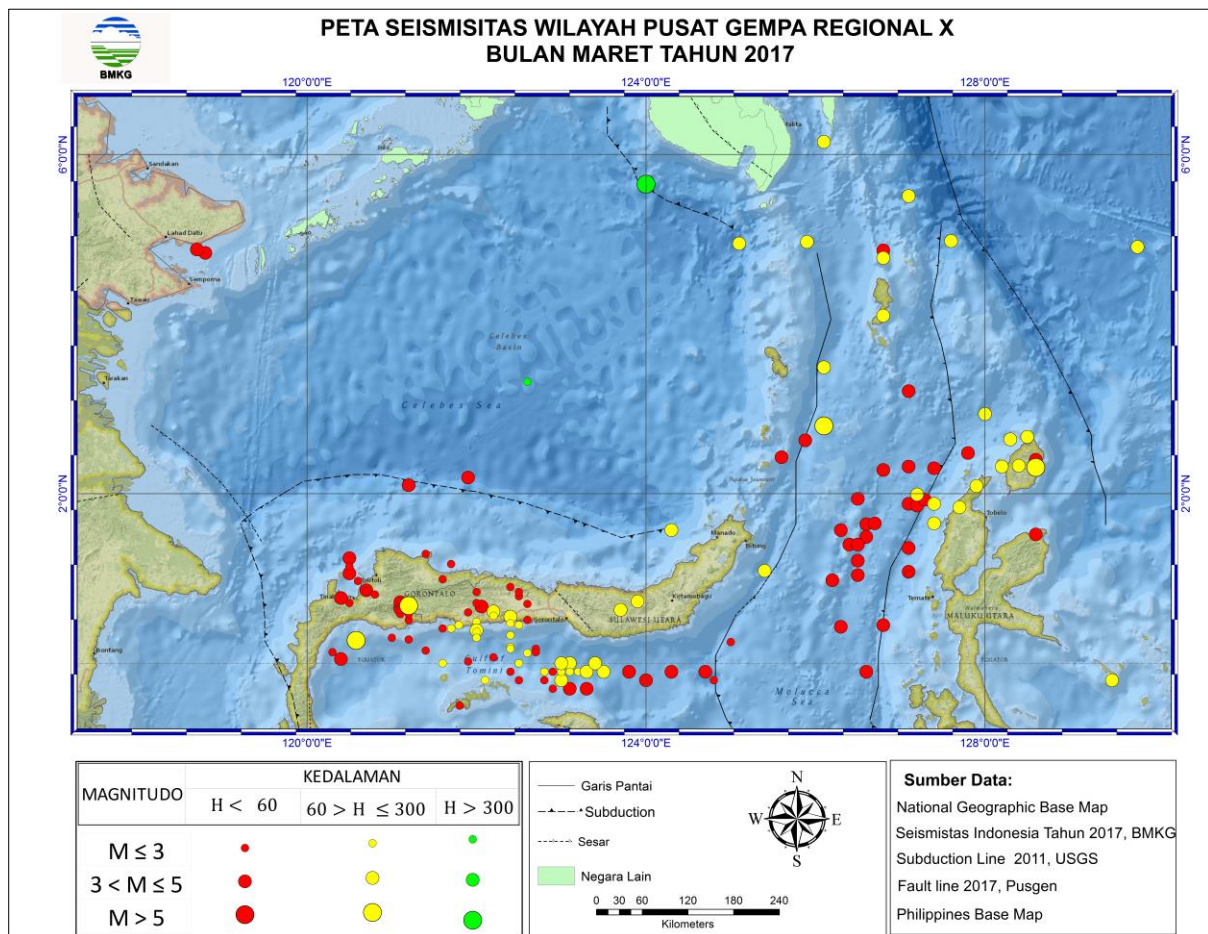
	DATE	OT (UTC)	EPICENTER		DEPTH (KM)	MAG	PGA (gals)			REMARKS
			LAT	LON			X	Y	Z	
1	01/03/2017	01:52:37	2.1	121.2	43	3.2				Celebes Sea
2	01/03/2017	03:07:16	0.41	121.6	35	2.6				Minahassa Peninsula, Sulawesi
3	01/03/2017	03:19:12	-0.2	123	138	4				Minahassa Peninsula, Sulawesi
4	01/03/2017	04:35:10	2.19	121.9	10	4.8	0.000228	0.000143	0.000228	Celebes Sea
5	01/03/2017	05:52:05	-0.1	122.8	18	2.9				Minahassa Peninsula, Sulawesi
6	01/03/2017	07:43:41	0.05	120.4	10	3.4				Minahassa Peninsula, Sulawesi
7	01/03/2017	15:28:38	0.79	122.5	59	2.1				Minahassa Peninsula, Sulawesi
8	01/03/2017	15:36:31	0.49	122	172	2				Minahassa Peninsula, Sulawesi
9	01/03/2017	15:56:58	0.41	121.7	101	2.2				Minahassa Peninsula, Sulawesi
10	01/03/2017	16:12:15	-0.1	126.6	27	3.2				Southern Molucca Sea
11	01/03/2017	17:27:49	-0.1	123	82	2.6				Minahassa Peninsula, Sulawesi
12	01/03/2017	23:42:22	-0.1	123.2	136	2.9				Minahassa Peninsula, Sulawesi
13	02/03/2017	09:41:08	0	122.5	133	2.7				Minahassa Peninsula, Sulawesi
14	02/03/2017	12:16:33	4.97	125.9	125	4.6	0.000121	0.000078	0.000089	Talaud Islands, Indonesia
15	02/03/2017	18:17:39	-0.4	130.7	47	3.8				Irian Jaya Region, Indonesia
16	02/03/2017	21:08:37	-0.1	124.7	10	3.9				Southern Molucca Sea
17	03/03/2017	02:30:40	1.08	127.1	24	3.9				Halmahera, Indonesia
18	03/03/2017	04:01:43	5.51	127.1	99	4.6	0.000107	0.000076	0.000112	Philippine Islands Region
19	03/03/2017	04:01:49	0.07	122.2	11	2.1				Minahassa Peninsula, Sulawesi
20	04/03/2017	08:26:24	0	123.1	161	4				Minahassa Peninsula, Sulawesi
21	04/03/2017	20:09:13	2.64	128.3	163	4.6	0.000072	0.000061	0.000083	Halmahera, Indonesia
22	05/03/2017	00:08:23	9.72	125.54	56.5	5.7	0.000095	0.000093	0.000091	Mindanao, Philippines
23	05/03/2017	08:08:21	-0.3	122.9	10	3				Minahassa Peninsula, Sulawesi
24	05/03/2017	22:09:09	0.43	126.3	20	3.8				Northern Molucca Sea
25	06/03/2017	01:39:03	5.65	124	518	4.7	0.000225	0.000134	0.000295	Mindanao, Philippines
26	06/03/2017	03:50:26	-0.2	122.8	25	3				Minahassa Peninsula, Sulawesi
27	06/03/2017	03:58:06	-0.2	129.5	73	3.9				Halmahera, Indonesia
28	06/03/2017	04:17:03	1.4	126.4	10	3.4				Northern Molucca Sea
29	06/03/2017	07:02:58	1.06	120.5	12	3.7				Minahassa Peninsula, Sulawesi
30	06/03/2017	10:41:28	1.24	120.5	19	3.8				Minahassa Peninsula, Sulawesi
31	06/03/2017	11:26:35	1.36	127.1	18	3.7				Halmahera, Indonesia
32	06/03/2017	16:25:39	1.21	126.5	26	4.2				Northern Molucca Sea
33	07/03/2017	16:24:15	0.67	122.06	10	4.7	0.000094	0.000092	0.000118	Minahassa Peninsula, Sulawesi
34	07/03/2017	12:31:05	0.73	123.9	245	4.5				Minahassa Peninsula, Sulawesi
35	07/03/2017	20:43:04	1.64	126.6	11	3.7				Northern Molucca Sea
36	08/03/2017	01:38:45	2.31	128.6	61	5.1	0.000236	0.000208	0.000318	Halmahera, Indonesia
37	09/03/2017	02:49:23	-0.2	122.1	132	2.6				Minahassa Peninsula, Sulawesi
38	09/03/2017	07:35:07	2.33	128.4	219	4.5	0.0001	0.000079	0.000094	Halmahera, Indonesia
39	09/03/2017	14:55:05	1.84	127.7	193	3.9				Halmahera, Indonesia
40	09/03/2017	15:08:56	0.33	122.4	97	1.9				Minahassa Peninsula, Sulawesi
41	10/03/2017	00:43:13	-0.2	122.8	17	2.4				Minahassa Peninsula, Sulawesi
42	10/03/2017	11:05:01	-0.5	131.8	10	2.6				Irian Jaya Region, Indonesia
43	10/03/2017	11:13:23	2.67	128.5	231	4.1	0.000089	0.000081	0.000083	Halmahera, Indonesia

44	11/03/2017	02:19:51	0.9	122.4	56	2.9				Minahassa Peninsula, Sulawesi
45	11/03/2017	16:45:37	2.48	127.8	21	3.7				Northern Molucca Sea
46	12/03/2017	06:12:55	0.19	122.4	140	2.5				Minahassa Peninsula, Sulawesi
47	12/03/2017	09:57:47	-0.1	122.8	141	2.3				Minahassa Peninsula, Sulawesi
48	12/03/2017	09:58:58	-0.2	122.8	10	2.4				Minahassa Peninsula, Sulawesi
49	12/03/2017	10:58:56	-0.2	124.8	10	3				Southern Molucca Sea
50	12/03/2017	15:53:40	0.25	125	17	3				Minahassa Peninsula, Sulawesi
51	12/03/2017	16:00:51	1.65	127.4	150	3.3				Halmahera, Indonesia
52	12/03/2017	21:24:59	2.4	128.6	12	3.9				Halmahera, Indonesia
53	12/03/2017	22:07:26	-0.1	124.3	22	3.5				Southern Molucca Sea
54	12/03/2017	22:48:21	0.55	122.4	64	3.1				Minahassa Peninsula, Sulawesi
55	13/03/2017	05:45:27	0.39	122	171	3.7				Minahassa Peninsula, Sulawesi
56	13/03/2017	06:29:22	-0.3	123.3	13	3.6				Minahassa Peninsula, Sulawesi
57	13/03/2017	10:08:09	2.32	127.1	15	3.9				Northern Molucca Sea
58	13/03/2017	21:11:01	0.86	120.7	10	4	0.000081	0.000062	0.000064	Minahassa Peninsula, Sulawesi
59	13/03/2017	21:32:50	-0.1	123.3	157	3.2				Minahassa Peninsula, Sulawesi
60	14/03/2017	02:07:18	0	121.6	154	2.9				Minahassa Peninsula, Sulawesi
61	14/03/2017	05:55:21	0.68	121.2	79	5.4	0.00036	0.000476	0.000601	Minahassa Peninsula, Sulawesi
62	14/03/2017	06:12:20	0.63	121.1	27	3				Minahassa Peninsula, Sulawesi
63	14/03/2017	07:23:59	0.65	121.1	36	3.1				Minahassa Peninsula, Sulawesi
64	14/03/2017	08:34:43	0.62	121.1	24	2.6				Minahassa Peninsula, Sulawesi
65	14/03/2017	08:45:03	0.59	121.1	42	2.8				Minahassa Peninsula, Sulawesi
66	14/03/2017	08:47:33	0.64	121.1	33	4				Minahassa Peninsula, Sulawesi
67	14/03/2017	17:13:19	0.63	123.7	280	2.9				Minahassa Peninsula, Sulawesi
68	14/03/2017	23:01:51	-0.1	123.8	10	4.1				Minahassa Peninsula, Sulawesi
69	14/03/2017	23:18:39	0.72	121.1	50	3.4				Minahassa Peninsula, Sulawesi
70	14/03/2017	23:44:36	0.58	121.1	29	2.4				Minahassa Peninsula, Sulawesi
71	15/03/2017	01:38:58	1.88	127.1	59	5	0.00012	0.000136	0.000153	Halmahera, Indonesia
72	15/03/2017	08:16:13	1.88	127.4	118	4				Halmahera, Indonesia
73	15/03/2017	10:28:12	0.84	122.5	11	1.7				Minahassa Peninsula, Sulawesi
74	15/03/2017	15:49:24	0.17	122.4	146	1.9				Minahassa Peninsula, Sulawesi
75	15/03/2017	16:49:57	2.43	125.6	10	3.5				Talaud Islands, Indonesia
76	15/03/2017	19:34:31	2.32	128.2	74	3.7				Halmahera, Indonesia
77	15/03/2017	19:43:36	-0.1	122.9	13	1.9				Minahassa Peninsula, Sulawesi
78	15/03/2017	19:55:58	0.17	122.7	10	1.9				Minahassa Peninsula, Sulawesi
79	15/03/2017	20:10:18	-0.1	123.5	123	4.3				Minahassa Peninsula, Sulawesi
80	15/03/2017	23:50:20	0.61	122.2	75	3.3				Minahassa Peninsula, Sulawesi
81	16/03/2017	01:07:51	1.57	124.3	295	3.9				Minahassa Peninsula, Sulawesi
82	16/03/2017	01:12:53	0.15	121.4	10	2.3				Minahassa Peninsula, Sulawesi
83	16/03/2017	10:46:41	-0.2	124	21	3.1				Minahassa Peninsula, Sulawesi
84	16/03/2017	10:55:26	1.05	127.1	24	2.9				Halmahera, Indonesia

85	16/03/2017	11:01:23	0.71	120.5	10	2.7				Minahassa Peninsula, Sulawesi
86	16/03/2017	11:04:14	1.49	126.6	53	3.1				Northern Molucca Sea
87	16/03/2017	11:14:16	0.71	122	57	1.7				Minahassa Peninsula, Sulawesi
88	16/03/2017	13:51:38	0.72	121.1	32	2.7				Minahassa Peninsula, Sulawesi
89	16/03/2017	17:16:45	4.98	127.6	88	4.7	0.000085	0.00008	0.000071	Talaud Islands, Indonesia
90	16/03/2017	17:28:24	-0.3	123.1	46	3.9				Minahassa Peninsula, Sulawesi
91	16/03/2017	19:20:31	1.14	120.5	12	3				Minahassa Peninsula, Sulawesi
92	17/03/2017	06:59:49	0.98	126.2	47	4.8	0.001315	0.001514	0.001535	Northern Molucca Sea
93	17/03/2017	13:02:48	0.02	121.9	10	2.5				Minahassa Peninsula, Sulawesi
94	17/03/2017	18:27:58	0.3	121	10	2.7				Minahassa Peninsula, Sulawesi
95	17/03/2017	20:53:49	1.4	126.5	10	4				Northern Molucca Sea
96	17/03/2017	22:28:03	2.94	128	145	4.6				Northern Molucca Sea
97	18/03/2017	01:52:24	0.66	121.1	49	2.9				Minahassa Peninsula, Sulawesi
98	18/03/2017	13:12:32	2.09	127.9	61	4.3	0.000098	0.000132	0.000211	Northern Molucca Sea
99	18/03/2017	15:06:06	0.63	121.1	40	2.9				Minahassa Peninsula, Sulawesi
100	18/03/2017	17:20:33	0.13	120.3	10	2.8				Minahassa Peninsula, Sulawesi
101	19/03/2017	00:12:32	1.65	126.7	26	4.3				Northern Molucca Sea
102	19/03/2017	05:10:56	1.94	126.5	10	3.9				Northern Molucca Sea
103	19/03/2017	08:53:51	-0.1	131.6	10	3.8				Irian Jaya Region, Indonesia
104	19/03/2017	10:48:25	-0.4	131.6	17	3.4				Irian Jaya Region, Indonesia
105	19/03/2017	17:30:20	3.49	126.1	86	4.3	0.000043	0.000056	0.000059	Talaud Islands, Indonesia
106	20/03/2017	05:37:13	0.56	122.2	76	2.5				Minahassa Peninsula, Sulawesi
107	20/03/2017	06:11:38	0.45	126.8	18	3.7				Northern Molucca Sea
108	20/03/2017	14:00:41	2.3	127.4	31	4				Northern Molucca Sea
109	20/03/2017	16:13:09	0.37	122	173	2.9				Minahassa Peninsula, Sulawesi
110	21/03/2017	00:45:24	0.6	121.9	37	1.8				Minahassa Peninsula, Sulawesi
111	21/03/2017	01:03:58	1.17	121.7	18	2.3				Minahassa Peninsula, Sulawesi
112	21/03/2017	13:04:18	0.3	122	161	2.1				Minahassa Peninsula, Sulawesi
113	21/03/2017	13:10:51	2.28	126.8	28	4.1				Northern Molucca Sea
114	21/03/2017	13:32:27	3.21	127.1	10	4.3				Talaud Islands, Indonesia
115	21/03/2017	14:04:55	0	123	148	4.5	0.000089	0.000146	0.000095	Minahassa Peninsula, Sulawesi
116	21/03/2017	17:32:28	0.63	123.7	255	4.3				Minahassa Peninsula, Sulawesi
117	22/03/2017	10:25:04	4.91	129.8	275	4.4				North of Halmahera, Indonesia
118	22/03/2017	10:26:01	1.04	126.5	26	3.8	0.000157	0.00016	0.000185	Northern Molucca Sea
119	22/03/2017	13:32:00	0.97	120.6	13	2.6				Minahassa Peninsula, Sulawesi
120	22/03/2017	15:11:00	0.77	120.4	16	4.3				Minahassa Peninsula, Sulawesi
121	22/03/2017	17:21:46	0.12	122.6	145	1.8				Minahassa Peninsula, Sulawesi
122	22/03/2017	19:06:08	0.51	121.2	11	2				Minahassa Peninsula, Sulawesi
123	22/03/2017	23:02:57	0.58	121.2	24	2.1				Minahassa Peninsula, Sulawesi
124	23/03/2017	08:53:51	1.52	128.6	11	3.9				Halmahera, Indonesia
125	23/03/2017	14:52:04	6.79	126.47	150	4.2	0.000085	0.000062	0.000076	Mindanao, Philippines
126	24/03/2017	13:18:43	4.95	125.1	68	4.3	0.00008	0.000063	0.000121	Talaud Islands, Indonesia
127	24/03/2017	23:33:44	-0.1	122.4	10	2.1				Minahassa Peninsula, Sulawesi
128	24/03/2017	23:41:53	0.85	120.7	10	3				Minahassa Peninsula, Sulawesi
129	25/03/2017	03:53:39	0.7	122.6	56	2				Minahassa Peninsula, Sulawesi

130	25/03/2017	20:22:11	0.45	121.79	105	2.9				Minahassa Peninsula, Sulawesi
131	26/03/2017	01:40:36	0.51	122.6	15	2.4				Minahassa Peninsula, Sulawesi
132	26/03/2017	03:43:19	-0.2	122.5	10	2.3				Minahassa Peninsula, Sulawesi
133	26/03/2017	09:30:45	4.84	118.8	22	4.9				Borneo
134	26/03/2017	12:55:56	3.32	122.6	538	4.3				Celebes Sea
135	26/03/2017	20:59:48	2.63	125.88	60	3.7	0.000202	0.000205	0.00043	Talaud Islands, Indonesia
136	27/03/2017	08:20:49	8.84	122	11	4.8				Mindanao, Philippines
137	27/03/2017	12:12:32	6.15	126.1	148	4.5	0.000143	0.00011	0.000165	Mindanao, Philippines
138	27/03/2017	22:15:09	0.47	122.4	66	2.5				Minahassa Peninsula, Sulawesi
139	28/03/2017	05:44:04	0.28	121.2	28	2.3				Minahassa Peninsula, Sulawesi
140	28/03/2017	07:07:43	4.78	126.8	78	4.7	0.000129	0.000113	0.000107	Talaud Islands, Indonesia
141	28/03/2017	08:35:02	4.87	126.8	60	4.5				Talaud Islands, Indonesia
142	28/03/2017	12:56:22	-0.2	122.8	17	2.4				Minahassa Peninsula, Sulawesi
143	28/03/2017	13:08:10	4.88	118.7	18	4.2				Borneo
144	28/03/2017	13:16:28	-0.1	123.1	98	2.8				Minahassa Peninsula, Sulawesi
145	28/03/2017	13:44:45	0.84	122	35	2.6				Minahassa Peninsula, Sulawesi
146	28/03/2017	16:02:17	0.45	122.5	80	2.2				Minahassa Peninsula, Sulawesi
147	28/03/2017	17:02:40	1.99	127.2	101	3.5				Halmahera, Indonesia
148	28/03/2017	20:13:42	1.86	127.2	58	4.2				Halmahera, Indonesia
149	29/03/2017	03:30:26	2.8	126.1	116	5.2	0.000448	0.000957	0.000795	Northern Molucca Sea
150	29/03/2017	06:56:56	0.81	120.8	10	2.2				Minahassa Peninsula, Sulawesi
151	29/03/2017	08:20:13	0	123.4	146	4.7				Minahassa Peninsula, Sulawesi
152	29/03/2017	12:21:24	0.13	122.7	12	2.5				Minahassa Peninsula, Sulawesi
153	29/03/2017	13:52:37	0.99	121.6	26	2.3				Minahassa Peninsula, Sulawesi
154	29/03/2017	13:57:09	-0.5	121.8	10	2.4				Minahassa Peninsula, Sulawesi
155	29/03/2017	14:19:15	1.29	121.4	10	2.3				Minahassa Peninsula, Sulawesi
156	29/03/2017	14:24:03	1.57	126.3	15	3.1				Northern Molucca Sea
157	29/03/2017	15:42:59	1.09	125.4	68	3.5				Northern Molucca Sea
158	30/03/2017	23:54:58	4.1	126.8	73	4.1	0.000166	0.000099	0.000157	Talaud Islands, Indonesia
159	31/03/2017	06:01:00	1.93	127.29	50	3.6				Halmahera, Indonesia
160	31/03/2017	11:21:00	0.27	120.58	90	5.6	0.000505	0.000334	0.000236	Minahassa Peninsula, Sulawesi

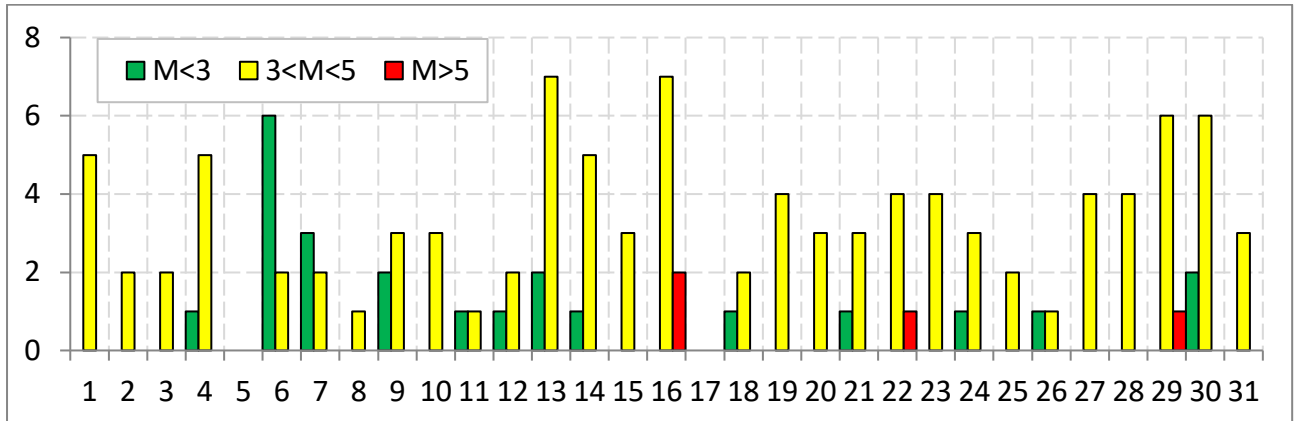
Peta 4. Distribusi Episenter Gempabumi Daerah Sulawesi Utara dan sekitarnya
Bulan Maret 2017



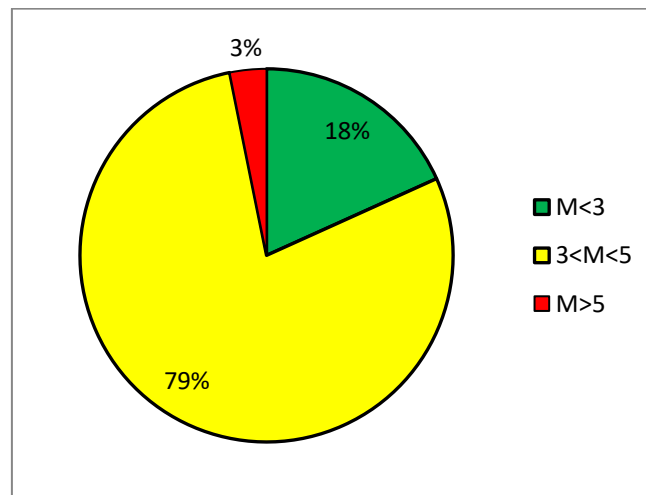
Tabel 6. Rekapitulasi Gempabumi Berdasarkan Magnitudo
Bulan Maret 2017

Tanggal (UTC)	Magnitudo			Jumlah Total	Jumlah Gempa Signifikan	
	M<3	3≤M<5	M≥5		Dirasakan	Merusak
1	0	5	0	5	0	0
2	0	2	0	2	0	0
3	0	2	0	2	1	0
4	1	5	0	6	1	0
5	0	0	0	0	0	0
6	6	2	0	8	0	0
7	3	2	0	5	0	0
8	0	1	0	1	0	0
9	2	3	0	5	0	0
10	0	3	0	3	0	0
11	1	1	0	2	0	0
12	1	2	0	3	0	0
13	2	7	0	9	2	0
14	1	5	0	6	0	0
15	0	3	0	3	0	0
16	0	7	2	9	0	0
17	0	0	0	0	0	0
18	1	2	0	3	0	0
19	0	4	0	4	0	0
20	0	3	0	3	0	0
21	1	3	0	4	1	0
22	0	4	1	5	0	0
23	0	4	0	4	1	0
24	1	3	0	4	0	0
25	0	2	0	2	0	0
26	1	1	0	2	0	0
27	0	4	0	4	0	0
28	0	4	0	4	0	0
29	0	6	1	7	1	0
30	2	6	0	8	0	0
31	0	3	0	3	0	0
Jumlah gempa	23	99	4	126	7	0
Jumlah gempa seluruhnya						

Histogram 5. Gempabumi Berdasarkan Magnitudo
Bulan Maret 2017



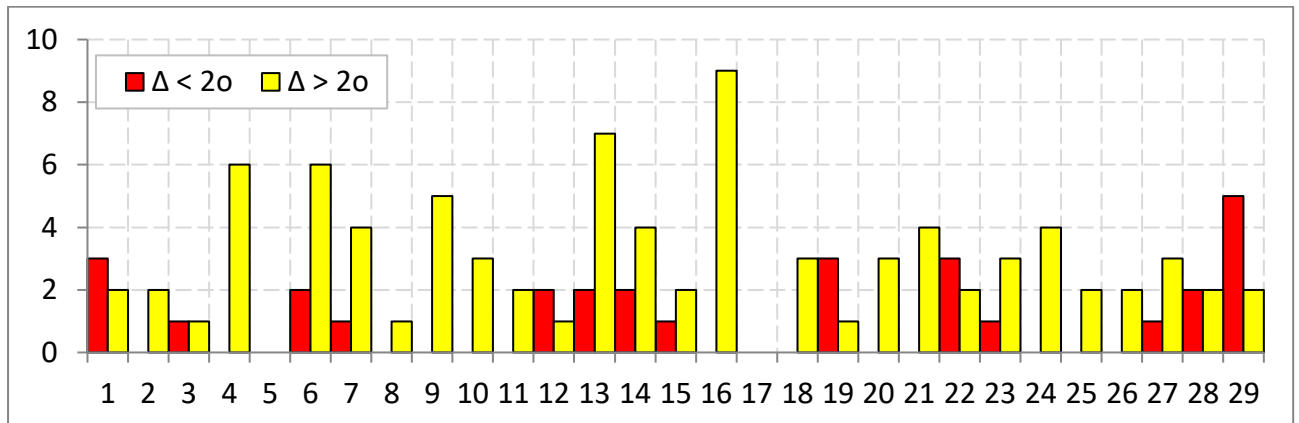
Persentase 7. Gempabumi Berdasarkan Magnitudo
Bulan Maret 2017



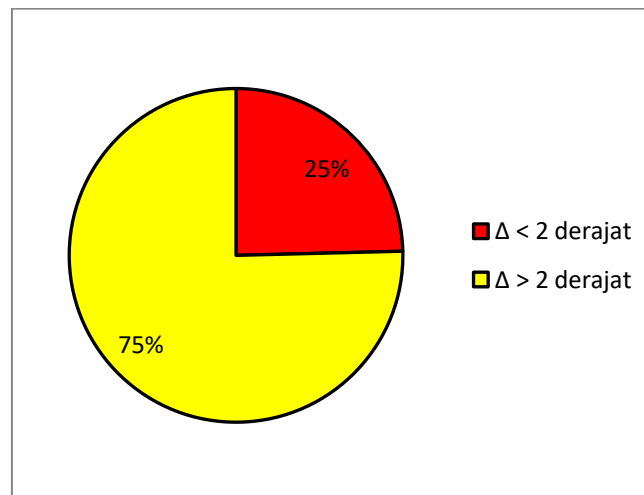
Tabel 7. Rekapitulasi Gempabumi Berdasarkan Jarak Dari Stasiun
Bulan Maret 2017

Tanggal	Jarak		Jumlah	Keterangan
	$\Delta \leq 2^{\circ}$	$\Delta > 2^{\circ}$		
01/03/2017	3	2	5	-
02/03/2017	0	2	2	-
03/03/2017	1	1	2	-
04/03/2017	0	6	6	-
05/03/2017	0	0	0	-
06/03/2017	2	6	8	-
07/03/2017	1	4	5	-
08/03/2017	0	1	1	-
09/03/2017	0	5	5	-
10/03/2017	0	3	3	-
11/03/2017	0	2	2	-
12/03/2017	2	1	3	-
13/03/2017	2	7	9	-
14/03/2017	2	4	6	-
15/03/2017	1	2	3	-
16/03/2017	0	9	9	-
17/03/2017	0	0	0	-
18/03/2017	0	3	3	-
19/03/2017	3	1	4	-
20/03/2017	0	3	3	-
21/03/2017	0	4	4	-
22/03/2017	3	2	5	-
23/03/2017	1	3	4	-
24/03/2017	0	4	4	-
25/03/2017	0	2	2	-
26/03/2017	0	2	2	-
27/03/2017	1	3	4	-
28/03/2017	2	2	4	-
29/03/2017	5	2	7	-
30/03/2017	1	7	8	-
31/03/2017	1	2	3	-
Jumlah gempa	31	95	126	-
Jumlah gempa seluruhnya				

Histogram 6. Gempabumi Berdasarkan Jarak
Bulan Maret 2017



Persentase 8. Gempabumi Berdasarkan Jarak
Bulan Maret 2017



Data Gempabumi Bulan April 2017

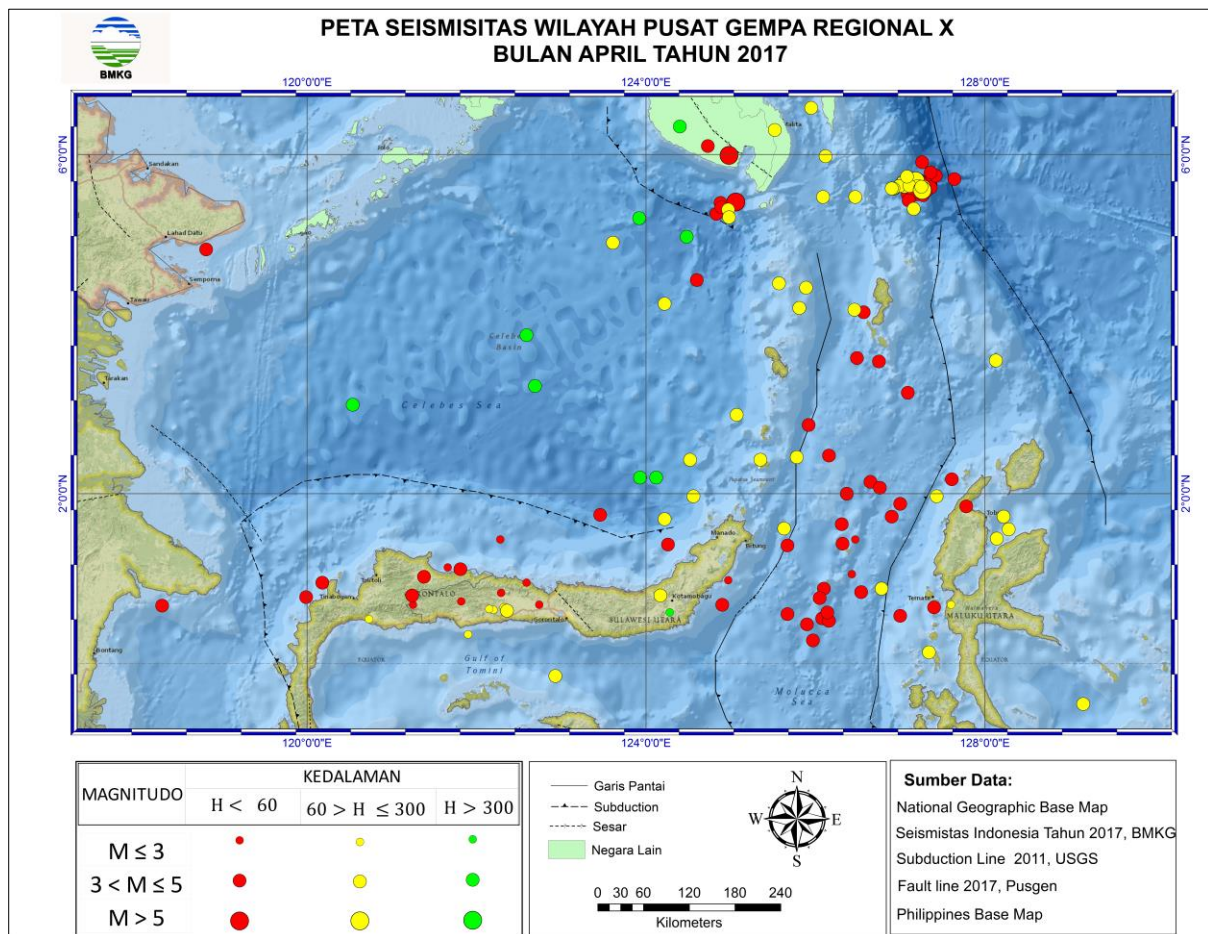
NO	DATE	OT (UTC)	EPICENTER		DEPTH (KM)	MAG	PGA (gals)			REMARKS
			LAT	LON			X	Y	Z	
1	01/04/2017	13:34:05	6.55	125.95	155	4.7				Mindanao, Philippines
2	02/04/2017	03:38:27	5.25	123.92	481	4.6				Mindanao, Philippines
3	03/04/2017	01:00:53	1.85	127.78	10	3.8	8.486	8.859200	5.5811	Halmahera, Indonesia; Pusat gempa berada di darat 35 km Barat Laut Tobelo, Maluku Utara; dirasakan di Galela (II MMI).
4	03/04/2017	05:32:49	0.84	126.54	10	4.3		-	-	Northern Molucca Sea
5	03/04/2017	12:11:21	3.27	122.69	535	4.3		-	-	Celebes Sea
6	03/04/2017	15:13:13	4.88	118.81	13	4.0		-	-	Borneo
7	04/04/2017	05:01:55	1.40	124.26	10	3.3		-	-	Minahassa Peninsula
8	05/04/2017	17:15:44	1.46	126.47	21	3.0		-	-	Northern Molucca Sea
9	06/04/2017	18:58:23	1.97	127.43	122	3.5		-	-	Halmahera, Indonesia
10	06/04/2017	22:55:54	0.66	122.32	73	2.3		-	-	Minahassa Peninsula
11	06/04/2017	23:24:43	0.95	120.18	13	3.4		-	-	Minahassa Peninsula
12	07/04/2017	11:26:54	1.73	126.90	10	3.5		-	-	Northern Molucca Sea
13	08/04/2017	10:16:02	5.50	126.47	133	4.8		-	-	Mindanao, Philippines
14	08/04/2017	17:51:37	2.45	126.16	30	3.6		-	-	Northern Molucca Sea
15	09/04/2017	17:18:08	0.69	121.25	24	1.7		-	-	Minahassa Peninsula
16	09/04/2017	18:20:05	0.63	122.20	68	1.6		-	-	Minahassa Peninsula
17	09/04/2017	19:17:21	0.58	125.67	10	3.4		-	-	Northern Molucca Sea
18	10/04/2017	10:38:54	5.69	127.18	70	5.8	0.001759	0.002154	0.001259	Philippine Islands Region; Pusat gempa berada di laut 188 km timur laut Kep- Talaud, Sulawesi Utara; dirasakan di Naha-Sangihe (III MMI).
19	10/04/2017	11:08:19	5.65	127.05	65	5.3		-	-	Philippine Islands Region
20	10/04/2017	11:22:39	5.53	127.19	15	4.3		-	-	Philippine Islands Region
21	10/04/2017	12:56:42	5.91	127.26	41	4.3		-	-	Philippine Islands Region
22	10/04/2017	13:50:18	5.98	126.12	136	4.2		-	-	Mindanao, Philippines
23	10/04/2017	14:17:01	5.63	127.21	62	4.5		-	-	Philippine Islands Region
24	10/04/2017	14:26:18	5.63	126.99	70	4.4		-	-	Mindanao, Philippines
25	10/04/2017	14:31:40	5.51	127.11	60	4.5		-	-	Philippine Islands Region
26	10/04/2017	16:06:43	5.62	127.24	10	4.4		-	-	Philippine Islands Region
27	10/04/2017	19:16:27	6.29	125.52	91	4.3		-	-	Mindanao, Philippines
28	10/04/2017	21:30:59	5.52	127.27	25	4.5		-	-	Philippine Islands Region
29	11/04/2017	02:44:35	5.61	127.16	51	4.9		-	-	Philippine Islands Region
30	11/04/2017	02:50:45	5.65	127.33	60	5.2		-	-	Philippine Islands Region
31	11/04/2017	09:33:36	2.17	127.61	10	3.8		-	-	Northern Molucca Sea
32	11/04/2017	10:42:27	5.63	127.11	77	4.4		-	-	Philippine Islands Region
33	11/04/2017	11:22:50	5.57	127.27	67	4.9		-	-	Philippine Islands Region
34	11/04/2017	13:15:07	5.53	127.09	55	4.5		-	-	Philippine Islands Region
35	11/04/2017	14:42:22	5.63	127.32	51	5.6		-	-	Philippine Islands Region

36	11/04/2017	15:15:27	5.46	127.10	46	4.5	-	-	Philippine Islands Region
37	11/04/2017	15:55:55	5.62	127.28	71	4.6	-	-	Philippine Islands Region
38	11/04/2017	17:41:26	5.58	127.26	66	5.3	-	-	Philippine Islands Region
39	11/04/2017	18:09:02	5.62	127.25	68	5.0	-	-	Philippine Islands Region
40	11/04/2017	20:13:10	3.56	126.75	10	4.3	-	-	Talaud Islands, Indonesia
41	11/04/2017	21:00:19	5.71	127.64	10	4.5	-	-	Philippine Islands Region
42	11/04/2017	21:06:22	5.75	127.42	59	4.4	-	-	Philippine Islands Region
43	11/04/2017	21:21:04	7.67	124.88	31	5.7	-	-	Mindanao, Philippines
44	11/04/2017	21:51:55	7.48	124.91	44	4.5	-	-	Mindanao, Philippines
45	11/04/2017	23:38:23	0.69	122.74	19	1.9	-	-	Minahassa Peninsula
46	12/04/2017	02:36:59	5.60	126.93	27	4.6	-	-	Mindanao, Philippines
47	12/04/2017	03:27:38	5.61	127.36	28	4.6	-	-	Philippine Islands Region
48	12/04/2017	04:51:16	2.00	126.37	45	3.4	-	-	Northern Molucca Sea
49	12/04/2017	05:02:01	7.52	124.89	26	4.7	-	-	Mindanao, Philippines
50	12/04/2017	08:04:13	5.68	127.10	52	4.7	-	-	Philippine Islands Region
51	12/04/2017	18:32:46	5.79	127.36	47	4.4	-	-	Philippine Islands Region
52	12/04/2017	19:02:06	5.50	126.09	103	4.4	-	-	Mindanao, Philippines
53	12/04/2017	19:38:27	1.02	121.38	10	3.7	-	-	Minahassa Peninsula
54	12/04/2017	20:01:09	7.59	124.84	34	5.2	-	-	Mindanao, Philippines
55	13/04/2017	00:08:17	5.74	127.08	64	4.5	-	-	Philippine Islands Region
56	13/04/2017	03:37:27	5.60	126.92	73	4.4	-	-	Mindanao, Philippines
57	13/04/2017	10:11:32	5.62	127.27	20	4.3	-	-	Philippine Islands Region
58	13/04/2017	16:05:51	5.67	127.21	47	5.2	-	-	Philippine Islands Region
59	13/04/2017	17:05:00	5.56	127.30	15	4.9	-	-	Philippine Islands Region
60	13/04/2017	21:03:02	5.60	126.90	130	4.6	-	-	Mindanao, Philippines
61	13/04/2017	23:44:31	2.19	123.93	322	4.2	-	-	Celebes Sea
62	14/04/2017	03:45:23	1.11	121.81	12	4.2	-	-	Minahassa Peninsula
63	14/04/2017	11:20:00	7.92	124.64	10	4.8	-	-	Mindanao, Philippines
64	14/04/2017	14:02:52	7.93	124.71	68	4.6	-	-	Mindanao, Philippines
65	14/04/2017	16:38:28	1.41	126.32	10	3.4	-	-	Northern Molucca Sea
66	14/04/2017	20:09:05	0.73	121.82	57	1.6	-	-	Minahassa Peninsula
67	14/04/2017	20:46:41	0.83	122.29	42	1.9	-	-	Minahassa Peninsula
68	14/04/2017	22:09:48	0.69	127.60	96	3.0	-	-	Halmahera, Indonesia
69	15/04/2017	03:34:37	2.40	125.35	165	4.5	-	-	Talaud Islands, Indonesia
70	15/04/2017	07:33:39	0.64	122.15	89	2.4	-	-	Minahassa Peninsula
71	15/04/2017	08:46:58	2.40	124.52	252	4.0	-	-	Celebes Sea
72	15/04/2017	17:24:59	1.59	125.63	84	3.3	-	-	Northern Molucca Sea
73	15/04/2017	18:59:42	4.43	125.89	165	3.9	-	-	Talaud Islands, Indonesia
74	15/04/2017	20:37:11	7.30	124.68	10	4.4	-	-	Mindanao, Philippines
75	15/04/2017	20:41:04	7.47	124.87	40	5.0	-	-	Mindanao, Philippines
76	16/04/2017	19:01:50	0.98	124.97	10	2.6	-	-	Minahassa Peninsula
77	17/04/2017	00:51:30	2.43	125.78	139	4.6	-	-	Talaud Islands, Indonesia
78	17/04/2017	15:55:09	0.52	120.73	65	2.8	-	-	Minahassa Peninsula
79	17/04/2017	16:21:30	4.19	125.81	125	3.7	-	-	Talaud Islands, Indonesia
80	17/04/2017	19:45:48	0.78	119.99	10	3.7	-	-	Minahassa Peninsula

81	18/04/2017	14:47:32	0.66	127.40	10	3.6		-	-	Halmahera, Indonesia; Pusat gempa berada didarat 7Km BaratLaut TIDORE- KEP MALUT, MALUT; dirasakan di Ternate (III MMI).
82	19/04/2017	08:06:51	0.56	127.00	17	4.1	0.0282658	0.028146	0.027527	Halmahera, Indonesia; Pusat gempa berada di laut 47 km BaratDaya Ternate, Maluku Utara; dirasakan di Ternate (III MMI).
83	19/04/2017	13:40:20	1.58	128.28	81	4.8	0.0658	0.064200	0.062400	Halmahera, Indonesia; Pusat gempa berada dilaut 34 km Tenggara Tobelo, Maluku Utara; dirasakan di Tobelo (III MMI).
84	19/04/2017	20:55:43	2.14	126.65	26	3.7		-	-	Northern Molucca Sea
85	20/04/2017	04:38:38	5.36	127.16	123	4.4		-	-	Philippine Islands Region
86	20/04/2017	09:26:13	2.81	125.92	58	4.0		-	-	Talaud Islands, Indonesia
87	20/04/2017	16:23:10	3.19	127.09	31	4.1		-	-	Talaud Islands, Indonesia
88	20/04/2017	22:30:26	3.60	126.49	35	4.0		-	-	Talaud Islands, Indonesia
89	22/04/2017	00:39:30	0.88	126.10	10	3.3		-	-	Northern Molucca Sea
90	22/04/2017	20:37:27	1.70	124.22	229	3.6		-	-	Minahassa Peninsula
91	23/04/2017	02:33:42	1.05	126.43	10	3.0		-	-	Northern Molucca Sea
92	23/04/2017	02:38:03	1.46	122.28	10	1.9		-	-	Minahassa Peninsula
93	23/04/2017	08:53:01	1.13	121.66	14	2.0		-	-	Minahassa Peninsula
94	23/04/2017	12:02:49	0.62	122.36	98	4.0		-	-	Minahassa Peninsula
95	24/04/2017	06:32:40	3.87	122.59	618	4.1		-	-	Celebes Sea
96	24/04/2017	08:20:41	4.48	125.57	227	4.4		-	-	Talaud Islands, Indonesia
97	24/04/2017	09:49:16	0.95	122.59	40	2.5		-	-	Minahassa Peninsula
98	24/04/2017	13:07:46	1.97	124.56	202	4.0		-	-	Minahassa Peninsula
99	24/04/2017	23:21:05	1.73	128.22	78	3.3		-	-	Halmahera, Indonesia
100	26/04/2017	04:01:59	0.80	121.24	31	4.0		-	-	Minahassa Peninsula
101	26/04/2017	04:52:02	1.47	128.14	93	4.9	0.026101	0.026214	0.026012	Halmahera, Indonesia; Pusat gempa berada dilaut 26 km Tenggara Halmahera Utara, Malut; dirasakan di Galela (III MMI).
102	26/04/2017	12:22:23	0.68	118.29	15	4.1		-	-	Borneo
103	27/04/2017	04:17:55	0.53	126.08	10	3.3		-	-	Northern Molucca Sea
104	27/04/2017	11:31:02	1.75	123.46	10	4.0		-	-	Minahassa Peninsula
105	27/04/2017	12:04:26	4.14	126.57	43	4.2		-	-	Talaud Islands, Indonesia
106	27/04/2017	18:34:32	2.19	124.12	307	3.8		-	-	Celebes Sea
107	28/04/2017	22:07:41	4.52	124.60	19	4.5		-	-	Celebes Sea
108	28/04/2017	21:04:36	1.64	126.31	38	3.8		-	-	Northern Molucca Sea
109	28/04/2017	20:53:54	6.10	124.73	10	5.0		-	-	Mindanao, Philippines
110	28/04/2017	20:48:20	5.99	124.98	10	5.1		-	-	Mindanao, Philippines
111	28/04/2017	20:23:21	5.44	125.06	43	7.0	0.0521125	0.05212356	0.052046	Mindanao, Philippines
112	28/04/2017	17:07:06	0.46	125.90	10	3.5		-	-	Northern Molucca Sea
113	28/04/2017	16:43:55	0.50	126.16	27	3.1		-	-	Northern Molucca Sea
114	28/04/2017	15:28:50	0.34	121.90	165	2.5		-	-	Minahassa Peninsula

115	28/04/2017	13:29:10	0.60	126.14	10	4.4		-	-	Northern Molucca Sea
116	29/04/2017	21:33:34	0.27	125.97	10	3.2		-	-	Northern Molucca Sea
117	29/04/2017	20:21:25	3.05	120.54	480	3.5		-	-	Celebes Sea
118	29/04/2017	19:42:08	5.35	124.94	18	4.6		-	-	Mindanao, Philippines
119	29/04/2017	18:39:23	1.39	125.67	54	4.0		-	-	Northern Molucca Sea
120	29/04/2017	17:47:40	5.43	124.88	25	4.1		-	-	Mindanao, Philippines
121	29/04/2017	16:50:28	3.57	128.13	63	4.5		-	-	Northern Molucca Sea
122	29/04/2017	16:27:53	8.83	124.50	238	4.3		-	-	Mindanao, Philippines
123	29/04/2017	13:14:31	4.17	126.46	62	3.5		-	-	Talaud Islands, Indonesia
124	29/04/2017	12:00:03	4.24	124.22	209	3.9		-	-	Celebes Sea
125	29/04/2017	11:23:45	2.93	125.07	118	3.9		-	-	Talaud Islands, Indonesia
126	29/04/2017	05:55:29	5.35	124.97	91	4.5		-	-	Mindanao, Philippines
127	29/04/2017	04:44:34	-0.48	129.16	179	4.5		-	-	Halmahera, Indonesia
128	29/04/2017	03:49:30	5.30	124.83	59	4.1		-	-	Mindanao, Philippines
129	29/04/2017	03:26:07	4.96	123.61	77	3.8		-	-	Celebes Sea
130	29/04/2017	01:51:08	5.38	124.89	60	4.1		-	-	Mindanao, Philippines
131	29/04/2017	01:37:45	0.80	124.17	258	4.7		-	-	Minahassa Peninsula
132	30/04/2017	23:01:15	5.03	124.48	376	4.1		-	-	Mindanao, Philippines
133	30/04/2017	22:00:25	0.77	126.05	10	4.4		-	-	Northern Molucca Sea
134	30/04/2017	20:06:20	0.69	124.90	7	3.6		-	-	Minahassa Peninsula
135	30/04/2017	19:46:27	0.60	124.28	468	3.0		-	-	Minahassa Peninsula
136	30/04/2017	18:08:29	2.07	126.76	21	3.1		-	-	Northern Molucca Sea
137	30/04/2017	14:01:01	6.33	124.40	430	3.8		-	-	Mindanao, Philippines
138	30/04/2017	10:39:55	0.13	127.34	133	3.3		-	-	Halmahera, Indonesia
139	30/04/2017	04:33:02	0.88	126.78	183	4.8		-	-	Northern Molucca Sea
140	30/04/2017	02:26:37	5.26	124.98	100	4.0		-	-	Mindanao, Philippines
141	30/04/2017	01:14:29	1.88	127.00	25	4.3		-	-	Northern Molucca Sea
142	30/04/2017	00:23:01	-0.15	122.93	83	4.3		-	-	Minahassa Peninsula

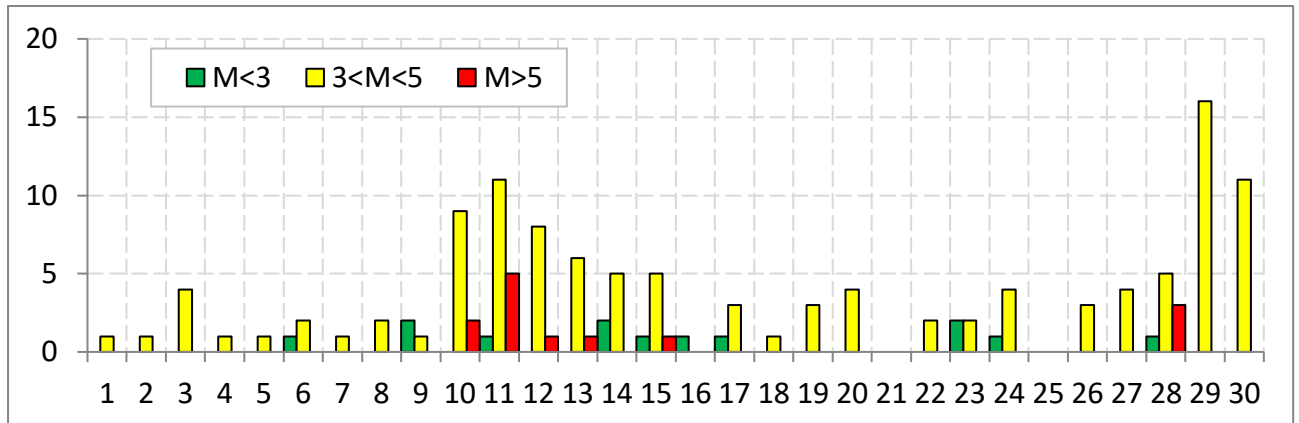
Peta 5. Distribusi Episenter Gempabumi Daerah Sulawesi Utara dan sekitarnya
Bulan April 2017



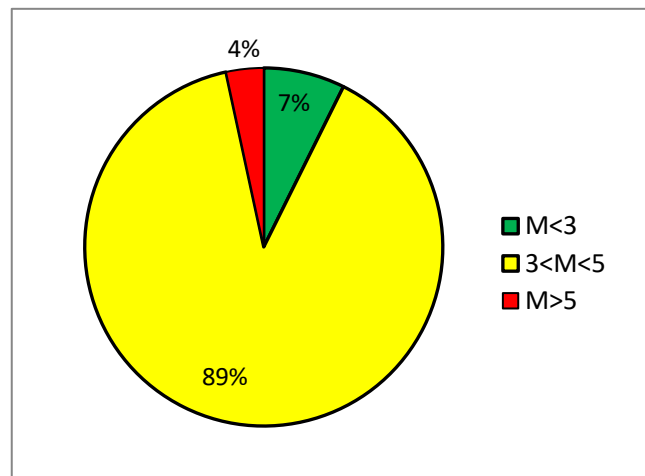
**Tabel 8. Rekapitulasi Gempabumi Berdasarkan Magnitudo
Bulan April 2017**

Tanggal (UTC)	Magnitudo			Jumlah Total	Jumlah Gempa Signifikan	
	M<3	3≤M<5	M≥5		Dirasakan	Merusak
1	0	1	0	1	0	0
2	0	1	0	1	0	0
3	0	4	0	4	1	0
4	0	1	0	1	0	0
5	0	1	0	1	0	0
6	1	2	0	3	0	0
7	0	1	0	1	0	0
8	0	2	0	2	0	0
9	2	1	0	3	0	0
10	0	9	2	11	1	0
11	1	11	5	17	0	0
12	0	8	1	9	0	0
13	0	6	1	7	0	0
14	2	5	0	7	0	0
15	1	5	1	7	0	0
16	1	0	0	1	0	0
17	1	3	0	4	0	0
18	0	1	0	1	1	0
19	0	3	0	3	2	0
20	0	4	0	4	0	0
21	0	0	0	0	0	0
22	0	2	0	2	0	0
23	2	2	0	4	0	0
24	1	4	0	5	0	0
25	0	0	0	0	0	0
26	0	3	0	3	1	0
27	0	4	0	4	0	0
28	1	5	3	9	0	0
29	0	16	0	16	0	0
30	0	11	0	11	0	0
Jumlah gempa	13	116	13	142	6	0
Jumlah gempa seluruhnya						

Histogram 7. Gempabumi Berdasarkan Magnitudo
Bulan April 2017



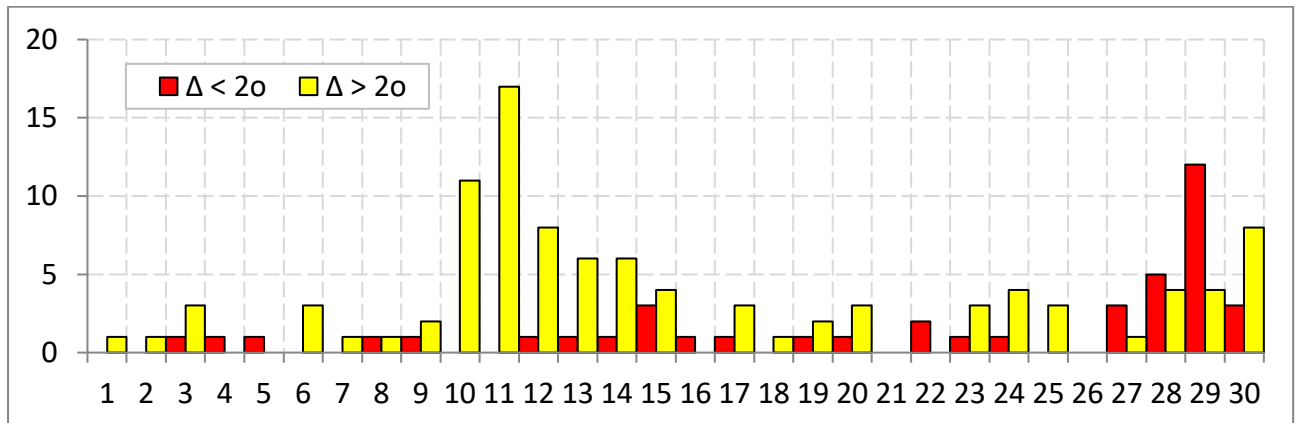
Persentase 9. Gempabumi Berdasarkan Magnitudo
Bulan April 2017



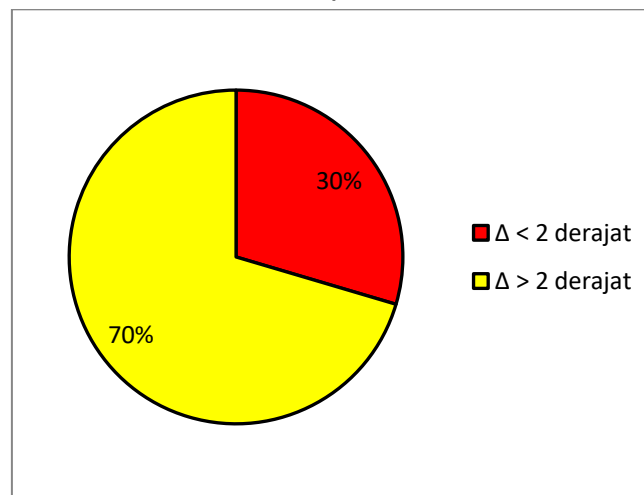
Tabel 9. Rekapitulasi Gempabumi Berdasarkan Jarak Dari Stasiun
Bulan April 2017

Tanggal	Jarak		Jumlah	Keterangan
	$\Delta \leq 2^\circ$	$\Delta > 2^\circ$		
01/04/2017	0	1	1	-
02/04/2017	0	1	1	-
03/04/2017	1	3	4	-
04/04/2017	1	0	1	-
05/04/2017	1	0	1	-
06/04/2017	0	3	3	-
07/04/2017	0	1	1	-
08/04/2017	1	1	2	-
09/04/2017	1	2	3	-
10/04/2017	0	11	11	-
11/04/2017	0	17	17	-
12/04/2017	1	8	9	-
13/04/2017	1	6	7	-
14/04/2017	1	6	7	-
15/04/2017	3	4	7	-
16/04/2017	1	0	1	-
17/04/2017	1	3	4	-
18/04/2017	0	1	1	-
19/04/2017	1	2	3	-
20/04/2017	1	3	4	-
21/04/2017	0	0	0	-
22/04/2017	2	0	2	-
23/04/2017	1	3	4	-
24/04/2017	1	4	5	-
25/04/2017	0	3	3	-
26/04/2017	0	0	0	-
27/04/2017	3	1	4	-
28/04/2017	5	4	9	-
29/04/2017	12	4	16	-
30/04/2017	3	8	11	-
Jumlah gempa	42	100	142	-
Jumlah gempa seluruhnya				

Histogram 8. Gempabumi Berdasarkan Jarak
Bulan April 2017



Persentase 10. Gempabumi Berdasarkan Jarak
Bulan April 2017



Data Gempabumi Bulan Mei 2017

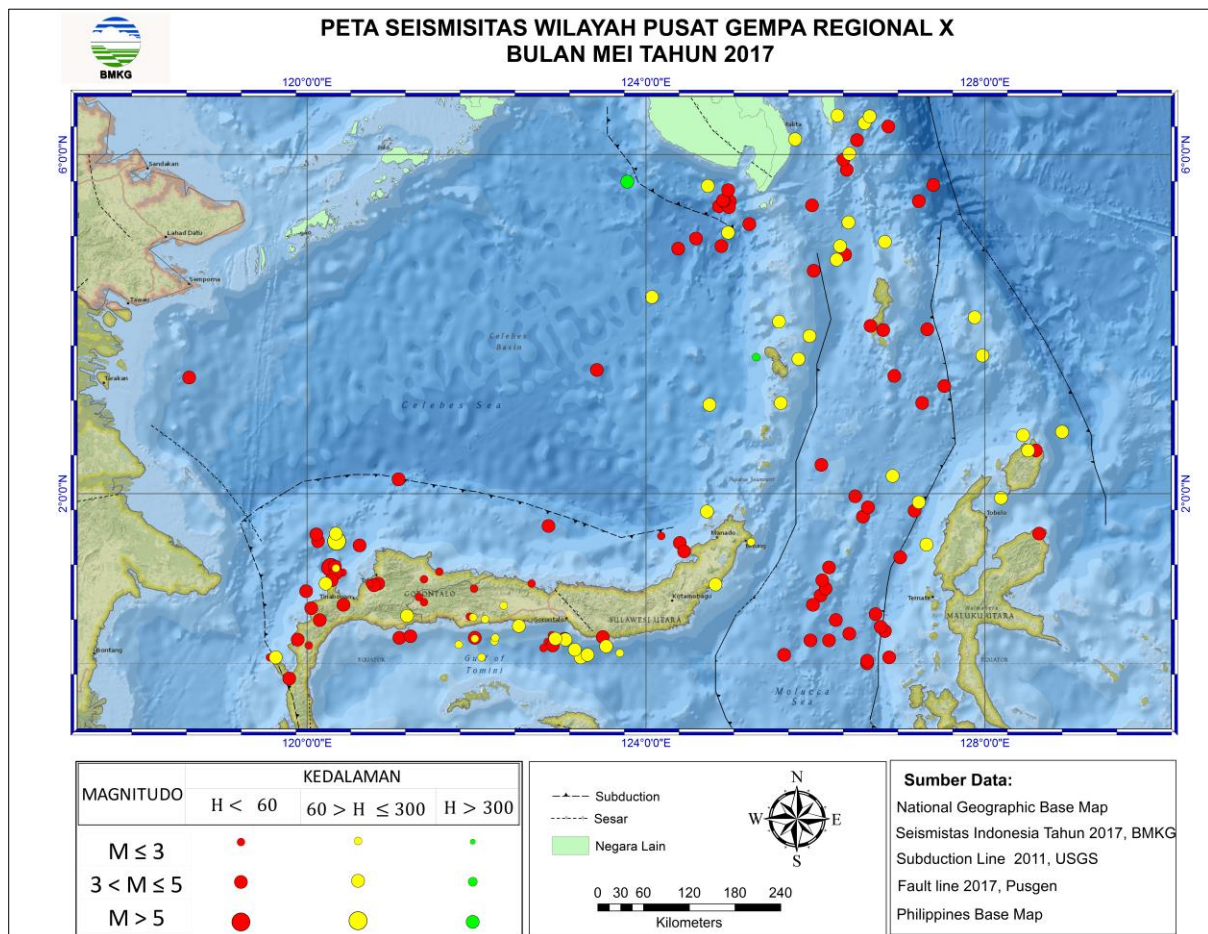
NO	DATE	OT (UTC)	EPICENTER		DEPTH (KM)	MAG	PGA (gals)			REMARKS
			LAT	LON			X	Y	Z	
1	01/05/2017	1:23:08	5.08	124.97	65	3.8	-	-	-	Mindanao, Philippines
2	01/05/2017	4:40:23	5.44	124.98	60	4.1	-	-	-	Mindanao, Philippines
3	01/05/2017	5:51:13	0.07	123.23	134	3.2	-	-	-	Minahassa Peninsula,Indonesia
4	01/05/2017	11:06:18	2.17	121.08	10	3.7	-	-	-	Sulawesi, Indonesia
5	01/05/2017	14:26:57	0.10	123.31	137	4.2	-	-	-	Minahassa Peninsula,Indonesia
6	01/05/2017	15:11:31	3.46	123.42	50	3.7	-	-	-	Celebes Sea
7	01/05/2017	18:23:01	1.79	124.72	264	3.6	-	-	-	Minahassa Peninsula,Indonesia
8	01/05/2017	23:07:42	5.45	124.99	60	4.4	-	-	-	Mindanao, Philippines
9	02/05/2017	2:49:54	5.39	124.86	11	4.3	0.016420	0.020064	0.013061	Mindanao, Philippines
10	02/05/2017	4:00:56	5.38	124.98	10	4.2	-	-	-	Mindanao, Philippines
11	02/05/2017	12:03:58	5.45	124.92	53	4.1	-	-	-	Mindanao, Philippines
12	02/05/2017	13:53:45	4.82	126.35	20	3.7	-	-	-	Talaud Islands,Indonesia
13	02/05/2017	14:46:33	0.38	126.82	23	3.2	-	-	-	Northern Molucca
14	02/05/2017	16:02:32	4.92	124.89	45	3.6	-	-	-	Celebes Sea
15	02/05/2017	18:48:47	1.53	128.64	10	4.1	-	-	-	Halmahera,Indonesia
16	02/05/2017	20:45:59	5.01	124.59	10	3.4	-	-	-	Mindanao, Philippines
17	02/05/2017	21:16:37	0.30	121.09	60	3.4	-	-	-	Minahassa Peninsula,Indonesia
18	02/05/2017	23:16:37	1.97	126.47	10	3.7	-	-	-	Northern Molucca
19	03/05/2017	1:43:13	4.32	124.07	234	3.5	-	-	-	Celebes Sea
20	03/05/2017	2:29:51	1.62	122.85	26	3.3	-	-	-	Minahassa Peninsula,Indonesia
21	03/05/2017	4:20:52	4.03	125.57	119	3.3	-	-	-	Talaud Islands,Indonesia
22	03/05/2017	13:05:46	3.27	127.52	10	3.9	-	-	-	Talaud Islands,Indonesia
23	03/05/2017	19:31:47	0.80	126.06	10	3.2	-	-	-	Northern Molucca
24	03/05/2017	19:58:41	4.89	124.38	60	3.9	-	-	-	Celebes Sea
25	04/05/2017	3:57:28	0.07	119.56	6	2.6	-	-	-	Minahassa Peninsula,Indonesia
26	04/05/2017	8:50:00	0.85	119.99	10	3.3	-	-	-	Minahassa Peninsula,Indonesia
27	04/05/2017	16:58:53	5.68	123.78	550	4.1	-	-	-	Mindanao, Philippines
28	04/05/2017	19:47:53	1.07	120.42	20	2.6	-	-	-	Minahassa Peninsula,Indonesia
29	05/05/2017	1:31:58	3.39	126.93	20	3.8	-	-	-	Talaud Islands,Indonesia
30	05/05/2017	14:42:05	5.46	124.91	54	4.5	-	-	-	Mindanao, Philippines
31	06/05/2017	13:02:33	3.59	125.80	129	3.6	-	-	-	Talaud Islands,Indonesia
32	07/05/2017	1:29:38	6.18	125.76	131	4.6	-	-	-	Mindanao, Philippines
33	07/05/2017	7:25:01	0.94	122.65	22	1.9	-	-	-	Minahassa Peninsula,Indonesia
34	07/05/2017	10:03:33	0.12	123.69	119	2.8	-	-	-	Minahassa Peninsula,Indonesia
35	07/05/2017	12:00:30	2.51	128.51	223	4.2	-	-	-	Halmahera,Indonesia
36	08/05/2017	8:33:05	3.05	124.75	278	4.8	-	-	-	Celebes Sea
37	08/05/2017	12:42:17	0.68	122.32	91	1.8	-	-	-	Minahassa Peninsula,Indonesia
38	08/05/2017	16:35:41	3.93	126.80	58	3.7	-	-	-	Talaud Islands,Indonesia
39	08/05/2017	22:06:07	1.08	121.56	10	2.6	-	-	-	Minahassa Peninsula,Indonesia

40	08/05/2017	22:37:44	0.10	125.63	10	3.4	-	-	-	Southern
41	10/05/2017	16:14:15	0.54	121.96	171	1.4	-	-	-	Minahassa Peninsula,Indonesia
42	10/05/2017	17:56:57	-0.18	119.79	10	4.2	-	-	-	Minahassa Peninsula,Indonesia
43	10/05/2017	19:18:21	0.07	119.63	129	3.4	-	-	-	Minahassa Peninsula,Indonesia
44	10/05/2017	19:28:16	0.21	120.02	10	3	-	-	-	Minahassa Peninsula,Indonesia
45	10/05/2017	20:04:22	0.28	119.89	10	3.7	-	-	-	Minahassa Peninsula,Indonesia
46	10/05/2017	21:08:15	1.95	128.19	105	3.6	-	-	-	Halmahera,Indonesia
47	11/05/2017	3:07:21	8.61	126.80	154	4.6	-	-	-	Mindanao, Philippines
48	11/05/2017	6:43:52	0.93	124.82	122	3.3	-	-	-	Minahassa Peninsula,Indonesia
49	11/05/2017	16:00:42	0.51	126.24	10	4	-	-	-	Northern Molucca
50	11/05/2017	21:33:07	5.58	124.97	18	4.2	-	-	-	Mindanao, Philippines
51	12/05/2017	11:28:53	5.20	126.39	172	4.5	-	-	-	Mindanao, Philippines
52	13/05/2017	1:38:36	0.25	122.84	10	2.5	-	-	-	Minahassa Peninsula,Indonesia
53	13/05/2017	9:58:15	0.25	122.84	10	2.9	-	-	-	Minahassa Peninsula,Indonesia
54	13/05/2017	15:21:29	0.88	126.12	10	3.4	-	-	-	Northern Molucca
55	13/05/2017	22:53:31	1.42	124.40	10	3.6	-	-	-	Southern
56	14/05/2017	1:06:57	0.44	122.50	79	3.2	-	-	-	Minahassa Peninsula,Indonesia
57	14/05/2017	2:12:13	0.29	121.98	136	3	-	-	-	Minahassa Peninsula,Indonesia
58	14/05/2017	5:06:14	5.40	125.96	14	4.3	-	-	-	Mindanao, Philippines
59	14/05/2017	10:46:07	5.63	124.73	76	4.5	-	-	-	Mindanao, Philippines
60	14/05/2017	11:17:20	0.72	121.38	2	2.5	-	-	-	Minahassa Peninsula,Indonesia
61	14/05/2017	14:26:43	0.27	126.16	16	3.5	-	-	-	Northern Molucca
62	14/05/2017	20:27:54	3.37	118.61	18	3.3	-	-	-	Sulawesi, Indonesia
63	15/05/2017	4:17:31	0.21	122.90	21	3.3	-	-	-	Minahassa Peninsula,Indonesia
64	15/05/2017	13:48:35	0.30	121.98	10	3.4	-	-	-	Minahassa Peninsula,Indonesia
65	15/05/2017	17:41:15	3.98	126.65	24	4.7	-	-	-	Talaud Islands,Indonesia
66	15/05/2017	22:19:42	0.94	120.84	7	3.5	-	-	-	Minahassa Peninsula,Indonesia
67	15/05/2017	22:21:58	0.92	120.79	10	3.9	-	-	-	Minahassa Peninsula,Indonesia
68	15/05/2017	23:33:35	0.99	121.38	6	2.8	-	-	-	Minahassa Peninsula,Indonesia
69	16/05/2017	2:42:52	0.88	121.97	43	2	-	-	-	Minahassa Peninsula,Indonesia
70	16/05/2017	4:59:47	1.50	124.18	10	3	-	-	-	Minahassa Peninsula,Indonesia
71	16/05/2017	5:47:03	1.80	127.17	32	4.5	-	-	-	Halmahera,Indonesia
72	16/05/2017	6:14:52	0.27	125.94	10	3.7	-	-	-	Northern Molucca
73	16/05/2017	9:03:16	5.18	125.22	20	4.7	-	-	-	Mindanao, Philippines
74	16/05/2017	17:15:30	3.94	127.32	32	3.8	-	-	-	Talaud Islands,Indonesia
75	16/05/2017	17:28:53	2.73	128.91	251	3.8	-	-	-	Halmahera,Indonesia
76	17/05/2017	1:01:37	0.58	126.71	10	3.7	-	-	-	Northern Molucca
77	17/05/2017	10:38:08	0.31	123.49	5	3.3	-	-	-	Minahassa Peninsula,Indonesia
78	17/05/2017	14:01:20	0.94	120.74	11	2.4	-	-	-	Minahassa Peninsula,Indonesia
79	17/05/2017	16:03:13	0.18	122.79	12	2.9	-	-	-	Minahassa Peninsula,Indonesia
80	17/05/2017	19:46:02	1.43	125.24	180	2.8	-	-	-	Southern
81	17/05/2017	21:44:17	1.90	127.22	90	3.3	-	-	-	Halmahera,Indonesia

82	17/05/2017	22:24:23	8.58	126.57	10	4.8	-	-	-	Mindanao, Philippines
83	18/05/2017	12:56:19	0.20	123.53	73	4.7	-	-	-	Minahassa Peninsula,Indonesia
84	18/05/2017	22:19:01	1.13	126.16	10	3.3	-	-	-	Northern Molucca
85	19/05/2017	16:27:15	0.98	126.08	10	3.9	0.019060	0.036533	0.037039	Northern Molucca
86	19/05/2017	20:10:21	1.73	126.56	10	3.5	-	-	-	Northern Molucca
87	19/05/2017	10:03:54	0.78	121.32	60	2.3	-	-	-	Minahassa Peninsula,Indonesia
88	20/05/2017	5:17:31	6.33	126.86	10	4	0.023616	0.015558	0.021451	Mindanao, Philippines
89	20/05/2017	6:07:58	0.07	122.06	99	2.6	-	-	-	Minahassa Peninsula,Indonesia
90	20/05/2017	9:59:03	0.28	123.05	61	3.8	-	-	-	Minahassa Peninsula,Indonesia
91	20/05/2017	12:08:35	1.32	124.45	10	3.3	-	-	-	Minahassa Peninsula,Indonesia
92	20/05/2017	18:10:10	0.00	126.61	10	4.4	-	-	-	Northern Molucca
93	20/05/2017	20:33:00	0.03	126.61	10	3.1	-	-	-	Northern Molucca
94	20/05/2017	22:07:35	5.45	127.22	10	4.3	-	-	-	Philippine
95	21/05/2017	0:51:18	0.22	121.79	155	2.4	-	-	-	Minahassa Peninsula,Indonesia
96	21/05/2017	4:54:26	5.64	127.39	60	4.5	-	-	-	Philippine
97	21/05/2017	5:23:31	4.08	127.88	125	4.4	-	-	-	Talau Islands,Indonesia
98	21/05/2017	19:02:01	3.86	125.93	72	3.6	-	-	-	Talau Islands,Indonesia
99	21/05/2017	21:00:07	0.33	122.89	60	2.7	-	-	-	Minahassa Peninsula,Indonesia
100	22/05/2017	11:07:39	0.55	121.92	22	2	-	-	-	Minahassa Peninsula,Indonesia
101	22/05/2017	14:59:24	0.69	125.97	10	3.4	-	-	-	Northern Molucca
102	23/05/2017	3:05:36	2.51	128.60	10	3.8	-	-	-	Halmahera,Indonesia
103	23/05/2017	3:16:53	3.07	127.26	10	4.4	-	-	-	Talau Islands,Indonesia
104	23/05/2017	14:08:49	2.34	126.07	8	3.3	-	-	-	Northern Molucca
105	23/05/2017	16:33:00	1.84	126.62	10	3.7	-	-	-	Northern Molucca
106	23/05/2017	20:15:39	0.29	123.04	53	3.5	-	-	-	Minahassa Peninsula,Indonesia
107	24/05/2017	0:31:32	0.52	122.10	195	3	-	-	-	Minahassa Peninsula,Indonesia
108	24/05/2017	12:37:30	4.92	126.29	119	4	-	-	-	Talau Islands,Indonesia
109	24/05/2017	14:08:18	8.20	123.32	435	4.2	-	-	-	Mindanao, Philippines
110	24/05/2017	21:14:39	0.26	122.21	128	2.9	-	-	-	Minahassa Peninsula,Indonesia
111	25/05/2017	2:39:28	0.29	122.93	69	4.3	0.012066	-0.00863	0.009320	Minahassa Peninsula,Indonesia
112	25/05/2017	7:56:42	6.17	126.49	10	4.4	-	-	-	Mindanao, Philippines
113	25/05/2017	7:58:16	3.61	125.30	358	3.6	-	-	-	Talau Islands,Indonesia
114	25/05/2017	8:22:55	3.63	127.97	136	4.7	-	-	-	Talau Islands,Indonesia
115	25/05/2017	8:43:03	0.16	123.16	150	4.2	-	-	-	Minahassa Peninsula,Indonesia
116	25/05/2017	17:22:03	0.30	122.22	92	2.3	-	-	-	Minahassa Peninsula,Indonesia
117	26/05/2017	7:57:32	0.43	126.77	20	3.9	-	-	-	Northern Molucca
118	26/05/2017	22:32:51	6.37	126.58	173	4.5	-	-	-	Mindanao, Philippines
119	27/05/2017	3:40:27	1.25	127.00	24	3.7	-	-	-	Halmahera,Indonesia
120	27/05/2017	3:58:45	6.45	126.64	180	4.3	-	-	-	Mindanao, Philippines
121	27/05/2017	18:57:40	3.07	125.59	162	4.4	0.009343	0.006841	0.008485	Talau Islands,Indonesia
122	27/05/2017	22:48:06	6.01	126.40	101	4.5	-	-	-	Mindanao, Philippines
123	28/05/2017	3:41:31	0.07	126.87	10	3.6	-	-	-	Southern
124	28/05/2017	5:00:43	5.82	126.37	10	4.8	-	-	-	Mindanao, Philippines
125	28/05/2017	6:52:25	5.94	126.33	10	4.2	-	-	-	Mindanao, Philippines
126	28/05/2017	7:18:22	1.40	127.31	116	3.6	-	-	-	Halmahera,Indonesia
127	28/05/2017	10:14:24	0.65	120.05	10	4	-	-	-	Minahassa Peninsula,Indonesia

128	28/05/2017	11:04:31	0.56	121.18	69	4.8	2.855700	3.168300	1.830600	Minahassa Peninsula,Indonesia
129	28/05/2017	17:05:18	0.35	126.40	10	3.1	-	-	-	Northern Molucca
130	28/05/2017	17:11:16	2.21	126.91	109	3.3	-	-	-	Northern Molucca
131	28/05/2017	21:23:04	6.46	126.26	87	4.4	-	-	-	Mindanao, Philippines
132	29/05/2017	1:41:12	4.63	125.98	10	4.1	-	-	-	Talaud Islands,Indonesia
133	29/05/2017	14:35:25	1.44	120.35	161	6.7	0.012980	0.019188	0.024640	Sulawesi, Indonesia
134	29/05/2017	14:53:44	1.13	120.28	10	5.2	-	-	-	Sulawesi, Indonesia
135	29/05/2017	15:58:51	0.94	120.22	228	3.8	-	-	-	Minahassa Peninsula,Indonesia
136	29/05/2017	16:25:58	1.53	120.34	193	4.4	-	-	-	Sulawesi, Indonesia
137	29/05/2017	16:31:25	1.39	120.62	10	4.1	-	-	-	Sulawesi, Indonesia
138	29/05/2017	19:16:23	1.44	120.13	10	3.3	-	-	-	Sulawesi, Indonesia
139	29/05/2017	22:57:01	1.14	120.33	10	3.7	-	-	-	Sulawesi, Indonesia
140	30/05/2017	3:40:58	1.52	120.11	10	4.4	-	-	-	Sulawesi, Indonesia
141	30/05/2017	6:57:31	1.12	120.34	94	2.9	-	-	-	Sulawesi, Indonesia
142	30/05/2017	23:17:29	4.97	126.82	132	4.3	-	-	-	Talaud Islands,Indonesia
143	31/05/2017	1:18:20	0.69	120.43	10	3.7	-	-	-	Minahassa Peninsula,Indonesia
144	31/05/2017	1:36:05	0.32	121.22	10	3.6	-	-	-	Minahassa Peninsula,Indonesia
145	31/05/2017	9:35:26	1.06	120.34	10	3.9	-	-	-	Sulawesi, Indonesia
146	31/05/2017	9:55:50	4.76	126.25	122	4.3	-	-	-	Talaud Islands,Indonesia
147	31/05/2017	19:31:58	0.98	120.29	10	3.7	-	-	-	Minahassa Peninsula,Indonesia
148	31/05/2017	20:54:37	0.51	120.15	25	3.3	-	-	-	Minahassa Peninsula,Indonesia
149	31/05/2017	21:16:58	2.69	128.45	228	5	-	-	-	Halmahera,Indonesia

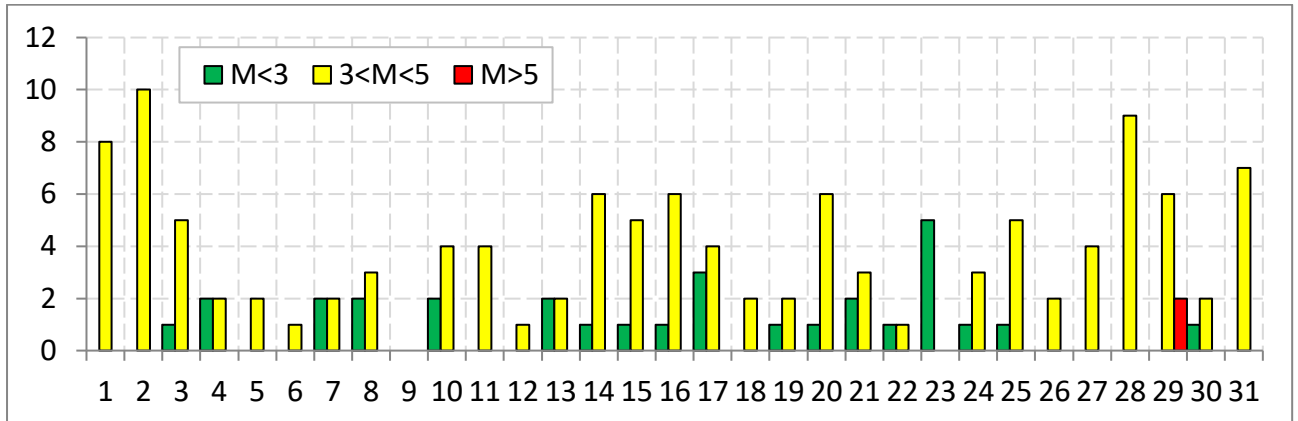
Peta 6. Distribusi Episenter Gempabumi Daerah Sulawesi Utara dan sekitarnya
Bulan Mei 2017



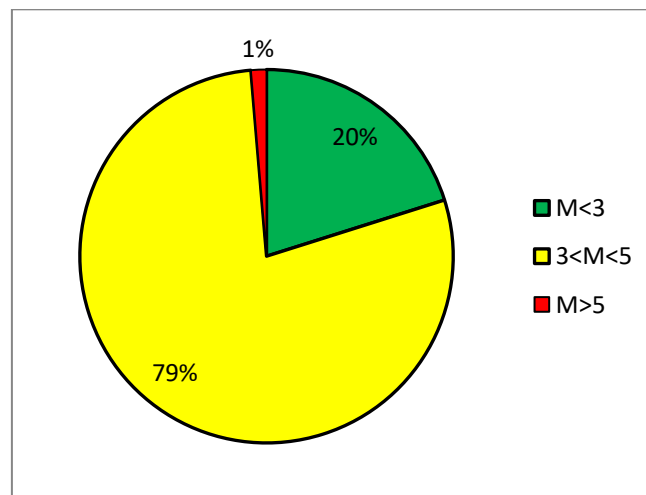
**Tabel 10. Rekapitulasi Gempabumi Berdasarkan Magnitudo
Bulan Mei 2017**

Tanggal (UTC)	Magnitudo			Jumlah Total	Jumlah Gempa Signifikan	
	M<3	3≤M<5	M≥5		Dirasakan	Merusak
1	0	8	0	8	0	0
2	0	10	0	10	0	0
3	1	5	0	6	0	0
4	2	2	0	4	0	0
5	0	2	0	2	0	0
6	0	1	0	1	0	0
7	2	2	0	4	0	0
8	2	3	0	5	0	0
9	0	0	0	0	0	0
10	2	4	0	6	1	0
11	0	4	0	4	0	0
12	0	1	0	1	0	0
13	2	2	0	4	0	0
14	1	6	0	7	0	0
15	1	5	0	6	0	0
16	1	6	0	7	0	0
17	3	4	0	7	0	0
18	0	2	0	2	0	0
19	1	2	0	3	0	0
20	1	6	0	7	1	0
21	2	3	0	5	0	0
22	1	1	0	2	0	0
23	5	0	0	5	0	0
24	1	3	0	4	0	0
25	1	5	0	6	0	0
26	0	2	0	2	0	0
27	0	4	0	4	0	0
28	0	9	0	9	1	0
29	0	6	2	8	0	0
30	1	2	0	3	0	0
31	0	7	0	7	0	0
Jumlah gempa	30	117	2	149	3	0
Jumlah gempa seluruhnya						

Histogram 9. Gempabumi Berdasarkan Magnitudo
Bulan Mei 2017



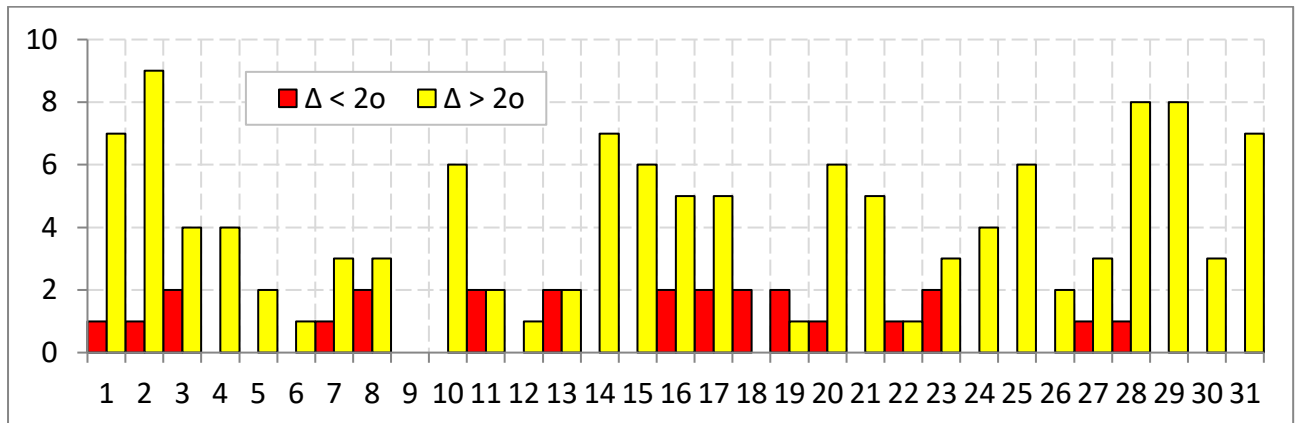
Persentase 11. Gempabumi Berdasarkan Magnitudo
Bulan Mei 2017



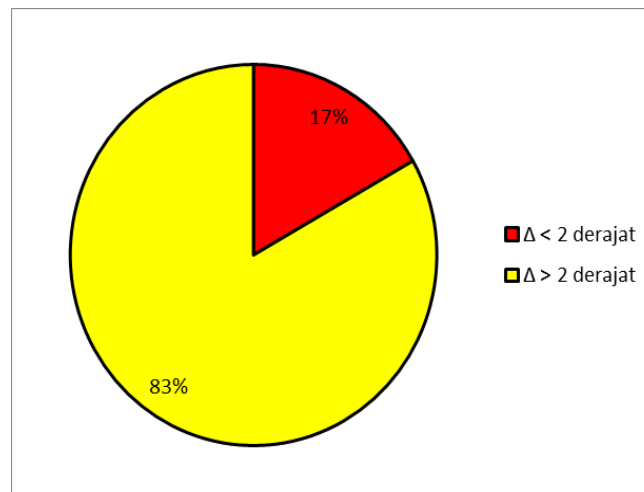
Tabel 11. Rekapitulasi Gempabumi Berdasarkan Jarak Dari Stasiun
Bulan Mei 2017

Tanggal	Jarak		Jumlah	Keterangan
	$\Delta \leq 2^\circ$	$\Delta > 2^\circ$		
01/05/2017	1	7	8	-
02/05/2017	1	9	10	-
03/05/2017	2	4	6	-
04/05/2017	0	4	4	-
05/05/2017	0	2	2	-
06/05/2017	0	1	1	-
07/05/2017	1	3	4	-
08/05/2017	2	3	5	-
09/05/2017	0	0	0	-
10/05/2017	0	6	6	-
11/05/2017	2	2	4	-
12/05/2017	0	1	1	-
13/05/2017	2	2	4	-
14/05/2017	0	7	7	-
15/05/2017	0	6	6	-
16/05/2017	2	5	7	-
17/05/2017	2	5	7	-
18/05/2017	2	0	2	-
19/05/2017	2	1	3	-
20/05/2017	1	6	7	-
21/05/2017	0	5	5	-
22/05/2017	1	1	2	-
23/05/2017	2	3	5	-
24/05/2017	0	4	4	-
25/05/2017	0	6	6	-
26/05/2017	0	2	2	-
27/05/2017	1	3	4	-
28/05/2017	1	8	9	-
29/05/2017	0	8	8	-
30/05/2017	0	3	3	-
31/05/2017	0	7	7	
Jumlah gempa	25	124	149	-
Jumlah gempa seluruhnya				

Histogram 10. Gempabumi Berdasarkan Jarak
Bulan Mei 2017



Persentase 12. Gempabumi Berdasarkan Jarak
Bulan Mei 2017



Data Gempabumi Bulan Juni 2017

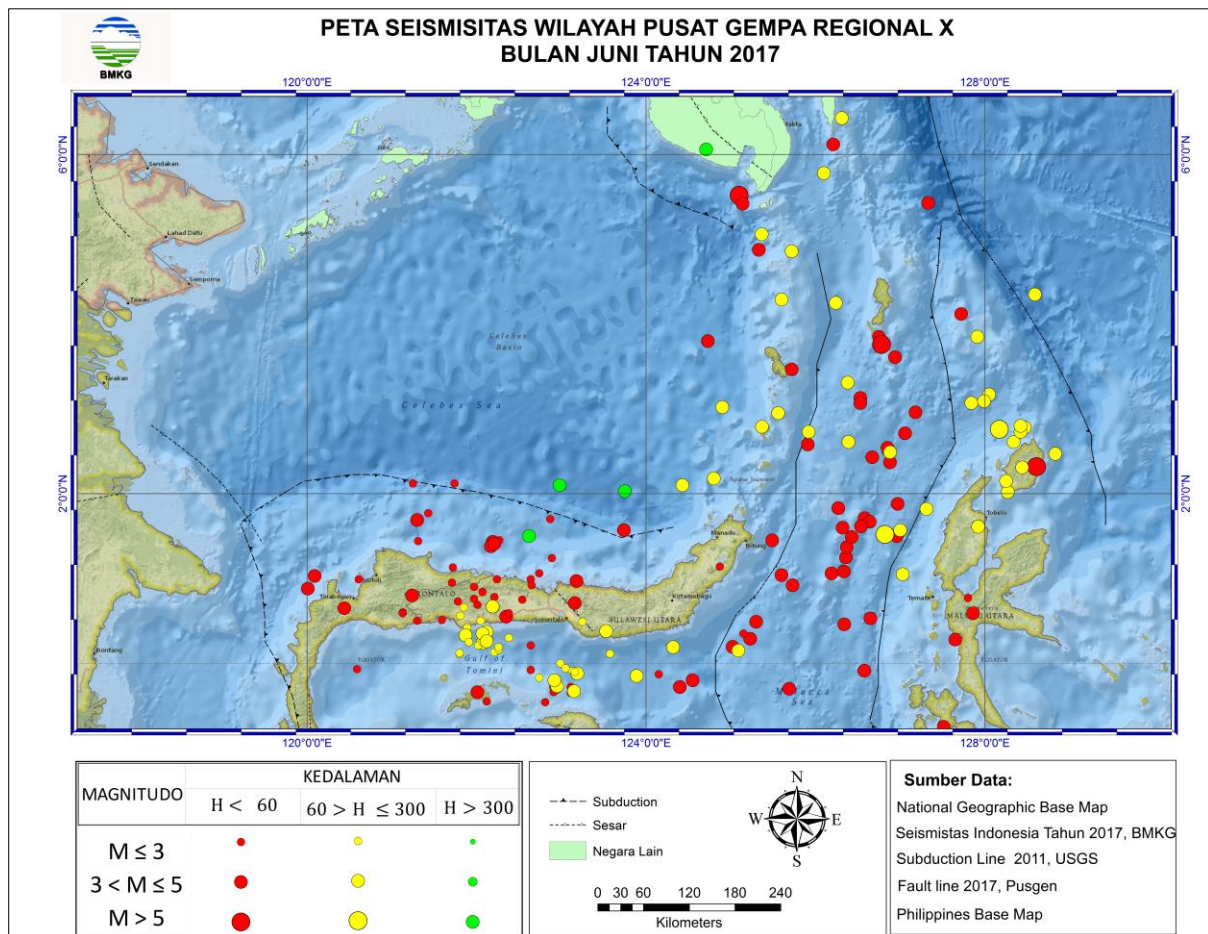
NO	DATE	OT (UTC)	EPICENTER		DEPTH (KM)	MAG	PGA (gals)			REMARKS
			LAT	LON			X	Y	Z	
1	01/06/2017	02:20:02	-0.34	122.01	10	3.5				Minahassa Peninsula, Sulawesi
2	01/06/2017	03:34:25	2.10	122.98	416	3.9				Celebes Sea
3	01/06/2017	05:13:47	1.14	124.87	35	3				Minahassa Peninsula, Sulawesi
4	01/06/2017	13:58:19	4.35	128.59	84	4.8	0.09227	0.07872	0.10369	North of Halmahera, Indonesia
5	01/06/2017	21:37:09	3.80	124.73	10	3.8				Celebes Sea
6	02/06/2017	01:04:43	0.25	122.06	148	2.1				Minahassa Peninsula, Sulawesi
7	02/06/2017	03:20:51	0.50	121.30	58	2.6				Minahassa Peninsula
8	02/06/2017	04:33:49	0.50	122.05	160	2.4				Minahassa Peninsula, Sulawesi
9	02/06/2017	14:08:00	0.24	122.07	191	3.4				Minahassa Peninsula, Sulawesi
10	02/06/2017	14:11:37	0.66	122.23	84	2.5				Minahassa Peninsula, Sulawesi
11	02/06/2017	14:59:14	1.71	126.58	10	3.7				Northern Molucca Sea
12	02/06/2017	18:07:23	2.18	124.80	237	3.2				Celebes Sea
13	02/06/2017	21:05:28	0.13	122.21	143	1.6				Minahassa Peninsula, Sulawesi
14	03/06/2017	04:00:50	1.88	126.97	12	3.7				Northern Molucca Sea
15	03/06/2017	10:20:03	4.86	125.72	109	4.3				Talaud Islands, Indonesia
16	03/06/2017	11:15:33	1.67	126.64	53	4.9	0.36019	0.28089	0.25692	Northern Molucca Sea
17	03/06/2017	16:08:25	1.69	121.30	10	3.2				Celebes Sea
18	03/06/2017	18:51:51	6.43	126.31	70	5				Mindanao, Philippines
19	03/06/2017	19:06:19	2.78	128.47	223	3.8				Halmahera, Indonesia
20	03/06/2017	19:46:28	2.79	125.37	179	3.7				Talaud Islands, Indonesia
21	04/06/2017	00:51:52	2.51	126.86	60	4.7	0.14313	0.12636	0.17799	Northern Molucca Sea
22	04/06/2017	11:47:11	-0.08	122.64	11	2.3				Minahassa Peninsula, Sulawesi
23	04/06/2017	16:54:45	0.69	122.01	57	1.2				Minahassa Peninsula, Sulawesi
24	04/06/2017	22:07:44	0.49	123.25	71	2.5				Minahassa Peninsula, Sulawesi
25	05/06/2017	04:11:09	0.99	122.64	42	2.4				Minahassa Peninsula, Sulawesi
26	05/06/2017	05:27:13	1.25	126.36	10	3.5				Northern Molucca Sea
27	05/06/2017	12:14:19	0.21	122.02	186	3				Minahassa Peninsula, Sulawesi
28	06/06/2017	11:20:13	1.70	122.87	21	2.6				Minahassa Peninsula, Sulawesi
29	06/06/2017	13:53:34	0.40	121.89	174	1.9				Minahassa Peninsula, Sulawesi
30	06/06/2017	14:24:30	0.71	123.16	58	3.7				Minahassa Peninsula, Sulawesi
31	06/06/2017	15:07:02	-0.09	123.13	152	3				Minahassa Peninsula, Sulawesi
32	06/06/2017	19:15:05	0.92	125.73	10	3.1				Northern Molucca Sea
33	06/06/2017	19:46:16	1.82	127.31	121	3.4				Halmahera, Indonesia
34	06/06/2017	21:41:49	2.61	128.34	208	4	0.14301	0.10755	0.10925	Halmahera, Indonesia
35	07/06/2017	08:52:35	0.73	121.78	47	2				Minahassa Peninsula, Sulawesi
36	07/06/2017	14:18:52	2.49	126.88	73	4.6	0.11015	0.12425	0.23764	Northern Molucca Sea
37	07/06/2017	20:23:21	0.59	127.86	21	3.1				Halmahera, Indonesia
38	07/06/2017	23:32:47	0.55	122.35	57	3.1				Minahassa Peninsula, Sulawesi
39	08/06/2017	01:00:26	-0.17	122.74	141	3				Minahassa Peninsula, Sulawesi
40	08/06/2017	06:34:13	1.77	121.43	25	2.3				Minahassa Peninsula, Sulawesi
41	08/06/2017	12:00:52	-0.30	125.69	10	4.1				Southern Molucca Sea
42	08/06/2017	17:24:34	3.13	126.53	17	3.4				Talaud Islands, Indonesia
43	08/06/2017	19:13:34	0.80	121.24	47	3.1				Minahassa Peninsula, Sulawesi
44	08/06/2017	23:24:44	-0.27	122.95	69	4.2	0.00962	0.07328	0.1181	Minahassa Peninsula, Sulawesi

45	09/06/2017	04:09:33	3.61	126.94	17	3.9				Talaud Islands, Indonesia
46	09/06/2017	05:00:49	2.58	125.91	27	4.1				Talaud Islands, Indonesia
47	09/06/2017	10:24:14	0.11	121.80	182	2.6				Minahassa Peninsula
48	09/06/2017	12:58:27	5.52	125.10	56	5.1	0.1163	0.08814	0.11941	Mindanao, Philippines
49	09/06/2017	16:45:43	0.00	122.99	136	2.8				Minahassa Peninsula, Sulawesi
50	10/06/2017	02:37:35	0.19	124.32	87	4.5	0.12264	0.08684	0.10378	Minahassa Peninsula, Sulawesi
51	10/06/2017	15:09:22	0.29	125.23	10	3.7				Northern Molucca Sea
52	11/06/2017	01:51:52	3.85	126.75	52	4.6				Talaud Islands, Indonesia
53	11/06/2017	06:09:16	4.12	127.72	10	4				Talaud Islands, Indonesia
54	11/06/2017	07:17:33	1.50	126.96	32	3.6				Northern Molucca Sea
55	11/06/2017	07:48:49	1.61	127.92	140	3.3				Halmahera, Indonesia
56	11/06/2017	09:22:29	-0.15	123.89	89	3.8				Minahassa Peninsula, Sulawesi
57	11/06/2017	09:51:51	2.12	121.25	10	2.7				Celebes Sea
58	11/06/2017	12:25:10	2.12	121.74	10	2.6				Celebes Sea
59	11/06/2017	13:48:17	1.03	120.09	10	3.2				Minahassa Peninsula, Sulawesi
60	11/06/2017	14:46:53	-0.13	124.15	44	2.9				Southern Molucca Sea
61	11/06/2017	14:54:33	3.17	128.05	161	3.7				North of Halmahera, Indonesia
62	11/06/2017	17:08:06	1.57	123.74	11	4				Minahassa Peninsula, Sulawesi
63	12/06/2017	04:30:37	3.76	126.78	56	5.3	0.10756	0.09592	0.17553	Talaud Islands, Indonesia
64	12/06/2017	06:27:15	7.06	127.30	66	4.7				Mindanao, Philippines
65	13/06/2017	01:52:55	5.43	127.33	58	4.7				Philippine Islands Region
66	13/06/2017	02:19:05	0.76	121.97	49	2				Minahassa Peninsula, Sulawesi
67	13/06/2017	03:25:39	1.50	122.62	420	4				Minahassa Peninsula, Sulawesi
68	13/06/2017	04:34:26	5.42	125.14	13	4.7	0.19584	0.12725	0.20048	Mindanao, Philippines
69	13/06/2017	12:12:53	2.61	126.39	139	3.6				Northern Molucca Sea
70	13/06/2017	12:34:45	-0.35	123.11	10	2.6				Minahassa Peninsula, Sulawesi
71	13/06/2017	13:39:14	2.03	123.75	342	4.1				Celebes Sea
72	13/06/2017	16:10:22	2.54	126.85	31	4.9				Northern Molucca Sea
73	13/06/2017	19:29:27	0.75	122.54	10	2				Minahassa Peninsula, Sulawesi
74	14/06/2017	09:47:48	2.76	128.17	66	5.1	0.2971	0.1296	0.11147	Halmahera, Indonesia
75	14/06/2017	18:08:20	1.37	126.37	15	3.5				Northern Molucca Sea
76	15/06/2017	03:19:35	-0.28	124.40	26	3.5				Minahassa Peninsula
77	15/06/2017	06:15:55	0.60	121.13	33	2.4				Minahassa Peninsula, Sulawesi
78	15/06/2017	14:34:03	0.46	126.34	12	3.5				Northern Molucca Sea
79	15/06/2017	15:05:28	-0.24	132.35	47	4.7				Irian Jaya Region, Indonesia
80	15/06/2017	16:24:01	0.25	122.07	167	2.6				Minahassa Peninsula, Sulawesi
81	15/06/2017	18:39:45	0.37	122.12	137	3.1				Minahassa Peninsula, Sulawesi
82	15/06/2017	18:44:58	-0.28	123.11	17	2.8				Minahassa Peninsula, Sulawesi
83	15/06/2017	20:01:43	1.60	126.32	10	3.1				Northern Molucca Sea
84	15/06/2017	20:40:36	1.45	125.49	12	3.3				Northern Molucca Sea
85	15/06/2017	21:10:59	0.92	122.65	47	1.1				Minahassa Peninsula, Sulawesi
86	15/06/2017	21:22:25	-0.46	122.81	10	2				Minahassa Peninsula, Sulawesi
87	16/06/2017	01:26:29	0.42	121.89	172	2.7				Minahassa Peninsula, Sulawesi
88	16/06/2017	01:44:15	8.34	126.93	49	5.1				Mindanao, Philippines
89	16/06/2017	02:27:49	-0.07	120.59	21	3				Minahassa Peninsula, Sulawesi
90	16/06/2017	07:27:17	0.38	123.53	231	3.5				Minahassa Peninsula, Sulawesi
91	16/06/2017	09:52:33	0.12	121.80	167	2.3				Minahassa Peninsula, Sulawesi

92	16/06/2017	10:26:44	2.73	128.42	216	4.2				Halmahera, Indonesia
93	16/06/2017	10:38:30	-0.12	123.19	115	3.5				Minahassa Peninsula, Sulawesi
94	16/06/2017	11:06:15	0.66	121.85	78	2.2				Minahassa Peninsula, Sulawesi
95	16/06/2017	11:24:59	2.95	125.56	94	4.2				Talaud Islands, Indonesia
96	16/06/2017	11:49:12	0.84	122.07	16	3				Minahassa Peninsula, Sulawesi
97	16/06/2017	12:47:07	1.42	122.21	10	3				Minahassa Peninsula, Sulawesi
98	16/06/2017	13:00:05	1.43	122.19	10	3.3				Minahassa Peninsula, Sulawesi
99	16/06/2017	13:16:03	1.45	122.19	10	2.7				Minahassa Peninsula, Sulawesi
100	16/06/2017	13:23:54	1.38	122.17	11	3.3				Minahassa Peninsula, Sulawesi
101	16/06/2017	13:36:35	1.45	122.27	10	2.5				Minahassa Peninsula, Sulawesi
102	16/06/2017	13:43:51	1.46	122.21	10	2.1				Minahassa Peninsula, Sulawesi
103	16/06/2017	13:52:28	0.33	121.87	157	3.2				Minahassa Peninsula, Sulawesi
104	16/06/2017	14:00:52	1.46	122.19	14	2.4				Minahassa Peninsula, Sulawesi
105	16/06/2017	17:05:00	0.35	122.07	174	4.1				Minahassa Peninsula, Sulawesi
106	17/06/2017	04:27:39	1.24	122.89	10	2.7				Minahassa Peninsula, Sulawesi
107	17/06/2017	07:06:31	3.07	127.84	112	4.6				Talaud Islands, Indonesia
108	17/06/2017	07:28:54	-0.45	122.12	14	2.9				Minahassa Peninsula, Sulawesi
109	17/06/2017	07:49:20	0.21	122.64	20	2.2				Minahassa Peninsula, Sulawesi
110	17/06/2017	08:46:00	-0.28	122.94	11	3.3				Minahassa Peninsula, Sulawesi
111	17/06/2017	09:58:26	0.59	122.38	12	2.1				Minahassa Peninsula, Sulawesi
112	17/06/2017	10:44:13	1.05	127.03	166	3.4				Halmahera, Indonesia
113	17/06/2017	13:44:32	3.31	126.38	81	4.2				Talaud Islands, Indonesia
114	17/06/2017	15:22:19	2.10	124.43	273	3.6				Celebes Sea
115	17/06/2017	17:52:19	3.85	127.91	104	5				Talaud Islands, Indonesia
116	17/06/2017	19:08:27	0.59	121.13	31	2.2				Minahassa Peninsula, Sulawesi
117	17/06/2017	21:39:11	2.31	128.44	226	3.8				Halmahera, Indonesia
118	18/06/2017	07:46:30	6.12	126.21	14	4.6				Mindanao, Philippines
119	18/06/2017	09:31:56	-0.34	122.91	10	2.6				Minahassa Peninsula, Sulawesi
120	18/06/2017	16:07:44	0.30	122.38	149	2.5				Minahassa Peninsula, Sulawesi
121	18/06/2017	17:57:31	1.41	122.21	13	3.7				Minahassa Peninsula, Sulawesi
122	18/06/2017	20:34:47	0.51	121.59	16	2.1				Minahassa Peninsula, Sulawesi
123	19/06/2017	04:33:29	1.06	126.19	10	3.8				Northern Molucca Sea
124	19/06/2017	09:47:31	0.99	122.24	39	2.2				Minahassa Peninsula, Sulawesi
125	19/06/2017	10:31:18	0.15	125.09	70	3.9				Northern Molucca Sea
126	19/06/2017	17:53:44	7.71	122.96	10	4.8				Mindanao, Philippines
127	19/06/2017	18:32:10	0.16	122.26	87	2.9				Minahassa Peninsula, Sulawesi
128	19/06/2017	23:36:41	-0.20	124.55	15	3.9				Southern Molucca Sea
129	20/06/2017	03:04:09	1.83	126.27	10	4.1				Northern Molucca Sea
130	20/06/2017	04:46:07	0.28	127.65	10	3.8				Halmahera, Indonesia
131	20/06/2017	10:57:35	0.99	120.61	10	2.4				Minahassa Peninsula, Sulawesi
132	20/06/2017	11:23:50	0.95	121.71	21	2.4				Minahassa Peninsula, Sulawesi
133	20/06/2017	11:26:22	0.65	120.44	10	3.1				Minahassa Peninsula, Sulawesi
134	20/06/2017	14:47:48	2.32	128.61	46	5.2	0.16319	0.09321	0.09286	Halmahera, Indonesia
135	20/06/2017	21:11:20	-0.33	123.15	76	3.8				Minahassa Peninsula, Sulawesi
136	22/06/2017	00:23:06	2.73	125.92	130	3.7				Talaud Islands, Indonesia
137	22/06/2017	07:24:12	1.13	121.72	10	2				Minahassa Peninsula, Sulawesi
138	22/06/2017	20:56:31	1.04	125.60	27	4.2				Northern Molucca Sea

139	22/06/2017	23:17:41	0.67	122.19	76	3.2				Minahassa Peninsula, Sulawesi
140	23/06/2017	01:02:21	-0.20	122.92	101	4.4				Minahassa Peninsula, Sulawesi
141	23/06/2017	05:38:01	1.44	121.31	24	2.1				Minahassa Peninsula, Sulawesi
142	23/06/2017	09:12:11	2.80	128.42	222	4.2				Halmahera, Indonesia
143	23/06/2017	11:55:56	0.97	123.18	33	4.7	1.20445	1.47793	1.33565	Minahassa Peninsula, Sulawesi
144	23/06/2017	18:38:08	2.02	128.27	129	4.1				Halmahera, Indonesia
145	23/06/2017	19:02:10	1.49	126.43	17	3.1				Northern Molucca Sea
146	23/06/2017	19:37:00	0.19	122.26	154	2.1				Minahassa Peninsula, Sulawesi
147	23/06/2017	19:38:45	6.06	124.71	421	4.5				Mindanao, Philippines
148	23/06/2017	21:00:13	1.57	127.00	111	3.8				Northern Molucca Sea
149	23/06/2017	23:42:59	1.06	122.74	42	2.9				Minahassa Peninsula, Sulawesi
150	24/06/2017	08:20:36	0.49	125.3	10	3.4				Northern Molucca Sea
151	24/06/2017	11:11:29	4.25	126.24	123	4.3				Talaud Islands, Indonesia
152	24/06/2017	16:36:12	0.35	125.15	10	2.9				Northern Molucca Sea
153	24/06/2017	22:16:13	2.37	126.88	13	3.7				Northern Molucca Sea
154	25/06/2017	02:12:02	-0.06	123.05	106	2.6				Minahassa Peninsula, Sulawesi
155	25/06/2017	02:18:20	-0.4	131.92	10	3.2				Irian Jaya Region, Indonesia
156	25/06/2017	02:48:04	0.56	121.81	77	2.1				Minahassa Peninsula, Sulawesi
157	25/06/2017	05:37:44	0.26	122.12	169	4.1				Minahassa Peninsula, Sulawesi
158	25/06/2017	07:36:52	4.29	125.6	158	4.5				Northern Molucca Sea
159	25/06/2017	19:45:14	5.78	126.1	116	4.7				Talaud Islands
160	25/06/2017	20:13:46	0.78	122.21	43	2.6				Minahassa Peninsula, Sulawesi
161	26/06/2017	04:55:38	3.02	124.9	257	3.8				Talaud Islands
162	26/06/2017	08:26:40	3.09	127.99	118	4.5				Talaud Islands, Indonesia
163	26/06/2017	13:24:21	0.53	126.65	50	4				Northern Molucca Sea
164	26/06/2017	16:00:40	0.25	121.91	178	1.9				Minahassa Peninsula, Sulawesi
165	26/06/2017	21:02:35	0.88	120.01	10	3.1				Minahassa Peninsula, Sulawesi
166	27/06/2017	00:29:14	2.96	127.18	10	3.9				Northern Molucca Sea
167	27/06/2017	00:43:35	0.77	127.8	10	2.9				Northern Molucca Sea
168	27/06/2017	01:05:05	2.15	128.25	169	4.9				Halmahera, Indonesia
169	27/06/2017	03:06:51	-0.1	123.16	137	2.5				Minahassa Peninsula, Sulawesi
170	27/06/2017	03:13:13	3.07	126.53	21	3.7				Talaud Islands, Indonesia
171	27/06/2017	06:13:08	2.47	128.83	237	4.6				Halmahera, Indonesia
172	27/06/2017	06:31:18	0.9	121.97	49	2				Minahassa Peninsula, Sulawesi
173	27/06/2017	07:22:43	2.43	126.67	10	4				Northern Molucca Sea
174	27/06/2017	14:55:30	1.52	126.82	76	5.1	0.46337	0.75336	0.80368	Northern Molucca Sea
175	28/06/2017	18:42:21	2.7124	127.056	0	3.4				Northern Molucca Sea
176	28/06/2017	16:33:47	-0.749	127.513	10	3.5				Halmahera, Indonesia
177	28/06/2017	15:46:14	1.0834	126.335	10	3.1				Northern Molucca Sea
178	28/06/2017	12:23:05	-1.46	122.781	750	3.1				Sulawesi, Indonesia
179	28/06/2017	01:33:26	5.0588	125.366	82.2	4.2				Mindanao, Philippines
180	29/06/2017	20:52:51	0.1942	125.023	10	3.7				Northern Molucca Sea
181	29/06/2017	16:57:16	1.6149	126.537	10	3.5				Northern Molucca Sea
182	29/06/2017	14:52:28	3.4665	125.721	10	3.4				Talaud Islands, Indonesia
183	30/06/2017	12:06:14	0.1134	123.575	147.7	3				Minahassa Peninsula
184	30/06/2017	07:54:04	4.8765	125.333	20	3.7				Talaud Islands, Indonesia
185	30/06/2017	02:28:33	-0.087	126.578	10	3.6				Southern Molucca Sea

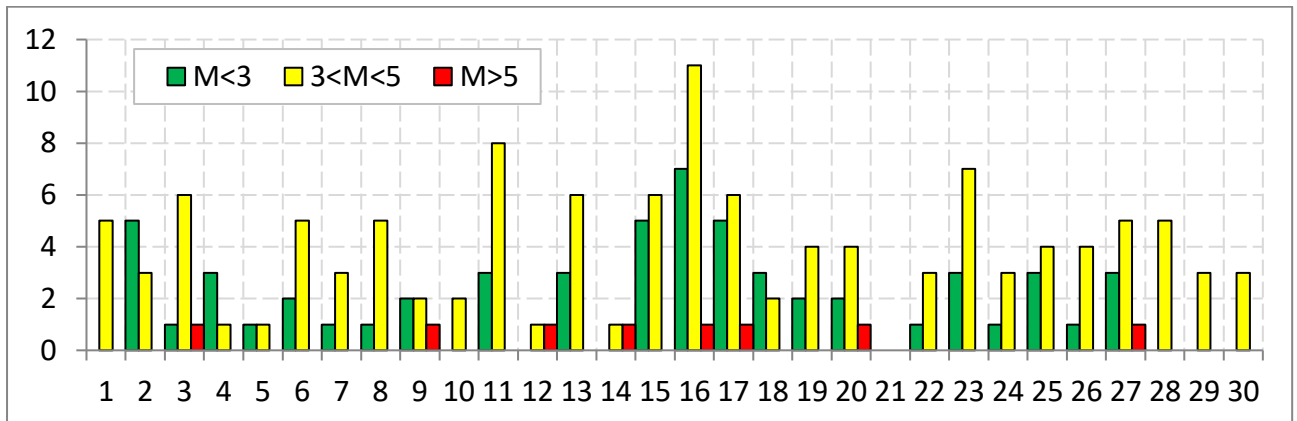
Peta 7. Distribusi Episenter Gempabumi Daerah Sulawesi Utara dan sekitarnya
Bulan Juni 2017



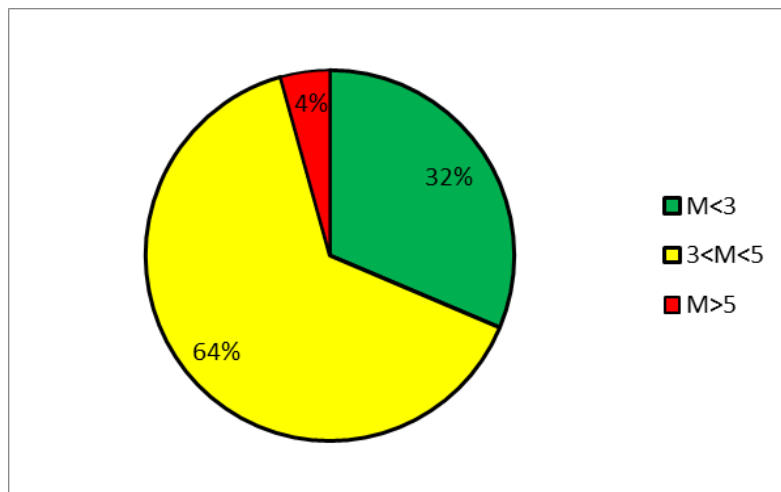
**Tabel 12. Rekapitulasi Gempabumi Berdasarkan Magnitudo
Bulan Juni 2017**

Tanggal (UTC)	Magnitudo			Jumlah Total	Jumlah Gempa Signifikan	
	M<3	3≤M<5	M≥5		Dirasakan	Merusak
1	0	5	0	5	0	0
2	5	3	0	8	0	0
3	1	6	1	8	0	0
4	3	1	0	4	0	0
5	1	1	0	2	0	0
6	2	5	0	7	0	0
7	1	3	0	4	0	0
8	1	5	0	6	0	0
9	2	2	1	5	0	0
10	0	2	0	2	0	0
11	3	8	0	11	0	0
12	0	1	1	2	1	0
13	3	6	0	9	0	0
14	0	1	1	2	0	0
15	5	6	0	11	0	0
16	7	11	1	19	0	0
17	5	6	1	12	0	0
18	3	2	0	5	0	0
19	2	4	0	6	0	0
20	2	4	1	7	1	0
21	0	0	0	0	0	0
22	1	3	0	4	0	0
23	3	7	0	10	1	0
24	1	3	0	4	0	0
25	3	4	0	7	0	0
26	1	4	0	5	0	0
27	3	5	1	9	1	0
28	0	5	0	5	0	0
29	0	3	0	3	0	0
30	0	3	0	3	0	0
Jumlah gempa	58	119	8	185	4	0
Jumlah gempa seluruhnya						

Histogram 11. Gempabumi Berdasarkan Magnitudo
Bulan Juni 2017



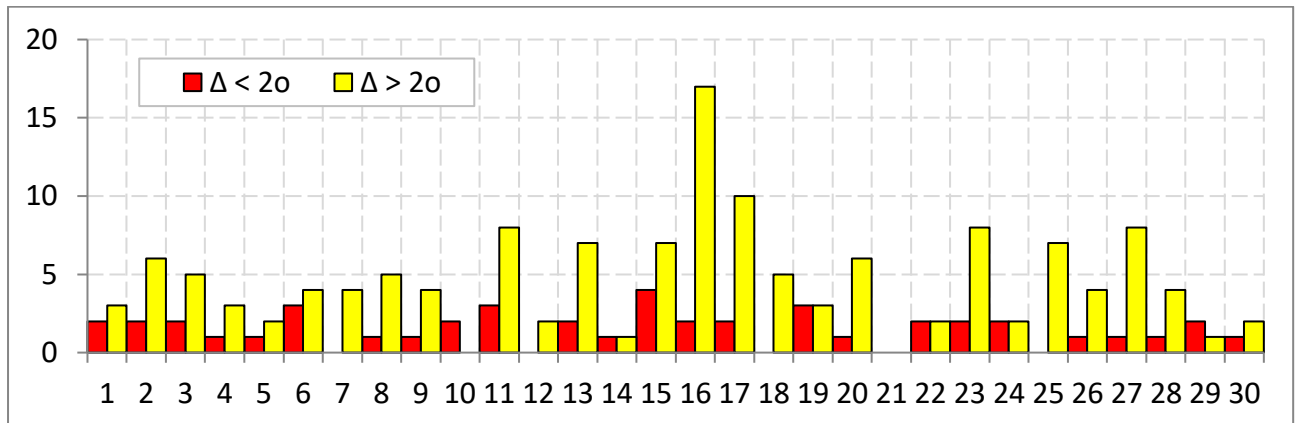
Persentase 13. Gempabumi Berdasarkan Magnitudo
Bulan Juni 2017



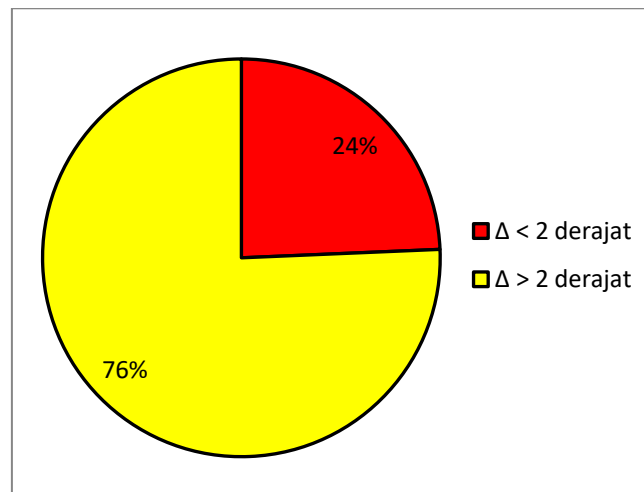
Tabel 13. Rekapitulasi Gempabumi Berdasarkan Jarak Dari Stasiun
Bulan Juni 2017

Tanggal	Jarak		Jumlah	Keterangan
	$\Delta \leq 2^{\circ}$	$\Delta > 2^{\circ}$		
01/05/2017	2	3	5	-
02/05/2017	2	6	8	-
03/05/2017	2	5	7	-
04/05/2017	1	3	4	-
05/05/2017	1	2	3	-
06/05/2017	3	4	7	-
07/05/2017	0	4	4	-
08/05/2017	1	5	6	-
09/05/2017	1	4	5	-
10/05/2017	2	0	2	-
11/05/2017	3	8	11	-
12/05/2017	0	2	2	-
13/05/2017	2	7	9	-
14/05/2017	1	1	2	-
15/05/2017	4	7	11	-
16/05/2017	2	17	19	-
17/05/2017	2	10	12	-
18/05/2017	0	5	5	-
19/05/2017	3	3	6	-
20/05/2017	1	6	7	-
21/05/2017	0	0	0	-
22/05/2017	2	2	4	-
23/05/2017	2	8	10	-
24/05/2017	2	2	4	-
25/05/2017	0	7	7	-
26/05/2017	1	4	5	-
27/05/2017	1	8	9	-
28/05/2017	1	4	5	-
29/05/2017	2	1	3	-
30/05/2017	1	2	3	-
Jumlah gempa	45	140	185	-
Jumlah gempa seluruhnya				

Histogram 12. Gempabumi Berdasarkan Jarak
Bulan Juni 2017



Persentase 14. Gempabumi Berdasarkan Jarak
Bulan Juni 2017



Data Gempabumi Bulan Juli 2017

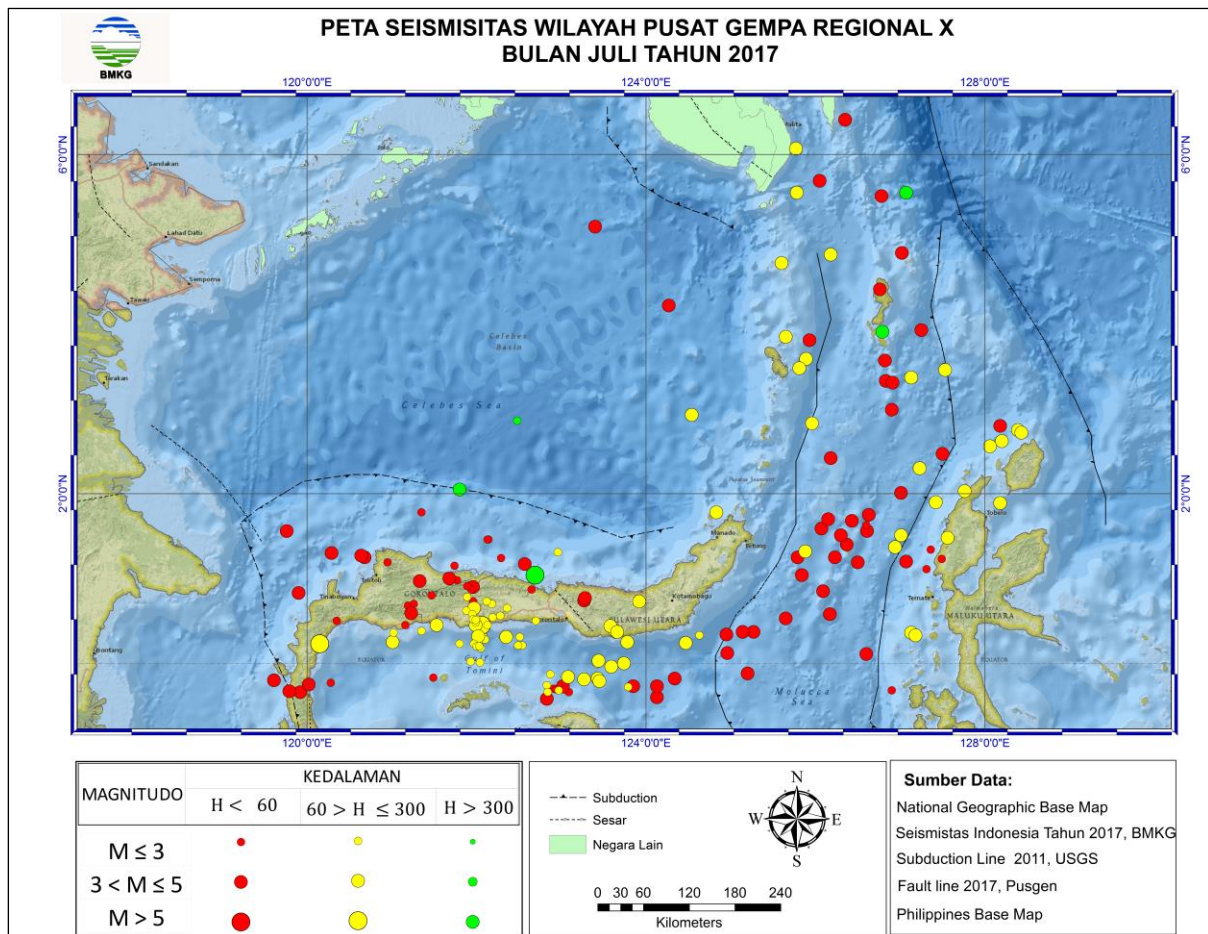
NO	DATE	OT (UTC)	EPICENTER		DEPTH (KM)	MAG	PGA (gals)			REMARKS
			LAT	LON			X	Y	Z	
1	01/07/2017	04:58:28	0.83	119.9	10	3.3	-	-	-	Minahassa Peninsula, Sulawesi
2	01/07/2017	05:11:32	2.3	127.23	107	5	-	-	-	Northern Molucca Sea
3	01/07/2017	07:16:43	0.7	122.18	69	2.4	-	-	-	Minahassa Peninsula, Sulawesi
4	01/07/2017	08:25:57	0.31	122.05	168	3.5	-	-	-	Minahassa Peninsula, Sulawesi
5	01/07/2017	23:05:10	2.03	127.76	221	4.3	-	-	-	Northern Molucca Sea
6	02/07/2017	01:07:48	1.24	122.29	27	3	-	-	-	Minahassa Peninsula, Sulawesi
7	02/07/2017	06:15:40	1.31	122.96	78	2.7	-	-	-	Minahassa Peninsula, Sulawesi
8	02/07/2017	07:16:45	2.62	128.2	156	4.3	-	-	-	Halmahera, Indonesia
9	02/07/2017	10:06:15	3.91	126.79	451	5	-	-	-	Talaud Islands, Indonesia
10	02/07/2017	22:48:12	4.82	126.18	140	4.4	-	-	-	Talaud Islands, Indonesia
11	03/07/2017	03:26:46	0.25	123.78	142	4	-	-	-	Minahassa Peninsula, Sulawesi
12	03/07/2017	05:14:12	-0.13	122.87	79	2.4	-	-	-	Minahassa Peninsula, Sulawesi
13	03/07/2017	15:55:23	-0.18	123.43	144	4.1	-	-	-	Minahassa Peninsula, Sulawesi
14	03/07/2017	18:50:09	0.31	122.35	151	3.3	-	-	-	Minahassa Peninsula, Sulawesi
15	04/07/2017	04:55:31	6.07	125.77	89	4.8	-	-	-	Mindanao, Philippines
16	04/07/2017	05:25:01	-0.01	123.42	141	2.8	-	-	-	Minahassa Peninsula, Sulawesi
17	04/07/2017	09:33:07	2.75	128.39	213	4.3	-	-	-	Halmahera, Indonesia
18	04/07/2017	09:33:07	2.75	128.39	213	4.3	-	-	-	Halmahera, Indonesia
19	04/07/2017	13:27:03	1.56	119.76	10	3.4	-	-	-	Celebes Sea
20	04/07/2017	13:27:03	1.56	119.76	10	3.4	-	-	-	Celebes Sea
21	04/07/2017	17:17:54	-0.28	123.79	78	2.5	-	-	-	Minahassa Peninsula, Sulawesi
22	04/07/2017	20:22:03	0.25	121.01	126	3.1	-	-	-	Minahassa Peninsula, Sulawesi
23	04/07/2017	22:09:43	0.53	125.65	10	3.4	-	-	-	Northern Molucca Sea
24	05/07/2017	03:22:37	0.85	126.09	24	4.2	0.056	0.0041	0.0048	Northern Molucca Sea
25	05/07/2017	06:40:55	0.65	121.97	66	4.3	-	-	-	Minahassa Peninsula, Sulawesi
26	05/07/2017	12:49:14	0.58	126.17	10	4.1	0.0010	-0.00013	0.00015	Northern Molucca Sea
27	05/07/2017	13:16:00	3.59	125.89	154	4.1	-	-	-	Talaud Islands, Indonesia
28	05/07/2017	16:30:19	6.78	126.46	91	4.6	-	-	-	Mindanao, Philippines
29	05/07/2017	16:49:12	0.01	122.04	168	2.2	-	-	-	Minahassa Peninsula, Sulawesi
30	05/07/2017	16:49:12	0.01	122.04	168	2.2	-	-	-	Minahassa Peninsula, Sulawesi
31	05/07/2017	17:28:44	1.23	126.24	10	3	-	-	-	Northern Molucca Sea
32	05/07/2017	17:50:10	-0.32	126.9	27	2.8	-	-	-	Southern Molucca Sea
33	06/07/2017	01:18:10	3.85	125.65	127	4.3	-	-	-	Talaud Islands, Indonesia
34	06/07/2017	05:47:33	1.48	127.56	162	4.4	-	-	-	Halmahera, Indonesia
35	06/07/2017	08:23:21	0.54	122.19	74	3	-	-	-	Minahassa Peninsula, Sulawesi
36	06/07/2017	10:21:40	6.41	126.35	10	4.6	-	-	-	Mindanao, Philippines
37	06/07/2017	13:26:09	0.56	122.28	93	2.2	-	-	-	Minahassa Peninsula, Sulawesi
38	06/07/2017	17:49:59	3.57	126.82	51	4.3	-	-	-	Talaud Islands, Indonesia
39	06/07/2017	19:37:29	1.59	126.07	19	3.7	-	-	-	Northern Molucca Sea
40	06/07/2017	22:47:09	-0.4	124.13	55	3.8	-	-	-	Southern Molucca Sea
41	07/07/2017	05:21:02	0.37	125.27	10	4.4	-	-	-	Northern Molucca Sea
42	07/07/2017	16:07:45	-0.04	123.59	130	3.5	-	-	-	Minahassa Peninsula, Sulawesi
43	07/07/2017	18:47:55	1.34	127.36	10	2.9	-	-	-	Halmahera, Indonesia
44	07/07/2017	18:51:58	1.2	127.07	10	3.1	-	-	-	Halmahera, Indonesia
45	07/07/2017	18:51:58	1.2	127.07	10	3.1	-	-	-	Halmahera, Indonesia
46	07/07/2017	19:04:32	3.37	127.13	93	4	-	-	-	Talaud Islands, Indonesia (124km Tenggara Kep. Talaud-Sulut); dirasakan II MMI di Jailolo
47	07/07/2017	19:23:45	0.36	121.02	107	2.3	-	-	-	Minahassa Peninsula, Sulawesi

48	07/07/2017	19:47:56	1.23	127.49	9	2.7	-	-	-	Halmahera, Indonesia (19km Timur Laut Jailolo); dirasakan II MMI di Jailolo
49	07/07/2017	19:52:00	1.11	127.31	9	2.9	-	-	-	Halmahera, Indonesia (18km Baat Laut Jailolo); dirasakan II MMI di Jailolo
50	07/07/2017	20:42:37	2.99	126.9	60	4.5	0.00062	0.00073	0.00073	Northern Molucca Sea
51	07/07/2017	23:05:55	0.34	124.95	18	3.4	-	-	-	Minahassa Peninsula, Sulawesi
52	08/07/2017	14:54:50	0.5	122.7	109	2.4	-	-	-	Minahassa Peninsula, Sulawesi
53	08/07/2017	16:29:36	5.51	126.78	12	4	-	-	-	Mindanao, Philippines
54	08/07/2017	23:57:49	1.15	121.74	17	2.1	-	-	-	Minahassa Peninsula, Sulawesi
55	09/07/2017	01:31:34	2.86	122.48	535	4.2	-	-	-	Celebes Sea
56	09/07/2017	02:03:40	5.69	126.05	10	4.5	-	-	-	Mindanao, Philippines
57	09/07/2017	07:57:17	0.36	127.13	112	4	-	-	-	Halmahera, Indonesia
58	09/07/2017	19:15:39	0.33	124.63	76	2.7	-	-	-	Minahassa Peninsula, Sulawesi
59	10/07/2017	05:06:15	0.45	121.53	81	4.3	-	-	-	Minahassa Peninsula, Sulawesi
60	10/07/2017	16:37:49	-0.23	120.28	10	2.9	-	-	-	Minahassa Peninsula, Sulawesi
61	10/07/2017	19:35:03	1.04	125.84	14	3.6	-	-	-	Northern Molucca Sea
62	11/07/2017	06:47:59	-0.27	123.85	58	4.1	-	-	-	Minahassa Peninsula, Sulawesi
63	11/07/2017	12:48:11	0	123.74	120	3.9	-	-	-	Minahassa Peninsula, Sulawesi
64	12/07/2017	00:22:59	2.01	127.01	17	3.9	-	-	-	Northern Molucca Sea
65	12/07/2017	03:47:30	5.55	127.07	331	4.5	-	-	-	Philippine Islands Region
66	12/07/2017	05:01:31	-0.27	124.13	50	3.8	-	-	-	Southern Molucca Sea
67	12/07/2017	05:09:52	0.02	121.93	140	2	-	-	-	Minahassa Peninsula, Sulawesi
68	12/07/2017	13:30:22	8.07	127	28	4.9	-0.00087	-0.00066	0.000084	Mindanao, Philippines
69	12/07/2017	16:36:37	-0.17	121.49	11	1.9	-	-	-	Minahassa Peninsula, Sulawesi
70	12/07/2017	16:40:40	0.28	122.1	166	1.7	-	-	-	Minahassa Peninsula, Sulawesi
71	12/07/2017	19:19:08	-0.42	122.83	49	4.1	-	-	-	Minahassa Peninsula, Sulawesi
72	12/07/2017	22:31:36	1.32	125.88	69	4	-	-	-	Northern Molucca Sea
73	13/07/2017	02:33:47	0.73	123.92	242	3.9	-	-	-	Minahassa Peninsula, Sulawesi
74	13/07/2017	03:05:29	3.33	126.83	10	4	-	-	-	Talaud Islands, Indonesia
75	13/07/2017	06:15:16	3.48	125.81	152	4.2	-	-	-	Talaud Islands, Indonesia
76	13/07/2017	07:12:24	4.72	125.6	184	4.6	-	-	-	Talaud Islands, Indonesia
77	13/07/2017	10:23:42	-0.16	123.08	106	4	-	-	-	Minahassa Peninsula, Sulawesi
78	13/07/2017	13:42:19	-0.34	123.09	58	2.5	-	-	-	Minahassa Peninsula, Sulawesi
79	13/07/2017	14:09:28	1.51	127.01	118	3.3	-	-	-	Halmahera, Indonesia
80	13/07/2017	14:09:51	0.62	121.88	93	1.6	-	-	-	Minahassa Peninsula, Sulawesi
81	13/07/2017	15:20:56	0.18	122.05	137	2.7	-	-	-	Minahassa Peninsula, Sulawesi
82	13/07/2017	19:20:44	-0.12	125.2	22	3.9	-	-	-	Southern Molucca Sea
83	13/07/2017	21:06:52	0.87	122.65	37	1.8	-	-	-	Minahassa Peninsula, Sulawesi
84	13/07/2017	21:30:01	1.7	126.15	13	3.6	-	-	-	Northern Molucca Sea
85	14/07/2017	04:22:37	0.65	122.36	65	1.6	-	-	-	Minahassa Peninsula, Sulawesi
86	14/07/2017	07:19:16	0.78	121.89	205	1.7	-	-	-	Minahassa Peninsula, Sulawesi
87	14/07/2017	07:35:00	-0.27	123.02	54	3.5	-	-	-	Minahassa Peninsula, Sulawesi
88	14/07/2017	16:53:34	0.9	121.96	30	3.1	-	-	-	Minahassa Peninsula, Sulawesi
89	14/07/2017	22:48:53	1.56	126.61	10	3.6	-	-	-	Northern Molucca Sea
90	15/07/2017	06:19:13	2.05	121.8	511	4.5	-	-	-	Celebes Sea
91	15/07/2017	10:16:47	1.9	127.42	114	4	-	-	-	Halmahera, Indonesia
92	15/07/2017	11:21:30	1.4	126.37	12	3.4	-	-	-	Northern Molucca Sea
93	15/07/2017	12:12:21	0.45	122.06	119	6	-	-	-	Minahassa Peninsula, Sulawesi (9km Selatan Paguat-Kab.Pohuwato); dirasakan IV MMI di Bone Bolango, Kota Gorontalo, Kab.Gorontalo, dan Buol; III-IV MMI di Toli-toli; III MMI di Luwuk.
94	15/07/2017	12:20:43	0.97	121.33	44	3.2	-	-	-	Minahassa Peninsula, Sulawesi
95	15/07/2017	12:24:50	0.45	121.99	105	3.4	-	-	-	Minahassa Peninsula, Sulawesi
96	15/07/2017	12:32:23	0.52	122	105	2.6	-	-	-	Minahassa Peninsula, Sulawesi

97	15/07/2017	13:56:16	1.17	122.57	32	3.2	-	-	-	Minahassa Peninsula, Sulawesi
98	15/07/2017	14:20:06	0.58	121.95	90	1.8	-	-	-	Minahassa Peninsula, Sulawesi
99	15/07/2017	14:39:23	1.51	126.3	10	3.5	-	-	-	Northern Molucca Sea
100	15/07/2017	14:51:22	-0.26	122.83	71	2.3	-	-	-	Minahassa Peninsula, Sulawesi
101	15/07/2017	16:04:39	0.87	121.94	39	1.4	-	-	-	Minahassa Peninsula, Sulawesi
102	15/07/2017	16:43:59	0.73	121.96	33	1.4	-	-	-	Minahassa Peninsula, Sulawesi
103	15/07/2017	16:46:28	4.84	127.02	10	4.4	-	-	-	Talaud Islands, Indonesia
104	15/07/2017	17:10:50	0.98	121.77	10	2.8	-	-	-	Minahassa Peninsula, Sulawesi
105	15/07/2017	21:27:21	3.81	125.93	26	4.1	0.000079	0.000059	-0.000066	Talaud Islands, Indonesia
106	15/07/2017	22:01:00	1.78	121.35	10	2.4	-	-	-	Minahassa Peninsula, Sulawesi
107	15/07/2017	22:09:44	-0.31	123.03	24	2.3	-	-	-	Minahassa Peninsula, Sulawesi
108	16/07/2017	10:52:15	0.48	121.99	106	2.4	-	-	-	Minahassa Peninsula, Sulawesi
109	16/07/2017	15:35:25	1.63	126.6	10	2.9	-	-	-	Northern Molucca Sea
110	16/07/2017	18:25:31	0.74	123.27	34	4.8	-	-	-	Minahassa Peninsula, Sulawesi (18km Tenggara Bolaang Mongondow Utara - Sulut); dirasakan IV MMI di Gorontalo.
111	16/07/2017	17:32:37	0.21	122.54	104	2.2	-	-	-	Minahassa Peninsula, Sulawesi
112	16/07/2017	22:15:28	-0.34	122.84	66	2.2	-	-	-	Minahassa Peninsula, Sulawesi
113	17/07/2017	02:59:34	2.56	128.06	147	4.5	-	-	-	Halmahera, Indonesia
114	17/07/2017	07:44:43	0.73	122.12	85	2.1	-	-	-	Minahassa Peninsula, Sulawesi
115	17/07/2017	08:07:48	0.8	121.47	37	2.3	-	-	-	Minahassa Peninsula, Sulawesi
116	17/07/2017	12:34:55	2.83	125.96	68	3.6	-	-	-	Talaud Islands, Indonesia
117	17/07/2017	14:16:51	0.38	121.35	69	2.1	-	-	-	Minahassa Peninsula, Sulawesi
118	17/07/2017	15:05:29	-0.18	124.34	32	3.2	-	-	-	Southern Molucca Sea
119	17/07/2017	17:06:19	0.39	123.63	237	4	-	-	-	Minahassa Peninsula, Sulawesi
120	17/07/2017	18:45:52	0.52	121.96	144	2.8	-	-	-	Minahassa Peninsula, Sulawesi
121	17/07/2017	18:55:30	4.22	124.27	10	3.7	-	-	-	Celebes Sea
122	17/07/2017	19:22:03	0.68	121.19	23	2	-	-	-	Minahassa Peninsula, Sulawesi
123	18/07/2017	03:37:43	3.31	126.91	10	4	-	-	-	Talaud Islands, Indonesia
124	18/07/2017	05:43:54	0.32	122.02	101	3.9	-	-	-	Minahassa Peninsula, Sulawesi
125	18/07/2017	06:54:58	0.7	121.26	28	2.2	-	-	-	Minahassa Peninsula, Sulawesi
126	18/07/2017	11:59:47	2.93	124.54	278	4	-	-	-	Celebes Sea
127	18/07/2017	18:25:31	0.77	123.28	39	5	-	-	-	Minahassa Peninsula, Sulawesi
128	19/07/2017	14:56:16	-0.34	119.92	21	4	-	-	-	Minahassa Peninsula, Sulawesi
129	19/07/2017	15:28:51	2.47	127.5	27	4.2	-	-	-	Northern Molucca Sea
130	19/07/2017	17:04:07	1.78	124.83	178	4.6	-	-	-	Minahassa Peninsula, Sulawesi
131	19/07/2017	20:30:14	0.44	123.58	234	3.3	-	-	-	Minahassa Peninsula, Sulawesi
132	19/07/2017	21:39:30	-0.25	120.02	12	3.6	-	-	-	Minahassa Peninsula, Sulawesi
133	19/07/2017	23:00:06	0.37	123.66	230	3.7	-	-	-	Minahassa Peninsula, Sulawesi
134	20/07/2017	00:57:47	0.91	121.89	36	2.4	-	-	-	Minahassa Peninsula, Sulawesi
135	20/07/2017	02:38:10	0.33	127.18	126	4.5	-	-	-	Halmahera, Indonesia
136	20/07/2017	05:43:31	0.31	122.51	69	2.9	-	-	-	Minahassa Peninsula, Sulawesi
137	20/07/2017	07:34:08	4.41	126.76	10	4.9	0.00010	0.000073	-0.00010	Talaud Islands, Indonesia
138	20/07/2017	10:56:13	2.72	128.43	218	4.4	-	-	-	Halmahera, Indonesia
139	20/07/2017	14:29:38	0.23	121.97	154	2.6	-	-	-	Minahassa Peninsula, Sulawesi
140	20/07/2017	14:38:20	0.23	121.8	196	2.8	-	-	-	Minahassa Peninsula, Sulawesi
141	21/07/2017	10:59:34	0.45	122.13	175	2.8	-	-	-	Minahassa Peninsula, Sulawesi
142	21/07/2017	15:46:26	5.55	125.78	198	4	-	-	-	Mindanao, Philippines
143	21/07/2017	16:07:43	-0.32	122.97	71	2.8	-	-	-	Minahassa Peninsula, Sulawesi
144	21/07/2017	16:09:51	3.93	127.25	14	4.1	0.000059	0.000051	0.000048	Talaud Islands, Indonesia
145	21/07/2017	16:53:01	-0.3	122.91	10	2.5	-	-	-	Minahassa Peninsula, Sulawesi
146	23/07/2017	05:20:57	0.37	125.14	21	3.4	-	-	-	Southern Molucca Sea
147	23/07/2017	06:53:21	1.89	128.18	95	4.1	-	-	-	Halmahera, Indonesia
148	23/07/2017	07:55:55	0.23	120.15	88	5.4	-	-	-	Minahassa Peninsula, Sulawesi
149	24/07/2017	00:27:45	5.15	123.40	21	4.4	-0.00058	-0.00031	0.000042	Mindanao, Philippines
150	24/07/2017	11:49:25	1.75	126.63	21	3.7	-	-	-	Northern Molucca Sea

151	24/07/2017	13:49:45	1.25	125.79	18	3.8	-	-	-	Northern Molucca Sea
152	24/07/2017	20:15:21	0.03	123.44	124	3.3	-	-	-	Minahassa Peninsula, Sulawesi
153	25/07/2017	03:44:32	1.30	120.29	10	3.4	-	-	-	Minahassa Peninsula, Sulawesi
154	25/07/2017	14:47:14	0.20	122	168	2.9	-	-	-	Minahassa Peninsula, Sulawesi
155	25/07/2017	14:57:33	-0.19	123.27	141	3.4	-	-	-	Minahassa Peninsula, Sulawesi
156	25/07/2017	16:17:45	1.25	120.68	12	3.6	-	-	-	Minahassa Peninsula, Sulawesi
157	25/07/2017	16:20:37	1.27	120.64	10	3.4	-	-	-	Minahassa Peninsula, Sulawesi
158	25/07/2017	18:59:06	3.46	127.53	86	4	-	-	-	Talaud Islands, Indonesia
159	25/07/2017	19:16:54	0.24	124.47	84	3.2	-	-	-	Minahassa Peninsula, Sulawesi
160	25/07/2017	19:52:35	1.46	122.14	17	2.7	-	-	-	Minahassa Peninsula, Sulawesi
161	25/07/2017	19:52:35	1.46	122.13	19	2.6	-	-	-	Minahassa Peninsula, Sulawesi
162	26/07/2017	09:09:08	2.42	126.18	17	4.4	-0.00015	0.00023	0.00026	Northern Molucca Sea
163	26/07/2017	10:06:22	1.04	122.69	400	5.1	-	-	-	Minahassa Peninsula, Sulawesi
164	26/07/2017	11:27:48	1.00	121.68	10	3.1	-	-	-	Minahassa Peninsula, Sulawesi
165	27/07/2017	05:44:36	-0.33	119.79	10	3.6	-	-	-	Minahassa Peninsula, Sulawesi
166	27/07/2017	05:47:26	-0.20	119.61	13	3.2	-	-	-	Minahassa Peninsula, Sulawesi
167	27/07/2017	06:36:21	0.51	121.99	135	2.2	-	-	-	Minahassa Peninsula, Sulawesi
168	27/07/2017	08:45:37	-0.31	122.94	10	2.2	-	-	-	Minahassa Peninsula, Sulawesi
169	27/07/2017	09:15:12	-1.56	124.87	10	3.7	-	-	-	Southern Molucca Sea
170	27/07/2017	14:49:27	1.37	126.94	65	3.6	-	-	-	Northern Molucca Sea
171	27/07/2017	14:52:51	0.59	121.23	53	3.2	-	-	-	Minahassa Peninsula, Sulawesi
172	27/07/2017	15:33:02	0.12	124.96	10	3.2	-	-	-	Minahassa Peninsula, Sulawesi
173	28/07/2017	08:50:16	1.19	120.95	10	2.6	-	-	-	Minahassa Peninsula, Sulawesi
174	28/07/2017	09:03:17	0.50	120.35	52	2.7	-	-	-	Minahassa Peninsula, Sulawesi
175	28/07/2017	16:03:46	1.19	126.5	10	4.1	0.00019	0.00022	-0.00019	Northern Molucca Sea
176	28/07/2017	16:56:16	0.20	122.03	163	2.5	-	-	-	Minahassa Peninsula, Sulawesi
177	28/07/2017	20:18:57	0.21	122.49	107	2.4	-	-	-	Minahassa Peninsula, Sulawesi
178	29/07/2017	03:29:52	0.11	126.6	10	3.2	-	-	-	Northern Molucca Sea
179	29/07/2017	13:48:41	1.25	126.23	10	3.1	-	-	-	Northern Molucca Sea
180	29/07/2017	17:54:03	2.80	128.18	10	4.1	0.000064	-0.000077	-0.000065	Halmahera, Indonesia
181	30/07/2017	12:46:42	1.68	126.43	37	3.7	-	-	-	Northern Molucca Sea
182	30/07/2017	17:13:31	0.45	121.16	37	2.9	-	-	-	Minahassa Peninsula, Sulawesi
183	31/07/2017	13:33:52	-0.21	123.45	104	3.5	-	-	-	Minahassa Peninsula, Sulawesi

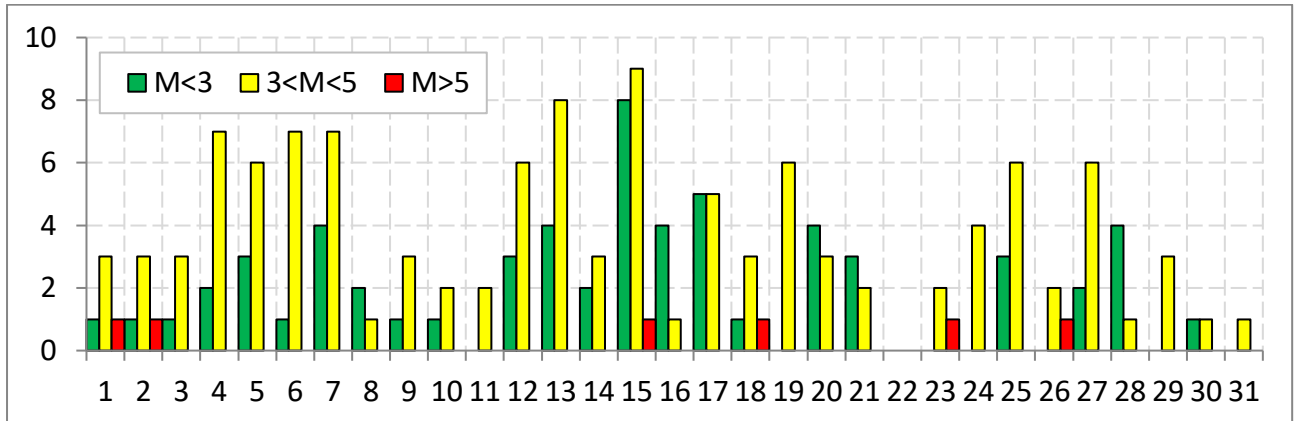
Peta 8. Distribusi Episenter Gempabumi Daerah Sulawesi Utara dan sekitarnya
Bulan Juli 2017



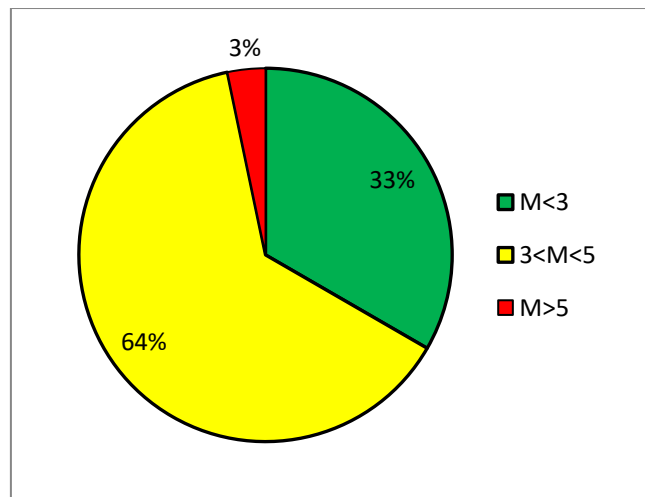
Tabel 14. Rekapitulasi Gempabumi Berdasarkan Magnitudo
Bulan Juli 2017

Tanggal (UTC)	Magnitudo			Jumlah Total	Jumlah Gempa Signifikan	
	M<3	3≤M<5	M≥5		Dirasakan	Merusak
1	1	3	1	5	0	0
2	1	3	1	5	0	0
3	1	3	0	4	0	0
4	2	7	0	9	0	0
5	3	6	0	9	0	0
6	1	7	0	8	0	0
7	4	7	0	11	3	0
8	2	1	0	3	0	0
9	1	3	0	4	0	0
10	1	2	0	3	0	0
11	0	2	0	2	0	0
12	3	6	0	9	0	0
13	4	8	0	12	0	0
14	2	3	0	5	0	0
15	8	9	1	18	1	0
16	4	1	0	5	0	0
17	5	5	0	10	0	0
18	1	3	1	5	1	0
19	0	6	0	6	0	0
20	4	3	0	7	0	0
21	3	2	0	5	0	0
22	0	0	0	0	0	0
23	0	2	1	3	0	0
24	0	4	0	4	0	0
25	3	6	0	9	0	0
26	0	2	1	3	0	0
27	2	6	0	8	0	0
28	4	1	0	5	0	0
29	0	3	0	3	0	0
30	1	1	0	2	0	0
31	0	1	0	1	0	0
Jumlah gempa	61	116	6	183	5	0
Jumlah gempa seluruhnya						

Histogram 13. Gempabumi Berdasarkan Magnitudo
Bulan Juli 2017



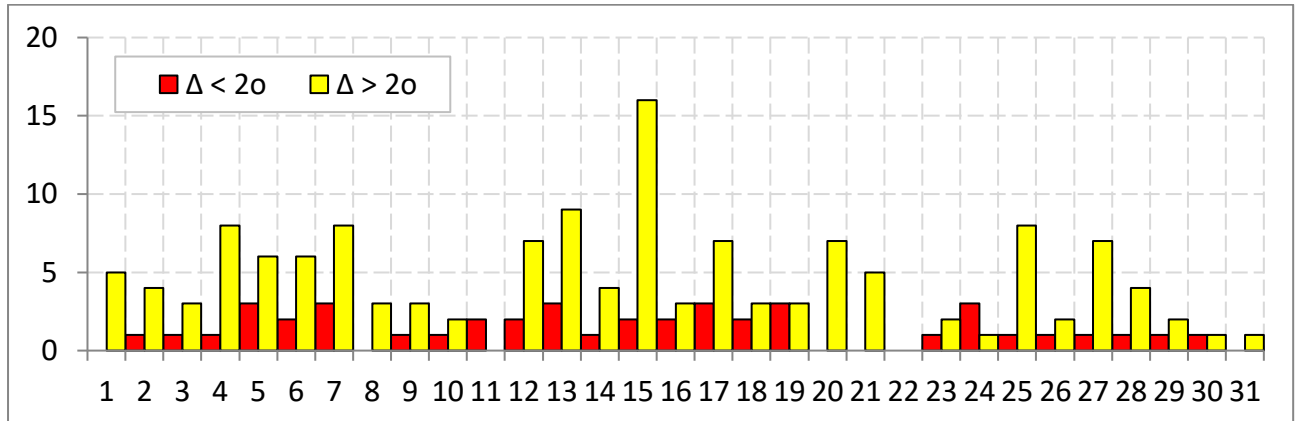
Persentase 15. Gempabumi Berdasarkan Magnitudo
Bulan Juli 2017



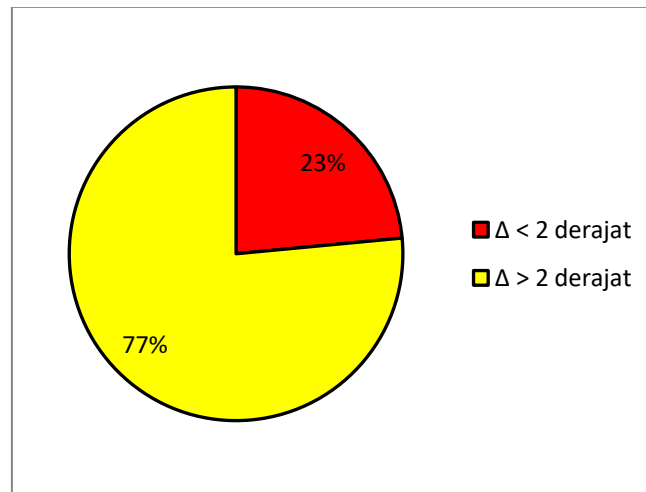
Tabel 15. Rekapitulasi Gempabumi Berdasarkan Jarak Dari Stasiun
Bulan Juli 2017

Tanggal	Jarak		Jumlah	Keterangan
	$\Delta \leq 2^{\circ}$	$\Delta > 2^{\circ}$		
01/07/2017	0	5	5	-
02/07/2017	1	4	5	-
03/07/2017	1	3	4	-
04/07/2017	1	8	9	-
05/07/2017	3	6	9	-
06/07/2017	2	6	8	-
07/07/2017	3	8	11	-
08/07/2017	0	3	3	-
09/07/2017	1	3	4	-
10/07/2017	1	2	3	-
11/07/2017	2	0	2	-
12/07/2017	2	7	9	-
13/07/2017	3	9	12	-
14/07/2017	1	4	5	-
15/07/2017	2	16	18	-
16/07/2017	2	3	5	-
17/07/2017	3	7	10	-
18/07/2017	2	3	5	-
19/07/2017	3	3	6	-
20/07/2017	0	7	7	-
21/07/2017	0	5	5	-
22/07/2017	0	0	0	-
23/07/2017	1	2	3	-
24/07/2017	3	1	4	-
25/07/2017	1	8	9	-
26/07/2017	1	2	3	-
27/07/2017	1	7	8	-
28/07/2017	1	4	5	-
29/07/2017	1	2	3	-
30/07/2017	1	1	2	-
31/07/2017	0	1	1	
Jumlah gempa	43	140	183	-
Jumlah gempa seluruhnya				

Histogram 14. Gempabumi Berdasarkan Jarak
Bulan Juli 2017



Persentase 16. Gempabumi Berdasarkan Jarak
Bulan Juli 2017



Data Gempabumi Bulan Agustus 2017

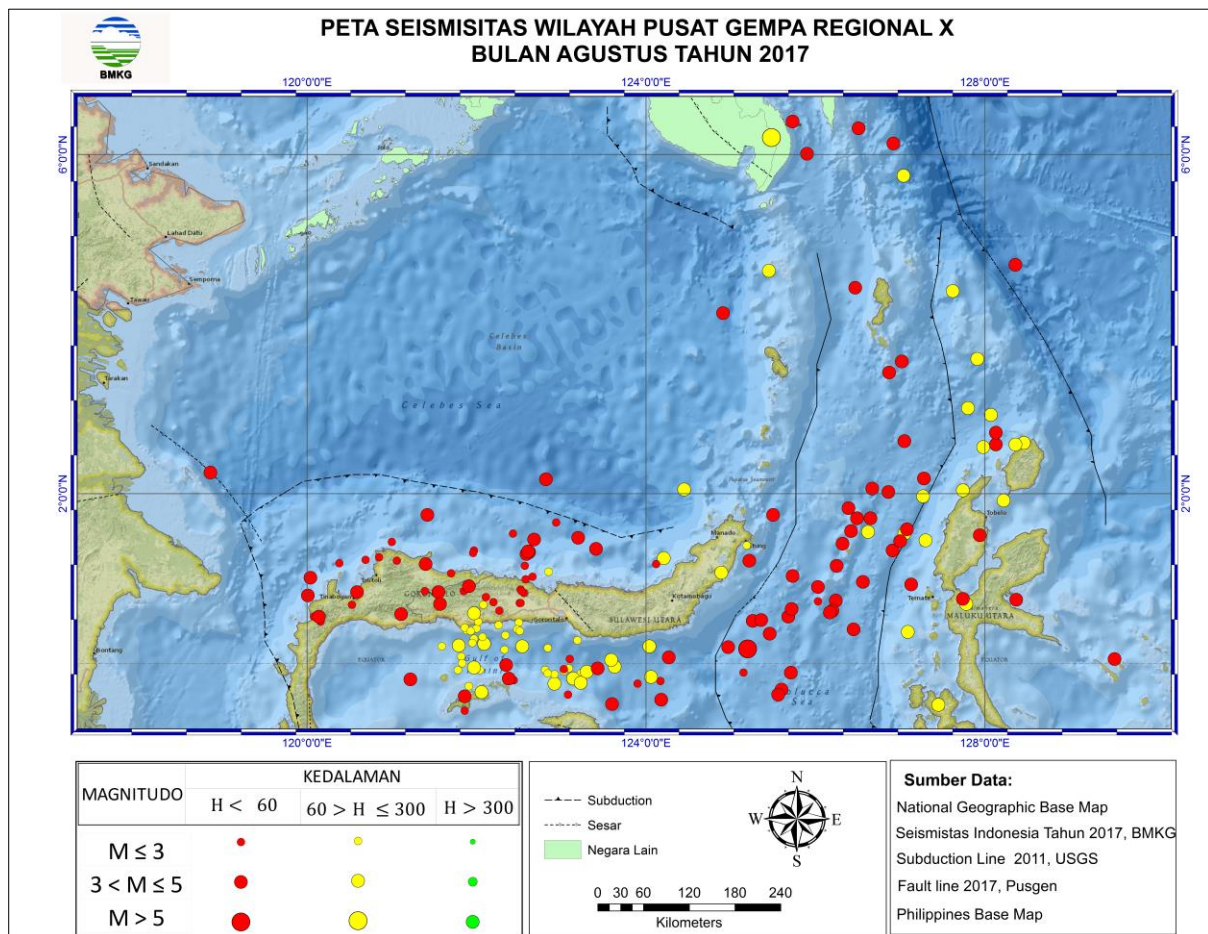
NO	DATE	OT (UTC)	EPICENTER		DEPTH (KM)	MAG	PGA (gals) / SLMI			REMARKS
			LAT	LON			X	Y	Z	
1	01/08/2017	3:27:05	-0.06	123.09	103	3				Minahassa Peninsula, Sulawesi
2	01/08/2017	21:46:11	0.84	121.55	22	3.9				Minahassa Peninsula, Sulawesi
3	02/08/2017	2:19:13	2.55	127.98	62	4.1				Northern Molucca Sea
4	02/08/2017	3:13:41	1.22	120.69	10	2.7				Minahassa Peninsula, Sulawesi
5	02/08/2017	4:09:34	1.01	120.04	10	3.6				Minahassa Peninsula, Sulawesi
6	02/08/2017	11:59:15	4.63	125.45	151	4.7				Talaud Islands, Indonesia
7	03/08/2017	5:57:32	1.43	121	30	2.7				Minahassa Peninsula, Sulawesi
8	03/08/2017	11:48:43	0.74	126.24	10	3.9				Northern Molucca Sea
9	03/08/2017	17:27:23	-0.37	123.08	48	2.9				Minahassa Peninsula, Sulawesi
10	03/08/2017	20:53:31	1.15	122.57	24	1.9				Minahassa Peninsula, Sulawesi
11	04/08/2017	6:46:31	0.55	120.08	10	2.9				Minahassa Peninsula, Sulawesi
12	04/08/2017	8:12:42	3.59	127.91	139	4.5				Talaud Islands, Indonesia
13	05/08/2017	0:30:42	6.2	125.48	73	5.8	0.03349	0.053039	0.043919	Mindanao, Philippines (270 km BaratLaut KEP-TALAUD-SULUT), dirasakan di Naha II SIG-BMKG (III MMI)
14	05/08/2017	7:39:22	7.76	125.01	30	5.2				Mindanao, Philippines
15	05/08/2017	14:03:16	0.48	122.5	70	2.1				Minahassa Peninsula, Sulawesi
16	05/08/2017	20:54:10	-0.12	123.23	132	3				Minahassa Peninsula, Sulawesi
17	05/08/2017	22:06:03	1.17	121.4	10	3.5				Minahassa Peninsula, Sulawesi
18	06/08/2017	1:52:30	-0.08	121.78	246.5	2.7				Minahassa Peninsula, Sulawesi
19	06/08/2017	4:00:23	-0.34	122.06	235	3.4				Minahassa Peninsula, Sulawesi
20	06/08/2017	7:37:19	5.75	127.04	117	4.8				Philippine Islands Region
21	06/08/2017	7:57:00	1.02	122.66	10	2.2				Minahassa Peninsula, Sulawesi
22	06/08/2017	10:14:12	1.53	127.05	117	4.2				Halmahera, Indonesia
23	06/08/2017	12:23:13	-0.48	123.6	10	3.4				Minahassa Peninsula, Sulawesi
24	06/08/2017	14:07:00	1.33	126.91	29	4				Northern Molucca Sea
25	06/08/2017	20:40:39	0.45	122.26	71	1.7				Minahassa Peninsula, Sulawesi
26	07/08/2017	3:56:24	0.08	121.82	167.5	2.4				Minahassa Peninsula, Sulawesi
27	07/08/2017	9:32:18	0.07	124.27	21.5	3.2				Minahassa Peninsula, Sulawesi
28	07/08/2017	18:32:50	2.62	127.05	12	3.8				Northern Molucca Sea
29	07/08/2017	19:15:19	0.85	121.85	10	2				Minahassa Peninsula, Sulawesi
30	07/08/2017	19:34:22	1.97	127.27	71.1	3.5				Halmahera, Indonesia
31	08/08/2017	0:06:22	-0.06	123.43	20	4				Minahassa Peninsula, Sulawesi
32	08/08/2017	4:54:43	-0.1	123.3	129	3.4				Minahassa Peninsula, Sulawesi
33	08/08/2017	6:21:02	7.05	123.74	10	5				Mindanao, Philippines
34	08/08/2017	11:58:35	0.4	122.48	81.5	2.5				Minahassa Peninsula, Sulawesi
35	08/08/2017	12:33:56	1.35	123.41	10	3.5				Minahassa Peninsula, Sulawesi
36	08/08/2017	14:12:23	0	121.83	164	2.3				Minahassa Peninsula, Sulawesi
37	08/08/2017	15:40:50	1.33	121.97	14	2.3				Minahassa Peninsula, Sulawesi
38	08/08/2017	15:42:49	1.3	121.96	16	2.7				Minahassa Peninsula, Sulawesi
39	09/08/2017	0:58:05	0.41	122	168.8	1.9				Minahassa Peninsula, Sulawesi
40	09/08/2017	2:02:07	0.58	121.11	26	3.4				Minahassa Peninsula, Sulawesi
41	09/08/2017	7:47:00	0.62	126.2	10	4.3	0.01617	0.011746	-0.01409	Northern Molucca Sea
42	09/08/2017	17:52:15	0.73	126.03	10	3				Northern Molucca Sea
43	10/08/2017	10:20:13	4.7	128.36	10	4.2				North of Halmahera, Indonesia
44	10/08/2017	15:15:21	2.05	124.45	282	3.7				Celebes Sea
45	10/08/2017	15:37:21	1.24	124.21	261	4.5				Minahassa Peninsula, Sulawesi
46	10/08/2017	19:01:20	0.6	126.17	12	4.3				Northern Molucca Sea
47	10/08/2017	21:49:27	0.55	125.68	28	3.6				Northern Molucca Sea
48	11/08/2017	3:23:33	1.25	120.85	10	2.7				Minahassa Peninsula, Sulawesi
49	11/08/2017	11:10:58	0.87	122.52	32	1.8				Minahassa Peninsula, Sulawesi
50	11/08/2017	11:21:08	0.05	123.1	10	2.8				Minahassa Peninsula, Sulawesi
51	11/08/2017	14:42:09	0.37	127.09	128	3.4				Halmahera, Indonesia
52	11/08/2017	16:55:08	-0.21	124.17	50	3				Southern Molucca Sea
53	11/08/2017	18:14:14	-0.04	123.63	121	3.2				Minahassa Peninsula, Sulawesi
54	11/08/2017	23:17:15	1.71	126.65	10	3.1				Northern Molucca Sea
55	12/08/2017	4:54:12	-0.18	123.14	133	3.8				Minahassa Peninsula, Sulawesi
56	12/08/2017	7:45:15	-0.24	122.92	72	3.7				Minahassa Peninsula, Sulawesi

57	12/08/2017	9:01:12	-0.02	122.35	30	3.1				Minahassa Peninsula, Sulawesi
58	12/08/2017	9:09:29	0.71	122.51	19	2.5				Minahassa Peninsula, Sulawesi
59	12/08/2017	9:56:03	1.55	126.62	67	3.6				Northern Molucca Sea
60	12/08/2017	11:01:16	1.75	121.42	17	3.5				Minahassa Peninsula, Sulawesi
61	12/08/2017	14:43:37	1.08	122.85	105	2.1				Minahassa Peninsula, Sulawesi
62	12/08/2017	16:22:11	1.06	121.7	7.3	2.3				Minahassa Peninsula, Sulawesi
63	12/08/2017	16:59:31	-0.07	123.03	10	2.1				Minahassa Peninsula, Sulawesi
64	12/08/2017	20:39:28	-0.23	123.23	68	4.1				Minahassa Peninsula, Sulawesi
65	12/08/2017	23:55:15	0.18	122.84	89.1	2.5				Minahassa Peninsula, Sulawesi
66	13/08/2017	1:52:11	6.01	125.9	32	4.6	0.01388	-0.007979	-0.009001	Mindanao, Philippines
67	13/08/2017	2:45:26	0.39	121.88	106	2.8				Minahassa Peninsula, Sulawesi
68	13/08/2017	3:48:10	-0.19	121.22	10	4.4				Minahassa Peninsula, Sulawesi
69	13/08/2017	10:46:31	-0.16	124.06	62	3.5				Southern Molucca Sea
70	13/08/2017	16:56:36	0.2	124.04	163	3.2				Minahassa Peninsula, Sulawesi
71	13/08/2017	18:29:54	0.49	120.16	40	2.6				Minahassa Peninsula, Sulawesi
72	13/08/2017	18:49:57	0.42	121.86	172	1.7				Minahassa Peninsula, Sulawesi
73	13/08/2017	21:53:05	2.06	126.67	10	3.6				Northern Molucca Sea
74	13/08/2017	22:01:46	2.02	126.86	10	3.4				Northern Molucca Sea
75	14/08/2017	0:14:15	0.38	122.51	61	2.7				Minahassa Peninsula, Sulawesi
76	14/08/2017	4:16:07	-0.08	122.81	97.3	2.6				Minahassa Peninsula, Sulawesi
77	14/08/2017	8:12:28	0.71	122.52	54	1.9				Minahassa Peninsula, Sulawesi
78	14/08/2017	12:23:59	2.58	128.13	28.1	3.6				Halmahera, Indonesia
79	14/08/2017	16:33:11	1.75	125.5	12	3.2				Northern Molucca Sea
80	14/08/2017	17:05:40	1.45	127.3	136.6	3.3				Halmahera, Indonesia
81	14/08/2017	19:57:30	-0.29	132.28	10	4.6				Irian Jaya Region, Indonesia
82	15/08/2017	4:22:31	1.48	123.2	21	3.1				Minahassa Peninsula, Sulawesi
83	15/08/2017	10:54:03	0.67	121.54	75	2.8				Minahassa Peninsula, Sulawesi
84	15/08/2017	11:42:18	0.83	122.56	10.7	1.5				Minahassa Peninsula, Sulawesi
85	15/08/2017	13:00:51	-0.24	123.9	60	2.7				Minahassa Peninsula, Sulawesi
86	15/08/2017	14:13:46	0.23	122.09	159	3.1				Minahassa Peninsula, Sulawesi
87	15/08/2017	14:37:35	0.35	125.46	10	3.7				Northern Molucca Sea
88	15/08/2017	16:08:10	2.93	128.07	138	4.5	0.01012	0.012299	0.015031	Halmahera, Indonesia
89	15/08/2017	16:53:46	0.96	126.56	27	4				Northern Molucca Sea
90	15/08/2017	23:35:11	1.92	128.22	101	4.2				Halmahera, Indonesia
91	16/08/2017	3:44:00	-0.22	132.22	14	3				Irian Jaya Region, Indonesia
92	16/08/2017	10:29:20	-0.09	123.03	119	2.6				Minahassa Peninsula, Sulawesi
93	16/08/2017	14:41:35	0.78	122.11	43	2.4				Minahassa Peninsula, Sulawesi
94	16/08/2017	16:42:15	2.04	127.74	165	3.1				Northern Molucca Sea
95	16/08/2017	16:56:56	0.8	120.01	10	3.8				Minahassa Peninsula, Sulawesi
96	16/08/2017	17:08:31	6.31	126.51	29	4.7	0.00993	-0.005576	0.009170	Mindanao, Philippines
97	17/08/2017	2:18:47	1.41	126.32	36	4.7	0.04093	0.051338	0.081524	Northern Molucca Sea
98	17/08/2017	4:04:03	2.6	128.46	233	4.6				Halmahera, Indonesia
99	17/08/2017	4:32:45	1.17	124.12	20	2.8				Minahassa Peninsula, Sulawesi
100	17/08/2017	5:13:10	-0.43	124.18	17	3.2				Southern Molucca Sea
101	17/08/2017	6:42:38	0.7	127.78	79	3.3				Halmahera, Indonesia
102	17/08/2017	7:03:01	2.58	128.36	216	4.2				Halmahera, Indonesia
103	17/08/2017	7:28:36	0.75	128.37	52	3.4				Halmahera, Indonesia
104	17/08/2017	13:17:32	3.01	127.8	96	3.9				Talaud Islands, Indonesia
105	17/08/2017	13:54:25	2.72	128.13	24	4.6				Halmahera, Indonesia
106	18/08/2017	3:30:39	0.99	122.58	60	2.2				Minahassa Peninsula, Sulawesi
107	18/08/2017	5:27:56	-0.13	122.92	100	2.6				Minahassa Peninsula, Sulawesi
108	18/08/2017	13:05:39	1.56	126.42	11	3.1				Northern Molucca Sea
109	18/08/2017	17:48:07	0.29	121.97	167	2.5				Minahassa Peninsula, Sulawesi
110	18/08/2017	18:52:50	0.31	122.07	175.3	2.4				Minahassa Peninsula, Sulawesi
111	18/08/2017	21:08:47	0.2	121.59	122	2.9				Minahassa Peninsula, Sulawesi
112	18/08/2017	21:50:00	-0.11	125.15	15	3				Southern Molucca Sea
113	18/08/2017	22:10:14	0.72	122.2	52.7	2.6				Minahassa Peninsula, Sulawesi
114	19/08/2017	0:40:45	-0.31	125.6	32	4.4				Southern Molucca Sea
115	19/08/2017	1:22:04	-0.11	125.71	20	3.5				Southern Molucca Sea
116	19/08/2017	12:18:34	-0.27	121.91	111	2				Minahassa Peninsula, Sulawesi
117	19/08/2017	17:23:02	0.7	121.57	30	4.2				Minahassa Peninsula, Sulawesi
118	19/08/2017	18:38:28	1.58	127.08	12	4.2				Halmahera, Indonesia
119	19/08/2017	19:24:23	0.69	122.08	152.9	1.5				Minahassa Peninsula, Sulawesi

120	19/08/2017	19:45:42	-0.2	122.44	11	2.2				Minahassa Peninsula, Sulawesi
121	19/08/2017	19:51:28	1.21	121.06	10	3				Minahassa Peninsula, Sulawesi
122	19/08/2017	20:11:16	-0.49	127.45	116	4.3				Halmahera, Indonesia
123	19/08/2017	20:22:50	0.9	126.03	10	3.5				Northern Molucca Sea
124	19/08/2017	23:23:10	0.49	122.02	171.8	2.3				Minahassa Peninsula, Sulawesi
125	20/08/2017	2:24:03	-0.18	122.38	10	3.7				Minahassa Peninsula, Sulawesi
126	20/08/2017	3:20:07	4.43	126.47	10	4.2				Talaud Islands, Indonesia
127	20/08/2017	5:46:05	1.71	126.49	10	3.4				Northern Molucca Sea
128	20/08/2017	14:28:57	0.64	125.72	10	3.3				Northern Molucca Sea
129	20/08/2017	20:45:04	2.18	127.28	26	3.7				Northern Molucca Sea
130	20/08/2017	21:13:15	1.15	126.25	29	3.5				Northern Molucca Sea
131	20/08/2017	23:26:37	0.2	122.54	130	3.5				Minahassa Peninsula, Sulawesi
132	21/08/2017	5:36:45	0.59	121.97	80	3.3				Minahassa Peninsula, Sulawesi
133	21/08/2017	11:07:38	3.43	126.87	10	4.1				Talaud Islands, Indonesia
134	21/08/2017	11:48:56	1.53	122.43	10	2.3				Minahassa Peninsula, Sulawesi
135	21/08/2017	22:32:37	0.69	120.53	36	2.2				Minahassa Peninsula, Sulawesi
136	21/08/2017	23:31:13	1.07	124.89	126	4.5	0.08806	0.030099	0.031927	Minahassa Peninsula, Sulawesi
137	22/08/2017	0:39:37	0.85	121.39	13.4	2.4				Minahassa Peninsula, Sulawesi
138	22/08/2017	12:23:53	0.85	122.53	17	2.5				Minahassa Peninsula, Sulawesi
139	22/08/2017	13:18:02	1.18	120.38	10	2.6				Minahassa Peninsula, Sulawesi
140	22/08/2017	13:48:36	-0.37	125.56	10	3.7				Southern Molucca Sea
141	22/08/2017	14:58:45	6.39	125.73	20	4.5				Mindanao, Philippines
142	22/08/2017	22:11:13	1.21	125.22	48	3.5				Northern Molucca Sea
143	23/08/2017	16:03:56	0.91	121.91	23	3.1				Minahassa Peninsula, Sulawesi
144	23/08/2017	17:57:33	0.05	129.53	18	3.8	0.0139	0.010133	0.012803	Halmahera, Indonesia
145	24/08/2017	1:59:20	4.13	124.91	10	4.9	0.0209	-0.014952	0.021974	Celebes Sea
146	24/08/2017	4:30:31	1.44	127	10	4				Halmahera, Indonesia
147	24/08/2017	14:24:00	0.27	123.19	130	2.3				Minahassa Peninsula, Sulawesi
148	24/08/2017	15:35:58	-0.08	122.04	238	2.9				Minahassa Peninsula, Sulawesi
149	24/08/2017	18:31:53	1.39	125.19	99	3				Northern Molucca Sea
150	24/08/2017	23:03:36	1.83	126.39	10	3.5				Northern Molucca Sea
151	25/08/2017	13:24:52	3.56	127.02	56	4.2				Talaud Islands, Indonesia
152	25/08/2017	20:49:50	1.51	127.94	10	3.7				Halmahera, Indonesia
153	26/08/2017	4:35:21	0.24	121.95	171	2.2				Minahassa Peninsula, Sulawesi
154	26/08/2017	13:15:28	4.39	127.62	107.7	4.2				Talaud Islands, Indonesia
155	26/08/2017	14:02:58	0.5	125.26	27	3.6				Northern Molucca Sea
156	26/08/2017	18:06:12	-0.12	122.84	116.3	3				Minahassa Peninsula, Sulawesi
157	26/08/2017	19:36:57	1.31	122.62	10	4				Minahassa Peninsula, Sulawesi
158	26/08/2017	19:36:57	1.29	122.59	12	3.9				Minahassa Peninsula, Sulawesi
159	26/08/2017	20:22:57	1.03	125.73	12.8	3.4				Northern Molucca Sea
160	26/08/2017	20:49:17	1.46	122.68	10	4.8	0.0205	0.0366586	0.03657	Minahassa Peninsula, Sulawesi (43 km Timur Laut GORONTALOUTARA), dirasakan di Kota Gorontalo dan Kab Gorontalo II SIG-BMKG (II-III MMI)
161	26/08/2017	20:58:16	1.32	122.61	10.3	3.9				Minahassa Peninsula, Sulawesi
162	26/08/2017	23:28:44	0.55	120.14	60	3.8				Minahassa Peninsula, Sulawesi
163	27/08/2017	3:13:17	0.38	121.93	102	2.7				Minahassa Peninsula, Sulawesi
164	27/08/2017	4:33:21	-0.05	121.97	235	3.2				Minahassa Peninsula, Sulawesi
165	27/08/2017	19:50:15	-0.39	121.86	10	4.3				Minahassa Peninsula, Sulawesi
166	28/08/2017	04:06:32	0.4	126.45	11	3.3				Northern Molucca Sea
167	28/08/2017	06:15:53	0.21	121.79	192	3.4				Minahassa Peninsula, Sulawesi
168	28/08/2017	11:26:49	0.62	122.27	57	1.7				Minahassa Peninsula, Sulawesi
169	29/08/2017	03:24:47	0.16	122.33	152	2.3				Minahassa Peninsula, Sulawesi
170	29/08/2017	05:48:46	0.84	120.59	10	3.1				Minahassa Peninsula, Sulawesi
171	29/08/2017	09:15:19	0.33	122.34	141	2.4				Minahassa Peninsula, Sulawesi
172	29/08/2017	15:28:20	2.17	122.82	10	3.7				Celebes Sea
173	29/08/2017	20:05:46	2.25	118.86	32	4.7				Celebes Sea
174	29/08/2017	22:46:39	1.66	122.94	10	2.6				Minahassa Peninsula, Sulawesi
175	30/08/2017	00:07:40	0.93	127.13	19	3.3				Halmahera, Indonesia
176	30/08/2017	00:59:11	6.13	126.92	10	4.9				Mindanao, Philippines
177	30/08/2017	04:19:12	0.51	125.36	17	4.3	0.04168	0.045065	0.0507	Northern Molucca Sea
178	30/08/2017	12:43:08	-0.56	121.86	12	2.4				Minahassa Peninsula, Sulawesi
179	30/08/2017	17:31:31	5.1	124.3	350	4.4				Mindanao, Philippines

180	30/08/2017	18:08:24	0.76	127.74	10	3.3				Halmahera, Indonesia
181	30/08/2017	18:10:59	0.04	123.59	141	3.6				Minahassa Peninsula, Sulawesi
182	31/08/2017	22:57:37	0.17	125.2	10	5.4	0.0426,	0.0704,	0.0761	Southern Molucca Sea, (127 km Tenggara BOLAANGMONGONDOWTMR-SULUT), drskn di Gorontalo II SIG-BMKG (II-III MMI); di Kota Manado, Kab. Minahasa dan Kab. Bolmong Timur I SIG-BMKG (II MMI)
183	31/08/2017	23:09:17	0.19	124.97	10	4.0				Minahasa Peninsula

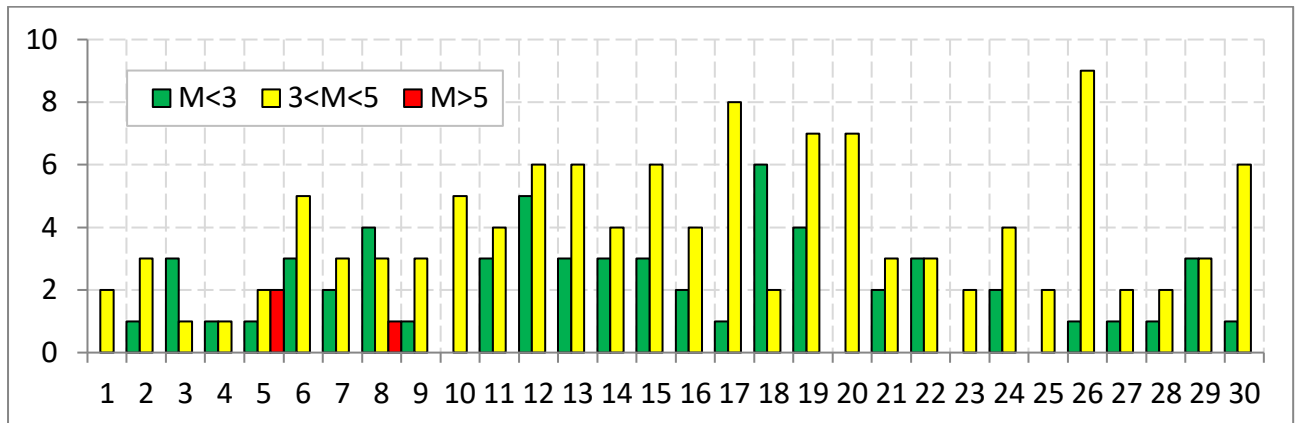
Peta 9. Distribusi Episenter Gempabumi Daerah Sulawesi Utara dan sekitarnya
Bulan Agustus 2017



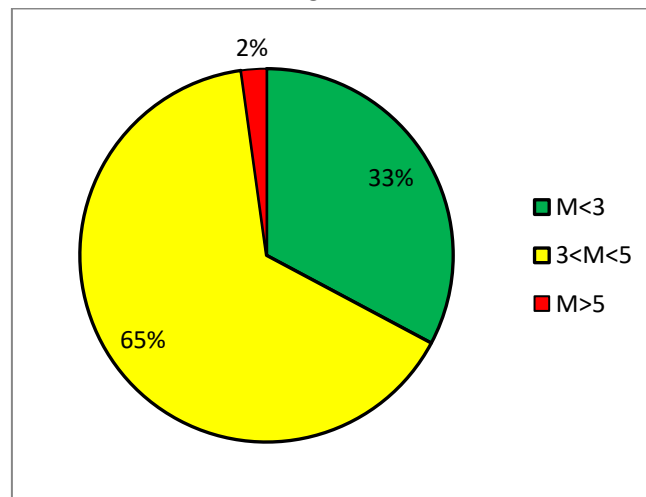
**Tabel 16. Rekapitulasi Gempabumi Berdasarkan Magnitudo
Bulan Agustus 2017**

Tanggal (UTC)	Magnitudo			Jumlah Total	Jumlah Gempa Signifikan	
	M<3	3≤M<5	M≥5		Dirasakan	Merusak
1	0	2	0	2	0	0
2	1	3	0	4	0	0
3	3	1	0	4	0	0
4	1	1	0	2	0	0
5	1	2	2	5	0	0
6	3	5	0	8	0	0
7	2	3	0	5	0	0
8	4	3	1	8	0	0
9	1	3	0	4	0	0
10	0	5	0	5	0	0
11	3	4	0	7	0	0
12	5	6	0	11	1	0
13	3	6	0	9	0	0
14	3	4	0	7	0	0
15	3	6	0	9	0	0
16	2	4	0	6	0	0
17	1	8	0	9	0	0
18	6	2	0	8	0	0
19	4	7	0	11	0	0
20	0	7	0	7	1	0
21	2	3	0	5	0	0
22	3	3	0	6	0	0
23	0	2	0	2	1	0
24	2	4	0	6	0	0
25	0	2	0	2	0	0
26	1	9	0	10	0	0
27	1	2	0	3	1	0
28	1	2	0	3	0	0
29	3	3	0	6	0	0
30	1	7	1	9	0	0
31	0	0	0	0	0	0
Jumlah gempa	60	119	4	183	4	0
Jumlah gempa seluruhnya						

Histogram 15. Gempabumi Berdasarkan Magnitudo
Bulan Agustus 2017



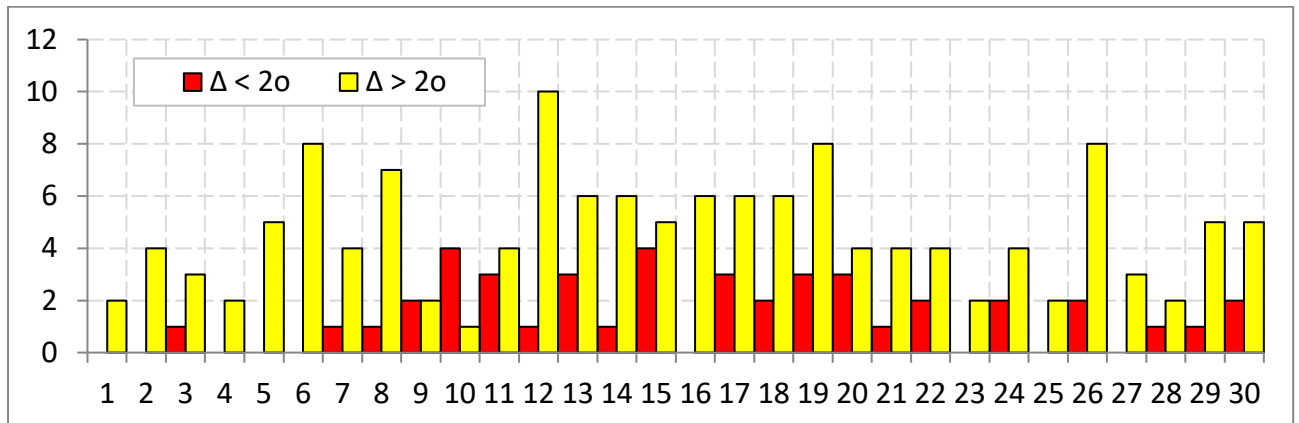
Persentase 17. Gempabumi Berdasarkan Magnitudo
Bulan Agustus 2017



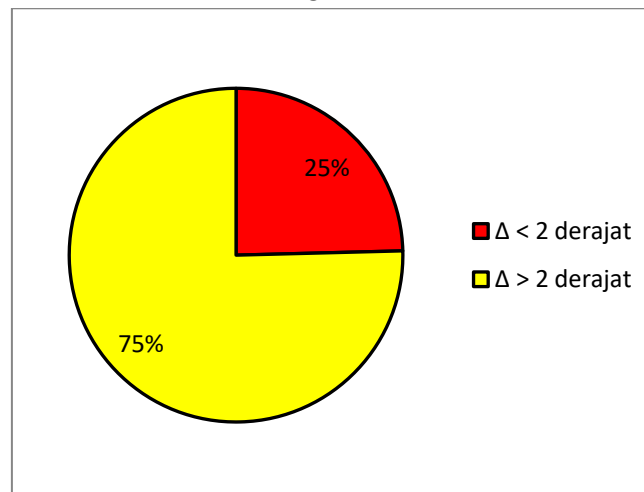
Tabel 17. Rekapitulasi Gempabumi Berdasarkan Jarak Dari Stasiun
Bulan Agustus 2017

Tanggal	Jarak		Jumlah	Keterangan
	$\Delta \leq 2^{\circ}$	$\Delta > 2^{\circ}$		
01/08/2017	0	2	2	-
02/08/2017	0	4	4	-
03/08/2017	1	3	4	-
04/08/2017	0	2	2	-
05/08/2017	0	5	5	-
06/08/2017	0	8	8	-
07/08/2017	1	4	5	-
08/08/2017	1	7	8	-
09/08/2017	2	2	4	-
10/08/2017	4	1	5	-
11/08/2017	3	4	7	-
12/08/2017	1	10	11	-
13/08/2017	3	6	9	-
14/08/2017	1	6	7	-
15/08/2017	4	5	9	-
16/08/2017	0	6	6	-
17/08/2017	3	6	9	-
18/08/2017	2	6	8	-
19/08/2017	3	8	11	-
20/08/2017	3	4	7	-
21/08/2017	1	4	5	-
22/08/2017	2	4	6	-
23/08/2017	0	2	2	-
24/08/2017	2	4	6	-
25/08/2017	0	2	2	-
26/08/2017	2	8	10	-
27/08/2017	0	3	3	-
28/08/2017	1	2	3	-
29/08/2017	1	5	6	-
30/08/2017	4	5	9	-
Jumlah gempa	45	138	183	-
Jumlah gempa seluruhnya				

Histogram 16. Gempabumi Berdasarkan Jarak
Bulan Agustus 2017



Persentase 18. Gempabumi Berdasarkan Jarak
Bulan Agustus 2017



Data Gempabumi Bulan September 2017

NO	DATE	OT (UTC)	EPICENTER		DEPTH (KM)	MAG	PGA (gals) / SLMI			REMARKS
			LAT	LON			X	Y	Z	
1	01/09/2017	9:19:33	-0.17	122.62	28	2.6				Minahassa Peninsula, Sulawesi
2	01/09/2017	9:42:15	0.36	122.21	121	2.6				Minahassa Peninsula, Sulawesi
3	01/09/2017	14:25:00	1.18	121.21	10	3.8				Minahassa Peninsula, Sulawesi
4	01/09/2017	19:05:33	1.14	122.87	10	2				Minahassa Peninsula, Sulawesi
5	01/09/2017	20:15:24	0.45	126.44	7.8	3.2				Northern Molucca Sea
6	01/09/2017	21:41:57	2.24	126.79	10	3.9	0.123297	0.128802	0.173035	Northern Molucca Sea
7	02/09/2017	0:45:38	-0.66	127.95	6.2	4.3	0.139742	0.090859	0.137151	Halmahera, Indonesia
8	02/09/2017	4:18:56	1.34	122.21	10	3.8				Minahassa Peninsula, Sulawesi
9	02/09/2017	4:36:45	0.33	122.27	109	2.1				Minahassa Peninsula, Sulawesi
10	02/09/2017	4:55:26	1.48	122.28	17	3.7				Minahassa Peninsula, Sulawesi
11	02/09/2017	8:56:49	0.57	122.41	177.1	1.5				Minahassa Peninsula, Sulawesi
12	02/09/2017	11:47:10	1.61	126.47	10	3.2				Northern Molucca Sea
13	02/09/2017	14:26:03	0.27	122.26	149	2				Minahassa Peninsula, Sulawesi
14	02/09/2017	17:17:08	1.54	122.32	15	2.3				Minahassa Peninsula, Sulawesi
15	02/09/2017	19:25:15	1.07	122.18	146.5	2.8				Minahassa Peninsula, Sulawesi
16	02/09/2017	23:00:43	-0.21	122.92	13	2.6				Minahassa Peninsula, Sulawesi
17	03/09/2017	0:05:23	0.62	122.11	69	2.9				Minahassa Peninsula, Sulawesi
	03/09/2017	3:30:07	43.27	127.29	208	5.9	0.099371	0.075475	0.09101	Northeastern China
18	03/09/2017	9:41:43	1.36	120.35	10	3.3				Sulawesi, Indonesia
19	03/09/2017	11:55:47	3.88	126.91	10	4.4				Talaud Islands, Indonesia
20	03/09/2017	13:13:03	0.93	122.14	20	2.5				Minahassa Peninsula, Sulawesi
21	03/09/2017	14:27:16	2.66	125.01	143	3.5				Talaud Islands, Indonesia
22	03/09/2017	23:10:28	1.63	122.34	10	3				Minahassa Peninsula, Sulawesi
23	03/09/2017	23:32:24	0.44	126.4	10	3.3				Northern Molucca Sea
24	04/09/2017	14:52:47	-0.39	123.47	66	3				Minahassa Peninsula, Sulawesi
25	04/09/2017	18:37:04	1.63	126.47	6	3.1				Northern Molucca Sea
26	04/09/2017	19:39:19	-0.26	122.71	26	3.4				Minahassa Peninsula, Sulawesi
27	04/09/2017	20:12:07	0.19	123.92	177	3.4	0.069303	0.051714	0.075078	Minahassa Peninsula, Sulawesi
28	04/09/2017	21:47:42	2.07	124.4	293.2	3.6				Celebes Sea
29	04/09/2017	1:08:49	0.33	122	145	3.3				Minahassa Peninsula, Sulawesi
30	05/09/2017	0:47:19	0.09	122.29	196	2.9				Minahassa Peninsula, Sulawesi
31	05/09/2017	0:47:37	0.63	124.42	11	3.1				Minahassa Peninsula, Sulawesi
32	05/09/2017	1:08:48	0.33	122.06	155	3.6				Minahassa Peninsula, Sulawesi
33	05/09/2017	5:14:25	-0.28	124.55	10	3.5				Southern Molucca Sea
34	05/09/2017	13:58:08	0.46	126.39	10	3.2				Northern Molucca Sea
35	05/09/2017	14:35:41	0.21	121.82	179	1.6				Minahassa Peninsula, Sulawesi
36	05/09/2017	18:16:42	0.44	126.1	10	3.4				Northern Molucca Sea
37	05/09/2017	20:55:23	-0.16	122.36	10	4.3	0.123418	0.108873	0.173322	Minahassa Peninsula, Sulawesi
38	06/09/2017	2:07:15	0	124.17	58	4	0.140646	0.09307	0.140646	Southern Molucca Sea
39	06/09/2017	7:24:15	-0.29	123.95	18	3.4				Minahassa Peninsula, Sulawesi
40	06/09/2017	8:18:08	-0.27	122.68	23	2.8				Minahassa Peninsula, Sulawesi
41	06/09/2017	10:51:16	0.3	121.98	166	2.3				Minahassa Peninsula, Sulawesi
42	06/09/2017	12:57:53	2.64	126.6	11.8	3.4				Northern Molucca Sea
43	06/09/2017	15:52:05	0.75	122.5	25.2	2.2				Minahassa Peninsula, Sulawesi
44	06/09/2017	19:38:57	0.55	126.36	10	3.2				Northern Molucca Sea
45	07/09/2017	11:41:49	0.59	126.12	10	4.2				Northern Molucca Sea

46	07/09/2017	17:10:43	2.17	127.97	171	3.5				Northern Molucca Sea
47	07/09/2017	17:15:21	3.89	126.85	20	4.2	0.000054	0.054151	0.05337	Talaud Islands, Indonesia
48	07/09/2017	21:22:25	2.12	122.47	25	2.6				Celebes Sea
49	07/09/2017	21:23:51	3.68	125.86	26	4				Talaud Islands, Indonesia
50	08/09/2017	9:37:47	-0.14	130.76	10	3				Irian Jaya Region, Indonesia
51	08/09/2017	10:21:04	5.4	126.07	96	5	0.09461	0.065698	0.129131	Mindanao, Philippines
52	08/09/2017	16:12:45	0.59	121.63	79	4.5				Minahassa Peninsula, Sulawesi
53	08/09/2017	16:48:40	0.15	123.74	138	3.8				Minahassa Peninsula, Sulawesi
54	08/09/2017	17:11:03	0.13	122.21	140	2				Minahassa Peninsula, Sulawesi
55	08/09/2017	18:04:28	-0.01	123.18	167	3.3				Minahassa Peninsula, Sulawesi
56	08/09/2017	18:53:52	0.58	121.32	46	3.1				Minahassa Peninsula, Sulawesi
57	08/09/2017	19:39:18	-0.31	132.35	10	4.1				Irian Jaya Region, Indonesia
58	08/09/2017	21:16:18	-0.36	123.67	16	3				Minahassa Peninsula, Sulawesi
59	09/09/2017	4:48:00	0.96	121.71	19	2.7				Minahassa Peninsula, Sulawesi
60	09/09/2017	7:04:58	0.5	121.98	168	2.5				Minahassa Peninsula, Sulawesi
61	09/09/2017	7:24:01	0.38	122.07	173	3				Minahassa Peninsula, Sulawesi
62	09/09/2017	11:11:34	3.91	126.92	32	4.7	0.16001	0.103211	0.176492	Talaud Islands, Indonesia
63	10/09/2017	0:07:56	0.38	122.06	157	2.1				Minahassa Peninsula, Sulawesi
64	10/09/2017	4:37:16	0.42	123.31	192	2.9				Minahassa Peninsula, Sulawesi
65	10/09/2017	12:20:04	1.69	128.74	10	3.4				Halmahera, Indonesia
66	10/09/2017	18:53:16	0.92	126.11	10	3.4	0.10463	0.096868	0.078341	Northern Molucca Sea
67	10/09/2017	21:48:13	-0.37	129.56	20	3.3				Halmahera, Indonesia
68	11/09/2017	6:53:32	1.09	125.62	16	3.4				Northern Molucca Sea
69	11/09/2017	6:58:09	0.49	122.12	172	1.7				Minahassa Peninsula, Sulawesi
70	11/09/2017	17:52:24	0.6	123.6	28.2	2.7	0.18052	0.121559	0.093852	Minahassa Peninsula, Sulawesi
71	11/09/2017	17:52:15	-0.29	123.65	24	3.1				Minahassa Peninsula, Sulawesi
72	11/09/2017	19:28:51	1.76	127.25	105	3.4				Halmahera, Indonesia
73	11/09/2017	21:47:32	-0.09	124	66	3.1				Southern Molucca Sea
74	12/09/2017	1:03:18	0.1	123.53	112	3.4	0.10481	0.064418	0.111698	Minahassa Peninsula, Sulawesi
75	12/09/2017	4:17:17	0.42	121.88	10	2.2				Minahassa Peninsula, Sulawesi
76	12/09/2017	6:15:39	1.72	119.83	10	3.3				Celebes Sea
77	12/09/2017	12:00:55	-0.16	121.5	165.9	3.2				Minahassa Peninsula, Sulawesi
78	12/09/2017	13:38:13	0.87	121.09	10	2.5				Minahassa Peninsula, Sulawesi
79	12/09/2017	15:49:08	1.67	127.2	68	3				Halmahera, Indonesia
80	12/09/2017	15:54:04	-0.29	121.15	13	2.2				Minahassa Peninsula, Sulawesi
81	12/09/2017	16:15:40	-0.19	122.88	94	2.8				Minahassa Peninsula, Sulawesi
82	12/09/2017	16:24:35	1.89	127.25	102	3.2				Halmahera, Indonesia
83	12/09/2017	17:08:50	-0.15	122.97	94	3.2				Minahassa Peninsula, Sulawesi
84	12/09/2017	21:34:38	1.02	121.59	10	2.8				Minahassa Peninsula, Sulawesi
85	12/09/2017	23:33:15	1.018	122.7	29	2.2				Minahassa Peninsula, Sulawesi
86	13/09/2017	0:13:43	0.6	122.21	62	1.8				Minahassa Peninsula, Sulawesi
87	13/09/2017	0:14:56	0.83	122.28	29	2.1				Minahassa Peninsula, Sulawesi
88	13/09/2017	0:49:11	1.13	118.76	19	3.4				Borneo
89	13/09/2017	5:26:34	-0.18	122.73	138	2.2				Minahassa Peninsula, Sulawesi
90	13/09/2017	9:46:00	-0.74	120.7	11	3				Minahassa Peninsula, Sulawesi
91	13/09/2017	11:51:46	3.15	128.3	10	4.1	0.13431	0.079642	0.097377	Northern Of Halmahera
92	13/09/2017	21:27:34	0.4	122.23	165	2.6				Minahassa Peninsula, Sulawesi
93	13/09/2017	23:18:10	0.82	120.23	10	2.5				Minahassa Peninsula, Sulawesi
94	14/09/2017	6:25:42	0.18	128.27	16	3.1				Halmahera, Indonesia
95	14/09/2017	7:22:07	0.58	122.2	85.8	2				Minahassa Peninsula, Sulawesi

96	14/09/2017	14:46:44	1	125.7	17.5	3.4				Northern Molucca Sea
97	14/09/2017	17:59:30	0.64	126.2	24	3.8				Northern Molucca Sea
98	14/09/2017	17:59:30	0.58	126.17	25	3.9	0.09087	0.097310	0.140449	Northern Molucca Sea
99	14/09/2017	18:14:52	0.61	126.2	11	3.1				Northern Molucca Sea
100	14/09/2017	18:20:47	0.59	126.19	29	3.4				Northern Molucca Sea
101	15/09/2017	8:22:50	0.29	126.88	14	3.8	0.18498	0.123515	0.217306	Northern Molucca Sea
102	15/09/2017	9:37:41	0.82	121.4	11	2.3				Minahassa Peninsula, Sulawesi
103	15/09/2017	14:04:51	-0.11	123.13	83	2.5				Minahassa Peninsula, Sulawesi
104	15/09/2017	15:06:22	0.72	121.31	47	3.4				Minahassa Peninsula, Sulawesi
105	15/09/2017	16:33:46	-0.21	123.72	84	2.8				Minahassa Peninsula, Sulawesi
106	15/09/2017	16:39:15	0.02	121.82	168	1.9				Minahassa Peninsula, Sulawesi
107	15/09/2017	18:16:31	0.87	120.4	10	2.5				Minahassa Peninsula, Sulawesi
108	16/09/2017	1:39:29	4.98	126.16	127	4.4	0.139508	0.103117	0.147133	Talaud Islands, Indonesia
109	16/09/2017	4:37:02	0.78	125.47	29	3.4				Northern Molucca Sea
110	16/09/2017	6:58:24	1.23	122.89	10	2.5				Minahassa Peninsula, Sulawesi
111	16/09/2017	7:21:18	-0.12	122.68	131	3.3				Minahassa Peninsula, Sulawesi
112	16/09/2017	9:50:08	0.99	126.99	11	3.2				Northern Molucca Sea
113	16/09/2017	12:37:56	0.06	122.2	155.7	2.2				Minahassa Peninsula, Sulawesi
114	16/09/2017	15:06:12	0.86	121.33	28	2.8				Minahassa Peninsula, Sulawesi
115	16/09/2017	21:29:56	0.91	120.14	10	2.7				Minahassa Peninsula, Sulawesi
116	16/09/2017	22:17:20	-0.15	122.45	16	2.7				Minahassa Peninsula, Sulawesi
117	17/09/2017	10:14:50	1.32	122.15	28	1.8				Minahassa Peninsula, Sulawesi
118	17/09/2017	11:04:21	3.5	127.04	80	4.7	0.174865	0.076453	0.115866	Talaud Islands, Indonesia
119	17/09/2017	13:56:50	1.82	126.48	26	3.8				Northern Molucca Sea
120	17/09/2017	16:30:22	0.98	127.31	143	4.1				Halmahera, Indonesia
121	17/09/2017	19:13:23	2.6	128.43	221	3.8				Halmahera, Indonesia
122	17/09/2017	20:27:35	1.81	128.8	10	3.7				Southern Molucca Sea
123	18/09/2017	15:05:54	1.55	124.6	209.9	3.6	0.104344	0.105771	0.197181	Minahassa Peninsula, Sulawesi
124	18/09/2017	19:00:52	1.48	126.18	10	2.9				Northern Molucca Sea
125	18/09/2017	19:34:27	1.47	126.33	12	3.2				Northern Molucca Sea
126	19/09/2017	4:14:17	0.9	121.64	77	2.3				Minahassa Peninsula, Sulawesi
127	19/09/2017	7:19:14	1.02	121.75	10	3.5				Minahassa Peninsula, Sulawesi
128	19/09/2017	8:56:30	0.05	123.63	103	3.3				Minahassa Peninsula, Sulawesi
129	19/09/2017	9:50:57	-0.22	122.8	10	2.5				Minahassa Peninsula, Sulawesi
130	19/09/2017	11:14:09	0.6	122.98	71	2.7				Minahassa Peninsula, Sulawesi
131	19/09/2017	12:32:12	0.17	122.48	113	2.1				Minahassa Peninsula, Sulawesi
132	19/09/2017	12:44:29	0.96	126.05	10	3.6				Northern Molucca Sea
133	19/09/2017	16:21:31	1.98	124.83	12	2.9				Minahassa Peninsula, Sulawesi
134	19/09/2017	16:50:49	1.75	126.37	10	3.7				Northern Molucca Sea
135	19/09/2017	17:15:39	0.67	124.92	12	3				Minahassa Peninsula, Sulawesi
136	19/09/2017	21:46:23	2.01	126.54	10	3.8	#####	0.077983	0.106629	Northern Molucca Sea
137	19/09/2017	23:22:55	6.24	123.9	10	4.7				Mindanao, Philippines
138	20/09/2017	1:21:37	0.48	122.04	99	3.1				Minahassa Peninsula, Sulawesi
139	20/09/2017	2:18:50	1.75	127.1	118	3.8	0.237523	0.187067	0.39051	Halmahera, Indonesia
140	20/09/2017	13:08:01	-0.28	122.82	70	2.6				Minahassa Peninsula, Sulawesi
141	20/09/2017	14:48:09	0.39	122.25	141	2.6				Minahassa Peninsula, Sulawesi
142	20/09/2017	15:37:47	1.35	122.66	10	1.9				Minahassa Peninsula, Sulawesi
143	20/09/2017	15:45:20	0.54	125.66	22	3.4				Northern Molucca Sea
144	20/09/2017	19:38:46	0.27	121.46	129	2.7				Minahassa Peninsula, Sulawesi
145	20/09/2017	23:56:28	-0.25	122.17	76	2.5				Minahassa Peninsula, Sulawesi

146	21/09/2017	0:03:42	1.49	121.5	0	5.4	0.199658	0.149334	0.249124	Sulawesi, Indonesia
147	21/09/2017	4:00:27	0.14	122.7	107	2.6				Minahassa Peninsula, Sulawesi
148	21/09/2017	4:09:17	-0.18	123.87	99	4.1				Minahassa Peninsula, Sulawesi
149	21/09/2017	10:50:19	3.38	127	71	4.8				Talaud Islands, Indonesia
150	21/09/2017	11:08:48	0.32	122.52	60	1.8				Minahassa Peninsula, Sulawesi
151	21/09/2017	12:26:03	1.3	129.3	10	3.2				Sulawesi, Indonesia
152	21/09/2017	15:20:32	1.1	121	3.9	3.2				Minahassa Peninsula, Sulawesi
153	21/09/2017	15:59:05	1.14	122.72	49	1.4				Minahassa Peninsula, Sulawesi
154	21/09/2017	18:37:12	0.74	120.21	10	3.1				Minahassa Peninsula, Sulawesi
155	22/09/2017	8:54:59	3.71	127.79	107	4.9	0.120991	0.107266	0.154415	Talaud Islands, Indonesia
156	22/09/2017	9:22:34	0.52	120.36	47	2.7				Minahassa Peninsula, Sulawesi
157	22/09/2017	10:09:42	5.89	126.74	114	5				Mindanao, Philippines
158	22/09/2017	10:09:48	1.07	122.06	25	2.9				Minahassa Peninsula, Sulawesi
159	22/09/2017	10:31:33	2.25	126.71	10	3.6				Northern Molucca Sea
160	22/09/2017	13:28:54	-0.41	127.23	58	4.4				Halmahera, Indonesia
161	22/09/2017	17:58:46	1.36	128	134	3.6				Halmahera, Indonesia
162	23/09/2017	0:16:48	0.24	122.48	97	2.9				Minahassa Peninsula, Sulawesi
163	23/09/2017	1:32:56	0.66	122.22	61	2.6				Minahassa Peninsula, Sulawesi
164	23/09/2017	9:34:30	0.82	122.7	60	2.5				Minahassa Peninsula, Sulawesi
165	23/09/2017	10:22:44	0.31	121.77	182	2.1				Minahassa Peninsula, Sulawesi
166	23/09/2017	13:10:47	-0.3	122.97	76	3.5				Minahassa Peninsula, Sulawesi
167	23/09/2017	13:15:11	0.16	121.3	158.5	3				Minahassa Peninsula, Sulawesi
168	23/09/2017	14:03:19	1.12	126.68	21	3.6				Northern Molucca Sea
169	23/09/2017	16:43:49	4.79	126.17	32	4.4	0.227843	0.161462	0.077411	Talaud Islands, Indonesia
170	23/09/2017	17:48:18	7.62	124.66	10	4.7				Mindanao, Philippines
171	23/09/2017	19:32:12	-0.26	122.12	11	2.2				Minahassa Peninsula, Sulawesi
172	23/09/2017	20:47:13	7.58	124.83	41	5.7				Mindanao, Philippines
173	23/09/2017	21:18:17	7.55	125.01	19	4.9				Mindanao, Philippines
174	23/09/2017	21:30:51	7.69	124.67	10	4.9				Mindanao, Philippines
175	24/09/2017	00:25:29	5.14	117.23	10	4.2				Borneo
176	24/09/2017	01:29:52	0.18	121.84	145	2.4				Minahassa Peninsula, Sulawesi
177	24/09/2017	02:39:22	7.81	124.59	10	4.8				Mindanao, Philippines
178	24/09/2017	05:01:36	-0.13	122.73	10	2.6				Minahassa Peninsula, Sulawesi
179	24/09/2017	09:43:54	1.64	126.36	12	3.4	0.105221	0.060894	0.094371	Northern Molucca Sea
180	24/09/2017	16:36:52	2.42	126.32	41	3.6				Northern Molucca Sea
181	24/09/2017	18:08:49	2.19	122.88	10	2.8				Celebes Sea
182	24/09/2017	20:52:40	1.87	127.31	100	3.3				Halmahera, Indonesia
183	25/09/2017	02:40:00	-0.07	127.09	99	3.9				Halmahera, Indonesia
184	25/09/2017	04:46:48	1.17	118.58	10	3.4				Borneo
185	25/09/2017	06:03:04	0.5	122.23	104	2.5				Minahassa Peninsula, Sulawesi
186	25/09/2017	06:31:21	0.96	123.04	49	2.9				Minahassa Peninsula, Sulawesi
187	25/09/2017	13:14:04	0.22	123.87	193	2.9				Minahassa Peninsula, Sulawesi
188	25/09/2017	14:20:03	-0.14	121.6	22	2.7				Minahassa Peninsula, Sulawesi
189	25/09/2017	14:37:10	0.17	126.49	10	2.8				Northern Molucca Sea
190	25/09/2017	20:59:15	7.3	124.71	10	4.6				Mindanao, Philippines
191	25/09/2017	21:04:41	2	127.9	212.1	3.9				Northern Molucca Sea
192	25/09/2017	22:07:04	0.85	124.38	211	4.8	0.402327	0.396927	0.461487	Minahassa Peninsula, Sulawesi
193	26/09/2017	01:17:00	-0.46	122.95	10	2.5				Minahassa Peninsula, Sulawesi
194	26/09/2017	01:40:57	-0.45	123.2	10	2.6				Minahassa Peninsula, Sulawesi
195	26/09/2017	04:08:02	-0.19	121.74	16	2				Minahassa Peninsula, Sulawesi

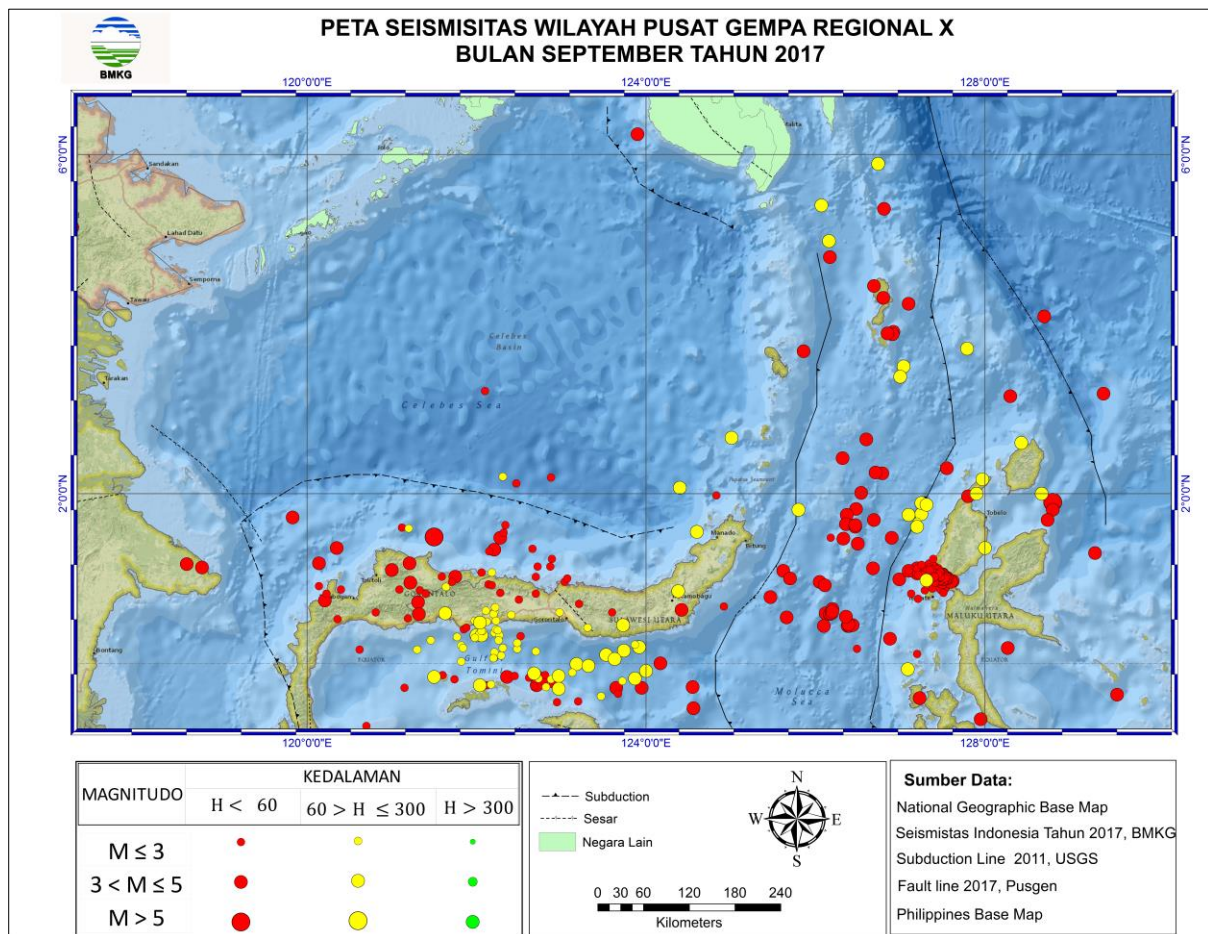
196	26/09/2017	04:22:31	0.7	123.21	57	2.4				Minahassa Peninsula, Sulawesi
197	26/09/2017	05:20:08	0.45	123.73	242	4				Minahassa Peninsula, Sulawesi
198	26/09/2017	08:49:32	0.92	122.18	31	1.7				Minahassa Peninsula, Sulawesi
199	26/09/2017	11:15:50	1.69	126.69	10	3.6				Northern Molucca Sea
200	26/09/2017	13:51:59	2.2	122.31	120	2.4				Celebes Sea
201	26/09/2017	13:56:30	0.53	121.19	28	2.8				Minahassa Peninsula, Sulawesi
202	26/09/2017	16:26:36	4.24	127.1	42.8	4	0.128481	0.098024	0.085708	Talaud Islands, Indonesia
203	26/09/2017	18:10:02	1	123.07	18	1.6				Minahassa Peninsula, Sulawesi
204	26/09/2017	19:39:58	0.95	121.22	12	3.1				Minahassa Peninsula, Sulawesi
205	27/09/2017	01:00:51	0.16	120.62	17	2.8				Minahassa Peninsula, Sulawesi
206	27/09/2017	01:17:25	-0.03	123.32	152	3.3				Minahassa Peninsula, Sulawesi
207	27/09/2017	01:25:50	4.45	126.69	12	4.9	0.146951	0.182414	0.207335	Talaud Islands, Indonesia
208	27/09/2017	03:52:31	1.6	121.12	22	2.8				Minahassa Peninsula, Sulawesi
209	27/09/2017	04:32:12	4.31	126.8	17.1	4				Talaud Islands, Indonesia
210	27/09/2017	10:09:24	3.21	122.1	25	2.8				Celebes Sea
211	27/09/2017	11:56:32	1.59	121.2	97.3	2.1				Minahassa Peninsula, Sulawesi
212	27/09/2017	13:08:58	1.16	127.25	10	2.5				Halmahera, Indonesia
213	27/09/2017	13:20:19	0.86	127.29	10	2.5				Halmahera, Indonesia
214	27/09/2017	15:12:31	1.11	127.3	3	2.9				Halmahera, Indonesia
215	27/09/2107	15:14:59	0.99	127.36	5	21				BaratDaya Jailolo-MALUT
216	27/09/2017	15:16:25	0.88	127.38	5	2				TimurLaut Ternate- MALUT
217	27/09/2017	15:18:59	1	127.38	5	2				BaratDaya Jailolo-MALUT
218	27/09/2017	15:23:22	-1.53	127.26	3	2.4				Barat Daya Liawui MALUT
219	27/09/2017	15:24:06	0.83	127.51	5	1.8				Timur Laut Ternate MALUT
220	27/09/2017	15:26:16	0.95	127.41	5	2				Barat Daya Jailolo MALUT
221	27/09/2017	15:28:13	1.03	127.34	5	2.4				Barat Daya Jailolo MALUT
222	27/09/2017	15:32:44	1.04	127.47	5	2.6				Tenggara Jailolo MALUT
223	27/09/2017	15:33:27	1.02	127.55	5	2.5				Tenggara Jailolo MALUT
224	27/09/2017	15:43:36	1.08	127.36	5	2.9				Barat Laut Jailolo MALUT
225	27/09/2017	15:46:01	1.07	127.44	5	2.6				Barat Laut Jailolo MALUT
226	27/09/2017	15:47:14	1.11	127.37	5	2.1				Barat Laut Jailolo MALUT
227	27/09/2017	15:50:41	1.04	127.21	5	1.8				Barat Jailolo MALUT
228	27/09/2017	16:03:28	1.07	127.48	5	2.1				Timur Laut Jailolo MALUT
229	27/09/2017	16:10:30	1.05	127.45	5	1.9				Barat Daya Jailolo MALUT
230	27/09/2017	16:13:58	1.01	127.41	5	1.6				Barat Daya Jailolo MALUT
231	27/09/2017	16:15:07	1.05	127.39	5	2.1				Barat Daya Jailolo MALUT
232	27/09/2017	16:16:27	1.07	127.39	5	2.1				Barat Laut Jailolo MALUT
233	27/09/2017	16:19:05	1.05	127.4	5	2.8				Barat Daya Jailolo MALUT
234	27/09/2017	16:21:24	1.03	127.4	5	1.6				Barat Daya Jailolo MALUT
235	27/09/2017	16:23:52	1.02	127.41	5	1.6				Barat Daya Jailolo MALUT
236	27/09/2017	16:25:16	1.03	127.4	5	2				Barat Daya Jailolo MALUT
237	27/09/2017	16:30:21	1.07	127.39	5	2.5				Barat Laut Jailolo MALUT
238	27/09/2017	16:34:34	0.98	127.3	5	2.1				Barat Daya Jailolo MALUT
239	27/09/2017	16:38:40	1.11	127.44	5	2.5				Barat Laut Jailolo MALUT
240	27/09/2017	16:42:34	1.1	127.35	5	2.1				Barat Laut Jailolo MALUT
241	27/09/2017	16:42:36	1.02	127.38	5	2.4				Barat Daya Jailolo MALUT
242	27/09/2017	16:44:11	1.02	127.48	5	2				Tenggara Jailolo MALUT
243	27/09/2017	16:55:07	1.09	127.38	5	2.6				Barat Laut Jailolo MALUT
244	27/09/2017	17:21:13	1.05	127.5	3.4	3.3				Halmahera, Indonesia
245	27/09/2017	17:25:10	1.12	127.2	5	3.1				Halmahera, Indonesia

246	27/09/2017	17:51:28	1.23	127.39	10	2.9				Halmahera, Indonesia
247	27/09/2017	17:54:58	1.1	127.36	10	2.5				Halmahera, Indonesia
248	27/09/2017	17:55:00	1.02	127.51	10	2.7				Halmahera, Indonesia
249	27/09/2017	18:06:04	1.04	127.44	10	3.5				Halmahera, Indonesia
250	27/09/2017	18:10:57	1.06	127.46	11	3.3				Halmahera, Indonesia
251	27/09/2017	18:12:45	1.02	127.5	10	3.5				Halmahera, Indonesia
252	27/09/2017	18:23:31	1.07	127.39	10	2.9				Halmahera, Indonesia
253	27/09/2017	18:50:09	1.12	127.2	5	2.9				Halmahera, Indonesia
254	27/09/2017	19:02:46	1.09	127.39	5	2.7				Halmahera, Indonesia
255	27/09/2017	19:06:01	1.12	127.2	5	3				Halmahera, Indonesia
256	27/09/2017	19:13:45	1.08	127.47	5	2				Halmahera, Indonesia
257	27/09/2017	19:16:17	-1.8	127.12	10	2.8				Halmahera, Indonesia
258	27/09/2017	19:59:25	-0.14	122.81	10	2.4				Minahassa Peninsula, Sulawesi
259	27/09/2017	20:38:07	1.09	127.41	10	2.9				Halmahera, Indonesia
260	27/09/2017	20:46:36	1.05	127.44	8	3.4				Halmahera, Indonesia
261	27/09/2017	20:55:33	0.11	127.2	5	2.9				Halmahera, Indonesia
262	27/09/2017	21:10:45	1.12	127.45	5	2.8				Halmahera, Indonesia
263	27/09/2017	21:42:43	1.09	127.39	2	2.6				Halmahera, Indonesia
264	27/09/2017	21:58:20	1.13	127.35	5	2.7				Halmahera, Indonesia
265	27/09/2017	22:01:45	-0.84	126.48	10	2.6				Halmahera, Indonesia
266	27/09/2017	22:31:08	1.04	127.34	10	3.4				Halmahera, Indonesia
267	27/09/2017	22:37:19	1.05	127.47	10	3.7				Halmahera, Indonesia
268	27/09/2017	22:43:53	1.05	127.45	10	3.5				Halmahera, Indonesia
269	27/09/2017	22:58:37	1.1	127.3	6	3				Halmahera, Indonesia
270	27/09/2017	23:11:23	1.05	127.46	6	2.8				Halmahera, Indonesia
271	27/09/2017	23:23:33	0.82	127.13	4	2.9				Barat Laut Ternate MALUT
272	27/09/2017	23:44:27	1.1	127.32	4	2.9				Barat Laut Jailolo MALUT
273	28/09/2017	00:49:25	1.09	127.1	10	3.1				Jailolo MALUT
274	28/09/2017	01:31:42	1.09	127.1	10	2.8				Jailolo MALUT
275	28/09/2017	01:48:43	1.15	127.36	10	3.3				Halmahera, Indonesia
276	28/09/2017	02:25:52	1.04	127.48	11	2.8				Halmahera, Indonesia
277	28/09/2017	02:44:01	1.04	127.26	5	2.8				Jailolo MALUT
278	28/09/2017	02:49:33	0.76	127.21	5	2.6				Ternate-MALUT
279	28/09/2017	02:51:03	1.06	127.19	9	3				Jailolo MALUT
280	28/09/2017	04:14:36	1.06	127.2	10	3.6				Halmahera, Indonesia
281	28/09/2017	04:29:30	1.01	127.55	10	4.3				Halmahera, Indonesia
282	28/09/2017	04:58:05	1.81	125.8	262.3	4.1				Halmahera, Indonesia
283	28/09/2017	06:32:21	0.91	127.51	10	4.3				Halmahera, Indonesia
284	28/09/2017	07:00:35	1.02	127.43	11	3.7				Halmahera, Indonesia
285	28/09/2017	07:10:10	1.48	126.9	10	4.8				Northern Molucca Sea
286	28/09/2017	07:17:31	0.97	127.62	2	3.6				Jailolo MALUT
287	28/09/2017	07:37:47	1.03	127.39	10	3.6				Halmahera, Indonesia
288	28/09/2017	07:46:44	1.03	127.44	11	3.4				Halmahera, Indonesia
289	28/09/2017	08:12:37	1.01	127.49	12	3.7				Halmahera, Indonesia
290	28/09/2017	08:28:47	1.1	127.25	2	3.5				Jailolo MALUT
291	28/09/2017	08:33:53	1.1	127.25	3	3.9				Jailolo MALUT
292	28/09/2017	09:28:09	1.07	127.3	10	3.5				Halmahera, Indonesia
293	28/09/2017	09:59:46	1.61	127.2	154.5	3.8				Halmahera, Indonesia
294	28/09/2017	10:20:52	0.96	127.52	10	4				Halmahera, Indonesia
295	28/09/2017	11:32:36	1	127.47	11	3.9				Halmahera, Indonesia

296	28/09/2017	12:57:58	1.97	127.8	10	4.1				Halmahera, Indonesia
297	28/09/2017	14:05:19	1.01	127.45	13	2.7				Halmahera, Indonesia
298	28/09/2017	14:22:16	1	127.45	15	2.7				Halmahera, Indonesia
299	28/09/2017	15:25:50	1.05	127.46	10	2.9				Halmahera, Indonesia
300	28/09/2017	15:43:38	1.02	127.49	10	3.1				Halmahera, Indonesia
301	28/09/2017	16:16:27	1	127.53	10	2.5				Halmahera, Indonesia
302	28/09/2017	16:35:34	1.03	127.49	10	2.9				Halmahera, Indonesia
303	28/09/2017	16:52:47	1.02	127.49	10	3				Halmahera, Indonesia
304	28/09/2017	17:00:57	0.99	127.54	10	5				Halmahera, Indonesia
305	28/09/2017	17:08:05	2.3	127.55	42	5	0.287879	0.265744	0.160776	Northern Molucca Sea
306	28/09/2017	17:33:59	1.05	127.49	10	3.1				Halmahera, Indonesia
307	28/09/2017	17:39:57	1.04	127.48	10	3.1				Halmahera, Indonesia
308	28/09/2017	18:29:04	-1.26	120.37	25	3				Sulawesi, Indonesia
309	28/09/2017	21:02:56	-0.53	124.56	10	3.8				Southern Molucca Sea
310	28/09/2017	22:05:03	1.05	127.45	10	3.4				Halmahera, Indonesia
311	28/09/2017	22:12:02	0.96	127.6	10	3.4				Halmahera, Indonesia
312	28/09/2017	22:28:36	1	127.47	10	3.6				Halmahera, Indonesia
313	28/09/2017	23:01:36	0.99	127.48	10	4.8				Halmahera, Indonesia
314	29/09/2017	03:03:59	-0.26	122.04	236	3.3				Minahassa Peninsula, Sulawesi
315	29/09/2017	03:30:57	1.03	127.46	10	3				Halmahera, Indonesia
316	29/09/2017	03:35:59	1	127.55	12	3.2				Halmahera, Indonesia
317	29/09/2017	03:45:21	1.02	127.46	10	2.9				Halmahera, Indonesia
318	29/09/2017	03:48:46	1.01	127.46	10	3.3				Halmahera, Indonesia
319	29/09/2017	05:25:49	1.01	127.47	10	4.3				Halmahera, Indonesia
320	29/09/2017	06:16:34	1.01	127.46	10	4				Halmahera, Indonesia
321	29/09/2017	08:27:44	1.11	127.4	10	31				Halmahera, Indonesia
322	29/09/2017	09:30:36	1.41	126.5	10	3.6				Northern Molucca Sea
323	29/09/2017	10:13:01	1	127.48	10	3				Halmahera, Indonesia
324	29/09/2017	10:20:18	1.02	127.46	13	3.6				Halmahera, Indonesia
325	29/09/2017	10:40:30	0.99	127.49	12	3.5				Halmahera, Indonesia
326	29/09/2017	11:53:01	1	127.47	14	3				Halmahera, Indonesia
327	29/09/2017	12:10:43	1	127.53	10	3.2				Halmahera, Indonesia
328	29/09/2017	12:48:57	0.99	127.52	10	3.9				Halmahera, Indonesia
329	29/09/2017	13:12:05	0.98	127.47	10	3.5				Halmahera, Indonesia
330	29/09/2017	13:20:36	1.04	127.48	10	3.1				Halmahera, Indonesia
331	29/09/2017	13:35:31	1.04	127.48	10	2.9				Halmahera, Indonesia
332	29/09/2017	13:44:49	1.01	127.48	10	3.2				Halmahera, Indonesia
333	29/09/2017	13:56:49	0.99	127.47	15	2.8				Halmahera, Indonesia
334	29/09/2017	14:00:10	1.01	127.46	10	2.7				Halmahera, Indonesia
335	29/09/2017	14:04:10	1.01	127.46	10	3				Halmahera, Indonesia
336	29/09/2017	16:00:50	3.18	129.4	5	4.5	0.145933	0.125604	0.127462	Northern Molucca Sea
337	29/09/2017	16:55:58	0.99	127.5	7.1	3.1				Halmahera, Indonesia
338	29/09/2017	17:22:26	-3.29	129.2	5	3.7				Northern Molucca Sea
339	29/09/2017	21:36:37	1.01	127.52	10	3.8				Seram Indonesia
340	29/09/2017	22:57:07	0.44	126.38	10	3.5				Northern Molucca Sea
341	30/09/2017	00:47:14	-1.31	120.55	10	3.7				Sulawesi, Indonesia
342	30/09/2017	00:55:35	0.89	127.5	9.2	3.7				Halmahera, Indonesia
343	30/09/2017	01:31:16	1	127.47	10	3.1				Halmahera, Indonesia
344	30/09/2017	03:20:38	1.01	127.49	10	3.6				Halmahera, Indonesia
345	30/09/2017	03:23:48	1.04	127.48	10	3.2				Halmahera, Indonesia

346	30/09/2017	03:39:33	1.05	127.48	11	3.4				Halmahera, Indonesia
347	30/09/2017	03:58:06	1.18	120.14	10	3.3				Sulawesi, Indonesia
348	30/09/2017	05:14:05	0.6	120.81	10	2.3				Minahassa Peninsula, Sulawesi
349	30/09/2017	07:01:32	1.02	127.46	12	2.9				Halmahera, Indonesia
350	30/09/2017	07:30:57	0.18	122.31	82	2.8				Minahassa Peninsula, Sulawesi
351	30/09/2017	07:48:41	0.96	127.5	10	3.5				Halmahera, Indonesia
352	30/09/2017	08:58:58	0.4	121.85	40	2.4				Minahassa Peninsula, Sulawesi
353	30/09/2017	10:30:03	1.9	128.8	51	5.2	0.223558	0.129386	0.168393	Halmahera, Indonesia
354	30/09/2017	10:58:19	1	127.46	10	3.4				Halmahera, Indonesia
355	30/09/2017	11:01:14	2	128.67	98	3.5				Halmahera, Indonesia
356	30/09/2017	11:42:45	-0.25	122.9	17	2.7				Minahassa Peninsula, Sulawesi
357	30/09/2017	13:05:25	1.03	127.47	12	2.3				Halmahera, Indonesia
358	30/09/2017	13:32:20	0.97	127.48	12	2.8				Halmahera, Indonesia
359	30/09/2017	14:06:33	1.01	127.48	14	2.7				Halmahera, Indonesia
360	30/09/2017	14:14:27	1	127.49	10	2.9				Halmahera, Indonesia
361	30/09/2017	15:17:24	1.01	127.45	13	2.5				Halmahera, Indonesia
362	30/09/2017	16:49:51	1.04	127.5	10	2.6				Halmahera, Indonesia
363	30/09/2017	21:42:05	5.36	126.81	23	4.3				Mindanao, Philippines
364	30/09/2017	23:31:37	4.09	128.7	10	4.3				north of Halmahera Indonesia

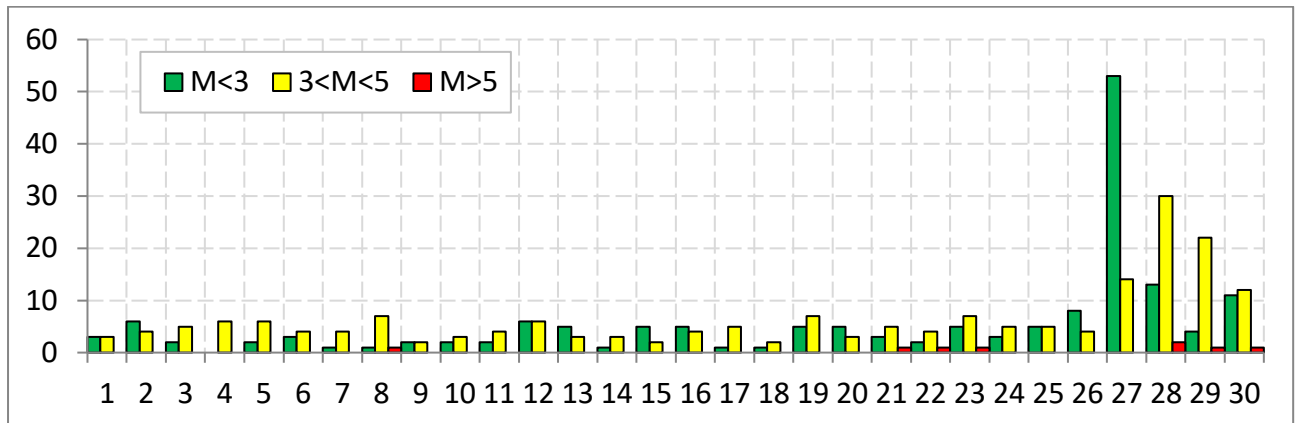
Peta 10. Distribusi Episenter Gempabumi Daerah Sulawesi Utara dan sekitarnya
Bulan September 2017



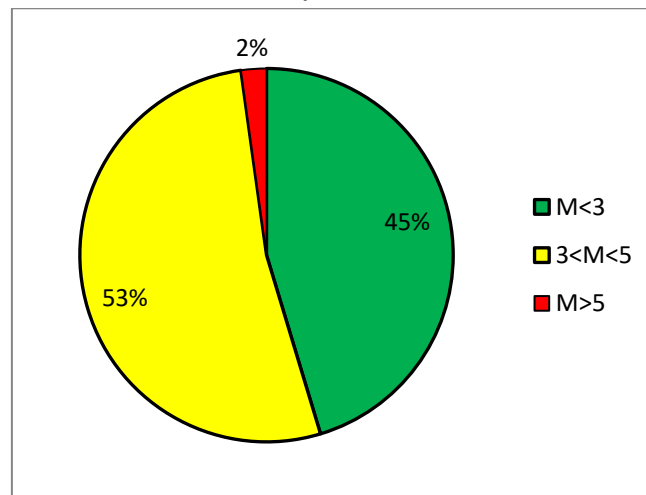
Tabel 18. Rekapitulasi Gempabumi Berdasarkan Magnitudo Bulan September 2017

Tanggal (UTC)	Magnitudo			Jumlah Total	Jumlah Gempa Signifikan	
	M<3	3≤M<5	M≥5		Dirasakan	Merusak
1	3	3	0	6	0	0
2	6	4	0	10	0	0
3	2	5	0	7	0	0
4	0	6	0	6	0	0
5	2	6	0	8	0	0
6	3	4	0	7	0	0
7	1	4	0	5	0	0
8	1	7	1	9	0	0
9	2	2	0	4	0	0
10	2	3	0	5	0	0
11	2	4	0	6	0	0
12	6	6	0	12	0	0
13	5	3	0	8	0	0
14	1	3	0	4	0	0
15	5	2	0	7	0	0
16	5	4	0	9	0	0
17	1	5	0	6	0	0
18	1	2	0	3	0	0
19	5	7	0	12	0	0
20	5	3	0	8	0	0
21	3	5	1	9	0	0
22	2	4	1	7	0	0
23	5	7	1	13	0	0
24	3	5	0	8	0	0
25	5	5	0	10	0	0
26	8	4	0	12	0	0
27	53	14	0	67	18	0
28	13	30	2	45	28	0
29	4	22	1	27	25	0
30	11	12	1	24	3	0
Jumlah gempa	165	191	8	364	74	0
Jumlah gempa seluruhnya						

Histogram 17. Gempabumi Berdasarkan Magnitudo
Bulan September 2017



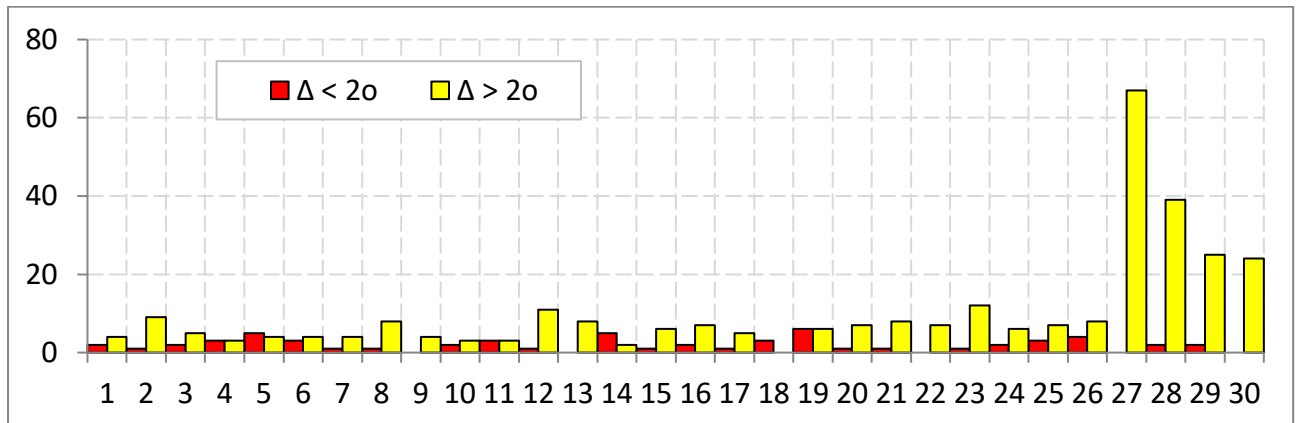
Persentase 19. Gempabumi Berdasarkan Magnitudo
Bulan September 2017



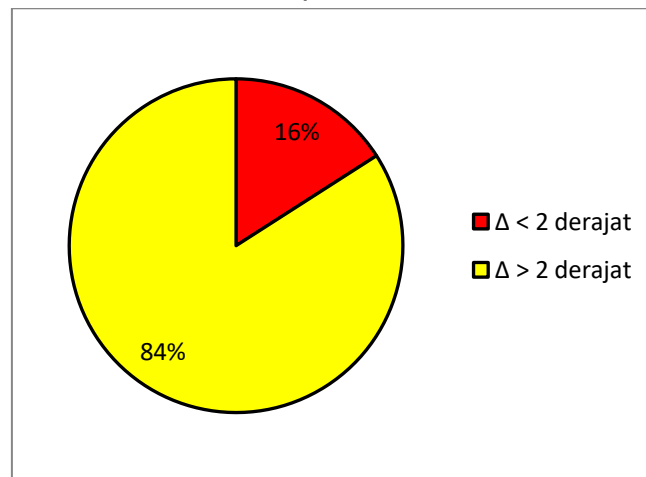
Tabel 19. Rekapitulasi Gempabumi Berdasarkan Jarak Dari Stasiun
Bulan September 2017

Tanggal	Jarak		Jumlah	Keterangan
	$\Delta \leq 2^{\circ}$	$\Delta > 2^{\circ}$		
01/09/2017	2	4	6	-
02/09/2017	1	9	10	-
03/09/2017	2	5	7	-
04/09/2017	3	3	6	-
05/09/2017	5	4	9	-
06/09/2017	3	4	7	-
07/09/2017	1	4	5	-
08/09/2017	1	8	9	-
09/09/2017	0	4	4	-
10/09/2017	2	3	5	-
11/09/2017	3	3	6	-
12/09/2017	1	11	12	-
13/09/2017	0	8	8	-
14/09/2017	5	2	7	-
15/09/2017	1	6	7	-
16/09/2017	2	7	9	-
17/09/2017	1	5	6	-
18/09/2017	3	0	3	-
19/09/2017	6	6	12	-
20/09/2017	1	7	8	-
21/09/2017	1	8	9	-
22/09/2017	0	7	7	-
23/09/2017	1	12	13	-
24/09/2017	2	6	8	-
25/09/2017	3	7	10	-
26/09/2017	4	8	12	-
27/09/2017	0	67	67	-
28/09/2017	2	39	41	-
29/09/2017	2	25	27	-
30/09/2017	0	24	24	-
Jumlah gempa	58	306	364	-
Jumlah gempa seluruhnya				

Histogram 18. Gempabumi Berdasarkan Jarak
Bulan September 2017



Persentase 20. Gempabumi Berdasarkan Jarak
Bulan September 2017



Data Gempabumi Bulan Oktober 2017

NO	DATE	OT (UTC)	EPICENTER		DEPTH (KM)	MAG	PGA (gals) / SLMI			REMARKS
			LAT	LON			X	Y	Z	
1	01/10/2017	0:19:22	7,03	126,96	13	4,9				Mindanao, Philippines
2	01/10/2017	5:13:18	1,02	127,44	10	3,2				Halmahera, Indonesia
3	01/10/2017	10:41:58	3,04	128,25	10	4,1				Halmahera, Indonesia ; dirasakan di Morotai I SIG-BMKG (II MMI).
4	01/10/2017	11:20:29	- 0,24	122,74	84	2,2				Minahassa Peninsula, Sulawesi
5	01/10/2017	11:54:18	1,08	127,51	3	2,6				Halmahera, Indonesia; dirasakan di Jailolo II SIG-BMKG (III MMI).
6	01/10/2017	12:38:02	1,11	127,36	10	3				Halmahera, Indonesia; dirasakan di Jailolo II SIG-BMKG (III MMI).
7	01/10/2017	13:21:14	1,04	127,45	10	2,5				Halmahera, Indonesia
8	01/10/2017	13:27:26	1,05	127,4	10	2,4				Halmahera, Indonesia
9	01/10/2017	14:02:31	0,07	132,24	10	3,4				Irian Jaya Region, Indonesia
10	01/10/2017	15:14:50	1,09	127,4	10	2,6				Halmahera, Indonesia
11	01/10/2017	15:27:10	6,16	123,93	10	3,9				Mindanao, Philippines
12	01/10/2017	16:16:54	0,33	122,65	79	3,3				Minahassa Peninsula, Sulawesi
13	01/10/2017	16:45:20	5,93	124,36	10	4,6	0,00046	0,000340	0,000440	Mindanao, Philippines
14	01/10/2017	22:48:09	1,05	127,31	13	3,2				Halmahera, Indonesia; dirasakan di Jailolo II SIG-BMKG (III MMI).
15	02/10/2017	1:06:56	0,98	127,54	10	3				Halmahera, Indonesia
16	02/10/2017	1:24:44	1,03	127,58	10	2,9				Halmahera, Indonesia
17	02/10/2017	2:22:56	1,05	127,51	3	3				Halmahera, Indonesia; dirasakan di Jailolo II SIG-BMKG (III MMI).
18	02/10/2017	2:42:13	1,12	127,2	4	2,5				Halmahera, Indonesia; dirasakan di Jailolo II SIG-BMKG (III MMI).
19	02/10/2017	3:19:52	3,57	128,58	10	4,4	0,00011	0,000050	0,000130	North of Halmahera, Indonesia
20	02/10/2017	3:25:42	- 0,48	119,95	10	3,5				Minahassa Peninsula, Sulawesi
21	02/10/2017	5:53:35	- 0,14	126,9	160	3,5				Southern Molucca Sea
22	02/10/2017	10:57:26	0,94	127,5	10	2,8				Halmahera, Indonesia
23	02/10/2017	12:14:05	0,09	121,89	179	2,5				Minahassa Peninsula, Sulawesi
24	02/10/2017	12:22:40	1	127,47	10	2,9				Halmahera, Indonesia
25	02/10/2017	13:54:10	0,99	127,47	12	3,3				Halmahera, Indonesia; dirasakan di Jailolo II SIG-BMKG (III MMI).
26	02/10/2017	14:08:15	2,48	127,03	67	4,2				Northern Molucca Sea
27	02/10/2017	19:28:33	2,52	126,95	10	3,7				Northern Molucca Sea
28	03/10/2017	1:20:43	1,01	127,52	5	3,2				Halmahera, Indonesia
29	03/10/2017	7:13:43	0,31	122,34	118	2,5				Minahassa Peninsula, Sulawesi
30	03/10/2017	7:24:13	- 0,14	122,81	20	2,8				Minahassa Peninsula, Sulawesi
31	03/10/2017	11:32:48	0,78	121,95	48	2,9				Minahassa Peninsula, Sulawesi
32	03/10/2017	12:43:37	3,17	128,84	10	3,9				North of Halmahera, Indonesia
33	03/10/2017	12:50:08	0,24	122	98	4	0,00001	0,000090	0,000070	Minahassa Peninsula, Sulawesi
34	03/10/2017	14:25:17	1,1	127,25	2	2,5				Halmahera, Indonesia
35	03/10/2017	15:01:23	1,09	127,29	15	3,1				Halmahera, Indonesia
36	03/10/2017	15:13:30	1,17	128,64	10	3,3				Halmahera, Indonesia
37	03/10/2017	17:31:15	0,55	126,17	10	2,8				Northern Molucca Sea
38	03/10/2017	23:39:27	0,99	127,51	12	3,6				Halmahera, Indonesia
39	04/10/2017	0:16:25	0,76	121,7	45	2,8				Minahassa Peninsula, Sulawesi
40	04/10/2017	0:51:41	1,27	121,3	17	2,5				Halmahera, Indonesia; dirasakan di Jailolo I SIG-BMKG (II MMI).
41	04/10/2017	5:11:54	- 0,11	123,95	35	2,9				Minahassa Peninsula, Sulawesi
42	04/10/2017	6:47:36	1,05	127,46	13	3,2				Halmahera, Indonesia
43	04/10/2017	11:39:28	1,01	127,51	5	3,5				Halmahera, Indonesia; dirasakan di Jailolo I SIG-BMKG (II MMI).

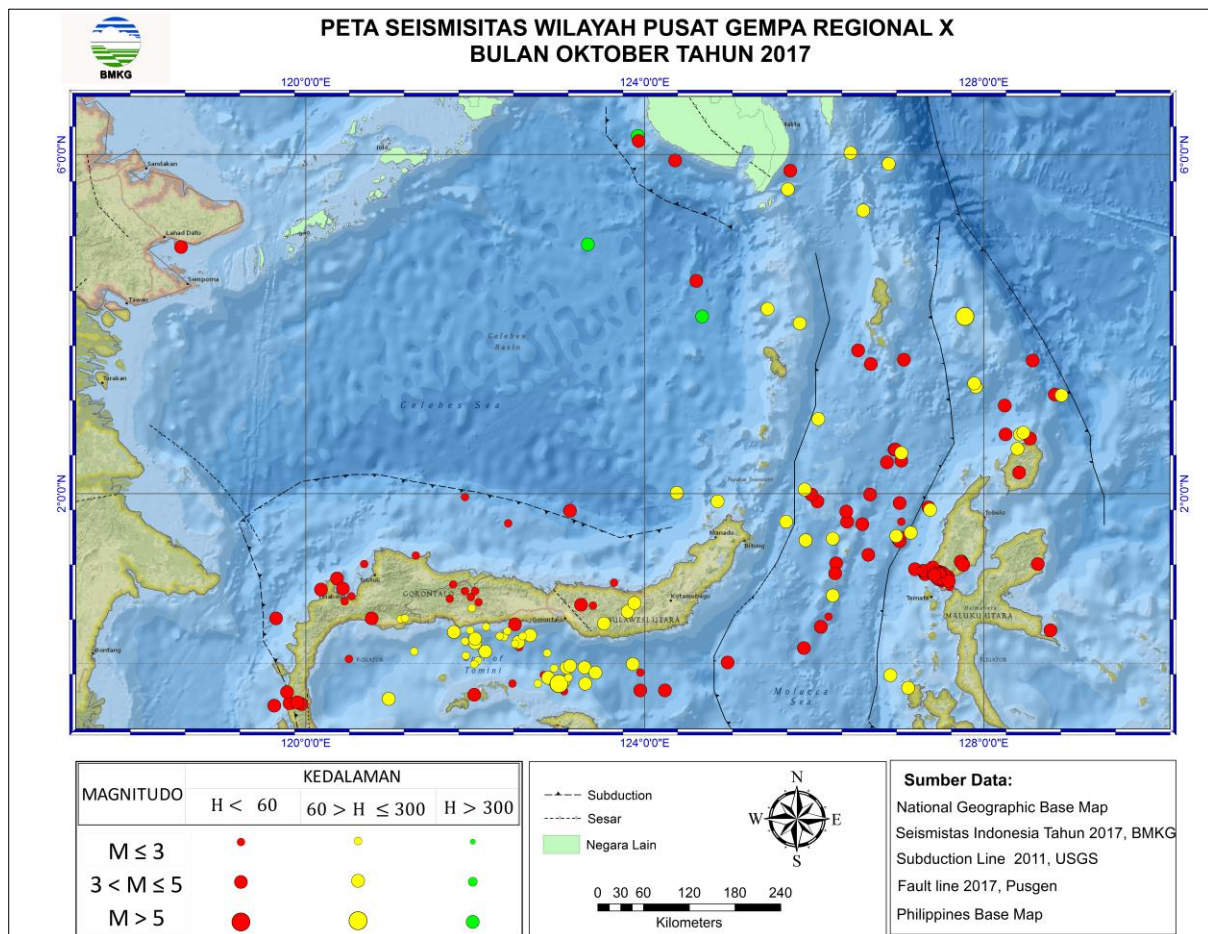
44	04/10/2017	14:16:57	1	127,5	11	2,8				Halmahera, Indonesia
45	04/10/2017	15:01:24	1,06	127,47	9	3				Halmahera, Indonesia; dirasakan di Jailolo II SIG-BMKG (III MMI).
46	04/10/2017	16:06:34	1,02	127,5	10	2,9				Halmahera, Indonesia
47	04/10/2017	18:20:15	- 0,24	122,92	13	2,1				Minahassa Peninsula, Sulawesi
48	04/10/2017	18:33:08	2,52	126,96	10	3,6				Northern Molucca Sea
49	04/10/2017	20:41:00	4,01	125,83	146	4,1	5,9E-05	0,000052	0,000054	Talaud Islands, Indonesia
50	04/10/2017	21:00:19	1,05	127,5	12	3				Halmahera, Indonesia
51	04/10/2017	21:49:36	1,06	127,51	10	3				Halmahera, Indonesia
52	04/10/2017	21:55:24	1,04	127,47	10	3,1				Halmahera, Indonesia
53	04/10/2017	22:27:43	1,03	127,47	10	3,4				Halmahera, Indonesia
54	05/10/2017	1:15:20	1,04	127,46	10	3,1				Halmahera, Indonesia
55	05/10/2017	1:46:51	1,05	127,5	10	3,1				Halmahera, Indonesia
56	05/10/2017	2:11:31	1,06	127,49	10	3,1				Halmahera, Indonesia
57	05/10/2017	3:05:22	1,05	127,45	5	2,8				Halmahera, Indonesia; dirasakan di Jailolo II SIG-BMKG (III MMI).
58	05/10/2017	4:01:16	1,08	127,48	5	3,2				Halmahera, Indonesia; dirasakan di Jailolo II SIG-BMKG (III MMI).
59	05/10/2017	4:59:10	1,01	127,48	10	3				Halmahera, Indonesia; dirasakan di Jailolo II SIG-BMKG (III MMI).
60	05/10/2017	5:50:51	1,04	127,48	17	3,1				Halmahera, Indonesia; dirasakan di Jailolo II SIG-BMKG (III MMI).
61	05/10/2017	6:19:47	1,07	127,51	5	3,2				Halmahera, Indonesia; dirasakan di Jailolo II SIG-BMKG (III MMI).
62	05/10/2017	6:46:41	1,09	127,3	5	3,1				Halmahera, Indonesia; dirasakan di Jailolo II SIG-BMKG (III MMI).
63	05/10/2017	7:28:14	- 0,33	123,05	10	2,4				Minahassa Peninsula, Sulawesi
64	05/10/2017	7:46:40	1,06	127,52	10	3				Halmahera, Indonesia; dirasakan di Jailolo II SIG-BMKG (III MMI).
65	05/10/2017	11:17:33	7,25	126,55	50	5,2				Mindanao, Philippines
66	05/10/2017	12:32:15	1,07	127,41	5	3,3				Halmahera, Indonesia; dirasakan di Jailolo II SIG-BMKG (III MMI).
67	05/10/2017	12:34:10	1,01	127,48	10	3,6				Halmahera, Indonesia; dirasakan di Jailolo II SIG-BMKG (III MMI).
68	05/10/2017	12:59:40	2,7	128,26	10	3,8				Halmahera, Indonesia
69	05/10/2017	13:04:37	1,03	127,46	10	3,6				Halmahera, Indonesia; dirasakan di Jailolo II SIG-BMKG (III MMI).
70	05/10/2017	13:32:15	1,07	127,41	5	3,3				Halmahera, Indonesia; dirasakan di Jailolo II SIG-BMKG (III MMI).
71	05/10/2017	14:03:02	1,09	127,3	5	3,2				Halmahera, Indonesia; dirasakan di Jailolo I SIG-BMKG (II MMI).
72	05/10/2017	15:06:27	1,11	127,19	5	3,1				Northern Molucca Sea; dirasakan di Jailolo II SIG-BMKG (III MMI)
73	05/10/2017	15:56:19	1,02	127,5	11	3,6				Halmahera, Indonesia
74	05/10/2017	15:58:14	5,81	125,72	11	4,6	0,00006	0,000054	0,000069	Mindanao, Philippines
75	05/10/2017	16:03:02	1,09	127,3	5	3,2				Halmahera, Indonesia; dirasakan di Jailolo I SIG-BMKG (II MMI)
76	05/10/2017	19:29:24	0,03	122,03	178	1,9				Minahassa Peninsula, Sulawesi
77	05/10/2017	19:45:35	4,91	118,53	10	4				Borneo
78	05/10/2017	23:11:33	1,02	127,58	4	3,7				Halmahera, Indonesia; dirasakan di Jailolo II SIG-BMKG (III MMI)
79	06/10/2017	0:14:31	1,03	127,48	10	3,3				Halmahera, Indonesia
80	06/10/2017	1:09:46	- 0,17	122,86	88	3,2				Minahassa Peninsula, Sulawesi
81	06/10/2017	1:13:22	1,04	127,48	10	3,2				Halmahera, Indonesia; dirasakan di Jailolo II SIG-BMKG (III MMI)
82	06/10/2017	1:20:28	1,02	127,48	16	3,2				Halmahera, Indonesia
83	06/10/2017	9:17:17	-0,5	119,63	13	3,3				Minahassa Peninsula, Sulawesi
84	06/10/2017	9:23:41	- 0,47	119,81	13	4,8				Minahassa Peninsula, Sulawesi
85	06/10/2017	10:09:47	0,52	121,12	81	2,6				Minahassa Peninsula, Sulawesi
86	06/10/2017	10:11:19	- 0,46	119,9	10	3,3				Minahassa Peninsula, Sulawesi
87	06/10/2017	11:02:28	1,03	127,47	10	3				Halmahera, Indonesia

88	06/10/2017	11:12:57	2,39	127,03	10	3,8				Northern Molucca Sea
89	06/10/2017	14:34:22	0,95	127,53	5	2,7				Halmahera, Indonesia; dirasakan di Jailolo II SIG-BMKG (III MMI)
90	06/10/2017	15:34:22	0,99	127,49	10	2,6				Halmahera, Indonesia
91	06/10/2017	17:25:58	1,05	127,5	10	2,8				Halmahera, Indonesia
92	06/10/2017	17:43:36	1,04	127,47	10	2,8				Halmahera, Indonesia
93	06/10/2017	17:47:23	1,05	127,48	10	2,8				Halmahera, Indonesia
94	06/10/2017	22:22:33	1,1	127,41	5	2,5				Halmahera, Indonesia; dirasakan di Jailolo I SIG-BMKG (II MMI)
95	07/10/2017	0:46:30	- 0,32	124,24	10	3,6				Southern Molucca Sea
96	07/10/2017	6:50:49	2,88	126,05	65	4,4				Northern Molucca Sea
97	07/10/2017	9:25:05	1,05	127,41	5	3,2				Northern Molucca Sea; dirasakan di Jailolo II SIG-BMKG (III MMI)
98	07/10/2017	11:00:21	0,32	122,29	104	1,6				Minahassa Peninsula, Sulawesi
99	07/10/2017	11:11:01	1,01	127,45	10	3,2				Halmahera, Indonesia; dirasakan di Jailolo II SIG-BMKG (II MMI)
100	07/10/2017	13:36:37	0,26	121,88	152	2,4				Minahassa Peninsula, Sulawesi
101	07/10/2017	14:31:26	0,12	122,85	106	2,7				Minahassa Peninsula, Sulawesi
102	07/10/2017	21:56:50	1,67	126,39	10	3,2				Northern Molucca Sea
103	08/10/2017	2:05:15	- 0,32	123,95	15	3,4				Minahassa Peninsula, Sulawesi
104	08/10/2017	2:57:41	- 0,34	119,78	10	3,5				Minahassa Peninsula, Sulawesi
105	08/10/2017	3:00:37	1,13	127,4	10	3,6				Halmahera, Indonesia
106	08/10/2017	4:11:12	1,28	126,64	10	3,8				Northern Molucca Sea; dirasakan di Jailolo II SIG-BMKG (III MMI)
107	08/10/2017	4:59:47	1,06	127,48	10	3,3				Halmahera, Indonesia; dirasakan di Jailolo II SIG-BMKG (III MMI)
108	08/10/2017	5:21:48	1,02	127,58	3	2,5				Halmahera, Indonesia; dirasakan di Jailolo I SIG-BMKG (II MMI)
109	08/10/2017	6:54:43	0,97	127,53	10	2,9				Halmahera, Indonesia; dirasakan di Jailolo II SIG-BMKG (III MMI)
110	08/10/2017	10:37:20	1,06	127,47	10	3,2				Halmahera, Indonesia; dirasakan di Jailolo II SIG-BMKG (III MMI)
111	08/10/2017	12:34:15	1,05	127,46	9	3				Halmahera, Indonesia
112	08/10/2017	13:50:38	- 0,05	123,29	140	4				Minahassa Peninsula, Sulawesi
113	08/10/2017	14:26:15	1,1	127,41	10	2,8				Halmahera, Indonesia
114	08/10/2017	14:50:37	1,09	127,25	10	2,7				Halmahera, Indonesia
115	08/10/2017	17:37:34	1,06	127,46	10	3,3				Halmahera, Indonesia
116	08/10/2017	18:54:40	1,91	124,86	174	3,5				Minahassa Peninsula, Sulawesi
117	08/10/2017	21:59:29	- 0,01	123,86	84	4,1				Minahassa Peninsula, Sulawesi
118	08/10/2017	23:17:07	1,79	126,38	10	3,8				Northern Molucca Sea
119	09/10/2017	10:50:19	1,05	127,53	10	3,7	0,00793	0,007828	0,006341	Halmahera, Indonesia; dirasakan di Ternate I SIG-BMKG (II MMI), Jailolo II SIG-BMKG (III MMI)
120	09/10/2017	12:52:08	1	120,37	13	3,7				Minahassa Peninsula, Sulawesi
121	09/10/2017	14:25:07	- 0,06	122,93	120	2,5				Minahassa Peninsula, Sulawesi
122	09/10/2017	14:42:28	2,7	128,43	220	3,9				Halmahera, Indonesia
123	09/10/2017	14:52:29	0,14	121,28	149	2,2				Minahassa Peninsula, Sulawesi
124	09/10/2017	14:59:34	- 0,01	121,99	127	1,9				Minahassa Peninsula, Sulawesi
125	09/10/2017	19:05:40	1,67	125,67	87	3,7				Northern Molucca Sea
126	09/10/2017	20:00:02	1,05	127,49	10	3,2				Halmahera, Indonesia; dirasakan di Jailolo II SIG-BMKG (III MMI)
127	09/10/2017	21:55:18	0,43	122,13	149	1,8				Minahassa Peninsula, Sulawesi
128	10/10/2017	6:12:45	2,53	128,4	219	4,9				Halmahera, Indonesia
129	10/10/2017	18:41:15	0,19	122,52	10	2,2				Minahassa Peninsula, Sulawesi
130	10/10/2017	20:24:27	0,05	120,51	11	2,3				Minahassa Peninsula, Sulawesi
131	11/10/2017	5:39:14	1	127,51	10	3,9				Halmahera, Indonesia
132	11/10/2017	14:20:12	4,18	125,45	177	4,3				Talau Islands, Indonesia

133	11/10/2017	20:29:15	1,45	125,9	64	3,9				Northern Molucca Sea
134	11/10/2017	21:10:54	0,9	127,6	10	2,8				Halmahera, Indonesia
135	11/10/2017	21:41:39	- 0,11	123,42	67	4,5				Minahassa Peninsula, Sulawesi
136	12/10/2017	0:20:02	0,53	121,17	62	2,2				Minahassa Peninsula, Sulawesi
137	12/10/2017	6:11:31	0,68	123,39	34	2,4				Minahassa Peninsula, Sulawesi
138	12/10/2017	10:09:51	0,29	122	182	4				Minahassa Peninsula, Sulawesi
139	12/10/2017	10:09:53	0,14	122,12	160	4				Minahassa Peninsula, Sulawesi
140	12/10/2017	11:39:37	0,46	122,47	59	3,3				Minahassa Peninsula, Sulawesi
141	12/10/2017	12:10:51	2,72	128,47	211	4,1				Halmahera, Indonesia
142	13/10/2017	11:47:22	1,17	120,69	10	2,7				Minahassa Peninsula, Sulawesi
143	13/10/2017	14:02:05	1,2	127,74	8	4,7				Minahassa Peninsula, Sulawesi; dirasakan di Ternate II SIG- BMKG (III MMI)
144	13/10/2017	15:02:05	1,2	127,73	8	4,7	6,1E-05	0,000072	0,000073	Halmahera, Indonesia
145	13/10/2017	16:38:53	1,05	127,51	4	2,6				Halmahera, Indonesia; dirasakan di Jailolo I SIG-BMKG (II MMI)
146	13/10/2017	17:00:46	3,26	127,91	145	4,3				Talaud Islands, Indonesia
147	13/10/2017	15:02:05	1,16	127,76	10	4,4				Halmahera, Indonesia
148	13/10/2017	17:00:46	3,3	127,89	136	4,3				Talaud Islands, Indonesia
149	14/10/2017	0:32:47	0,25	122,51	109	3,5				Minahassa Peninsula, Sulawesi
150	14/10/2017	16:50:55	4,51	124,61	10	4,1				Celebes Sea
151	14/10/2017	18:10:26	0,38	122,38	123	2,2				Minahassa Peninsula, Sulawesi
152	14/10/2017	22:02:13	- 0,05	123,08	139	3,1				Minahassa Peninsula, Sulawesi
153	14/10/2017	22:06:57	1,54	127,14	107	3,4				Halmahera, Indonesia
154	15/10/2017	8:11:59	0,61	123,8	264	3,5				Minahassa Peninsula, Sulawesi
155	15/10/2017	9:51:19	0,39	128,79	10	3,1				Halmahera, Indonesia
156	15/10/2017	14:01:23	2,65	128,55	45	4				Halmahera, Indonesia
157	15/10/2017	17:01:02	2,05	125,89	67	3,3				Talaud Islands, Indonesia
158	15/10/2017	18:47:00	1,65	122,39	32	2,2				Minahassa Peninsula, Sulawesi
159	16/10/2017	3:52:55	4,09	124,68	313	4,2				Celebes Sea
160	16/10/2017	16:57:33	1,81	127,37	96	3,8				Halmahera, Indonesia
161	16/10/2017	22:25:13	- 0,22	123,04	78	4,1				Minahassa Peninsula, Sulawesi
162	18/10/2017	0:46:29	6,22	123,92	551	4,5				Mindanao, Philippines
163	18/10/2017	9:52:50	1,47	126,99	12	3,7				Northern Molucca Sea
164	18/10/2017	13:34:25	0,72	122,04	55	1,6	0,00056	0,000460	0,000280	Minahassa Peninsula, Sulawesi; dirasakan di Kotamobagu II SIG- BMKG (III MMI)
165	18/10/2017	13:40:56	- 0,24	122,99	101	5,6	0,2321	0,001421	0,134690	Minahassa Peninsula, Sulawesi; dirasakan di Luwuk, Poso, & Morowali II SIG-BMKG (III-IV MMI), Kotamobagu II SIG-BMKG (III MMI)
166	18/10/2017	21:23:42	2,37	126,86	10	4				Northern Molucca Sea
167	19/10/2017	2:32:19	0,95	123,64	24	2,7				Minahassa Peninsula, Sulawesi
168	19/10/2017	6:50:20	0,23	122,47	151	2,8				Minahassa Peninsula, Sulawesi
169	19/10/2017	6:52:26	5,89	126,88	119	4,7				Mindanao, Philippines
170	19/10/2017	7:44:41	0,85	122	33	2,3				Minahassa Peninsula, Sulawesi
171	19/10/2017	13:31:58	6,83	125,29	10	4,2				Mindanao, Philippines
172	19/10/2017	14:49:36	0,87	120,18	2	3,1				Minahassa Peninsula, Sulawesi
173	20/10/2017	3:58:58	1,18	126,26	10	3,7				Northern Molucca Sea
174	20/10/2017	6:08:21	1,8	123,12	10	3,8				Minahassa Peninsula, Sulawesi
175	20/10/2017	7:28:27	- 0,42	120,98	177	3,2				Minahassa Peninsula, Sulawesi
176	20/10/2017	16:44:49	- 0,29	127,11	82	3,3				Halmahera, Indonesia
177	20/10/2017	21:44:09	0,79	120,54	33	3				Minahassa Peninsula, Sulawesi
178	20/10/2017	23:32:26	0,01	124,98	10	4				Minahassa Peninsula, Sulawesi
179	21/10/2017	1:32:14	4,09	127,78	64	5,4	0,00015	0,00013	0,00011	Talaud Islands, Indonesia

180	21/10/2017	10:30:40	-1,3	126,85	10	4,2				Southern Molucca Sea
181	21/10/2017	11:16:39	- 0,24	122,44	52	2,2				Minahassa Peninsula, Sulawesi
182	21/10/2017	13:09:46	0,97	127,59	5	3,7				Halmahera, Indonesia; dirasakan di Jailolo II SIG-BMKG (III MMI)
183	21/10/2017	14:30:53	1,44	127,01	40	3,4				Halmahera, Indonesia
184	21/10/2017	18:43:09	5,59	125,69	205	4,3				Mindanao, Philippines
185	21/10/2017	21:15:52	1,64	126,57	10	3,5				Northern Molucca Sea
186	21/10/2017	23:50:41	1,06	126,25	10	3,9				Northern Molucca Sea
187	22/10/2017	0:34:56	3,53	126,67	10	4				Talaud Islands, Indonesia
188	22/10/2017	00:53:19	6,02	126,43	141	4,6				Mindanao, Philippines
189	22/10/2017	01:09:11	0,43	126,08	10	3,3				Northern Molucca Sea
190	22/10/2017	12:27:38	0,85	121,88	36	2				Minahassa Peninsula, Sulawesi
191	22/10/2017	15:45:42	3,58	127,06	13	3,3				Talaud Islands, Indonesia
192	22/10/2017	17:41:06	1,99	126,66	27	3,4				Northern Molucca Sea
193	23/10/2017	02:52:25	0,37	121,75	123	3,6				Minahassa Peninsula, Sulawesi
194	23/10/2017	07:40:55	0,88	120,44	13	3,1				Minahassa Peninsula, Sulawesi
195	23/10/2017	10:46:59	1,51	127,03	10	2,9	0,004	0,0043	0,0044	Halmahera, Indonesia
196	23/10/2017	13:09:46	1,04	127,42	10	3,7				Halmahera, Indonesia
197	23/10/2017	16:17:40	4,94	123,33	542	4,5				Celebes Sea
198	23/10/2017	20:02:47	- 0,37	121,99	10	3,9				Minahassa Peninsula, Sulawesi
199	24/10/2017	03:56:49	2,01	124,38	241	3,6				Celebes Sea
200	24/10/2017	11:15:18	0,39	121,94	181	2,9				Minahassa Peninsula, Sulawesi
201	24/10/2017	18:08:01	0,53	119,65	19	3,2				Minahassa Peninsula, Sulawesi
202	24/10/2017	19:49:23	- 0,17	123,1	141	2,9				Minahassa Peninsula, Sulawesi
203	24/10/2017	23:13:47	- 0,49	131,92	10	2,9				Irian Jaya Region, Indonesia
204	25/10/2017	01:16:36	0,65	121,96	183	2,6				Minahassa Peninsula, Sulawesi
205	25/10/2017	10:54:35	0,8	126,22	65	3,7				Northern Molucca Sea
206	25/10/2017	21:09:48	1,67	127,03	14	2,9				Halmahera, Indonesia
207	25/10/2017	22:59:26	0,47	123,52	264	3,6				Minahassa Peninsula, Sulawesi
208	26/10/2017	02:15:16	0,32	122,56	81	2,2				Minahassa Peninsula, Sulawesi
209	26/10/2017	05:10:02	- 0,03	123,12	145	3,1				Minahassa Peninsula, Sulawesi
210	26/10/2017	12:32:47	0,54	132,44	10	4,1				Irian Jaya Region, Indonesia
211	26/10/2017	14:56:02	1,47	126,22	67	3,5				Northern Molucca Sea
212	26/10/2017	15:25:49	0,69	123,25	34	3,8				Minahassa Peninsula, Sulawesi
213	26/10/2017	17:10:24	0,53	120,78	26	4,8				Minahassa Peninsula, Sulawesi
214	26/10/2017	22:10:40	1,89	127,01	21	3,3				Halmahera, Indonesia
215	26/10/2017	23:11:01	0,93	121,74	10	2,6				Minahassa Peninsula, Sulawesi
216	27/10/2017	00:50:50	2,25	128,42	10	4				Halmahera, Indonesia
217	27/10/2017	05:30:09	0,73	120,46	10	2,9				Minahassa Peninsula, Sulawesi
218	27/10/2017	08:41:03	0,71	123,88	263	4,1				Minahassa Peninsula, Sulawesi
219	28/10/2017	19:40:16	3,16	128,92	244	3,6				North of Halmahera, Indonesia
220	28/10/2017	23:47:02	1,5	126,97	111	3,5				Northern Molucca Sea
221	29/10/2017	15:37:08	1,84	127,35	10	3,3				Halmahera, Indonesia
222	29/10/2017	20:57:16	- 0,24	123,3	116	3,3				Minahassa Peninsula, Sulawesi
223	29/10/2017	22:03:52	1,96	121,88	27	2,8				Minahassa Peninsula, Sulawesi
224	31/10/2017	03:11:32	3,69	126,52	10	4,7	0,00076	0,00084	0,00055	Talaud Islands, Indonesia; dirasakan di Melonguane II SIG-BMKG (III MMI)
225	31/10/2017	06:24:37	1,91	126,04	11	4,7				Northern Molucca Sea, dirasakan di Manado & Bitung I SIG-BMKG
226	31/10/2017	06:36:40	0,18	125,88	10	3,5				Northern Molucca Sea
227	31/10/2017	15:35:16	5,34	126,58	138	4				Mindanao, Philippines
228	31/10/2017	18:24:39	1,99	125,97	58	4,7				Northern Molucca Sea, dirasakan di Manado & Bitung I SIG-BMKG (II MMI)

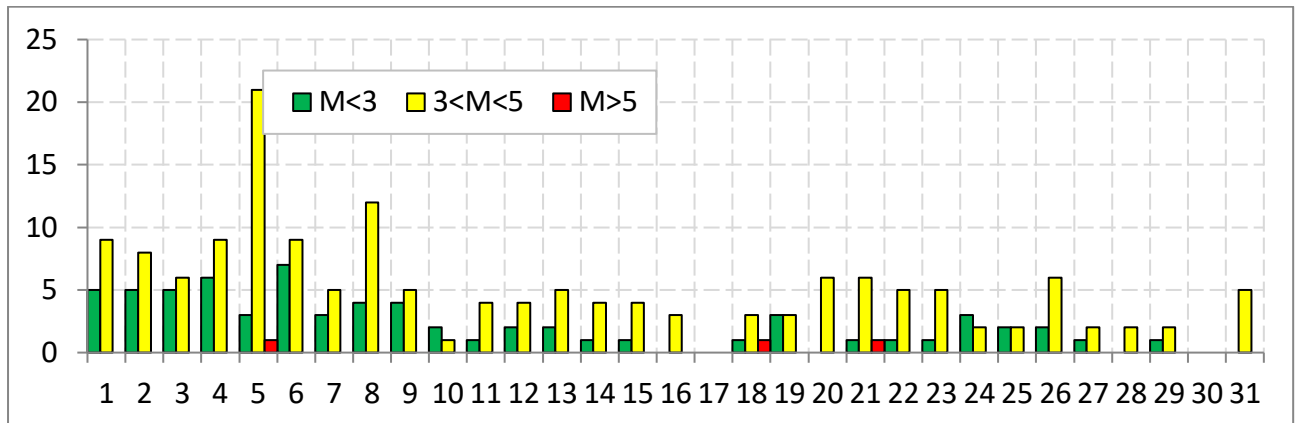
Peta 11. Distribusi Episenter Gempabumi Daerah Sulawesi Utara dan sekitarnya
Bulan Oktober 2017



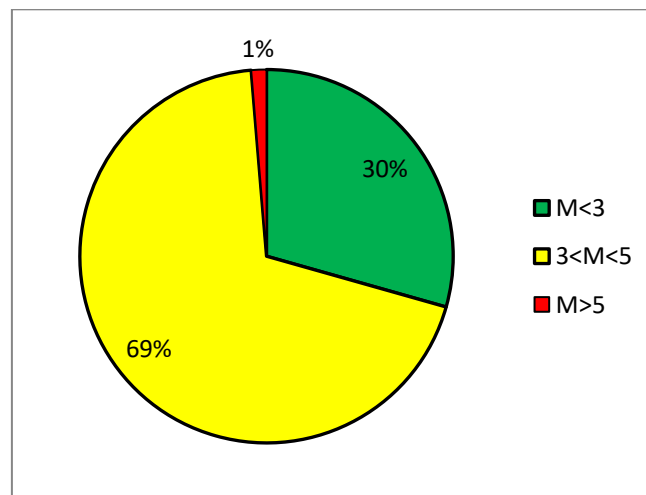
Tabel 20. Rekapitulasi Gempabumi Berdasarkan Magnitudo Bulan Oktober 2017

Tanggal (UTC)	Magnitudo			Jumlah Total	Jumlah Gempa Signifikan	
	M<3	3≤M<5	M≥5		Dirasakan	Merusak
1	5	9	0	14	3	0
2	5	8	0	13	4	0
3	5	6	0	11	0	0
4	6	9	0	15	3	0
5	3	21	1	25	17	0
6	7	9	0	16	3	0
7	3	5	0	8	2	0
8	4	12	0	16	6	0
9	4	5	0	9	1	0
10	2	1	0	3	1	0
11	1	4	0	5	0	0
12	2	4	0	6	1	0
13	2	5	0	7	1	0
14	1	4	0	5	1	0
15	1	4	0	5	0	0
16	0	3	0	3	0	0
17	0	0	0	0	0	0
18	1	3	1	5	1	0
19	3	3	0	6	0	0
20	0	6	0	6	1	0
21	1	6	1	8	0	0
22	1	5	0	6	0	0
23	1	5	0	6	1	0
24	3	2	0	5	0	0
25	2	2	0	4	0	0
26	2	6	0	8	0	0
27	1	2	0	3	1	0
28	0	2	0	2	0	0
29	1	2	0	3	0	0
30	0	0	0	0	0	0
31	0	5	0	5	1	0
Jumlah gempa	67	158	3	228	48	0
Jumlah gempa seluruhnya						

Histogram 19. Gempabumi Berdasarkan Magnitudo
Bulan Oktober 2017



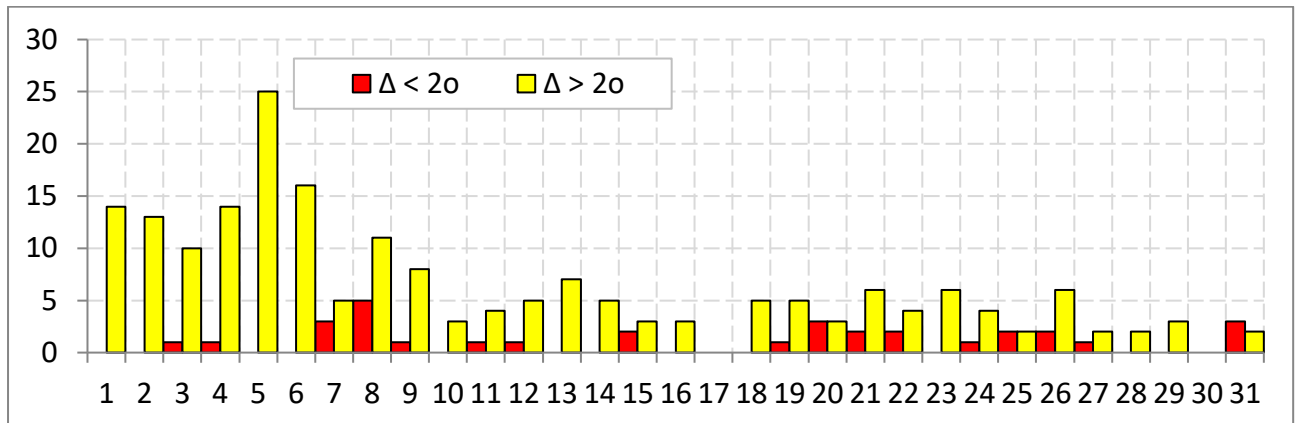
Persentase 21. Gempabumi Berdasarkan Magnitudo
Bulan Oktober 2017



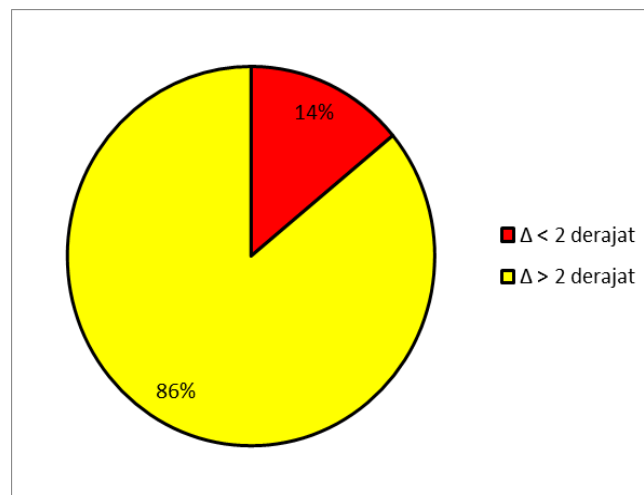
Tabel 21. Rekapitulasi Gempabumi Berdasarkan Jarak Dari Stasiun
Bulan Oktober 2017

Tanggal	Jarak		Jumlah	Keterangan
	$\Delta \leq 2^{\circ}$	$\Delta > 2^{\circ}$		
01/10/2017	0	14	14	-
02/10/2017	0	13	13	-
03/10/2017	1	10	11	-
04/10/2017	1	14	15	-
05/10/2017	0	25	25	-
06/10/2017	0	16	16	-
07/10/2017	3	5	8	-
08/10/2017	5	11	16	-
09/10/2017	1	8	9	-
10/10/2017	0	3	3	-
11/10/2017	1	4	5	-
12/10/2017	1	5	6	-
13/10/2017	0	7	7	-
14/10/2017	0	5	5	-
15/10/2017	2	3	5	-
16/10/2017	0	3	3	-
17/10/2017	0	0	0	-
18/10/2017	0	5	5	-
19/10/2017	1	5	6	-
20/10/2017	3	3	6	-
21/10/2017	2	6	8	-
22/10/2017	2	4	6	-
23/10/2017	0	6	6	-
24/10/2017	1	4	5	-
25/10/2017	2	2	4	-
26/10/2017	2	6	8	-
27/10/2017	1	2	3	-
28/10/2017	0	2	2	-
29/10/2017	0	3	3	-
30/10/2017	0	0	0	-
31/10/2017	3	2	5	
Jumlah gempa	32	196	228	-
Jumlah gempa seluruhnya				

Histogram 20. Gempabumi Berdasarkan Jarak
Bulan Oktober 2017



Persentase 22. Gempabumi Berdasarkan Jarak
Bulan Oktober 2017



Data Gempabumi Bulan Nopember 2017

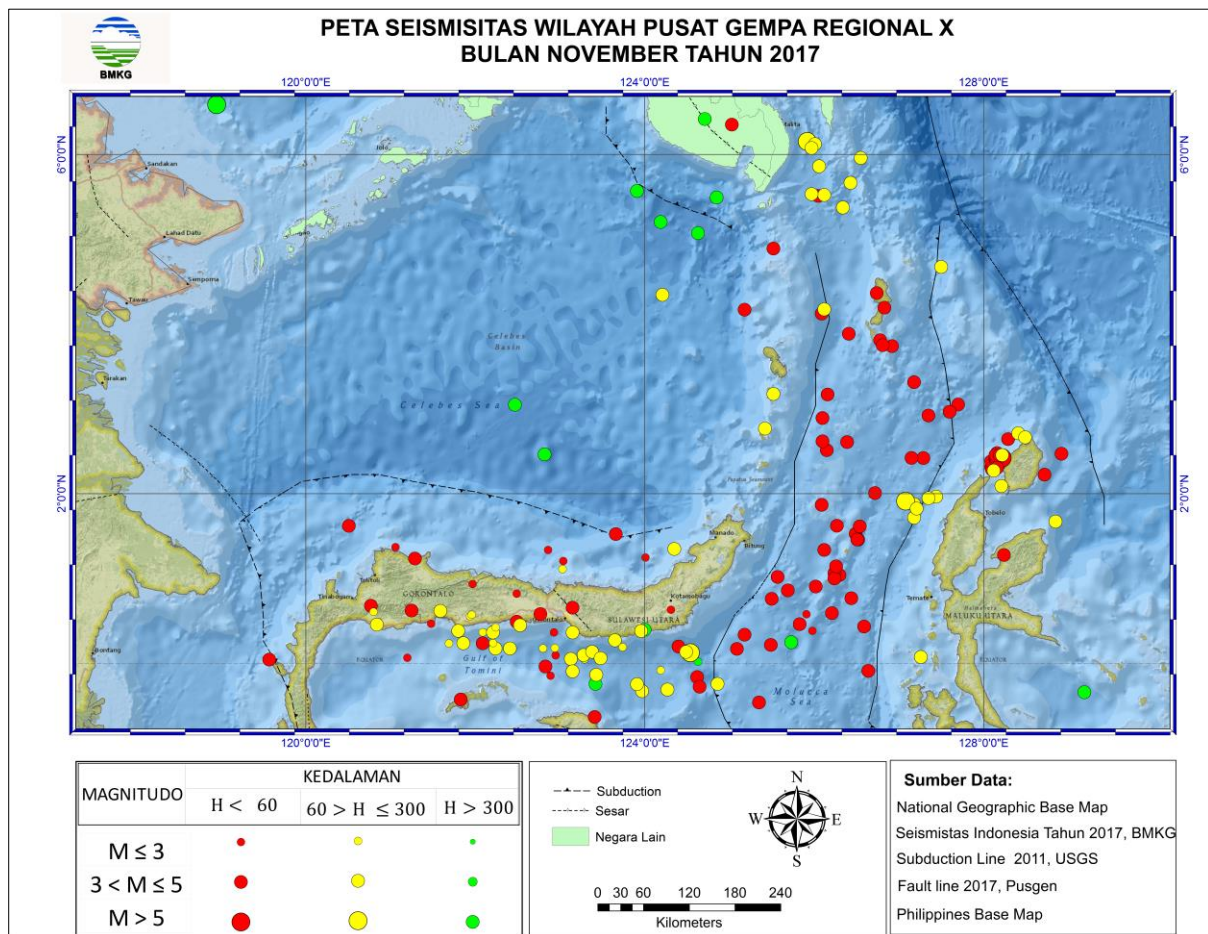
NO	DATE	OT (UTC)	EPICENTER		DEPTH (KM)	MAG	PGA (gals) / SLMI			REMARKS
			LAT	LON			X	Y	Z	
1	01/11/2017	7:52:21	5.5701	123.91	601.8	4.5				Mindanao Philippines,
2	01/11/2017	20:20:03	1.8689	126.09	10	3.5				Northern Molucca Sea Molucca Sea
3	02/11/2017	4:22:42	3.7404	126.92	33.7	4.4				Talaud Islands,Indonesia
4	02/11/2017	5:39:03	0.6176	121.59	111.7	4.1				Minahassa Peninsula,Sulawesi
5	02/11/2017	9:16:43	4.1941	126.83	15.4	4.2				Talaud Islands,Indonesia
6	02/11/2017	10:28:54	1.8769	127.18	107	3.8				Halmahera,Indonesia
7	02/11/2017	12:12:27	1.2058	123.04	14.1	2.5				Minahassa Peninsula,Sulawesi
8	02/11/2017	13:36:35	5.3761	126.34	102.7	4.4				Mindanao Philippines,
9	02/11/2017	16:33:14	0.7595	125.5	25.5	3.5				Northern Molucca Sea Molucca Sea
10	03/11/2017	10:55:03	-0.2435	124.86	103	3.7				Southern Molucca Sea
11	03/11/2017	13:07:15	0.5547	121.94	166.4	2.1				Minahassa Peninsula,Sulawesi
12	03/11/2017	14:22:16	0.1742	122.24	140	3.2				Minahassa Peninsula,Sulawesi
13	03/11/2017	21:07:32	0.2367	121.86	153.9	3.7				Minahassa Peninsula,Sulawesi
14	04/11/2017	8:47:32	1.5279	126.49	10	3.9				Northern Molucca Sea Molucca Sea
15	04/11/2017	19:39:26	-0.1471	122.89	1.4	2.3				Minahassa Peninsula,Sulawesi
16	04/11/2017	21:27:46	1.4593	126.52	10	3.2				Northern Molucca Sea Molucca Sea
17	04/11/2017	22:11:34	0.5776	125.91	10	3				Northern Molucca Sea Molucca Sea
18	05/11/2017	0:39:51	5.5126	126.05	10	4				Mindanao Philippines,
19	05/11/2017	7:52:39	0.3832	121.8	224.2	3.1				Minahassa Peninsula,Sulawesi
20	05/11/2017	7:52:41	0.2339	121.69	204.4	2.8				Minahassa Peninsula,Sulawesi
21	05/11/2017	10:26:48	1.9652	127.44	78.9	4				Halmahera,Indonesia
22	05/11/2017	12:03:47	-0.4615	125.35	10	3.9				Southern Molucca Sea
23	05/11/2017	12:49:28	-0.1625	124.62	9	4.7	0.0148	0.015763	0.021242	Southern Molucca Sea
24	05/11/2017	18:05:03	-0.0889	126.64	10	3.6				Southern Molucca Sea
25	05/11/2017	19:37:51	-0.3414	129.19	302	4.6				Halmahera,Indonesia
26	05/11/2017	20:27:06	1.0413	126.3	10	3.3				Northern Molucca Sea Molucca Sea
27	06/11/2017	7:38:19	-0.3102	124.27	173.2	3.3				Southern Molucca Sea
28	06/11/2017	7:51:48	-0.3283	123.97	73.2	3.9				Minahassa Peninsula,Sulawesi
29	06/11/2017	12:15:48	0.1753	122.41	145.3	4.5				Minahassa Peninsula,Sulawesi
30	06/11/2017	18:30:25	4.3661	126.74	10	3.9				Talaud Islands,Indonesia
31	07/11/2017	2:42:16	2.5133	126.15	10	4				Northern Molucca Sea
32	07/11/2017	6:28:36	0.5712	121.96	85.4	1.9				Minahassa Peninsula,Sulawesi
33	07/11/2017	15:29:55	-0.2762	124.65	10	3.3				Southern Molucca Sea
34	07/11/2017	16:22:08	3.8105	126.78	39.4	4				Talaud Islands,Indonesia
35	07/11/2017	17:13:49	3.0516	127.7	10	3.4				Talaud Islands,Indonesia
36	07/11/2017	17:52:18	4.1698	125.18	10	3.7				Talaud Islands,Indonesia
37	07/11/2017	18:28:53	1.3484	124.35	277	3.2				Minahassa Peninsula,Sulawesi
38	07/11/2017	19:53:41	3.7512	126.81	30.2	3.7				Talaud Islands,Indonesia
39	07/11/2017	21:47:27	-0.1358	123.43	123.7	4.9				Minahassa Peninsula,Sulawesi
40	08/11/2017	3:53:41	1.0177	125.57	20.5	3.7				Northern Molucca Sea
41	08/11/2017	7:23:21	6.1543	125.92	173.2	5.1				Mindanao Philippines,
42	08/11/2017	14:49:00	0.4664	121.48	57.3	2.1				Minahassa Peninsula,Sulawesi
43	08/11/2017	16:12:30	0.4559	120.84	68.6	3.2				Minahassa Peninsula,Sulawesi

44	08/11/2017	18:19:46	5.5234	126.12	107.9	4.2				Mindanao Philippines,
45	08/11/2017	19:59:10	1.246	124.01	10	2.7				Minahassa Peninsula,Sulawesi
46	08/11/2017	22:57:27	4.3453	124.21	230.8	3.8				Celebes
47	09/11/2017	0:29:02	2.4206	127.29	10	4.8				Northern Molucca Sea
48	09/11/2017	3:11:03	1.9123	127.08	88.4	5.6	0.1251	0.160008	0.183154	Halmahera,Indonesia
49	09/11/2017	5:15:43	6.4188	124.71	405.4	4.6				Mindanao Philippines,
50	09/11/2017	8:48:53	- 1.0471	120.33	12.7	3.6				Sulawesi,
51	09/11/2017	9:21:27	- 0.6332	123.41	10	4				Minahassa Peninsula,Sulawesi
52	09/11/2017	15:11:43	2.644	128.29	7.2	3.7				Halmahera,Indonesia
53	09/11/2017	20:00:16	6.1228	126.01	170.6	3.6				Mindanao Philippines,
54	09/11/2017	22:42:13	3.8857	126.41	36.5	4				Talaud Islands,Indonesia
55	09/11/2017	23:48:45	5.9602	126.55	119.5	4.2				Mindanao Philippines,
56	10/11/2017	1:18:53	2.2728	128.12	130.7	4				Halmahera,Indonesia
57	10/11/2017	7:02:09	- 0.9828	127.05	10	4.3	0.0414	0.017936	0.026105	Halmahera,Indonesia
58	10/11/2017	15:01:01	2.4553	128.22	159.9	4.4				Halmahera,Indonesia
59	10/11/2017	18:00:22	2.9662	127.6	5	3.6				Northern Molucca Sea
60	10/11/2017	19:34:27	3.1764	125.52	101.8	3.5				Talaud Islands,Indonesia
61	11/11/2017	8:12:47	- 0.0381	122.83	20	3.2				Minahassa Peninsula,Sulawesi
62	11/11/2017	14:02:59	1.063	126.24	14.4	4.6	0.0676	0.085491	0.075042	Northern Molucca Sea
63	11/11/2017	14:24:28	0.9994	126.24	26.9	3.7				Northern Molucca Sea
64	11/11/2017	18:19:43	0.4619	125.83	0	3.1				Northern Molucca Sea
65	11/11/2017	18:45:51	- 0.0839	124.19	190.1	2.9				Southern Molucca Sea
66	12/11/2017	6:53:10	0.679	120.77	4.2	3.1				Minahassa Peninsula,Sulawesi
67	12/11/2017	11:04:30	0.606	120.8	63.1	2.7				Minahassa Peninsula,Sulawesi
68	12/11/2017	18:28:20	6.5881	118.95	750	6.1				Borneo
69	14/11/2017	3:03:21	2.6179	126.1	5	3.6				Northern Molucca Sea
70	14/11/2017	12:42:47	1.6223	126.27	10	3.4				Northern Molucca Sea
71	14/11/2017	13:12:54	- 0.4268	121.83	10	3.3				Minahassa Peninsula,Sulawesi
72	14/11/2017	14:19:12	2.6093	126.39	10	3.4				Northern Molucca Sea
73	14/11/2017	20:58:04	6.353	125.03	10	4.2				Mindanao Philippines,
74	14/11/2017	22:13:22	0.1894	123.74	223.4	2.8				Minahassa Peninsula,Sulawesi
75	14/11/2017	23:22:51	0.4041	122.21	136	2.6				Minahassa Peninsula,Sulawesi
	15/11/2017	3:52:12	0.0745	127.26	127.3	5				Halmahera,Indonesia
76	15/11/2017	4:12:47	1.7174	127.18	83.3	3.7				Halmahera,Indonesia
77	15/11/2017	5:10:20	0.0441	119.57	10	3.8				Minahassa Peninsula,Sulawesi
78	15/11/2017	19:30:56	0.5815	122.77	10	3.8	0.0117	0.009002	0.010194	Minahassa Peninsula,Sulawesi
79	16/11/2017	1:09:06	5.0735	124.63	356.4	4.4				Mindanao Philippines,
80	16/11/2017	4:39:35	0.4903	122.49	24.6	3.2	0.013	0.008898	0.012654	Minahassa Peninsula,Sulawesi
81	16/11/2017	12:16:20	0.0935	122.95	29.3	2.5				Minahassa Peninsula,Sulawesi
82	16/11/2017	17:02:51	5.5338	125.97	152	4.1				Mindanao Philippines,
83	16/11/2017	20:48:30	4.8918	125.52	10	3.8				Talaud Islands,Indonesia
84	17/11/2017	6:30:45	0.0515	123.13	135	3.2				Minahassa Peninsula,Sulawesi
85	17/11/2017	10:52:00	- 0.0947	123.15	67.2	3.8				Minahassa Peninsula,Sulawesi
86	17/11/2017	18:00:20	0.216	125.49	10	3.7				Northern Molucca Sea
87	17/11/2017	19:57:44	4.1741	126.12	113.3	4.8				Talaud Islands,Indonesia
88	17/11/2017	21:16:55	1.2359	121.29	10	3.5				Minahassa Peninsula,Sulawesi
89	17/11/2017	21:44:36	- 0.2462	123.91	86.4	4.8				Minahassa Peninsula,Sulawesi
90	17/11/2017	22:40:49	- 0.2421	123.42	539.4	4.7				Minahassa Peninsula,Sulawesi
91	18/11/2017	0:04:10	0.8205	122.49	20.1	2.8				Minahassa Peninsula,Sulawesi
92	18/11/2017	1:07:46	0.2361	122.09	10	5				Minahassa Peninsula,Sulawesi

93	18/11/2017	15:39:58	0.3812	123.96	107.7	3.6				Minahassa Peninsula,Sulawesi
94	18/11/2017	16:07:02	2.4015	128.17	10	5.8				Halmahera,Indonesia
95	18/11/2017	17:10:43	2.3782	128.17	10	3.7				Halmahera,Indonesia
96	18/11/2017	17:37:31	2.433	128.15	10	3.6				Halmahera,Indonesia
97	18/11/2017	17:42:15	2.4033	128.18	10	3.8				Halmahera,Indonesia
98	18/11/2017	18:36:43	2.353	128.15	10	5.5				Halmahera,Indonesia
99	18/11/2017	19:13:06	2.3177	128.09	10	4.7				Halmahera,Indonesia
100	18/11/2017	19:46:32	2.436	128.14	10	4.4				Halmahera,Indonesia
101	18/11/2017	21:08:42	2.2866	128.1	10	3.6				Halmahera,Indonesia
102	18/11/2017	21:57:06	0.198	124.4	22.2	3.3				Southern Molucca Sea
103	18/11/2017	23:17:04	1.6713	128.85	223.5	3.9				Halmahera,Indonesia
104	18/11/2017	23:45:35	2.4805	128.16	10	4.2				Halmahera,Indonesia
105	19/11/2017	0:01:43	2.3809	128.09	10	4.1				Halmahera,Indonesia
106	19/11/2017	2:59:08	2.4544	128.23	10	4.1				Halmahera,Indonesia
107	19/11/2017	3:15:43	2.4092	128.14	6.3	4.7				Halmahera,Indonesia
108	19/11/2017	3:31:42	0.6558	123.15	23.1	3.6				Minahassa Peninsula,Sulawesi
109	19/11/2017	6:44:32	0.065	121.2	10	2.4				Minahassa Peninsula,Sulawesi
110	19/11/2017	8:26:59	0.3651	122.09	147.2	2.3				Minahassa Peninsula,Sulawesi
111	19/11/2017	13:12:29	2.4224	128.22	8.5	5.1				Halmahera,Indonesia
112	19/11/2017	14:46:19	0.1701	125.09	10	4.2				Southern Molucca Sea
113	19/11/2017	15:38:28	0.4491	122.53	80.5	3.7				Minahassa Peninsula,Sulawesi
114	19/11/2017	15:56:11	3.0494	122.47	548.5	3.9				Celebes
115	19/11/2017	16:06:53	5.6668	126.43	108.1	4.4				Mindanao Philippines,
116	19/11/2017	21:52:17	2.713	128.41	218.7	4.4				Halmahera,Indonesia
117	19/11/2017	22:03:22	2.3816	128.15	10	4.3				Halmahera,Indonesia
118	20/11/2017	7:37:50	0.4336	126.59	23.1	3.9				Northern Molucca Sea
119	20/11/2017	9:36:42	1.3353	122.86	10.5	2.9				Minahassa Peninsula,Sulawesi
120	20/11/2017	10:43:29	1.9478	127.35	76.8	4.7				Halmahera,Indonesia
121	20/11/2017	12:30:09	2.892	126.1	25.6	4.2				Northern Molucca Sea
122	20/11/2017	15:18:34	4.6753	127.5	117.1	4.4				Talaud Islands,Indonesia
123	20/11/2017	18:52:33	1.4601	126.51	3.3	3.2				Northern Molucca Sea
124	20/11/2017	19:38:47	4.1238	126.09	10	3.6				Talaud Islands,Indonesia
125	20/11/2017	20:16:50	5.8611	126.06	87.1	4.9	0.0114	0.007160	0.006882	Mindanao Philippines,
126	20/11/2017	22:32:08	1.2777	128.24	10	3.6				Halmahera,Indonesia
127	20/11/2017	22:50:59	2.4195	128.15	0	4.2				Halmahera,Indonesia
128	21/11/2017	2:26:15	0.3966	124	357.7	4.3				Minahassa Peninsula,Sulawesi
129	21/11/2017	8:12:07	0.2707	123.65	72.8	3.7				Minahassa Peninsula,Sulawesi
130	21/11/2017	10:31:16	0.2481	125.73	496.5	3.6				Northern Molucca Sea
131	21/11/2017	11:32:50	2.4558	128.14	5	3.9	0.005	0.003962	0.004990	Halmahera,Indonesia
132	22/11/2017	1:11:23	0.1246	124.54	77.6	5.4	0.0556	0.040665	0.034664	Minahassa Peninsula,Sulawesi
133	22/11/2017	1:55:46	0.1346	124.49	75.8	3.6				Minahassa Peninsula,Sulawesi
134	22/11/2017	8:06:09	0.0471	123.29	117.1	2.7				Minahassa Peninsula,Sulawesi
135	22/11/2017	19:46:51	2.4638	122.82	484.1	4				Celebes
136	22/11/2017	21:33:09	0.9051	126.02	3	3.8				Northern Molucca Sea
137	22/11/2017	23:15:52	0.0965	123.28	140.4	4				Minahassa Peninsula,Sulawesi
138	23/11/2017	10:20:59	0.3642	122.93	10	2.5				Minahassa Peninsula,Sulawesi
139	23/11/2017	12:14:39	0.1354	123.38	159	3.4				Minahassa Peninsula,Sulawesi
140	23/11/2017	16:51:51	0.6302	124.31	10	2.9				Minahassa Peninsula,Sulawesi
141	23/11/2017	16:59:01	0.3636	123.15	128.8	3.6				Minahassa Peninsula,Sulawesi
142	23/11/2017	18:32:01	0.017	124.63	302.1	2.9				Southern Molucca Sea
143	23/11/2017	18:46:08	0.5915	126.21	10	3.6				Northern Molucca Sea
144	23/11/2017	19:44:15	0.337	125.18	10	3.7				Southern Molucca Sea
145	24/11/2017	3:33:44	0.06	123.48	121.1	3.4				Minahassa Peninsula,Sulawesi
146	24/11/2017	5:03:00	0.3641	122.21	242.7	3.3				Minahassa Peninsula,Sulawesi
147	24/11/2017	10:06:08	0.1752	122.8	135.5	2.4				Halmahera,Indonesia
148	24/11/2017	14:50:32	2.306	128.16	10	3.5				Mindanao Philippines,
149	24/11/2017	15:23:18	5.4942	124.85	313.5	4.6				Northern Molucca Sea
150	24/11/2017	16:50:26	1.6145	126.54	10	4				Northern Molucca Sea
151	24/11/2017	18:36:29	5.205	124.19	445	4.1				Mindanao Philippines,

152	25/11/2017	7:46:18	0.7678	126.44	10	3.6				Minahassa Peninsula,Sulawesi
153	25/11/2017	8:20:40	0.2374	122.21	161.3	2.7				Northern Molucca Sea
154	25/11/2017	12:41:29	1.337	126.12	11.1	3.9				Halmahera,Indonesia
155	25/11/2017	13:12:13	1.825	127.21	132.8	3.4	0.0275	0.022556	0.0324	Halmahera,Indonesia
156	25/11/2017	13:29:22	2.2244	128.72	0	3.5				Northern Molucca Sea
157	25/11/2017	13:39:28	2.0075	126.72	18.7	3.2				Talaud Islands,Indonesia
158	25/11/2017	16:32:39	3.3151	127.18	10	3.8				Northern Molucca Sea
159	25/11/2017	18:20:36	1.1432	126.26	10	3.5				Mindanao Philippines,
160	25/11/2017	18:26:25	6.0773	125.97	82.9	4.5				Halmahera,Indonesia
161	25/11/2017	19:40:57	2.6651	128.49	181.3	3.9				Minahassa Peninsula,Sulawesi
162	26/11/2017	11:53:22	0.6218	121.25	28.2	3.5	0.0081	0.007195	0.00718	Northern Molucca Sea
163	27/11/2017	5:01:17	2.4546	128.19	1	4.1				Northern Molucca Sea
164	27/11/2017	11:13:02	2.4222	127.15	37.9	4				Minahassa Peninsula,Sulawesi
165	27/11/2017	11:13:49	1.5246	123.66	10	3.1				Minahassa Peninsula,Sulawesi
166	28/11/2017	6:37:18	2.0904	128.21	106	4.1				Minahassa Peninsula,Sulawesi
167	28/11/2017	6:57:35	1.6207	120.51	10	3.9				Minahassa Peninsula,Sulawesi
168	28/11/2017	14:54:01	1.3695	121.06	30.8	2.4				Mindanao Philippines,
169	28/11/2017	16:10:46	7.2723	126.47	10	4				Talaud Islands,Indonesia
170	28/11/2017	17:23:38	3.1699	126.16	27.3	4				Talaud Islands,Indonesia
171	28/11/2017	18:57:40	2.768	125.42	179.1	3.6				Southern Molucca Sea
172	28/11/2017	20:13:48	0.3825	125.98	10	2.9				Halmahera,Indonesia
173	29/11/2017	9:58:33	1.1093	123.03	191.8	2.9				Minahassa Peninsula,Sulawesi
174	29/11/2017	17:44:52	0.4228	122.24	165.9	2.9				Mindanao Philippines,
175	29/11/2017	18:40:02	8.6454	123.33	10	4.4				Northern Molucca Sea
176	29/11/2017	22:37:04	2.9227	127.35	7	4.1				Halmahera,Indonesia
177	30/11/2017	1:16:00	8.0445	126.88	109.4	5.1				Minahassa Peninsula,Sulawesi
178	30/11/2017	3:07:49	0.934	121.97	8.2	2.9				Minahassa Peninsula,Sulawesi
179	30/11/2017	11:34:37	0.1797	122.94	75.9	2.6				Northern Molucca Sea
180	30/11/2017	15:19:16	0.8601	125.69	20.8	3.3				Halmahera,Indonesia
181	30/11/2017	18:08:06	2.4715	128.92	10	4.1				Northern Molucca Sea
182	30/11/2017	18:58:00	7.4421	124.78	10	4.9				Mindanao Philippines
183	30/11/2017	19:10:57	6.2917	130.44	10	4.8				Minahassa Peninsula,Sulawesi

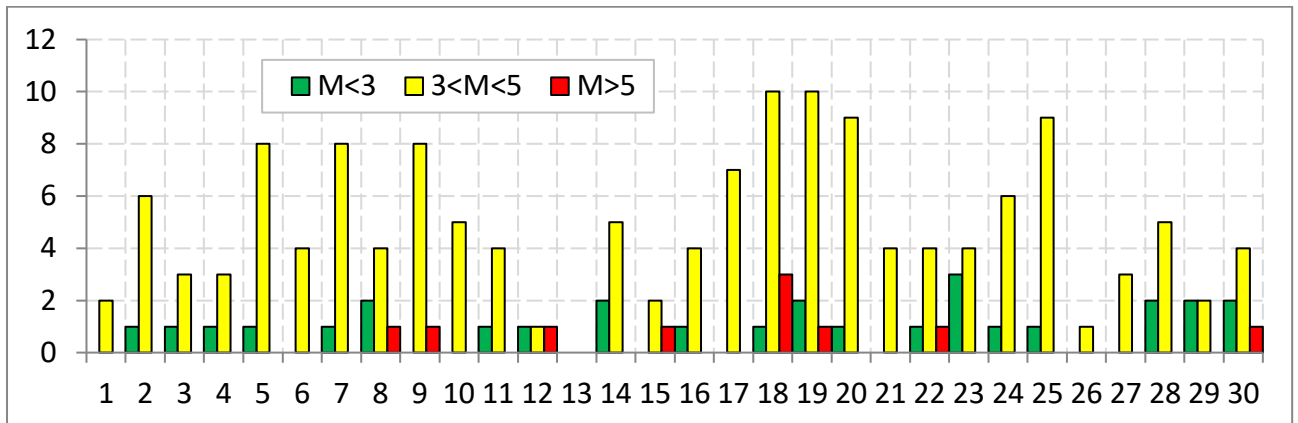
Peta 12. Distribusi Episenter Gempabumi Daerah Sulawesi Utara dan sekitarnya
Bulan Nopember 2017



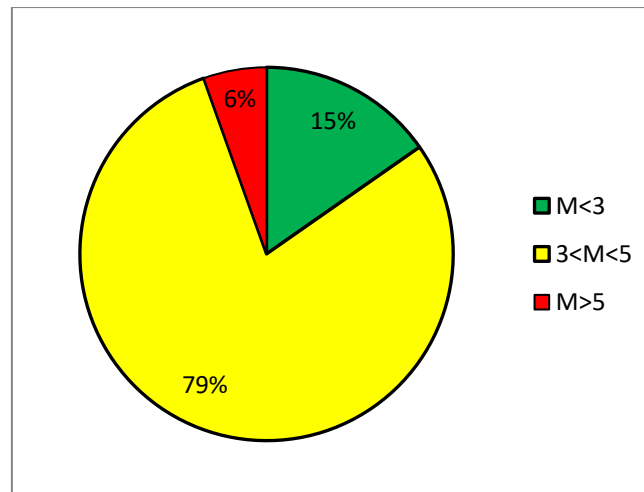
Tabel 22. Rekapitulasi Gempabumi Berdasarkan Magnitudo Bulan Nopember 2017

Tanggal (UTC)	Magnitudo			Jumlah Total	Jumlah Gempa Signifikan	
	M<3	3≤M<5	M≥5		Dirasakan	Merusak
1	0	2	0	2	0	0
2	1	6	0	7	0	0
3	1	3	0	4	0	0
4	1	3	0	4	0	0
5	1	8	0	9	0	0
6	0	4	0	4	0	0
7	1	8	0	9	0	0
8	2	4	1	7	0	0
9	0	8	1	9	0	0
10	0	5	0	5	0	0
11	1	4	0	5	0	0
12	1	1	1	3	0	0
13	0	0	0	0	0	0
14	2	5	0	7	0	0
15	0	2	1	3	0	0
16	1	4	0	5	0	0
17	0	7	0	7	0	0
18	1	10	3	14	0	0
19	2	10	1	13	0	0
20	1	9	0	10	0	0
21	0	4	0	4	0	0
22	1	4	1	6	0	0
23	3	4	0	7	0	0
24	1	6	0	7	0	0
25	1	9	0	10	0	0
26	0	1	0	1	0	0
27	0	3	0	3	0	0
28	2	5	0	7	0	0
29	2	2	0	4	0	0
30	2	4	1	7	0	0
-	-	-	-	-	-	-
Jumlah gempa	28	145	10	183	0	0
Jumlah gempa seluruhnya						

Histogram 21. Gempabumi Berdasarkan Magnitudo
Bulan Nopember 2017



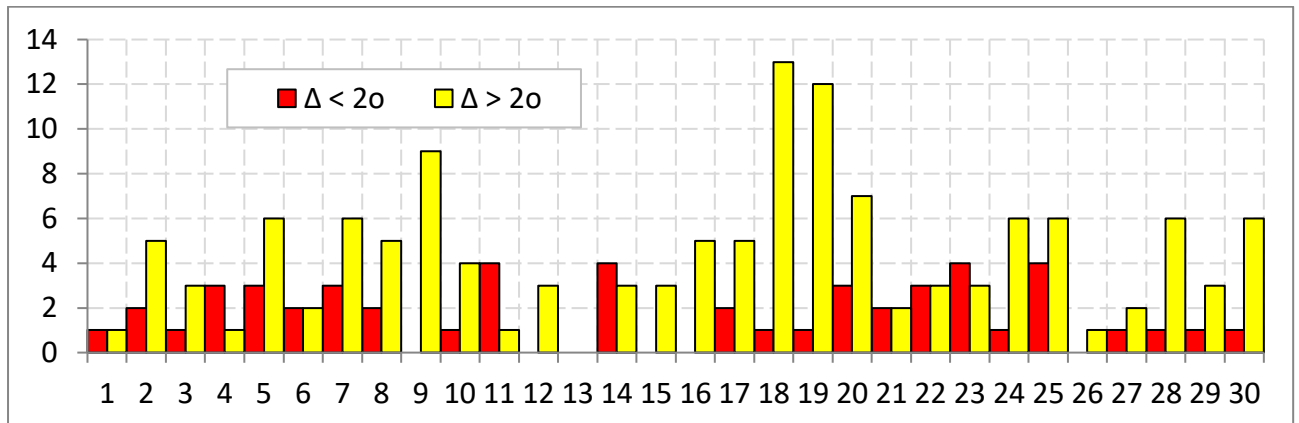
Persentase 23. Gempabumi Berdasarkan Magnitudo
Bulan Nopember 2017



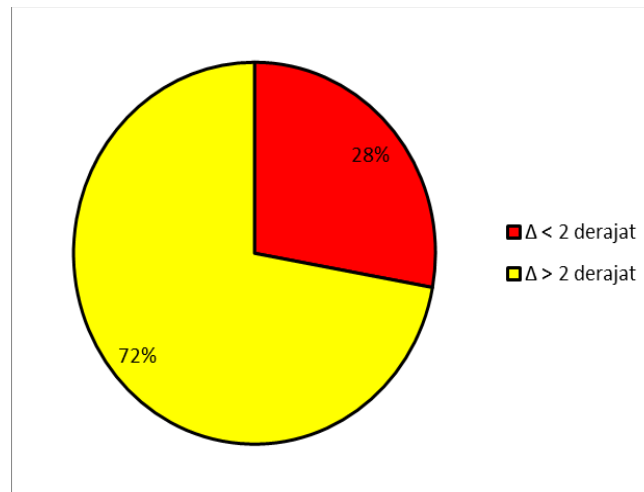
Tabel 23. Rekapitulasi Gempabumi Berdasarkan Jarak Dari Stasiun
Bulan Nopember 2017

Tanggal	Jarak		Jumlah	Keterangan
	$\Delta \leq 2^\circ$	$\Delta > 2^\circ$		
01/11/2017	1	1	2	-
02/11/2017	2	5	7	-
03/11/2017	1	3	4	-
04/11/2017	3	1	4	-
05/11/2017	3	6	9	-
06/11/2017	2	2	4	-
07/11/2017	3	6	9	-
08/11/2017	2	5	7	-
09/11/2017	0	9	9	-
10/11/2017	1	4	5	-
11/11/2017	4	1	5	-
12/11/2017	0	3	3	-
13/11/2017	0	0	0	-
14/11/2017	4	3	7	-
15/11/2017	0	3	3	-
16/11/2017	0	5	5	-
17/11/2017	2	5	7	-
18/11/2017	1	13	14	-
19/11/2017	1	12	13	-
20/11/2017	3	7	10	-
21/11/2017	2	2	4	-
22/11/2017	3	3	6	-
23/11/2017	4	3	7	-
24/11/2017	1	6	7	-
25/11/2017	4	6	10	-
26/11/2017	0	1	1	-
27/11/2017	1	2	3	-
28/11/2017	1	6	7	-
29/11/2017	1	3	4	-
30/11/2017	1	6	7	-
Jumlah gempa	51	132	183	-
Jumlah gempa seluruhnya				

Histogram 22. Gempabumi Berdasarkan Jarak
Bulan Nopember 2017



Persentase 24. Gempabumi Berdasarkan Jarak
Bulan Nopember 2017



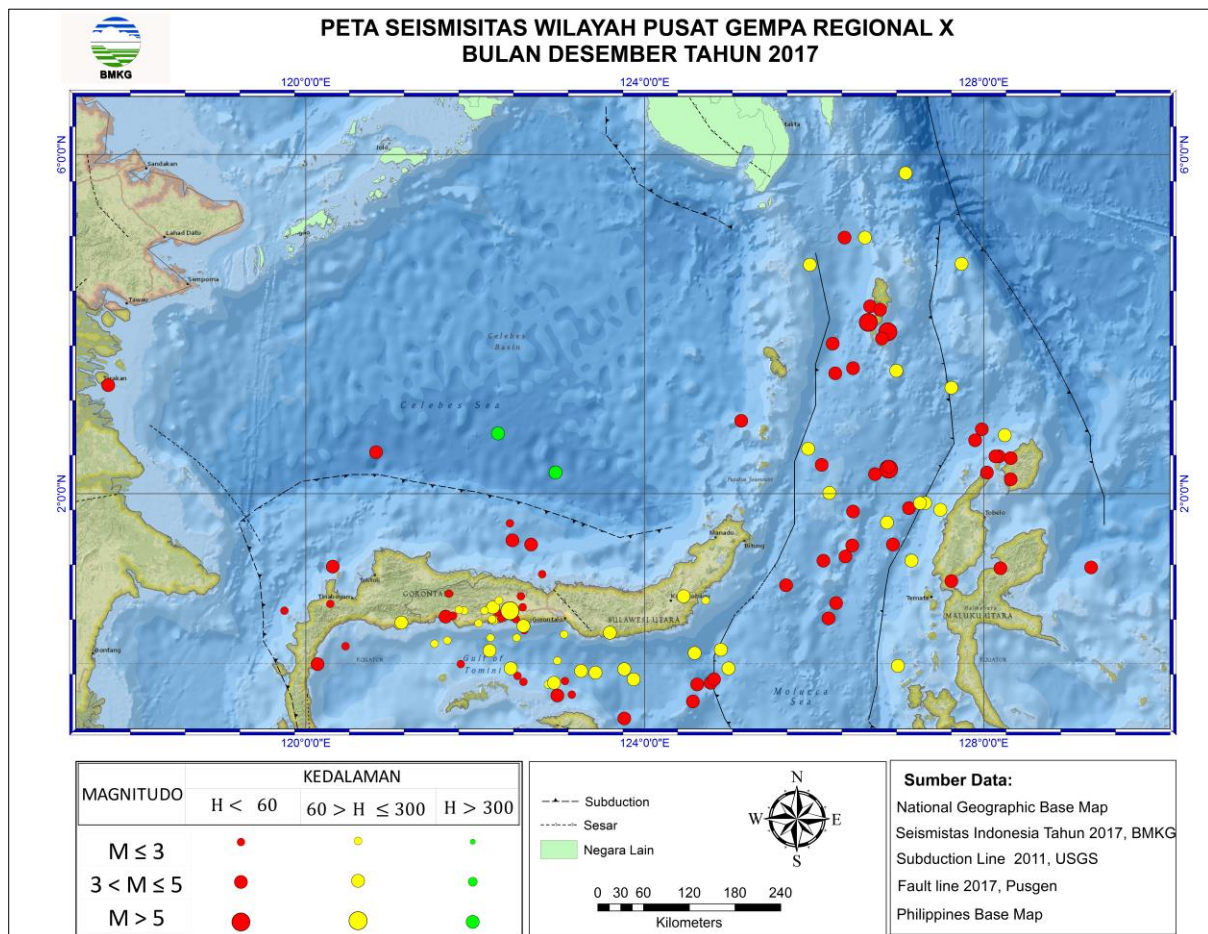
Data Gempabumi Bulan Desember 2017

No	Date	OT (UTC)	EPICENTER		Depth (KM)	Mag	PGA (gals) / SLMI			Region
			Lat	Long			X	Y	Z	
1	01/12/2017	00:04:36	0.27	121.67	129	2.6				Minahassa Peninsula, Sulawesi
2	01/12/2017	06:25:46	0.79	124.46	203	3.4				Minahassa Peninsula, Sulawesi
3	01/12/2017	07:21:00	2.25	122.95	458	4.2	0.220687	0.135833	0.25185	Celebes Sea
4	01/12/2017	08:44:33	- 0.01	121.83	24	2.7				Minahassa Peninsula, Sulawesi
5	01/12/2017	11:23:24	- 0.21	123.06	10	2.4				Minahassa Peninsula, Sulawesi
6	02/12/2017	12:14:27	- 0.23	124.78	10	4.5	0.084904	0.078356	0.10982	Southern Molucca Sea
7	02/12/2017	16:09:45	0.5	122.22	138	2.6				Minahassa Peninsula, Sulawesi
8	02/12/2017	19:34:22	2.63	127.9	28	4				Northern Molucca Sea
9	03/12/2017	02:11:16	0.66	122.56	41	2.4				Minahassa Peninsula, Sulawesi
10	03/12/2017	05:02:30	- 0.25	122.86	115	2.9				Minahassa Peninsula, Sulawesi
11	03/12/2017	14:21:54	3.77	126.22	20	3.9				Talaud Islands, Indonesia
12	03/12/2017	17:30:03	- 0.22	122.57	26	2.8				Minahassa Peninsula, Sulawesi
13	03/12/2017	20:54:36	2.01	126.18	97	3.7				Northern Molucca Sea
14	03/12/2017	22:26:38	4.71	127.74	104	4.9	0.093529	0.097911	0.12233	Talaud Islands, Indonesia
15	04/12/2017	07:45:08	- 0.06	124.99	63	4.5	0.135261	0.129519	0.14743	Southern Molucca Sea
16	04/12/2017	08:55:10	1.21	127.15	133	4.4				Halmahera, Indonesia
17	05/12/2017	01:39:20	- 0.09	123.25	137	3.1				Minahassa Peninsula, Sulawesi
18	05/12/2017	12:14:27	2.29	126.88	41	5.2	0.216926	0.326412	0.26765	Northern Molucca Sea
19	05/12/2017	12:27:40	2.32	126.88	36	4.8				Northern Molucca Sea
20	05/12/2017	12:31:39	0.79	122.54	26	2.5				Minahassa Peninsula, Sulawesi
21	05/12/2017	17:01:24	0.3	122.18	162	2.2				Minahassa Peninsula, Sulawesi
22	05/12/2017	21:42:40	1.83	127.12	47	3.8				Halmahera, Indonesia
23	05/12/2017	22:19:03	1.4	122.66	10	4.9				Minahassa Peninsula, Sulawesi
24	06/12/2017	01:25:59	0.62	121.87	92	2.6				Minahassa Peninsula, Sulawesi
25	06/12/2017	05:29:41	1.45	122.44	10	4.2				Minahassa Peninsula, Sulawesi
26	06/12/2017	12:48:41	0.15	122.17	169	3.9				Minahassa Peninsula, Sulawesi
27	06/12/2017	14:40:05	0.3	122.49	82	2.6				Minahassa Peninsula, Sulawesi
28	06/12/2017	18:37:19	2.23	126.72	10	3.2				Northern Molucca Sea
29	06/12/2017	20:17:30	2.44	128.18	10	4				Halmahera, Indonesia
30	06/12/2017	20:30:28	2.76	127.98	10	3.9				Northern Molucca Sea
31	06/12/2017	23:58:35	1.66	126.86	79	4.6	0.180084	0.199572	0.26092	Northern Molucca Sea
32	07/12/2017	11:36:57	0.6	122.26	60	3				Minahassa Peninsula, Sulawesi
33	07/12/2017	12:41:14	1.12	128.2	10	4.5	0.06761	0.05512	0.06683	Halmahera, Indonesia
34	07/12/2017	13:46:36	0.71	126.26	12	3.9				Northern Molucca Sea
35	07/12/2017	18:40:47	- 0.11	123.42	125	4				Minahassa Peninsula, Sulawesi
36	07/12/2017	18:58:57	- 0.07	130.51	21	4.4				Irian Jaya Region, Indonesia
37	07/12/2017	19:53:13	0.74	124.72	63	2.9				Minahassa Peninsula, Sulawesi
38	07/12/2017	20:14:25	1.39	126.45	17	3.4				Northern Molucca Sea
39	07/12/2017	21:05:57	- 0.19	124.82	10	4.2				Southern Molucca Sea

40	07/12/2017	21:44:23	- 0.03	126.99	86	3.6				Southern Molucca Sea
41	07/12/2017	22:28:57	- 0.07	123.76	71	4.2				Minahassa Peninsula, Sulawesi
42	08/12/2017	11:22:34	5.78	127.08	71	5	0.127328	0.078458	0.13945	Philippine Islands Region
43	08/12/2017	15:05:59	0.03	122.97	166	2.9				Minahassa Peninsula, Sulawesi
44	08/12/2017	15:57:33	2.49	120.83	10	3.5				Celebes Sea
45	08/12/2017	16:17:40	0.16	124.9	80	4.7				Minahassa Peninsula, Sulawesi
46	09/12/2017	17:05:09	0.51	122.2	142	1.4				Minahassa Peninsula, Sulawesi
47	09/12/2017	18:56:26	0.53	122.31	36	2.3				Minahassa Peninsula, Sulawesi
48	09/12/2017	23:13:27	2.25	128.04	10	3.6	0.105298	0.098395	0.20999	Halmahera, Indonesia
49	10/12/2017	23:37:08	0.82	121.69	30	2.5				Minahassa Peninsula, Sulawesi
50	10/12/2017	23:59:03	3.42	126.25	14	4.4	0.165098	0.10269	0.22101	Talaud Islands, Indonesia
51	11/12/2017	01:43:04	0.36	123.59	223	3.9				Minahassa Peninsula, Sulawesi
52	11/12/2017	04:06:01	0.12	124.59	62	3.3				Minahassa Peninsula, Sulawesi
53	11/12/2017	05:36:45	0.53	126.17	10	4				Northern Molucca Sea
54	11/12/2017	06:40:53	1.05	122.79	39	2.4				Minahassa Peninsula, Sulawesi
55	11/12/2017	09:48:11	1.81	127.49	99	3.9				Halmahera, Indonesia
56	11/12/2017	11:51:19	2.17	128.32	10	4.7	0.063114	0.05089	0.07855	Halmahera, Indonesia
57	11/12/2017	12:09:38	3.48	126.46	10	3.4				Talaud Islands, Indonesia
58	11/12/2017	14:11:19	1.89	127.31	65	4.5				Halmahera, Indonesia
59	11/12/2017	23:19:24	1.4	126.93	10	3.4				Northern Molucca Sea
60	12/12/2017	13:10:06	2.44	128.14	10	4.5	0.134093	0.100905	0.16792	Halmahera, Indonesia
61	13/12/2017	18:19:50	0.66	122.21	76	3.2	0.042507	0.045212	0.05867	Minahassa Peninsula, Sulawesi
62	14/12/2017	06:39:42	0.63	121.81	160	2.3				Minahassa Peninsula, Sulawesi
63	14/12/2017	06:43:16	0.39	122.58	20	2.7				Minahassa Peninsula, Sulawesi
64	15/12/2017	02:18:18	1.65	122.41	30	2.5				Minahassa Peninsula, Sulawesi
65	15/12/2017	21:27:31	0.62	122.41	74	5.3	0.47516	0.908076	0.67424	Minahassa Peninsula, Sulawesi
66	16/12/2017	01:56:10	0.97	127.62	33	3.8	0.063563	0.046671	0.05339	Halmahera, Indonesia
67	17/12/2017	07:37:39	- 0.19	123.87	65	4.7				Minahassa Peninsula, Sulawesi
68	17/12/2017	08:15:27	7.85	126.72	65	5	0.079375	0.061571	0.07134	Mindanao, Philippines
69	17/12/2017	13:27:11	- 0.38	122.97	45	3.5				Minahassa Peninsula, Sulawesi
70	17/12/2017	15:53:18	2.42	128.32	10	4.8				Halmahera, Indonesia
71	17/12/2017	20:08:05	2.71	122.27	534	4.4				Celebes Sea
72	19/12/2017	16:07:44	1.13	129.27	33	4				Halmahera, Indonesia
73	19/12/2017	21:05:24	1.79	126.46	27	4	0.055066	0.07471	0.08921	Northern Molucca Sea
74	19/12/2017	21:38:59	2.69	128.25	180	4				Halmahera, Indonesia
75	19/12/2017	21:50:09	0.7	120.29	10	2.3				Minahassa Peninsula, Sulawesi
76	20/12/2017	06:59:02	5.02	126.6	83	4.4	0.073294	0.045061	0.05785	Mindanao, Philippines
77	20/12/2017	08:06:02	- 0.25	124.62	10	4				Southern Molucca Sea
78	20/12/2017	19:23:00	3.28	117.67	20	4.1				Borneo
79	22/12/2017	05:33:10	3.45	126.97	68	4.9	0.194625	0.120934	0.14752	Talaud Islands, Indonesia
80	22/12/2017	09:58:08	0.52	122.2	76	2.8				Minahassa Peninsula, Sulawesi
81	23/12/2017	03:18:56	2.34	126.09	24	3.7	0.066476	0.061847	0.08303	Northern Molucca Sea

82	23/12/2017	07:02:43	0.55	121.65	24	3.4				Minahassa Peninsula, Sulawesi
83	23/12/2017	13:51:55	- 0.23	122.93	84	3.6				Minahassa Peninsula, Sulawesi
84	24/12/2017	05:23:08	- 0.06	122.42	213	3.6	0.081751	0.60409	0.08064	Minahassa Peninsula, Sulawesi
85	25/12/2017	12:47:39	4.02	126.64	34	5.2	0.105034	0.100712	0.1251	Talaud Islands, Indonesia
86	25/12/2017	15:25:47	3.25	127.62	96	4.8				Talaud Islands, Indonesia
87	25/12/2017	21:09:29	0.56	121.74	10	2.1				Minahassa Peninsula, Sulawesi
88	26/12/2017	00:03:13	0.62	122.11	77	3				Minahassa Peninsula, Sulawesi
89	26/12/2017	07:53:19	1.21	126.11	11	3.5				Northern Molucca Sea
90	26/12/2017	13:57:31	1.89	127.25	105	4.8	0.266133	0.351719	0.37848	Halmahera, Indonesia
91	27/12/2017	02:21:36	2.86	125.14	14	4.2				Talaud Islands, Indonesia
92	27/12/2017	07:12:50	0.48	121.13	78	5	0.101771	0.132671	0.11481	Minahassa Peninsula, Sulawesi
93	27/12/2017	08:01:20	- 0.45	124.57	10	3.8				Southern Molucca Sea
94	27/12/2017	12:46:57	1.14	120.32	10	4.3				Minahassa Peninsula, Sulawesi
95	27/12/2017	15:01:38	- 0.37	123.14	31	2.6				Minahassa Peninsula, Sulawesi
96	27/12/2017	16:02:01	0.92	125.67	30	3.4				Northern Molucca Sea
97	27/12/2017	23:34:08	5.02	126.36	13	4.8				Mindanao, Philippines
98	28/12/2017	11:38:15	0.2	120.47	60	2.9				Minahassa Peninsula, Sulawesi
99	28/12/2017	13:44:20	2.53	125.93	120	4.3				Talaud Islands, Indonesia
100	28/12/2017	17:20:23	3.91	126.87	39	5.7	0.5116	0.799621	0.6917	Talaud Islands, Indonesia
101	28/12/2017	17:34:30	4.21	126.66	10	3.3				Talaud Islands, Indonesia
102	28/12/2017	18:01:36	4.7	125.95	100	4.1				Talaud Islands, Indonesia
103	28/12/2017	18:40:15	3.83	126.8	10	3.5				Talaud Islands, Indonesia
104	28/12/2017	19:49:34	0.62	119.75	10	2.9				Minahassa Peninsula, Sulawesi
105	29/12/2017	04:14:11	0.47	122.04	158	2				Minahassa Peninsula, Sulawesi
106	30/12/2017	19:25:49	4.17	126.78	15	4				Talaud
107	30/12/2017	18:48:39	- 0.15	122.5	33	2.5				Minahassa Peninsula, Sulawesi
108	30/12/2017	13:37:07	0.34	123.05	108	2.6				Minahassa Peninsula, Sulawesi
109	30/12/2017	08:49:11	0.23	121.52	136	2.7				Minahassa Peninsula, Sulawesi
110	30/12/2017	03:44:44	- 0.01	120.14	24	3.3				Minahassa Peninsula, Sulawesi
111	30/12/2017	01:46:05	0.52	122.48	51	2.3				Minahassa Peninsula, Sulawesi
112	30/12/2017	01:24:34	8.05	126.34	42	4.8	0.089501	0.059615	0.06524	Mindanao,
113	31/12/2017	14:06:28	- 0.65	123.76	13	3.6				Minahassa Peninsula, Sulawesi
114	31/12/2017	07:52:41	0.44	122.57	66	4.3	0.171264	0.227733	0.25484	Minahassa Peninsula, Sulawesi
115	31/12/2017	05:16:01	1.26	126.37	10	3.4				Northern Molucca Sea
116	31/12/2017	04:32:04	0.74	122.28	119	2.1				Minahassa Peninsula, Sulawesi

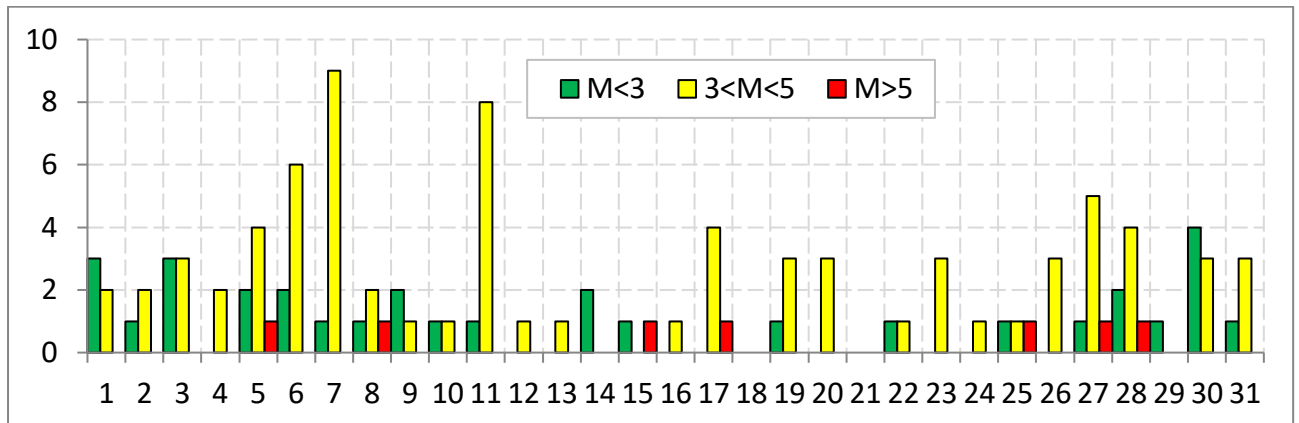
Peta 13. Distribusi Episenter Gempabumi Daerah Sulawesi Utara dan sekitarnya
Bulan Desember 2017



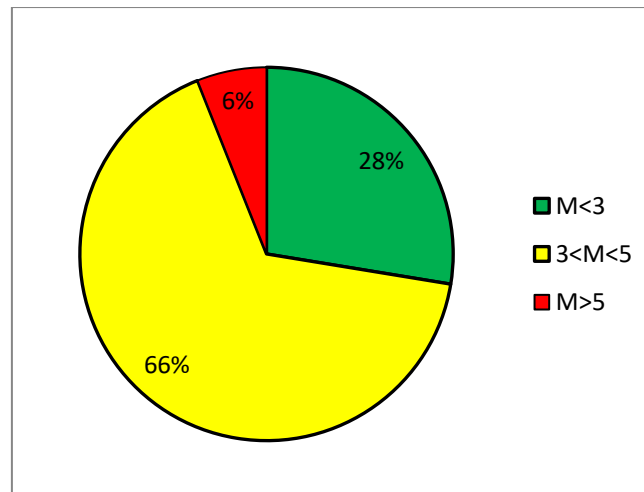
Tabel 24. Rekapitulasi Gempabumi Berdasarkan Magnitudo Bulan Desember 2017

Tanggal (UTC)	Magnitudo			Jumlah Total	Jumlah Gempa Signifikan	
	M<3	3≤M<5	M≥5		Dirasakan	Merusak
1	3	2	0	5	0	0
2	1	2	0	3	0	0
3	3	3	0	6	0	0
4	0	2	0	2	0	0
5	2	4	1	7	0	0
6	2	6	0	8	2	0
7	1	9	0	10	1	0
8	1	2	1	4	0	0
9	2	1	0	3	0	0
10	1	1	0	2	0	0
11	1	8	0	9	1	0
12	0	1	0	1	0	0
13	0	1	0	1	0	0
14	2	0	0	2	0	0
15	1	0	1	2	0	0
16	0	1	0	1	1	0
17	0	4	1	5	1	0
18	0	0	0	0	1	0
19	1	3	0	4	0	0
20	0	3	0	3	1	0
21	0	0	0	0	1	0
22	1	1	0	2	0	0
23	0	3	0	3	0	0
24	0	1	0	1	0	0
25	1	1	1	3	1	0
26	0	3	0	3	0	0
27	1	5	1	7	1	0
28	2	4	1	7	0	0
29	1	0	0	1	1	0
30	4	3	0	7	0	0
31	1	3	0	4	1	0
Jumlah gempa	32	77	7	116	13	0
Jumlah gempa seluruhnya						

Histogram 23. Gempabumi Berdasarkan Magnitudo
Bulan Desember 2017



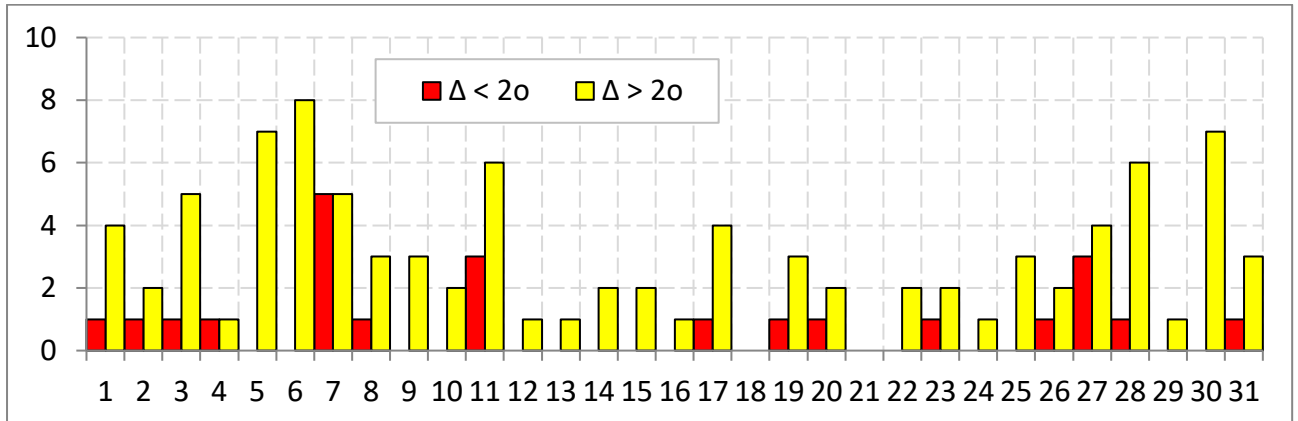
Persentase 25. Gempabumi Berdasarkan Magnitudo
Bulan Desember 2017



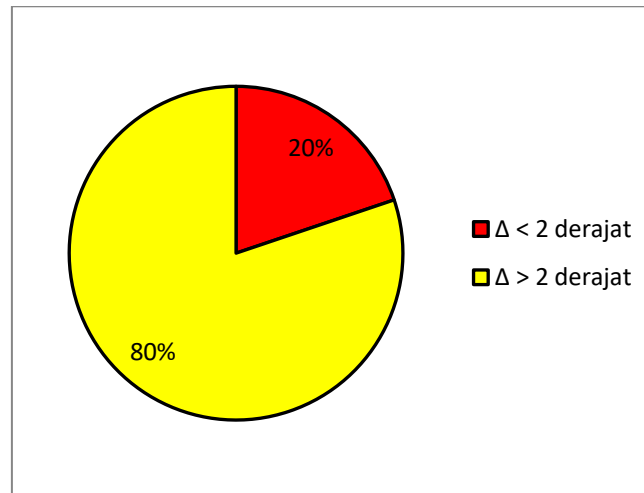
Tabel 25. Rekapitulasi Gempabumi Berdasarkan Jarak Dari Stasiun
Bulan Desember 2017

Tanggal	Jarak		Jumlah	Keterangan
	$\Delta \leq 2^\circ$	$\Delta > 2^\circ$		
01/12/2017	1	4	5	-
02/12/2017	1	2	3	-
03/12/2017	1	5	6	-
04/12/2017	1	1	2	-
05/12/2017	0	7	7	-
06/12/2017	0	8	8	-
07/12/2017	5	5	10	-
08/12/2017	1	3	4	-
09/12/2017	0	3	3	-
10/12/2017	0	2	2	-
11/12/2017	3	6	9	-
12/12/2017	0	1	1	-
13/12/2017	0	1	1	-
14/12/2017	0	2	2	-
15/12/2017	0	2	2	-
16/12/2017	0	1	1	-
17/12/2017	1	4	5	-
18/12/2017	0	0	0	-
19/12/2017	1	3	4	-
20/12/2017	1	2	3	-
21/12/2017	0	0	0	-
22/12/2017	0	2	2	-
23/12/2017	1	2	3	-
24/12/2017	0	1	1	-
25/12/2017	0	3	3	-
26/12/2017	1	2	3	-
27/12/2017	3	4	7	-
28/12/2017	1	6	7	-
29/12/2017	0	1	1	-
30/12/2017	0	7	7	-
31/12/2017	1	3	4	
Jumlah gempa	23	93	116	-
Jumlah gempa seluruhnya				

Histogram 24. Gempabumi Berdasarkan Jarak
Bulan Desember 2017



Persentase 26. Gempabumi Berdasarkan Jarak
Bulan Desember 2017



PETA GONCANGAN (*SHAKEMAP*) GEMPABUMI TERASA DI WILAYAH REGIONAL X TAHUN 2017

Peta Goncangan (*Shakemap*) merupakan Peta yang menggambarkan getaran/guncangan tanah yang diakibatkan oleh gempa. Melalui *shakemap*, daerah yang merasakan getaran akibat gempa bumi dapat diketahui secara cepat dan tepat. Untuk gempa dengan kekuatan yang besar hingga menimbulkan korban yang cukup besar, *shakemap* dapat digunakan untuk mengetahui lokasi yang terkena dampak signifikan, sehingga bantuan dapat diberikan secara tepat.

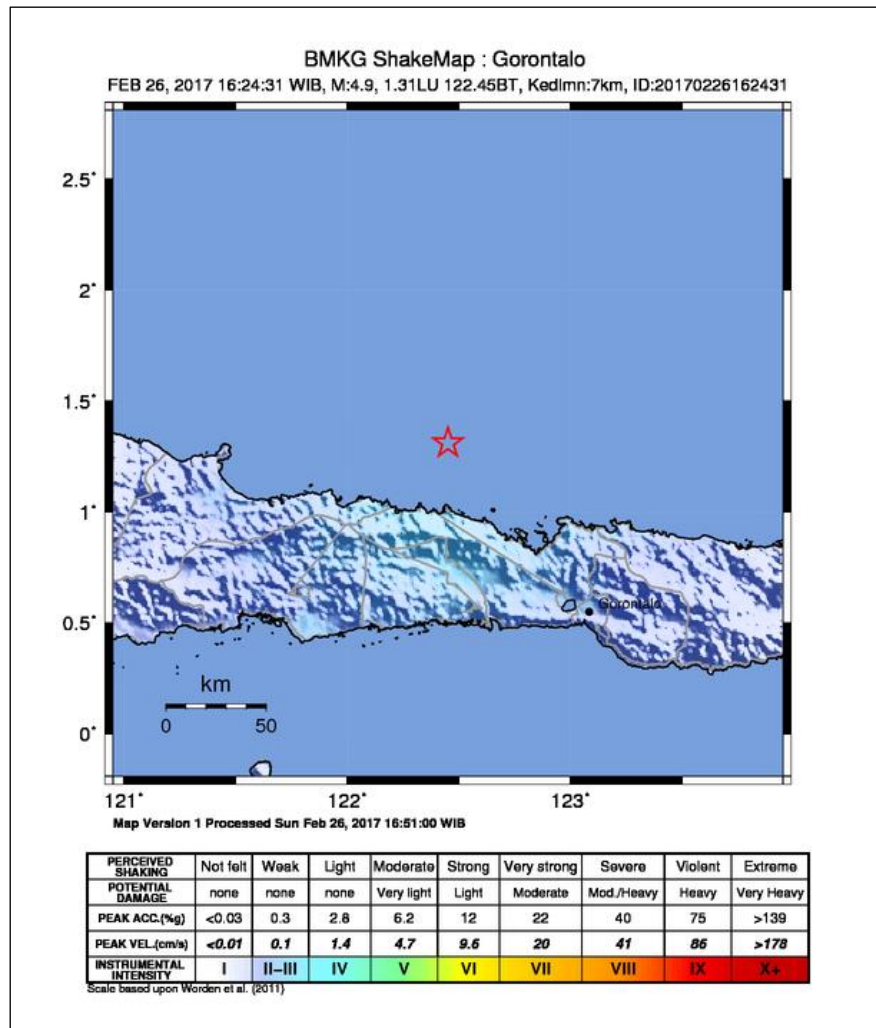
Peta goncangan yang dikeluarkan BMKG memiliki 2 jenis satuan, yaitu MMI (*Modified Mercalli Intensity*) dan SIG BMKG (Skala Intensitas Gempabumi BMKG). Di dalam Buletin Gempa Bumi Stasiun Geofisika Klas I Winangun Manado ini, Peta Guncangan (*Shakemap*) disajikan dengan menggunakan skala MMI. Skala MMI adalah satuan yang dibuat oleh *Giuseppe Mercalli* pada tahun 1902. Skala MMI dibagi menjadi 12 pecahan berdasarkan informasi dari orang-orang yang selamat dari gempa tersebut dan juga dengan melihat serta membandingkan tingkat kerusakan akibat gempa tersebut. Oleh karena itu, Skala MMI bersifat sangat subjektif. Ilustrasi perbandingan antara skala SIG dan MMI digambarkan oleh gambar di bawah ini.

Skala SIG BMKG	Warna	Deskripsi Sederhana	Deskripsi Rinci	Skala MMI	PGA (gal)
I	Putih	TIDAK DIRASAKAN (Not Felt)	Tidak dirasakan atau dirasakan hanya oleh beberapa orang tetapi terekam oleh alat.	I-II	< 2.9
II	Hijau	DIRASAKAN (Felt)	Dirasakan oleh orang banyak tetapi tidak menimbulkan kerusakan. Benda-benda ringan yang digantung bergoyang dan jendela kaca bergetar.	III-V	2.9-88
III	Kuning	KERUSAKAN RINGAN (Slight Damage)	Bagian non struktur bangunan mengalami kerusakan ringan, seperti retak rambut pada dinding, genteng bergeser ke bawah dan sebagian berjatuhan.	VI	89-167
IV	Jingga	KERUSAKAN SEDANG (Moderate Damage)	Banyak Retakan terjadi pada dinding bangunan sederhana, sebagian roboh, kaca pecah. Sebagian plester dinding lepas. Hampir sebagian besar genteng bergeser ke bawah atau jatuh. Struktur bangunan mengalami kerusakan ringan sampai sedang.	VII-VIII	168-564
V	Merah	KERUSAKAN BERAT (Heavy Damage)	Sebagian besar dinding bangunan permanen roboh. Struktur bangunan mengalami kerusakan berat. Rel kereta api melengkung.	IX-XII	> 564

PETA 14. GUNCANGAN (SHAKEMAP) BULAN JANUARI 2017

- No data

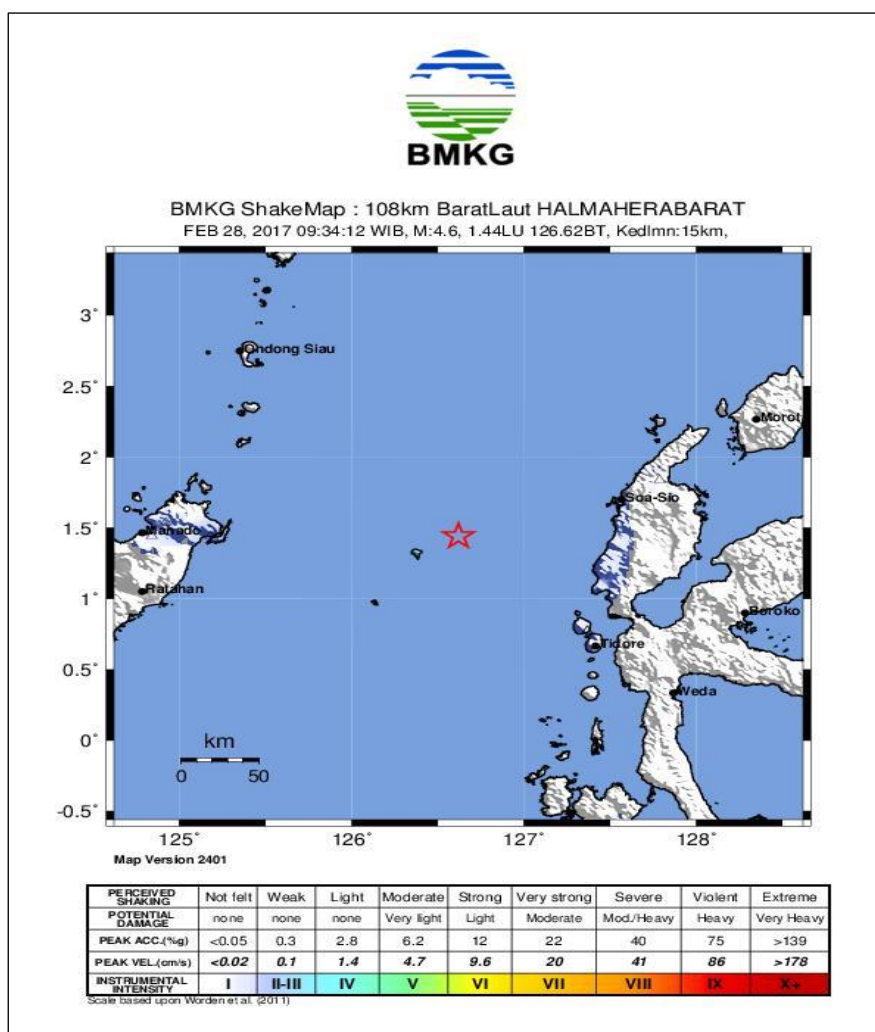
PETA 15. GUNCANGAN (SHAKEMAP) BULAN PEBRUARI 2017



Gempa Gorontalo tanggal 26 Februari 2017, Jam 18:24:31 WITA

Lat : 1.31 LU Long : 122.45 BT Mag= 4.9 SR Depth= 7 Km di 43 Km BL Gorontalo Utara-Gorontalo

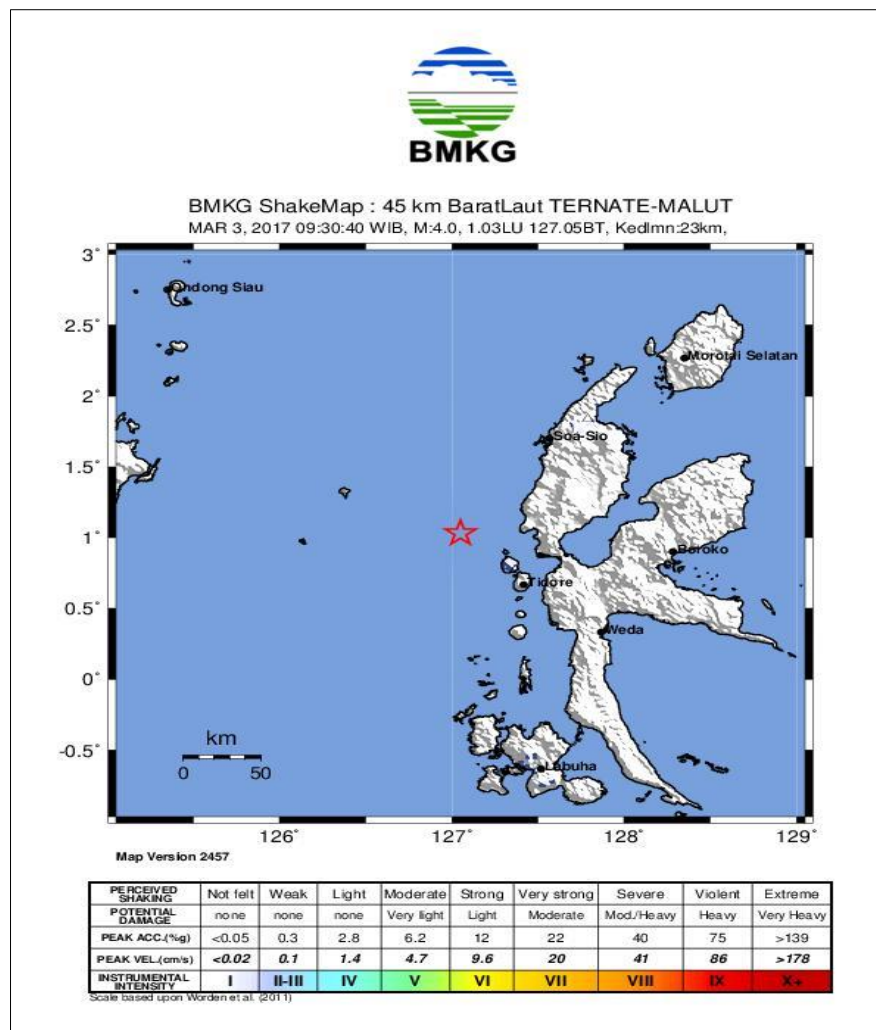
No	Kode Sensor	Z(gals)	N(gals)	E(gals)	max	Intensitas Konversi (MMI)	Intensitas Konversi (SIG)	LAT Sta	LON Sta	R (Hypocentre)	Epicenter
1	SLMI	0.0115791	0.0194171	0.0181483	0.0194171	I	I	1.444	124.840	247.198	265.68



Gempa Laut Maluku bagian Utara tanggal 28 Februari 2017, Jam 10:34:12 WITA
 Lat : 1.44 LU Long : 126.62 BT Mag= 4.6 SR Depth= 15 Km
 di 108 Km barat laut Halmahera Barat, Maluku Utara, 167 km sebelah timur Bitung

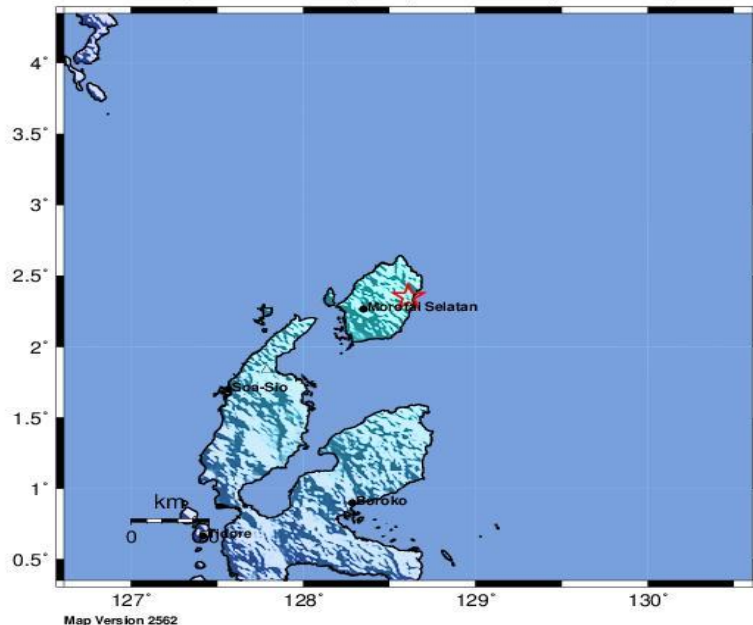
No	Kode Sensor	Z(gals)	N(gals)	E(gals)	max	Intensitas Konversi (MMI)	Intensitas Konversi (SIG)	LAT Sta	LON Sta	R (Hypocentre)	Epicenter
1	SLMI	-0.020776	0.027538	0.033144	0.033144	I	I	1.44	124.80	198.271	197.58

PETA 16. GUNCANGAN (SHAKEMAP) BULAN MARET 2017





BMKG ShakeMap : Halmahera, Indonesia
MAR 8, 2017 08:38:44 WIB, M:5.3, 2.35LU 128.61BT, Kedlmn:57km,



PERCEIVED SHAKING	Not felt	Weak	Light	Moderate	Strong	Very strong	Severe	Violent	Extreme
POTENTIAL DAMAGE	no ne	none	none	Very light	Light	Moderate	Mod./Heavy	Heavy	Very Heavy
PEAK ACC.(%g)	<0.05	0.3	2.8	6.2	12	22	40	75	>139
PEAK VEL.(cm/s)	<0.02	0.1	1.4	4.7	9.6	20	41	86	>178
INSTRUMENTAL INTENSITY	I	II-III	IV	V	VI	VII	VIII	IX	X+

Scale based upon Worden et al. (2011)

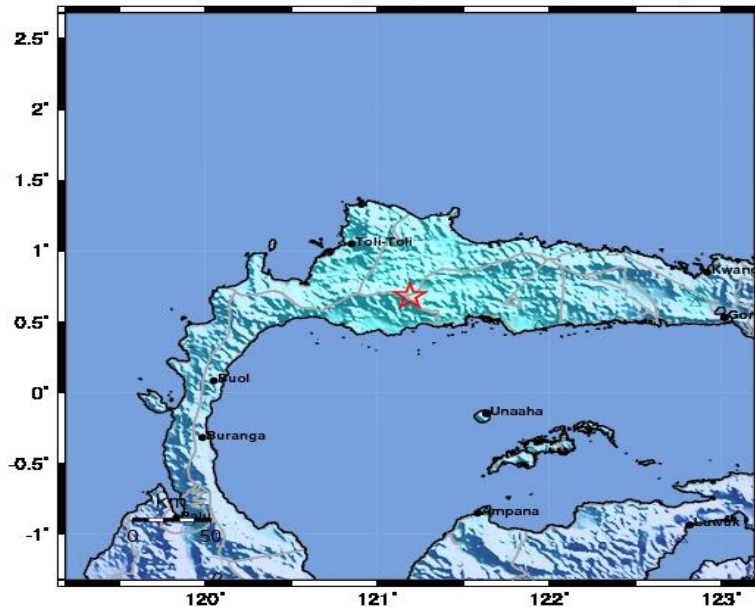
Gempa Halmahera tanggal 8 Maret 2017, Jam 09:38:42 WITA

Lat : 2.40 LU Long : 128.52 BT Mag= 5.3 SR Depth= 10 Km di 13 Km TL Kepulauan Morotai

No	Kode Sensor	Z(gals)	N(gals)	E(gals)	max	Intensitas Konversi (MMI)	Intensitas Konversi (SIG)	LAT Sta	LON Sta	R (Hypocentre)	Epicenter
1	SLMI	0.000236	0000208	0.000318	0.000318	I	I	1.444	124.840	431.165	422.0385
2	GLMI	4.1856	2.1727	1.4671	4.1856	III-IV	II	1.84	127.79		120.76
3	TGTI	0.1578	0.1578	0.1411	0.1578	I	I	0.77	127.79		229.45
4	LBMI	0.1205	0.1735	0.1039	0.1735	I-II	I	-0.64	127.50		357.90
5	SGSI	2.0805	2.0639	0.9202	2.0805	III	II	3.69	125.53		376.27
6	RAPI	0.0157	0.0167	0.0206	0.0206	I	I	-0.41	130.82		396.29



BMKG ShakeMap : Minahassa Peninsula, Sulawesi
MAR 14, 2017 12:55:21 WIB, M:5.4, 0.68LU 121.19BT, Kedlmn:81km,



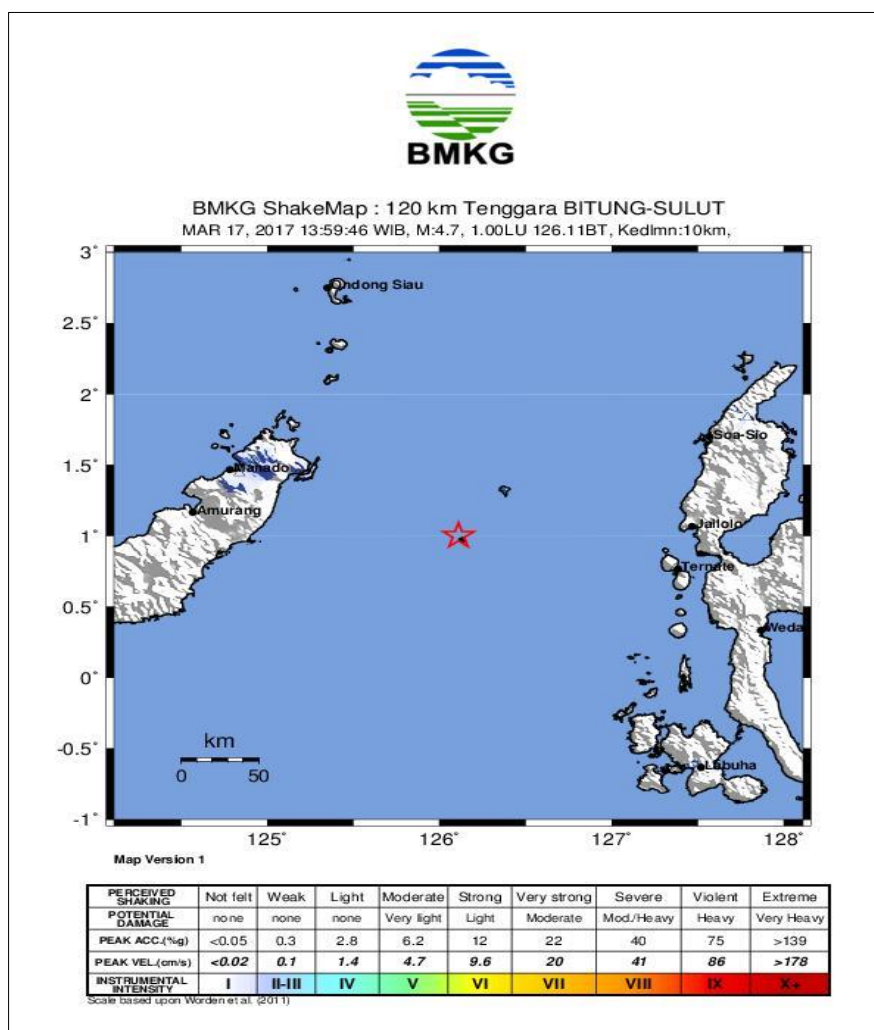
Map Version 1

PERCEIVED SHAKING	Not felt	Weak	Light	Moderate	Strong	Very strong	Severe	Violent	Extreme
POTENTIAL DAMAGE	none	none	none	Very light	Light	Moderate	Mod./Heavy	Heavy	Very Heavy
PEAK ACC.(m/s ²)	<0.05	0.5	2.8	8.2	12	22	40	75	>130
PEAK VEL.(mm/s)	<0.02	0.1	1.4	4.7	8.8	20	41	88	>170
INSTRUMENTAL INTENSITY	I	II-III	IV	V	VI	VII	VIII	IX	X+

Scale based upon Worden et al. (2011)

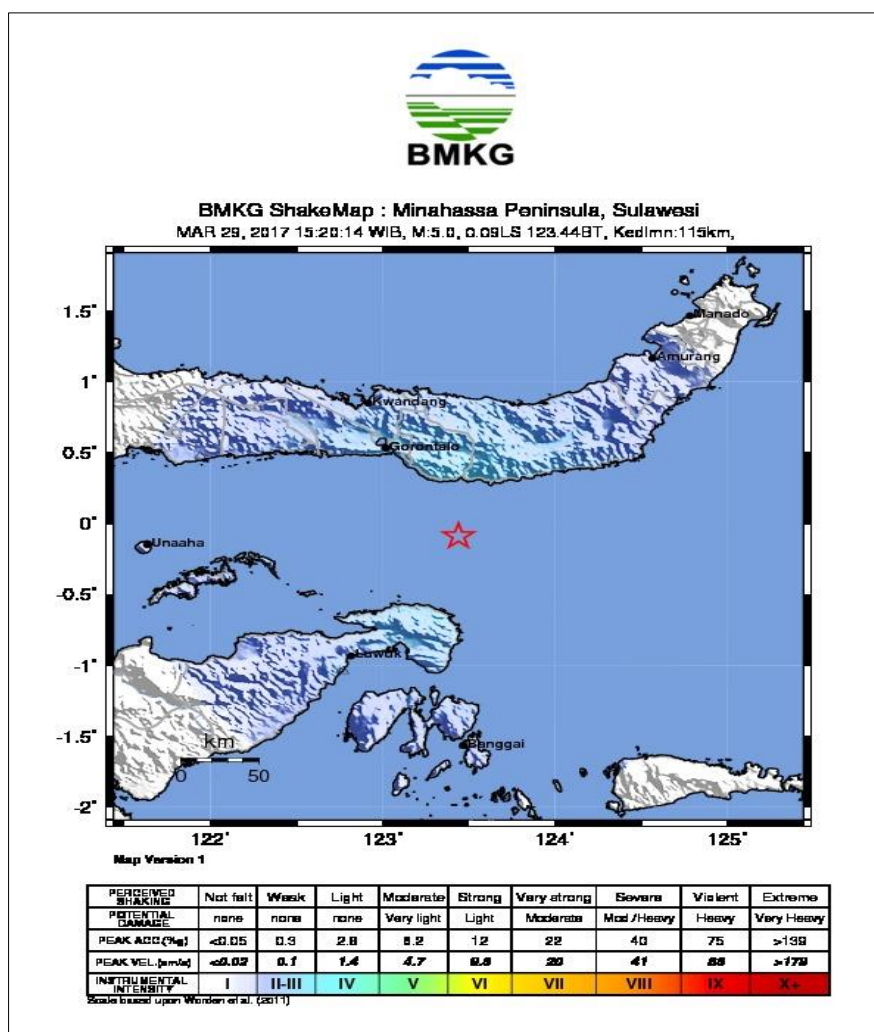
Gempa Laut Toli-toli tanggal 14 Maret 2017, Jam 13:55:21 WITA
Lat : 0.66 LU Long : 121.19 BT Mag= 5.4 SR Depth= 81 Km

No	Kode Sensor	Z(gals)	N(gals)	E(gals)	max	Intensitas Konversi (MMI)	Intensitas Konversi (SIG)	LAT Sta	LON Sta	R (Hypocentre)	Epicenter
1	SLMI	-0.0207706	0.0275378	0.0331404	0.0331404	I	I	1.444	124.840	424.979	420.4512



Gempa Halmahera tanggal 17 Maret 2017, Jam 15:59:46 WITA
Lat : 1.00 LU Long : 126.11 BT Mag= 4.7 SR Depth= 10 Km di 120 Km Tenggara Bitung-SULUT

No	Kode Sensor	Z(gals)	N(gals)	E(gals)	max	Intensitas Konversi (MMI)	Intensitas Konversi (SIG)	LAT Sta	LON Sta	R (Hypocentre)	Epicenter
1	SLMI	0.001315	0.001514	0.001535	0.001535	I-II	I	1.444	124.840	148.719	149.3367
2	BTSI	21.5757	17.7625	17.6165	17.7625	IV	II	1.44	125.18		114.62
3	KWSI	6.3102	7.2598	3.6564	7.2598	III-IV	II	1.50	124.92		143.75
4	SAMI	0.9016	1.0976	0.1107	1.0976	I-II	I	1.54	124.92		149.64
5	GLMI	0.1842	0.0774	0.1049	0.1842	I	I	1.84	127.79		208.51
6	LBMI	0.0274	0.0314	0.0235	0.0314	I	I	-0.64	127.50		238.94
7	SGSI	0.1774	0.4106	0.1715	0.1774	I	I	3.69	125.53		305.56
8	TGTI	0.0745	0.0559	0.0529	0.0745	I	I	0.77	127.37		114.62



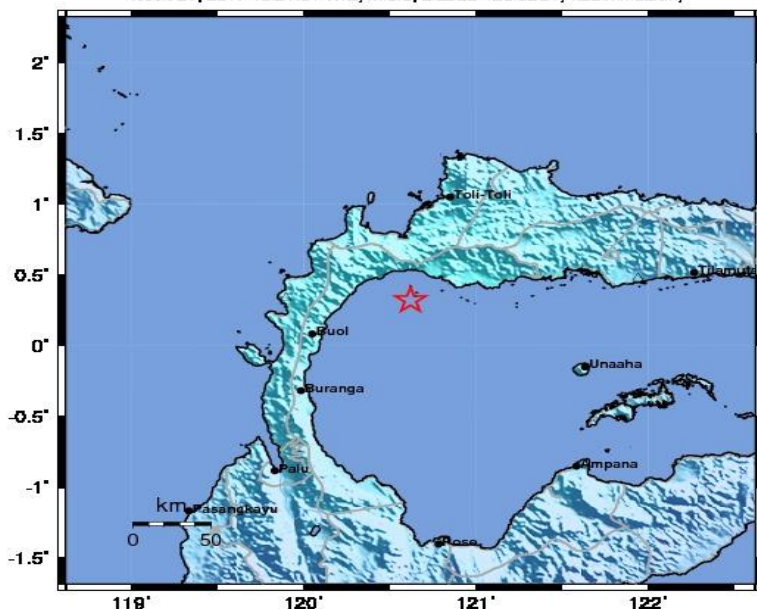
Gempa Minahasa Peninsula tanggal 29 Maret 2017, Jam 16:20:14 WITA
Lat : 0.09 LS Long : 123.44 BT Mag= 5.0 SR Depth= 115 Km di 70Km BD BOLMONGSEL-SULUT

No	Kode Sensor	Z(gals)	N(gals)	E(gals)	max	Intensitas Konversi (MMI)	Intensitas Konversi (SIG)	LAT Sta	LON Sta	R (Hypocentre)	Epicenter
1	SLMI	0.000166	0.000099	0.000157	0.000157	I	I	1.444	124.840	382.816	216.1885
2	LUWS	3.1889	3.33	1.6621	3.33	II-III	I	-1.04	122.77		130.37
3	MRSI	0.5615	0.5096	0.2136	0.5615	I-II	I	0.48	121.94		172.79
4	MPSI	0.0735	0.0843	0.0608	0.0843	I	I	0.34	119.90		392.14
5	TOSI	0.3214	0.2303	0.1235	0.3214	I	I	1.12	120.79		317.94
6	LBMI	0.4939	0.3724	0.1431	0.4939	I	I	-0.64	127.50		458.81



BMKG ShakeMap : Sulawesi

MAR 31, 2017 18:21:01 WIB, M:5.6, 0.32 LU 120.62 BT, Kedlmn:98km,



Map Version 1

PERCEIVED SHAKING	Not felt	Weak	Light	Moderate	Strong	Very strong	Severe	Violent	Extreme
POTENTIAL DAMAGE	none	none	none	Very light	Light	Moderate	Mod./Heavy	Heavy	Very Heavy
PEAK ACC. (mg)	<0.05	0.3	2.8	8.2	12	22	40	75	>199
PEAK VEL. (cm/s)	<0.02	0.1	1.4	4.7	9.8	29	41	88	>179
INSTRUMENTAL INTENSITY	I	II-III	IV	V	VI	VII	VIII	IX	X+

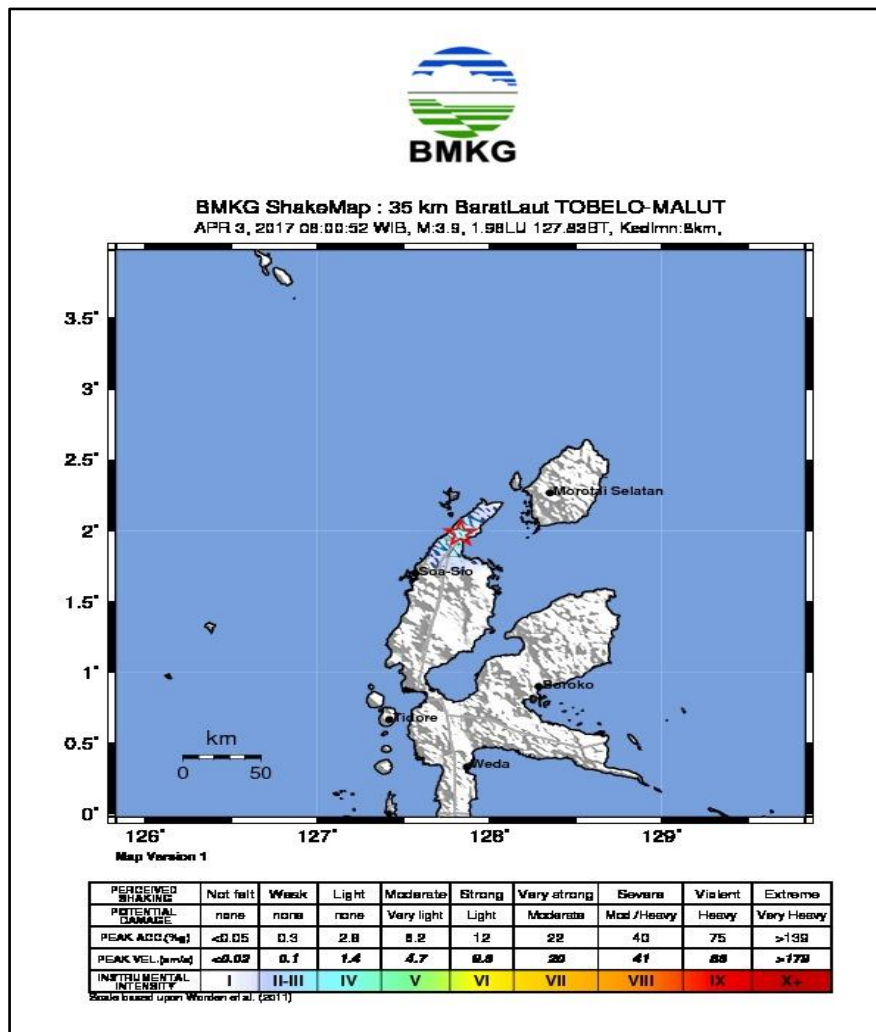
Scale based upon Worden et al. (2011)

Gempa Minahasa Peninsula tanggal 31 Maret 2017, Jam 19:21:01WITA

Lat : 0.32 LU Long : 120.62 BT Mag= 5.6 SR Depth= 98 Km di 38 Km BD Parigimoutong-SULTENG

No	Kode Sensor	Z(gals)	N(gals)	E(gals)	max	Intensitas Konversi (MMI)	Intensitas Konversi (SIG)	LAT Sta	LON Sta	R (Hypocentre)	Epicenter
1	SLMI	0.232152	0.328102	0.495923	0.495923	I	I	1.444	124.840	492	484
2	SAMI	0.220232	0.212131	0.254472	0.254472	I	I	1.54	124.92	503	496

PETA 17. GUNCANGAN (SHAKEMAP) BULAN APRIL 2017



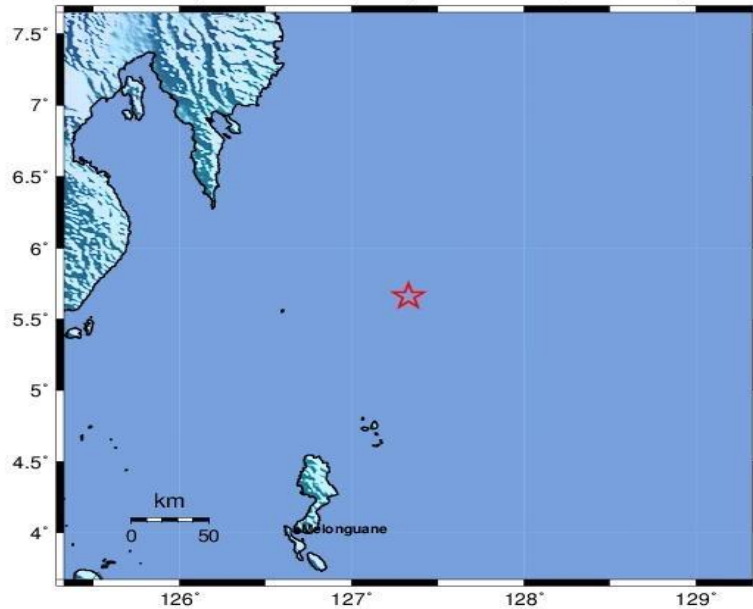
Gempa Tobelo – Maluku Utara tanggal 3 April 2017, Jam 09:00:52 WITA

Lat : 1.98 LU Long : 127.83 BT Mag= 3.9 SR Depth= 8 Km di 35 Km BL Tobelo

No	Kode Sensor	Z(gals)	N(gals)	E(gals)	max	Intensitas Konversi (MMI)	Intensitas Konversi (SIG)	LAT Sta	LON Sta	R (Hypocentre)	Epicenter
1	GLMI	5.5811	8.859	8.486	8.859	III	II	1.84	127.89	18.69	16.45



BMKG ShakeMap : 188 Km Timur Laut Kep.Talaud-SULUT
 APR 10, 2017 17:38:53 WIB, M:5.8, 5.66LU 127.33BT, Kedlmn:72km,



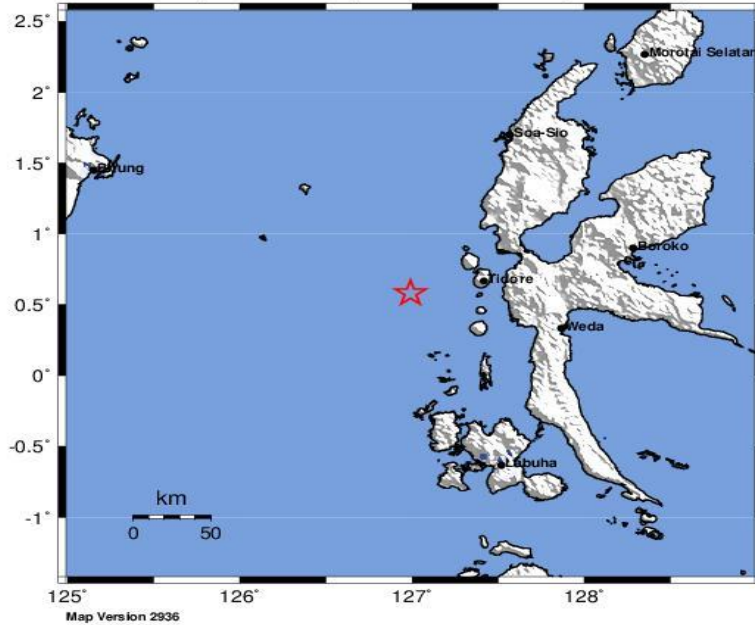
Map Version 1

PERCEIVED SHAKING	Not felt	Weak	Light	Moderate	Strong	Very strong	Severe	Violent	Extreme
POTENTIAL DAMAGE	none	none	none	Very light	Light	Moderate	Mod./Heavy	Heavy	Very Heavy
PEAK ACC.(%g)	<0.05	0.3	2.8	6.2	12	22	40	75	>139
PEAK VEL.(cm/s)	<0.02	0.1	1.4	4.7	9.6	20	41	86	>178
INSTRUMENTAL INTENSITY	I	II-III	IV	V	VI	VII	VIII	IX	X

Scale based upon Worden et al. (2011)



BMKG ShakeMap : 47 km BaratDaya TERNATE- MALUT
APR 19, 2017 15:06:51 WIB, M:3.8, 0.58LU 126.99BT, Kedlmn:16km,

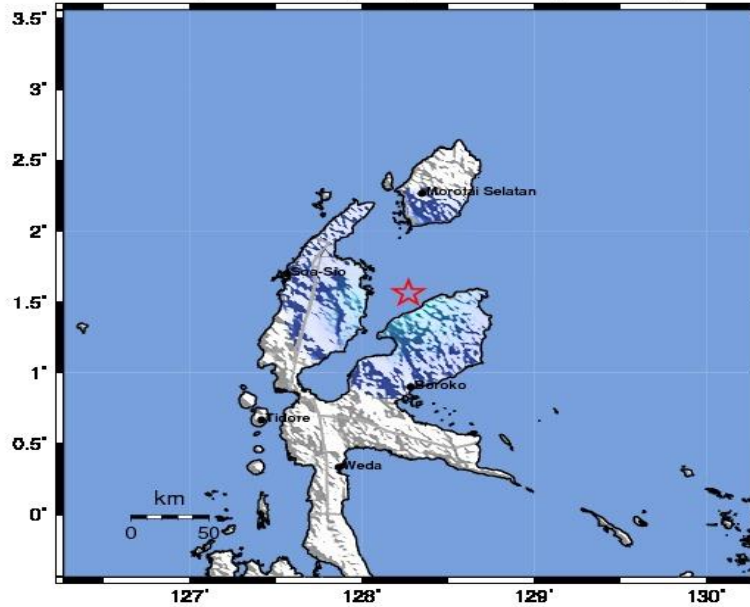


PERCEIVED SHAKING	Not felt	Weak	Light	Moderate	Strong	Very strong	Severe	Violent	Extreme
POTENTIAL DAMAGE	none	none	none	Very light	Light	Moderate	Mod./Heavy	Heavy	Very Heavy
PEAK ACC. (%g)	<0.05	0.3	2.8	6.2	12	22	40	75	>139
PEAK VEL. (cm/s)	<0.02	0.1	1.4	4.7	9.6	20	41	86	>178
INSTRUMENTAL INTENSITY	I	II-III	IV	V	VI	VII	VIII	IX	X+

Scale based upon Worden et al. (2011)



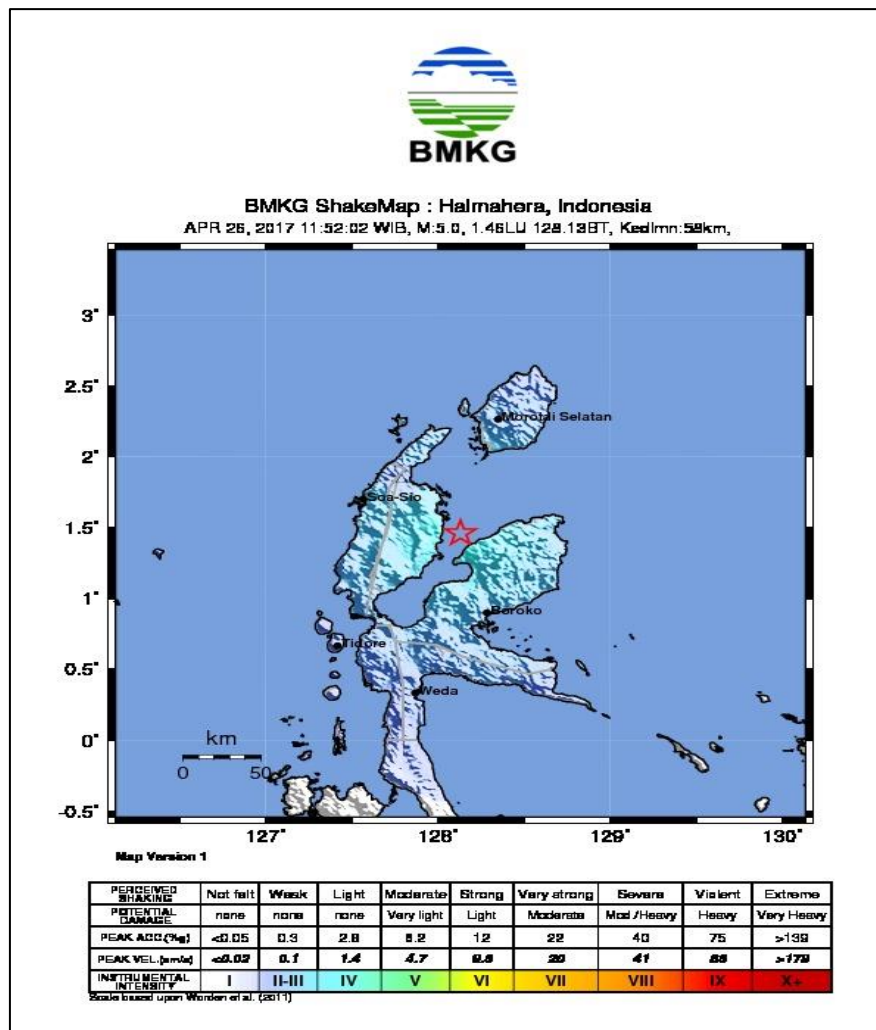
BMKG ShakeMap : 34 km Tenggara TOBELO- MALUT
 APR 19, 2017 20:40:20 WIB, M:4.5, 1.56LU 128.27BT, Kedlmn:56km,



Map Version 1

PERCEIVED SHAKING	Not felt	Weak	Light	Moderate	Strong	Very strong	Severe	Violent	Extreme
POTENTIAL DAMAGE	none	none	none	Very light	Light	Moderate	Mod /Heavy	Heavy	Very Heavy
PEAK ACC (%g)	<0.05	0.3	2.8	8.2	12	22	40	75	>139
PEAK VEL. (mm/s)	<0.02	0.1	1.4	4.7	9.8	20	41	88	>179
INSTRUMENTAL INTENSITY	I	II-III	IV	V	VI	VII	VIII	IX	X+

Scale based upon Worden et al. (2011)

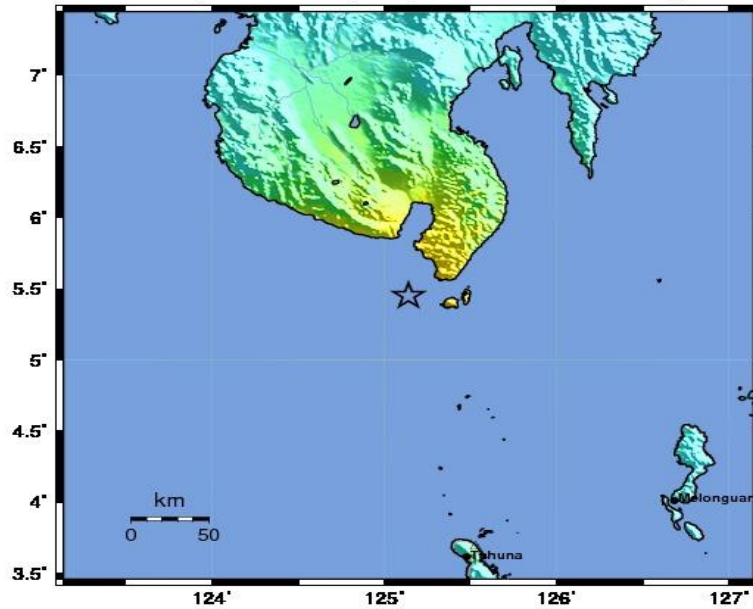


Gempabumi Tobelo – Maluku Utara tanggal 26 April 2017, Jam 12:52:02 WITA
 Lat: 1.51 LU Long : 128.16 BT Mag = 5.1 SR Depth= 93 Km di 39Km Barat Laut Tobelo

No	Kode Sensor	Z(gals)	N(gals)	E(gals)	max	Intensitas Konversi (MMI)	Intensitas Konversi (SIG)	LAT Sta	LON Sta	R (Hypocentre)	Epicenter
1	GLMI	0.3185	0.5498	0.491	0.5498	II	I	1.84	127.79	107.687	54.29
2	LBMI	0.0411	0.0686	0.0519	0.0686	I	I	-0.64	128.96	265.763	248.96
3	SGSI	0.2068	0.1666	0.1548	0.2068	I	I	3.69	125.53	389.797	378.54
4	SWI	0.0098	0.0235	0.0147	0.0235	I	I	-0.86	131.86	442.992	433.12



BMKG ShakeMap : Mindanao, Philippines
 APR 29, 2017 03:29:20 WIB, M:7.3, S:45LU 125.14BT, Kcdlmm:43km,

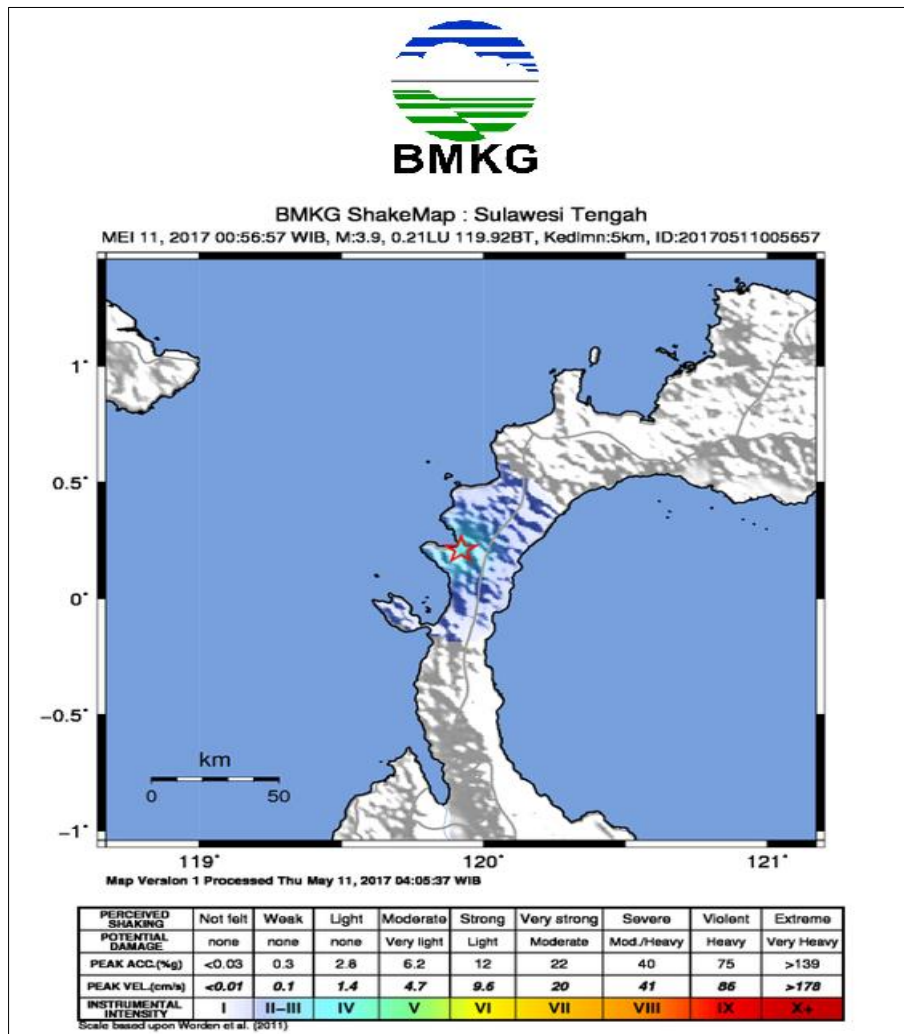


Map Version 1

PERCEIVED SHAKING	Not felt	Weak	Light	Moderate	Strong	Very strong	Severe	Violent	Extreme
POTENTIAL DAMAGE	none	none	none	Very light	Light	Moderate	Mod./Heavy	Heavy	Very Heavy
PEAK ACC.(mg)	<0.05	0.3	2.8	8.2	12	22	40	75	>199
PEAK VEL.(mm/s)	<0.02	0.1	1.4	4.7	9.8	20	41	88	>179
INSTRUMENTAL INTENSITY	I	II-III	IV	V	VI	VII	VIII	IX	X+

Scale based upon Worden et al. (2011)

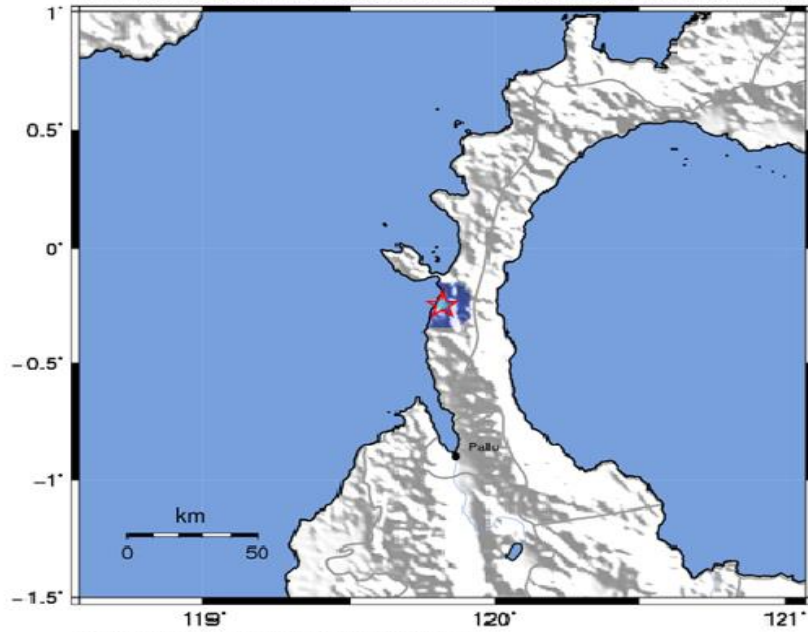
PETA 18. GUNCANGAN (SHAKEMAP) BULAN MEI 2017





BMKG ShakeMap : Sulawesi Tengah

MEI 11, 2017 02:28:20 WIB; M:2.9, 0.25LS 119.82BT, Kedalaman:6km, ID:2 017051102 2820



Map Version 1 Processed Thu May 11, 2017 04:12:31 WIB

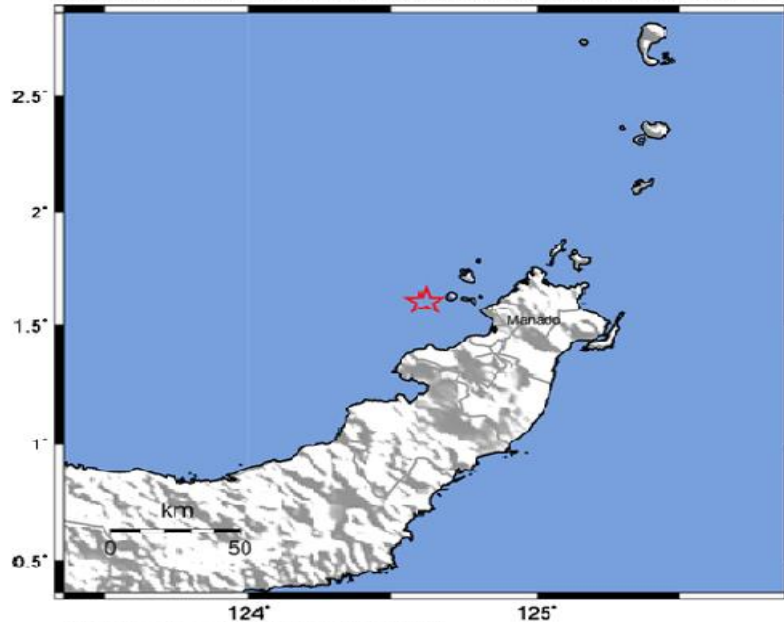
PERCEIVED SHAKING	Not felt	Weak	Light	Moderate	Strong	Very strong	Severe	Violent	Extreme
POTENTIAL DAMAGE	none	none	none	Very light	Light	Moderate	Mod./Heavy	Heavy	Very Heavy
PEAK ACC.(%)	<0.03	0.3	2.8	6.2	12	22	40	75	>139
PEAK VEL.(cm/s)	<0.07	0.1	1.4	4.7	9.6	20	41	85	>178
INSTRUMENTAL INTENSITY	I	II-III	IV	V	VI	VII	VIII	IX	X+

Scale based upon Worden et al. (2011)



BMKG Shake Map : SULUT

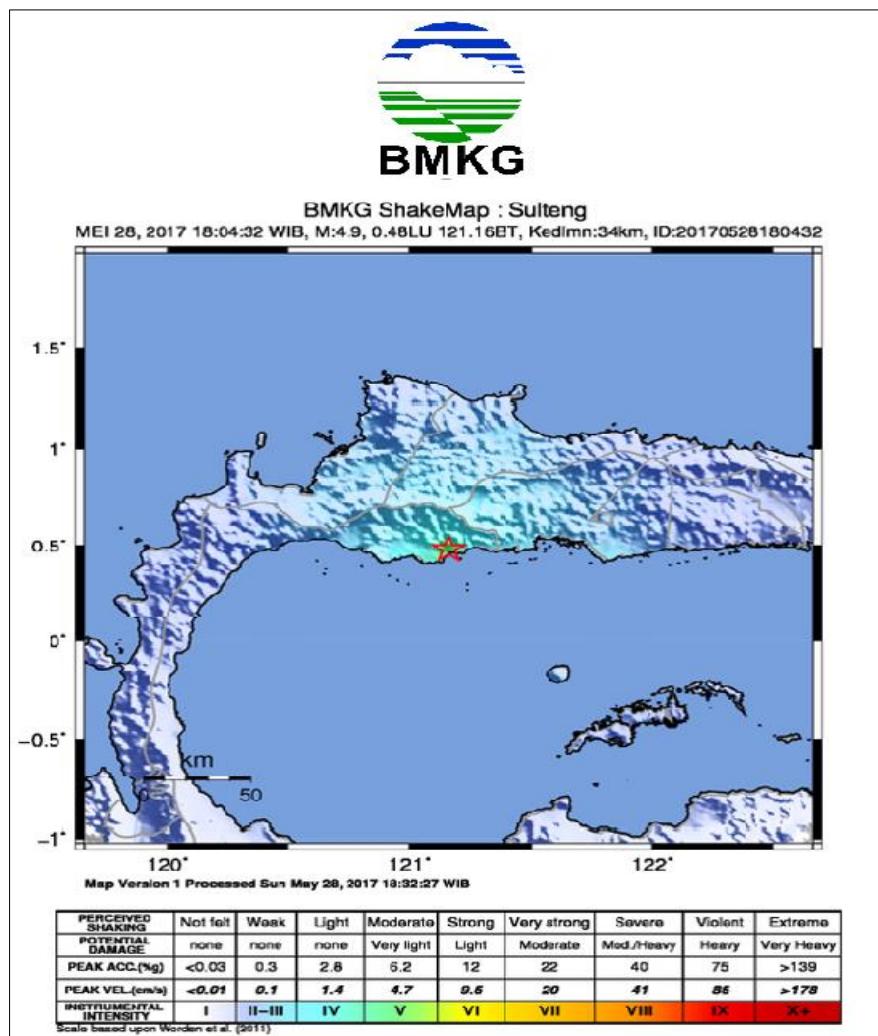
MEI 20, 2017 19:08:34 WIB, M:3.4, 1.61LU 1 24.61BT, Kedlme:32km, ID:20170520190834



Map Version 1 Processed Sat May 20, 2017 22:39:25 WIB

PERCEIVED SHAKING	Not felt	Weak	Light	Moderate	Strong	Very strong	Severe	Violent	Extreme
POTENTIAL DAMAGE	none	none	none	Very light	Light	Moderate	Mod./Heavy	Heavy	Very Heavy
PEAK ACC.(%g)	<0.03	0.3	2.8	5.2	12	22	40	75	>139
PEAK VEL.(cm/s)	<0.01	0.1	1.4	4.7	9.6	20	41	86	>178
INSTRUMENTAL INTENSITY	I	II-III	IV	V	VI	VII	VIII	IX	X+

Scale based upon Wenden et al. (2011)

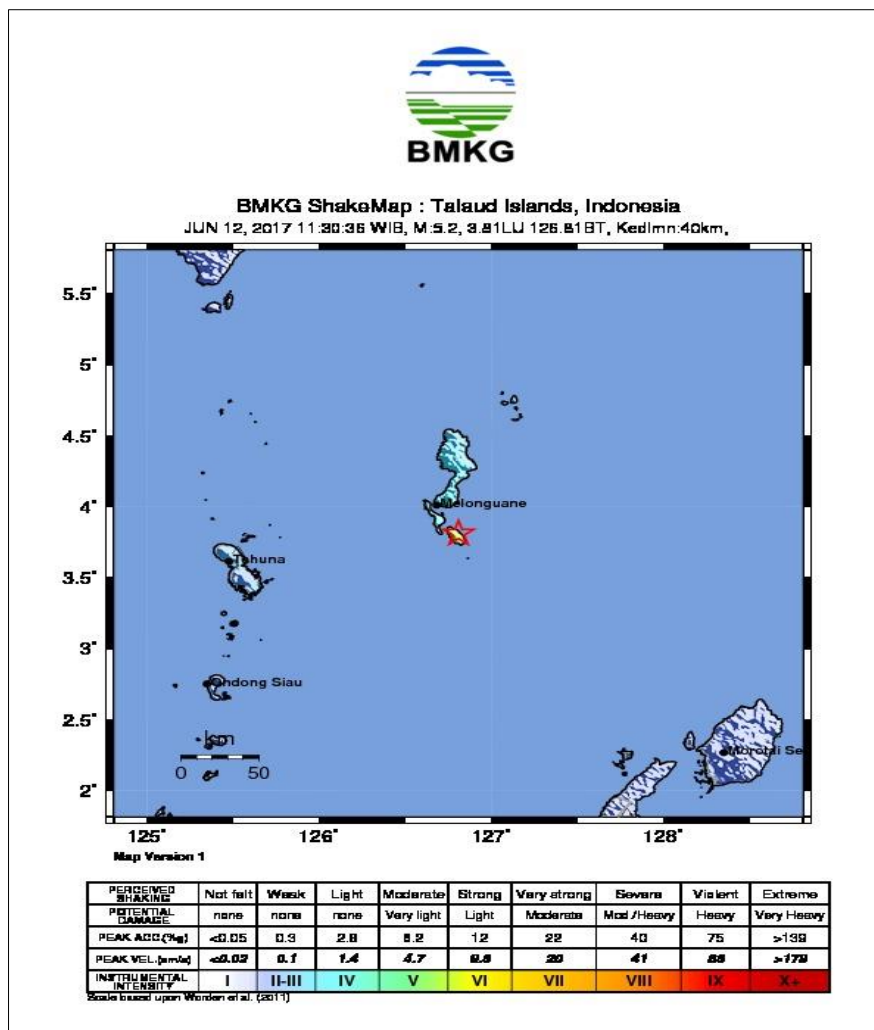


Gempa Sulteng 28 Mei 2017 19:04:32 WITA

Lat : 0.56 LU Long : 121.18 BT Mag= 4.8 SR Depth= 69 Km di 41 Km TG Parigi Moutong - Sulteng

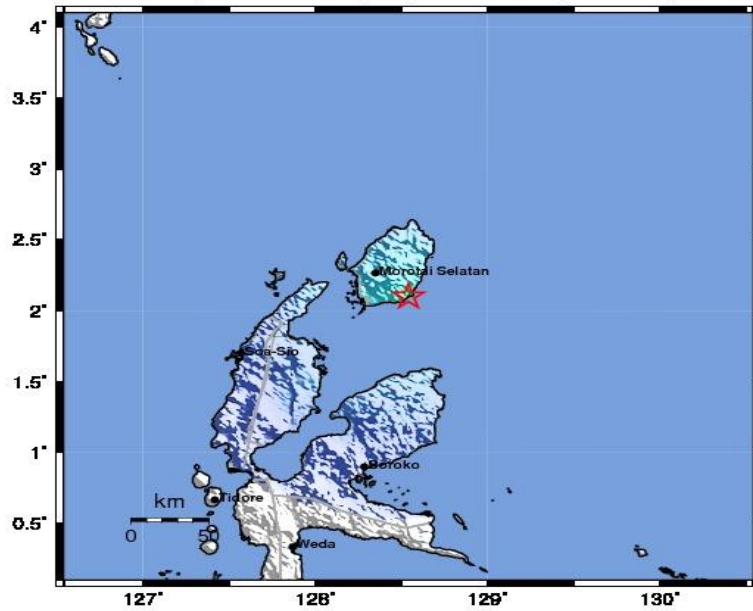
No	Kode Sensor	Z (gals)	N(gals)	E (gals)	max	Intensitas Konversi (MMI)	Intensitas Konversi (SIG)	LAT Sta	LON Sta	Epicenter
1	MRSI	1.8306	3.1683	2.8557	3.1683	II-III	I-II	0.48	121.94	85.12
2	MPSI	0.6497	0.9712	1.1495	1.1495	II	I	0.34	119.90	144.68
3	GMCI	0.4763	1.3377	1.178	1.3377	II	I	0.63	122.85	185.85
4	LUWI	0.1431	NaN	0.2009	0.2009	I	I	-1.04	122.77	251.12
5	KMSI	0.0843	0.1323	0.1215	0.1323	I	I	0.57	123.98	311.45

PETA 19. GUNCANGAN (SHAKEMAP) BULAN JUNI 2017





BMKG ShakeMap : 28 km TimurLaut DARUBA-MALUT
 JUN 20, 2017 21:47:48 WIB, M:4.9, 2.10LU 128.54BT, Kedlmn:5km,



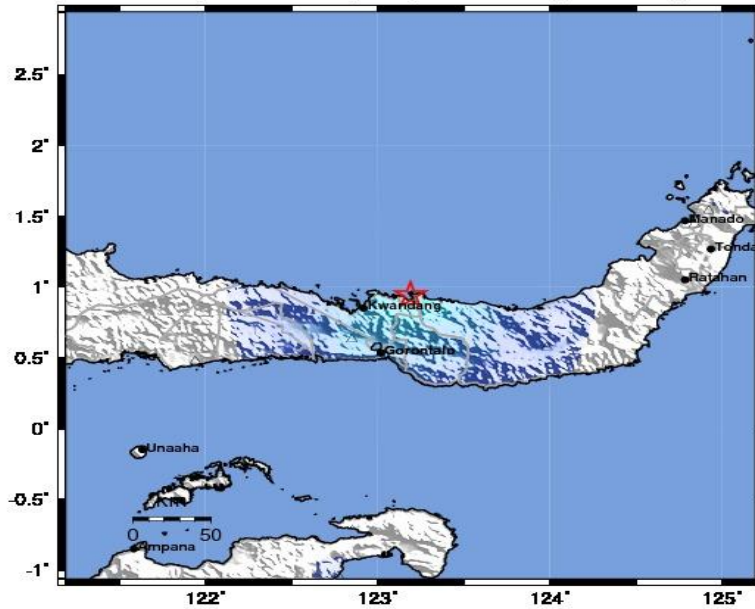
Map Version 1

PERCEIVED SHAKING	Not felt	Weak	Light	Moderate	Strong	Very strong	Severe	Violent	Extreme
POTENTIAL DAMAGE	none	none	none	Very light	Light	Moderate	Mod./Heavy	Heavy	Very Heavy
PEAK ACC. (mg)	<0.05	0.3	2.0	8.2	12	22	40	75	>199
PEAK VEL. (mm/s)	<0.02	0.1	1.4	4.7	9.8	20	41	88	>179
INSTRUMENTAL INTENSITY	I	II-III	IV	V	VI	VII	VIII	IX	X+

Scale based upon Worden et al. (2011)



BMKG ShakeMap : 9 Km Barat Laut Bolaang Mongondow Utara - SULUT
 JUN 23, 2017 18:55:56 WIB, M:4.7, 0.94LU 123.19BT, Kedlmn:25km,



Map Version 1

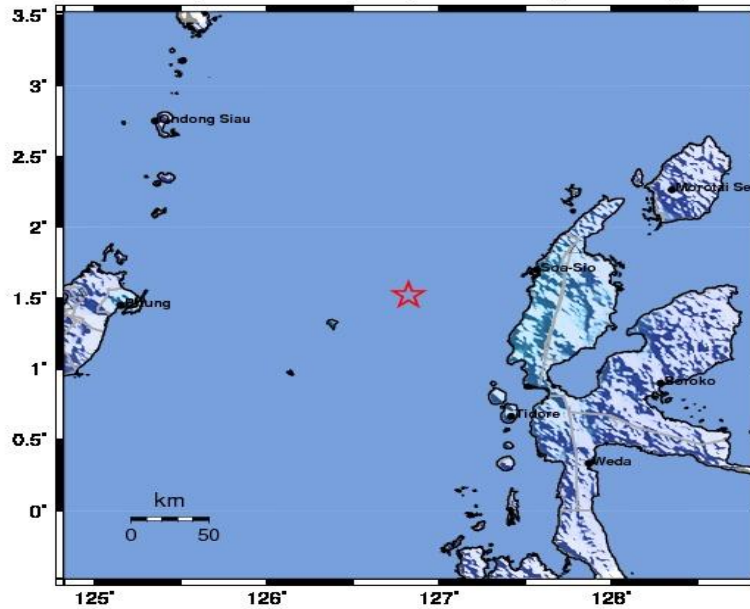
PERCEIVED SHAKING	Not felt	Weak	Light	Moderate	Strong	Very strong	Severe	Violent	Extreme
POTENTIAL DAMAGE	none	none	none	Very light	Light	Moderate	Mod./Heavy	Heavy	Very Heavy
PEAK ACC.(mg)	<0.05	0.3	2.8	8.2	12	22	40	75	>139
PEAK VEL.(mm/s)	<0.02	0.1	1.4	4.7	9.8	20	41	88	>179
INSTRUMENTAL INTENSITY	I	II-III	IV	V	VI	VII	VIII	IX	X+

Scale based upon Worden et al. (2011)



BMKG ShakeMap : Northern Molucca Sea

JUN 27, 2017 21:55:29 WIB, M:5.1, 1.52LU 126.82BT, Kedlmn:56km,

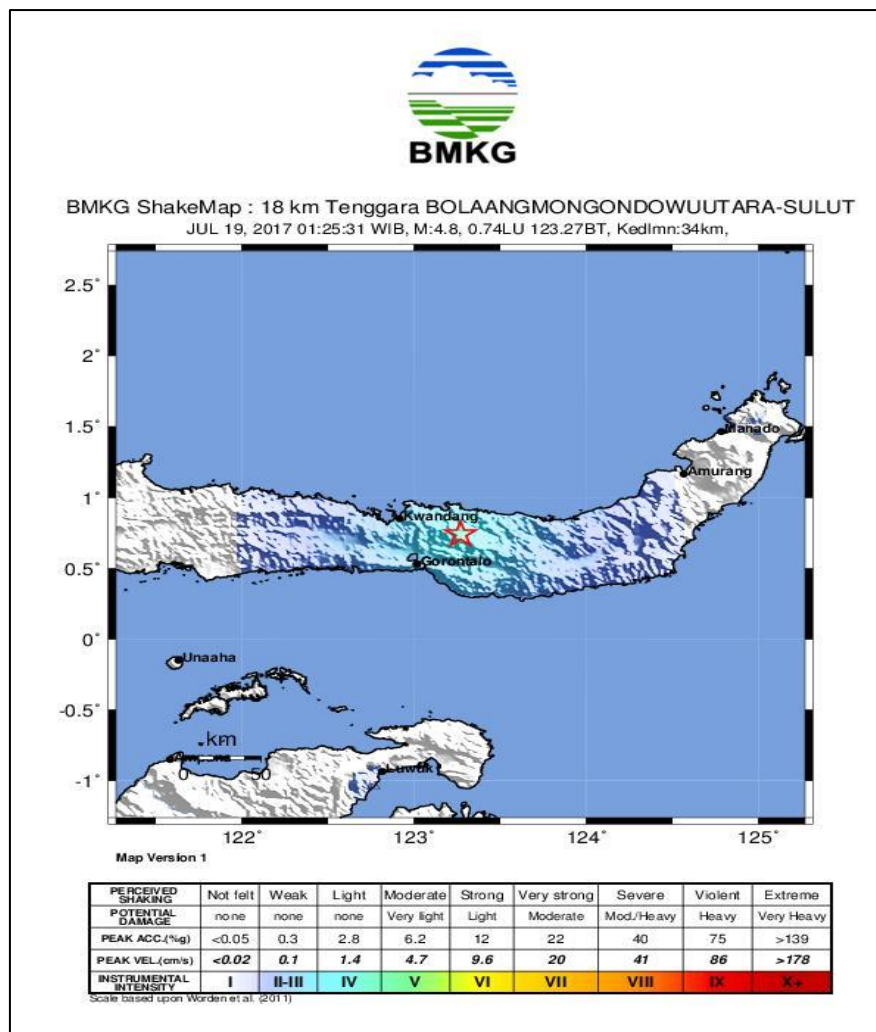


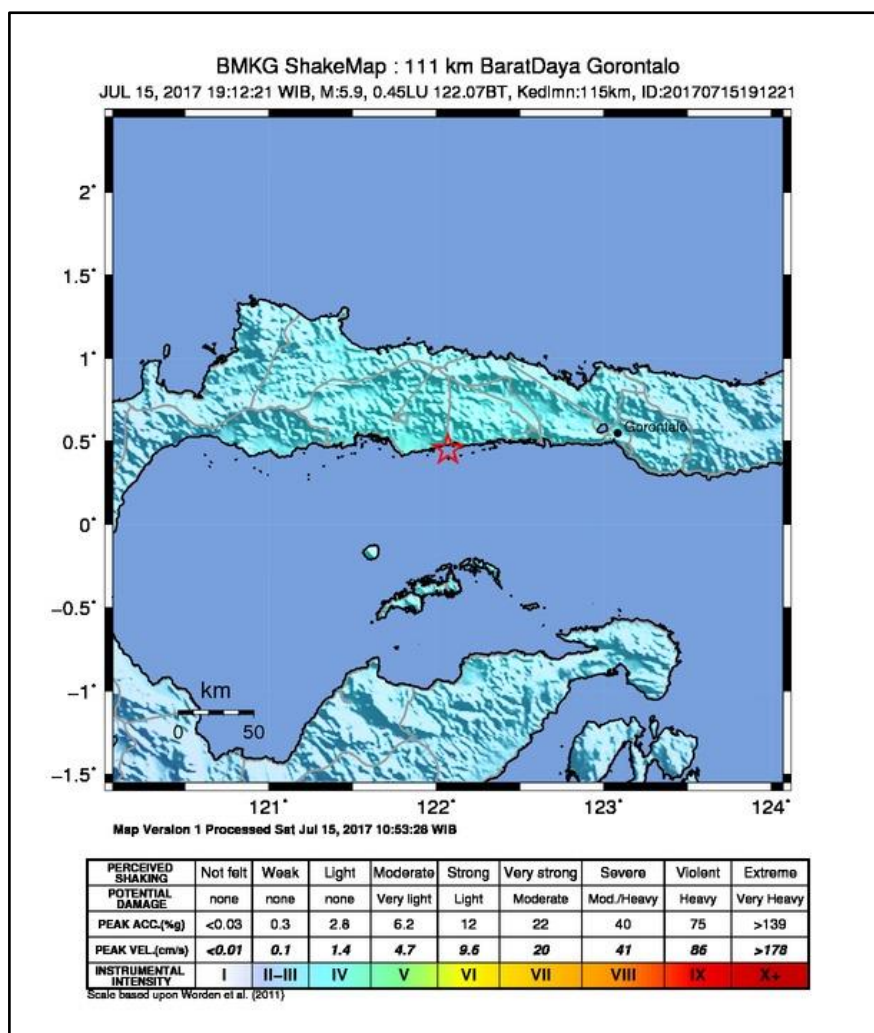
Map Version 1

PERCEIVED SHAKING	Not felt	Weak	Light	Moderate	Strong	Very strong	Severe	Violent	Extreme
POTENTIAL DAMAGE	none	none	none	Very light	Light	Moderate	Mod / Heavy	Heavy	Very Heavy
PEAK ACC (mg)	<0.05	0.3	2.8	8.2	12	22	40	75	>199
PEAK VEL (cm/s)	<0.02	0.1	1.4	4.7	9.8	29	41	88	>179
INSTRUMENTAL INTENSITY	I	II-III	IV	V	VI	VII	VIII	IX	X+

Scale based upon Worden et al. (2011)

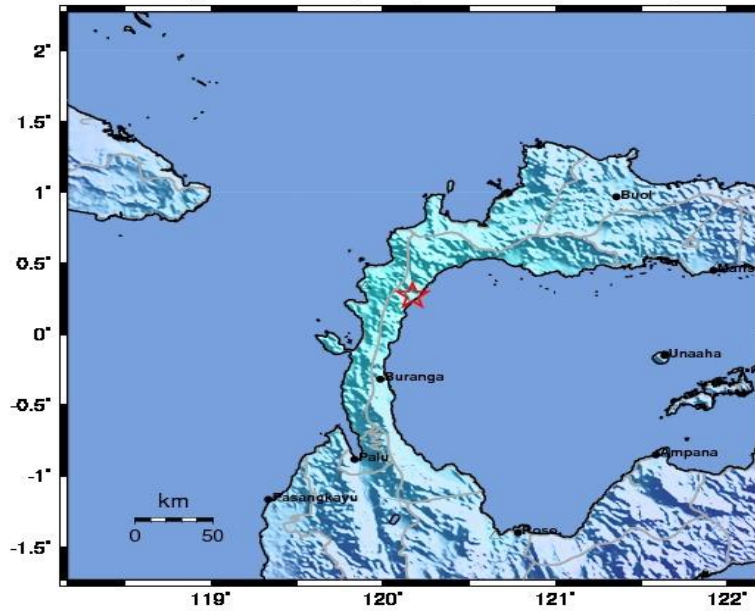
PETA 20. GUNCANGAN (SHAKEMAP) BULAN JULI 2017







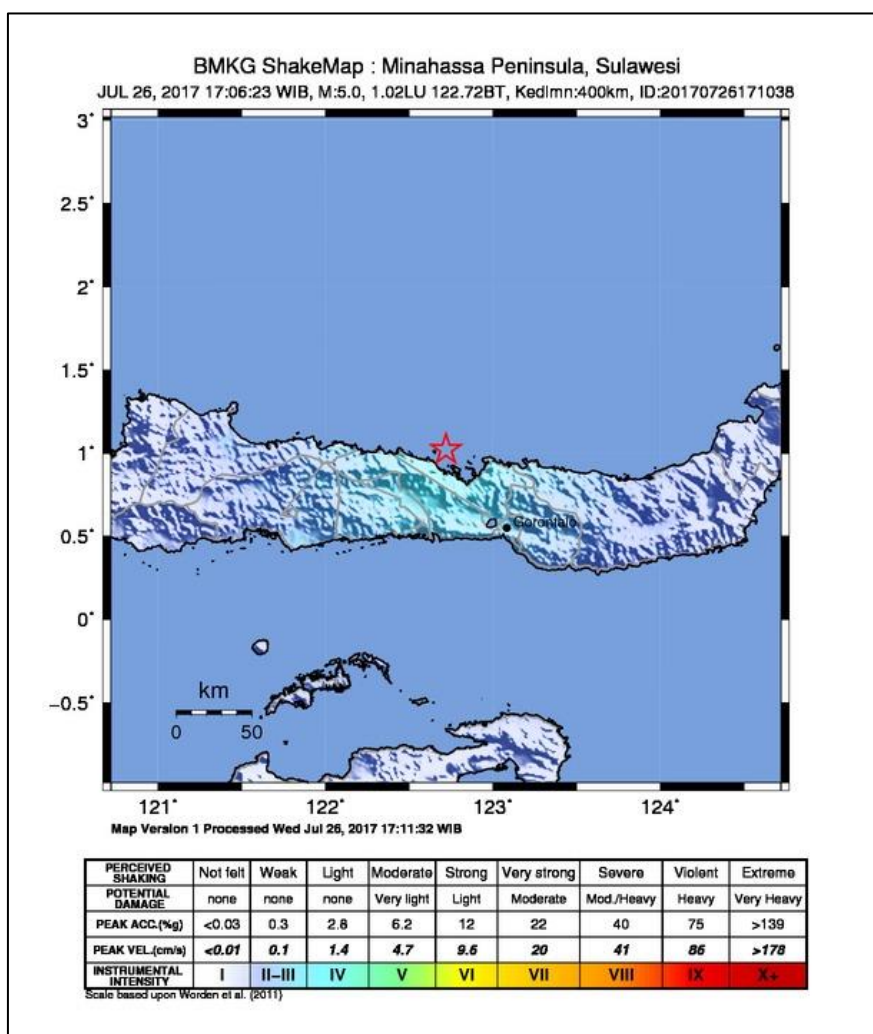
BMKG ShakeMap : Minahasa Peninsula, Sulawesi
 JUL 23, 2017 14:55:55 WIB, M:5.4, 0.27LU 120.17BT, Kedlmn:68km,



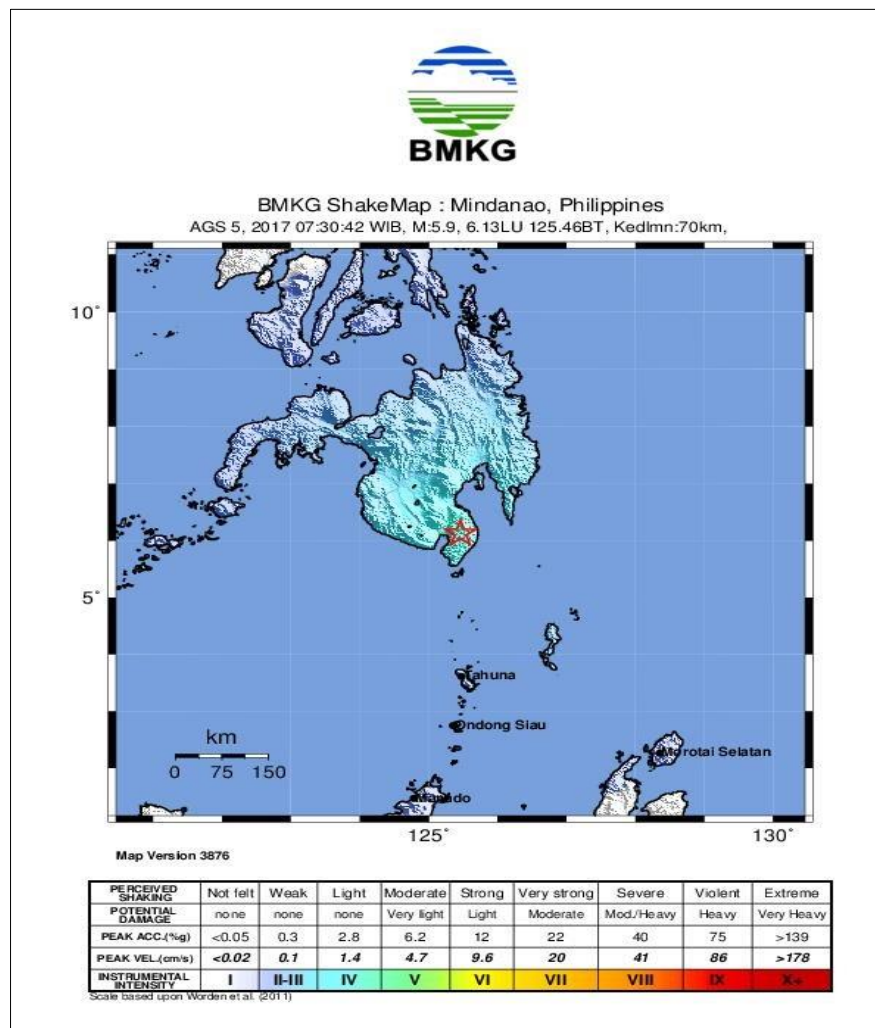
Map Version 1610

PERCEIVED SHAKING	Not felt	Weak	Light	Moderate	Strong	Very strong	Severe	Violent	Extreme
POTENTIAL DAMAGE	none	none	none	Very light	Light	Moderate	Mod./Heavy	Heavy	Very Heavy
PEAK ACC. (mg)	<0.05	0.3	2.0	6.2	12	22	40	75	>139
PEAK VEL. (mm/s)	<0.02	0.1	1.4	4.7	9.8	20	41	88	>179
INSTRUMENTAL INTENSITY	I	II-III	IV	V	VI	VII	VIII	IX	X+

Scale based upon Worden et al. (2011)



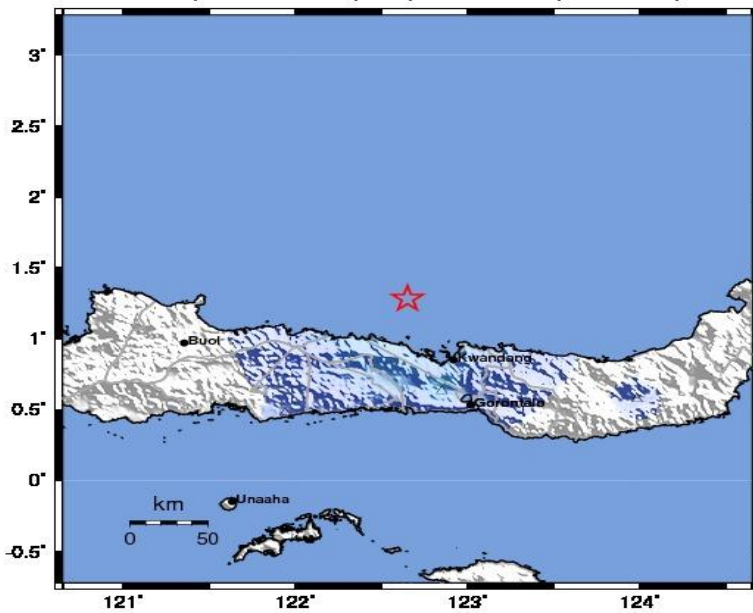
PETA 21. GUNCANGAN (SHAKEMAP) BULAN AGUSTUS 2017





BMKG ShakeMap : Gorontalo Utara

AGS 27, 2017 08:49:18 WIB, M:4.7, 1.28LU 122.65BT, Kedlmn:15km,

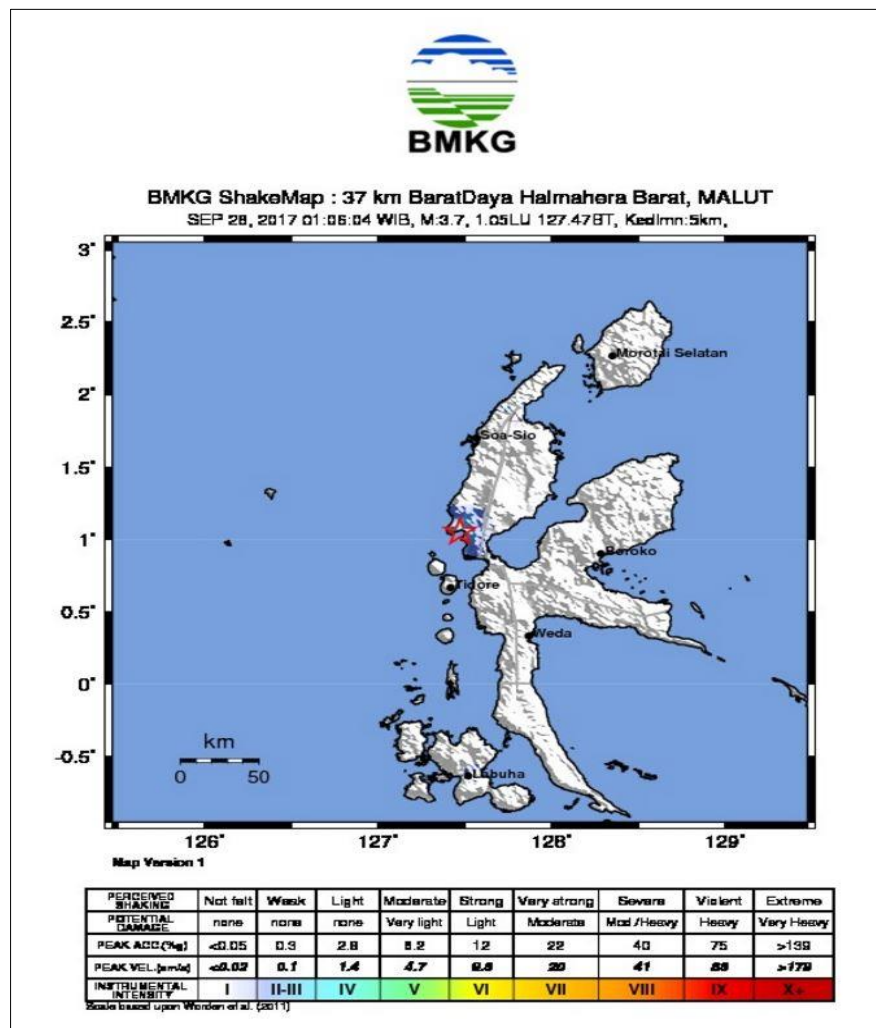


Map Version 1

PERCEIVED SHAKING	Not felt	Weak	Light	Moderate	Strong	Very strong	Severe	Violent	Extreme
POTENTIAL DAMAGE	none	none	none	Very light	Light	Moderate	Mod./Heavy	Heavy	Very Heavy
PEAK ACC. (%g)	<0.05	0.5	2.8	8.2	12	22	40	75	>199
PEAK VEL. (cm/s)	<0.02	0.1	1.4	4.7	9.8	20	41	88	>179
INSTRUMENTAL INTENSITY	I	II-III	IV	V	VI	VII	VIII	IX	X+

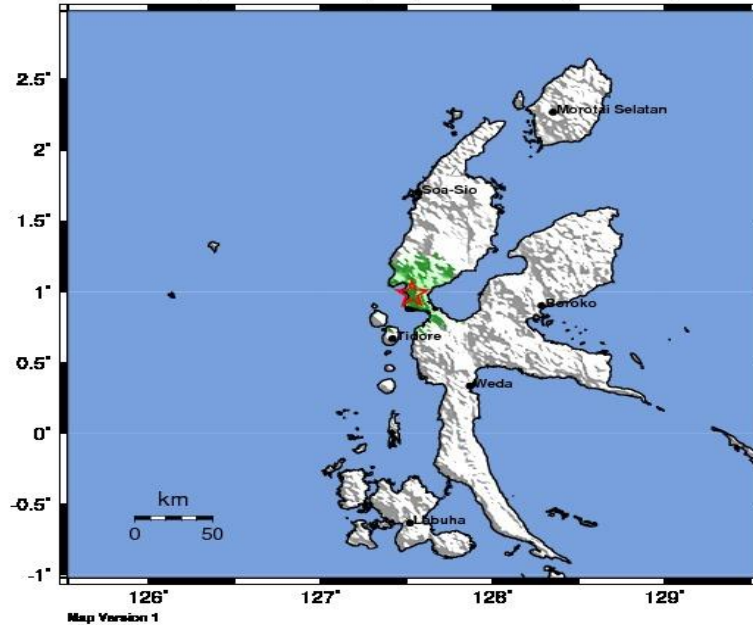
Scale based upon Worden et al. (2011)

PETA 22. GUNCANGAN (SHAKEMAP) BULAN SEPTEMBER 2017





BMKG ShakeMap : 11 km Tenggara Jailolo, MALUT
 SEP 28, 2017 11:29:29 WIB, M:4.2, 0.98LU 127.53BT, Kedlmn:2km,

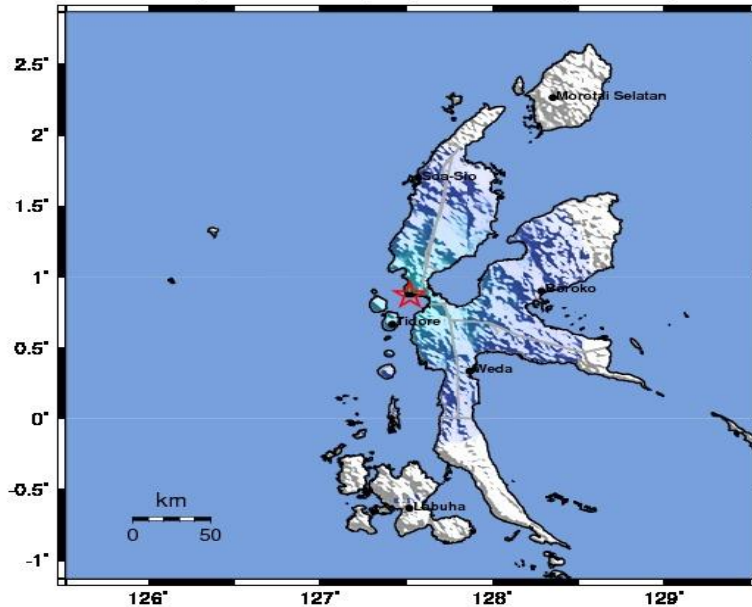


POTENSI KERUSAKAN	Tidak dirusakkan	Dirusakkan	Rusak ringan	Rusak sedang	Rusak berat
PERCEPATAN TANAH MAKS. (m/s ²)	<2.9	2.9-66	66-187	188-554	>554
KECEPATAN TANAH MAKS. (cm/s)	<0.1	0.1-7.2	7.3-14.9	14.9-83.5	>83.5
SKALA INTENSITAS GEMPABUMI (BMKG 2012-BMKG)	I	II	III	IV	V

212-BMKGis scale referred and modified from Worden et al. (2011)



BMKG ShakeMap : 20 km TimurLaut Ternate, MALUT
 SEP 28, 2017 13:32:21 WIB, M:4.7, 0.87LU 127.52BT, Kedlmn:5km,



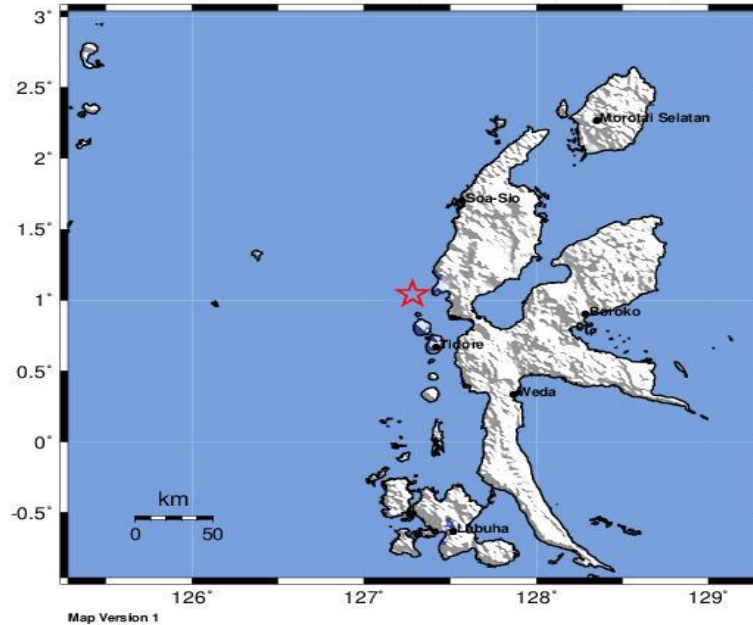
Map Version 1

PERCEIVED SHAKING	Not felt	Weak	Light	Moderate	Strong	Very strong	Severe	Violent	Extreme
POTENTIAL DAMAGE	none	none	none	Very light	Light	Moderate	Mod / Heavy	Heavy	Very Heavy
PEAK ACC (mg)	<0.05	0.5	2.8	8.2	12	22	40	75	>138
PEAK VEL (cm/s)	<0.02	0.1	1.4	4.7	9.8	20	41	88	>178
INSTRUMENTAL INTENSITY	I	II-III	IV	V	VI	VII	VIII	IX	X+

Scale based upon Worden et al. (2011)



BMKG ShakeMap : 21 km Baratdaya Jailolo, MALUT
SEP 28, 2017 14:00:33 WIB, M:3.7, 1.04LU 127.28BT, Kedlmn:10km,

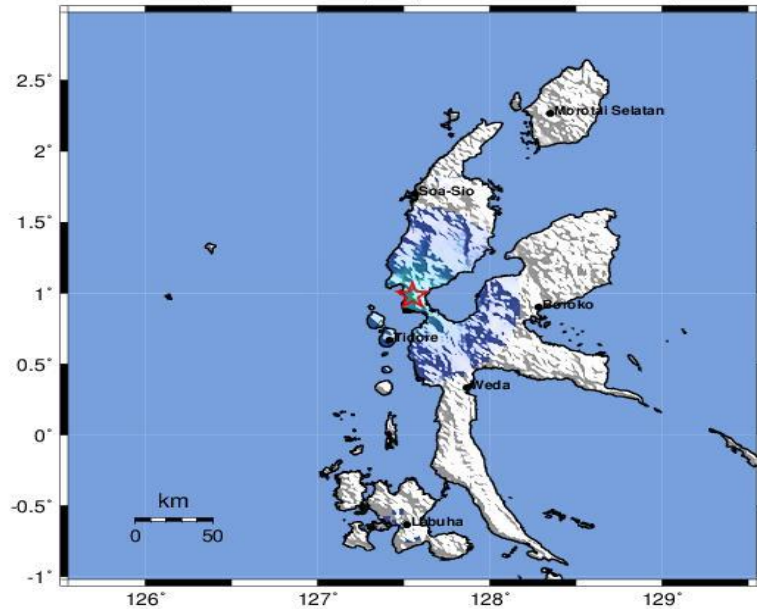


PERCEIVED SHAKING	Not felt	Weak	Light	Moderate	Strong	Very strong	Severe	Violent	Extreme
POTENTIAL DAMAGE	none	none	none	Very light	Light	Moderate	Mod./Heavy	Heavy	Very Heavy
PEAK ACC. (%g)	<0.05	0.3	2.8	6.2	12	22	40	75	>139
PEAK VEL. (cm/s)	<0.02	0.1	1.4	4.7	9.6	20	41	86	>178
INSTRUMENTAL INTENSITY	I	II-III	IV	V	VI	VII	VIII	IX	X+

Scale based upon Worden et al. (2011)



BMKG ShakeMap : 14 km Tenggara JAILOLO-MALUT
SEP 29, 2017 12:25:49 WIB, M:4.4, 0.98LU 127.55BT, Kedlmn:4km,



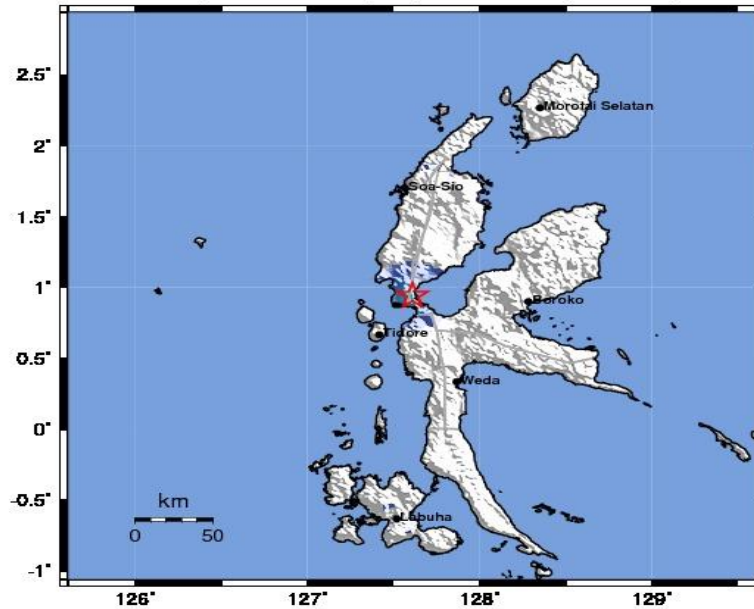
Map Version 1

PERCEIVED SHAKING	Not felt	Weak	Light	Moderate	Strong	Very strong	Severe	Violent	Extreme
POTENTIAL DAMAGE	none	none	none	Very light	Light	Moderate	Mod./Heavy	Heavy	Very Heavy
PEAK ACC.(%g)	<0.05	0.3	2.8	6.2	12	22	40	75	>139
PEAK VEL.(cm/s)	<0.02	0.1	1.4	4.7	9.6	20	41	86	>178
INSTRUMENTAL INTENSITY	I	II-III	IV	V	VI	VII	VIII	IX	X+

Scale based upon Worden et al. (2011)



BMKG ShakeMap : 21 km Tenggara JAILOLO-MALUT
 SEP 28, 2017 17:20:18 WIB, M:3.8, 0.94LU 127.61BT, Kedlmn:4km,

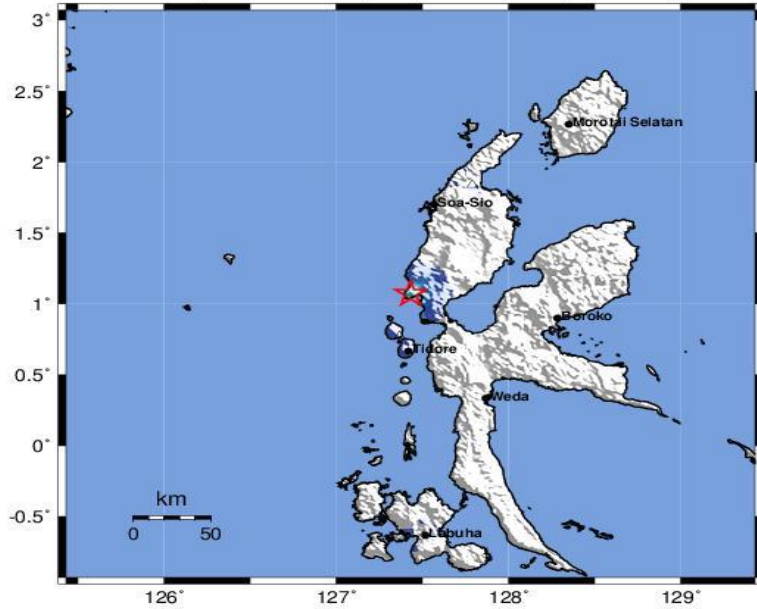


PERCEIVED SHAKING	Not felt	Weak	Light	Moderate	Strong	Very strong	Severe	Violent	Extreme
POTENTIAL DAMAGE	none	none	none	Very light	Light	Moderate	Mod./Heavy	Heavy	Very Heavy
PEAK ACC. (mg)	<0.05	0.3	2.8	8.2	12	22	40	75	>199
PEAK VEL. (mm/s)	<0.02	0.1	1.4	4.7	9.8	20	41	88	>179
INTRUSIONAL INTENSITY	I	II-III	IV	V	VI	VII	VIII	IX	X+

Scale based upon Worden et al. (2011)



BMKG ShakeMap : 4 km Tenggara JAILOLO-MALUT
SEP 29, 2017 17:40:30 WIB, M:3.8, 1.07LU 127.43BT, Kedlmn:5km,



Map Version 1

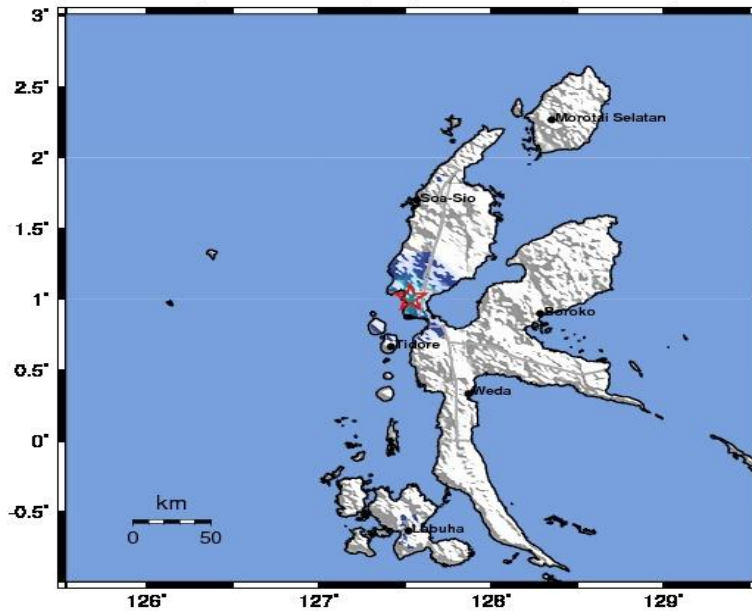
PERCEIVED SHAKING	Not felt	Weak	Light	Moderate	Strong	Very strong	Severe	Violent	Extreme
POTENTIAL DAMAGE	none	none	none	Very light	Light	Moderate	Mod/Heavy	Heavy	Very Heavy
PEAK ACC. (%g)	<0.05	0.3	2.8	6.2	12	22	40	75	>139
PEAK VEL. (cm/s)	<0.02	0.1	1.4	4.7	9.6	20	41	86	>178
INSTRUMENTAL INTENSITY	I	II-III	IV	V	VI	VII	VIII	IX	X+

Scale based upon Worden et al. (2011)



BMKG ShakeMap : 38 km Baratdaya Halmahera Barat-MALUT

SEP 28, 2017 19:48:57 WIB, M:4.0, 1.01 LU 127.52BT, Kedlmn:9km,

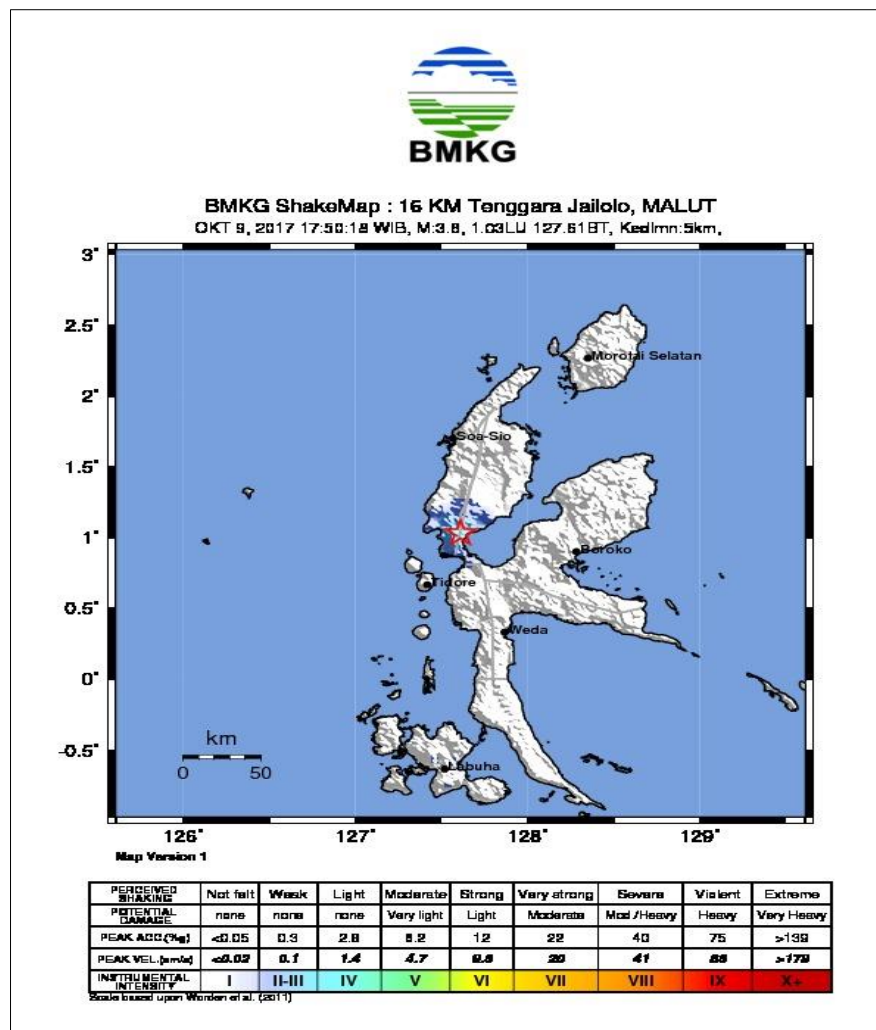


Map Version 1

PERCEIVED SHAKING	Not felt	Weak	Light	Moderate	Strong	Very strong	Severe	Violent	Extreme
POTENTIAL DAMAGE	none	none	none	Very light	Light	Moderate	Mod./Heavy	Heavy	Very Heavy
PEAK ACC. (mg)	<0.05	0.3	2.0	8.2	12	22	40	75	>130
PEAK VEL. (cm/s)	<0.02	0.1	1.4	4.7	9.8	20	41	88	>170
INTRUMENTAL INTENSITY	I	II-III	IV	V	VI	VII	VIII	IX	X+

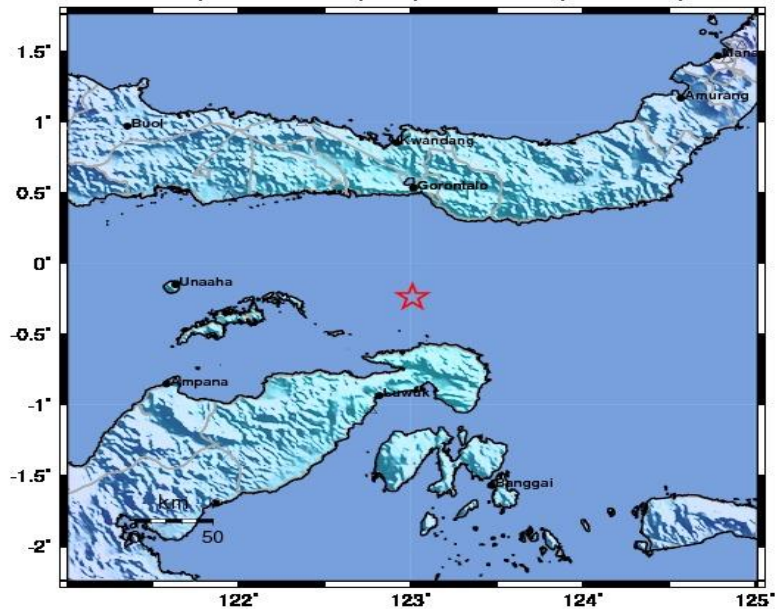
Scale based upon Worden et al. (2011)

PETA 23. GUNCANGAN (SHAKEMAP) BULAN OKTOBER 2017





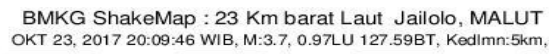
BMKG ShakeMap : Minahassa Peninsula, Sulawesi
 OKT 18, 2017 20:40:57 WIB, M:5.4, 0.24LS 123.01BT, Kedlmn:97km,



Map Version 1

PERCEIVED SHAKING	Not felt	Weak	Light	Moderate	Strong	Very strong	Severe	Violent	Extreme
POTENTIAL DAMAGE	none	none	none	Very light	Light	Moderate	Mod /Heavy	Heavy	Very Heavy
PEAK ACC (%g)	<0.05	0.3	2.8	8.2	12	22	40	75	>139
PEAK VEL. (mm/s)	<0.02	0.1	1.4	4.7	9.8	20	41	88	>179
INSTRUMENTAL INTENSITY	I	II-III	IV	V	VI	VII	VIII	IX	X+

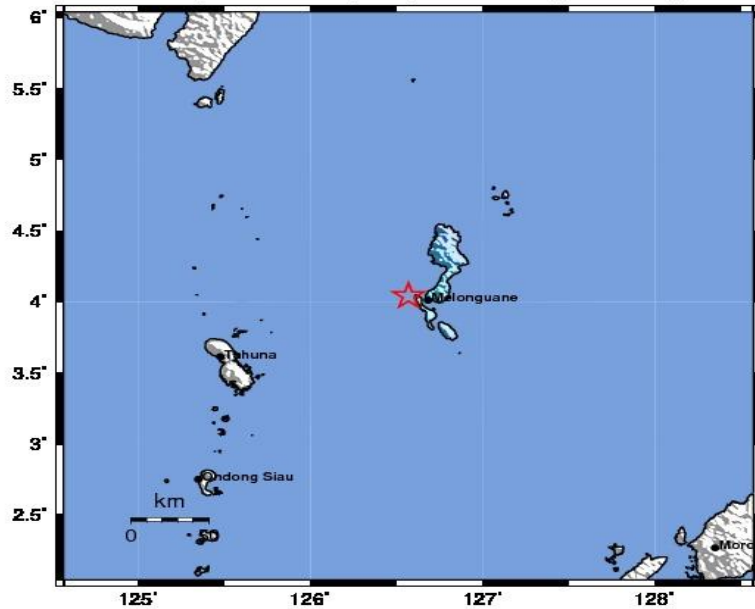
Scale based upon Worden et al. (2011)



PERCEIVED SHAKING	Not felt	Weak	Light	Moderate	Strong	Very strong	Severe	Violent	Extreme
POTENTIAL DAMAGE	none	none	none	Very light	Light	Moderate	Mod./Heavy	Heavy	Very Heavy
PEAK ACC.(%)	<0.05	0.3	2.8	6.2	12	22	40	75	>139
PEAK VEL.(cm/s)	<0.02	0.1	1.4	4.7	9.6	20	41	86	>178
INSTRUMENTAL INTENSITY	I	II-III	IV	V	VI	VII	VIII	IX	X+



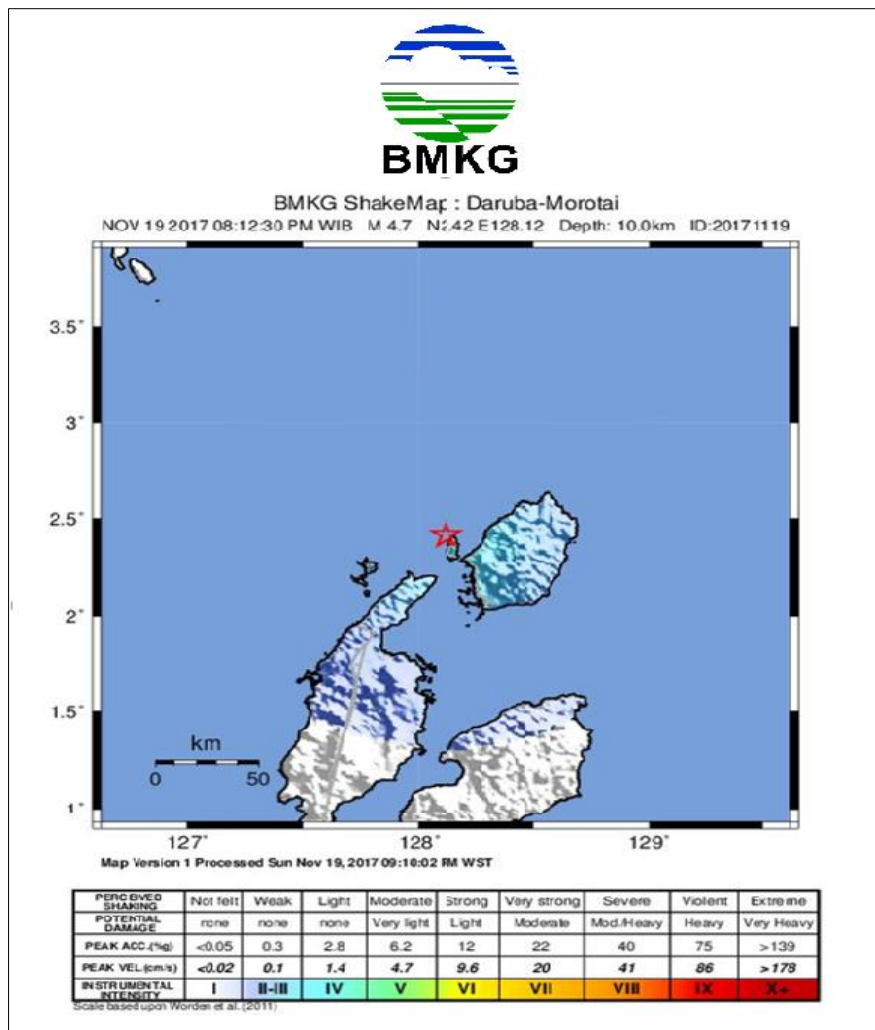
BMKG ShakeMap : 16 Km BaratDaya KEP-TALAUD-SULUT)
 OKT 31, 2017 10:11:32 WIB, M:4.7, 4.04LU 126.57BT, Kedlmn:39km,



Map Version 1

PERCEIVED SHAKING	Not felt	Weak	Light	Moderate	Strong	Very strong	Severe	Violent	Extreme
POTENTIAL DAMAGE	none	none	none	Very light	Light	Moderate	Mod / Heavy	Heavy	Very Heavy
PEAK ACC (mg)	<0.05	0.3	2.8	8.2	12	22	40	75	>138
PEAK VEL (mm/s)	<0.02	0.1	1.4	4.7	9.8	20	41	88	>178
INTRUSIONAL INTENSITY	I	II-III	IV	V	VI	VII	VIII	IX	X

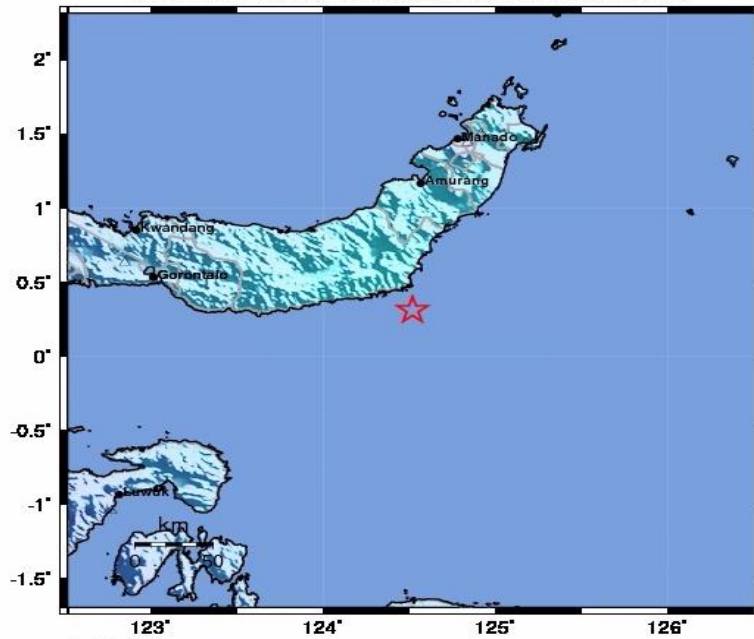
Scale based upon Worden et al. (2011)



PETA 24. GUNCANGAN (SHAKEMAP) BULAN NOPEMBER 2017



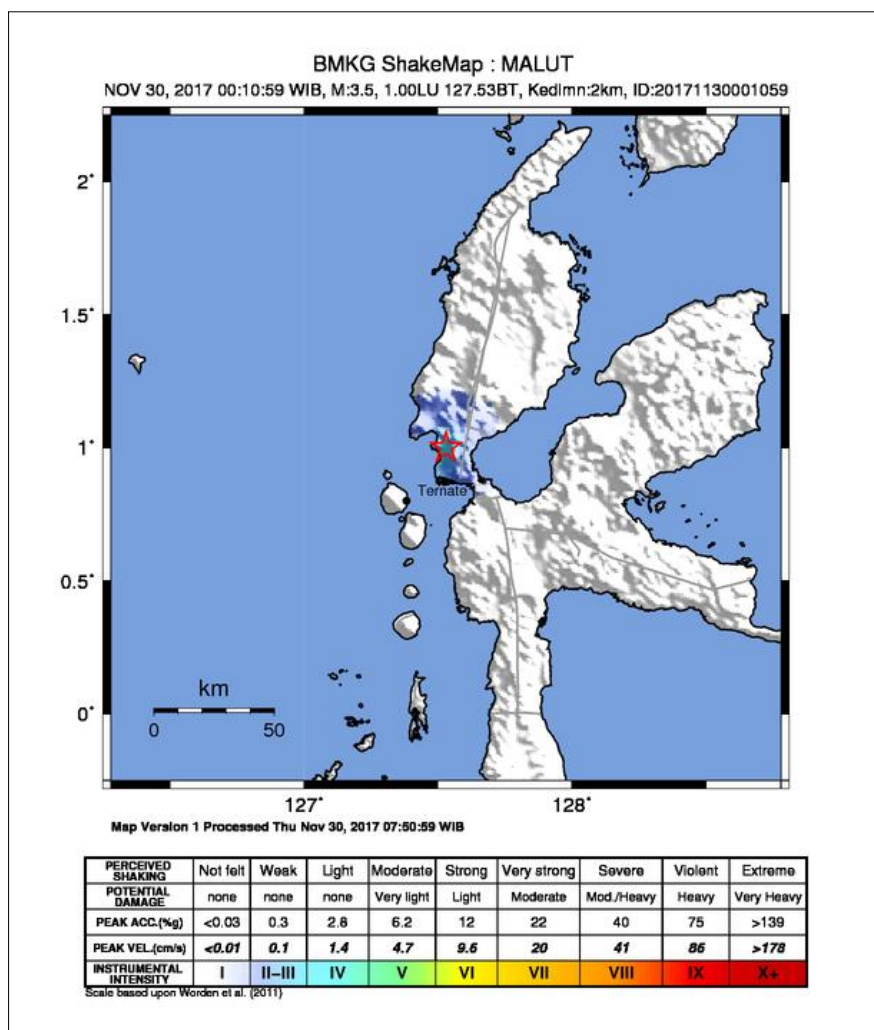
BMKG ShakeMap : Minahasa Peninsula, Sulawesi
 NOV 22, 2017 08:11:23 WIB, M:5.5, 0.31 LU 124.52BT, Kedlmn:77km,



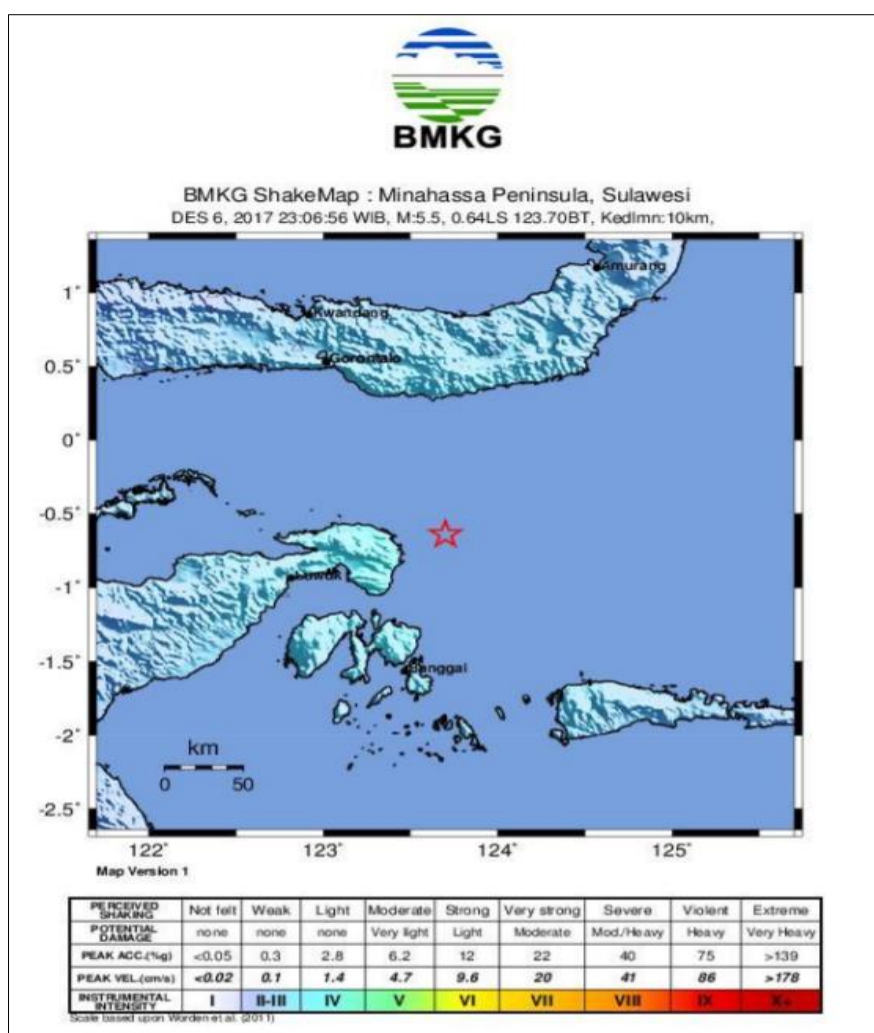
Map Version 1

PERCEIVED SHAKING	Not felt	Weak	Light	Moderate	Strong	Very strong	Severe	Violent	Extreme
POTENTIAL DAMAGE	none	none	none	Very light	Light	Moderate	Mod /Heavy	Heavy	Very Heavy
PEAK ACC (m/s ²)	<0.05	0.3	2.8	8.2	12	22	40	75	>199
PEAK VEL (mm/s)	<0.02	0.1	1.4	4.7	9.8	20	41	88	>178
INTRUSIONAL INTENSITY	I	II-III	IV	V	VI	VII	VIII	IX	X

Scale based upon Worden et al. (2011)



PETA 25. GUNCANGAN (SHAKEMAP) BULAN DESEMBER 2017



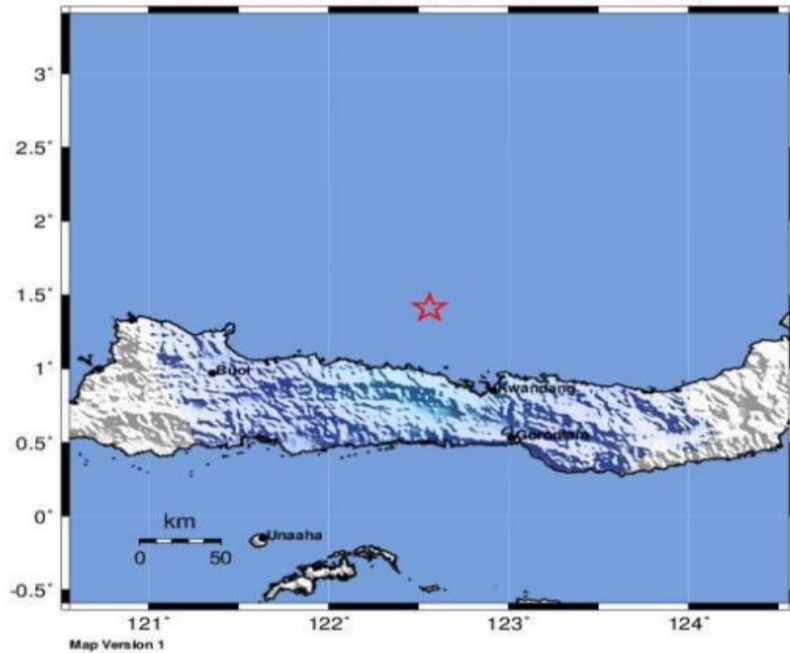
Badan Meteorologi Klimatologi dan Geofisika											
Laporan Kejadian Gempa Bidang Seismologi Teknik											
=====											
Gempabumi 06 Desember 2017, jam 23:06:56 WIB, Mag:5.5, Lat:0.64°LS, Long:123.70°BT, Kedalaman:10 Km, Minahassa Peninsula, Sulawesi											

[No]	IdSta	Stasiun	Latitude	Longitude	Jarak	MMI	SIG	PGA-EW(gal)	PGA-NS(gal)	PGA-UD(gal)	Site Class

1	LUWI	LUNUK	-1.04	122.77	111.47	III	II	7.8518	NaN	0.0764	
2	KMSI	KOTA MUBAGO	0.57	123.98	137.56	II-III	I	1.9306	1.9002	1.4494	
3	GMCI	STA MET GORONTALO	0.63	122.85	168.81	III	II	2.8979	2.7665	0.9281	D
4	MRSI	MARISA GORONTALO	0.48	121.94	230.51	II	I	1.1809	0.8124	0.3861	
5	SMSI	SUMALATA	0.99	122.36	232.95	I-II	I	0.4508	0.6419	0.3254	
6	KWSI	STA KLIM KAYUWATU	1.50	124.92	272.67	III-IV	II	4.1395	3.3467	2.0766	D
7	SAMI	STA MET SAMRATULANGI MANADO	1.54	124.92	276.37	I	I	0.1931	0.1989	0.0823	
8	BISI	STA MAR BITUNG	1.44	125.18	282.83	IV	II	9.1169	8.9729	5.6125	
9	PMCI	STA MET POSO	-1.42	120.65	348.76	III	II	3.0498	2.109	0.9829	
10	KDRI	STA MET KENDARI	-3.97	122.59	389.01	I	I	0.096	0.0774	0.047	
11	LBMI	LABUHA	-0.64	127.50	421.36	I	I	0.1764	0.1999	0.0921	
12	MPSI	MAPAGA SABANG PALU	0.34	119.90	435.24	I	I	0.1588	0.1558	0.0764	C
13	NLAI	NAMLEA MALUKU	-3.24	127.10	474.40	I	I	0.3263	0.2234	0.2058	
14	TTSI	TANATORAJA	-3.05	119.82	506.21	I	I	0.2244	0.2107	0.0853	D



BMKG ShakeMap : 50 km Timurt laut SUMALATA-GORONTALO
DES 6, 2017 05:19:02 WIB, M:4.9, 1.41LU 122.56BT, Kedlmn:5km,



Map Version 1

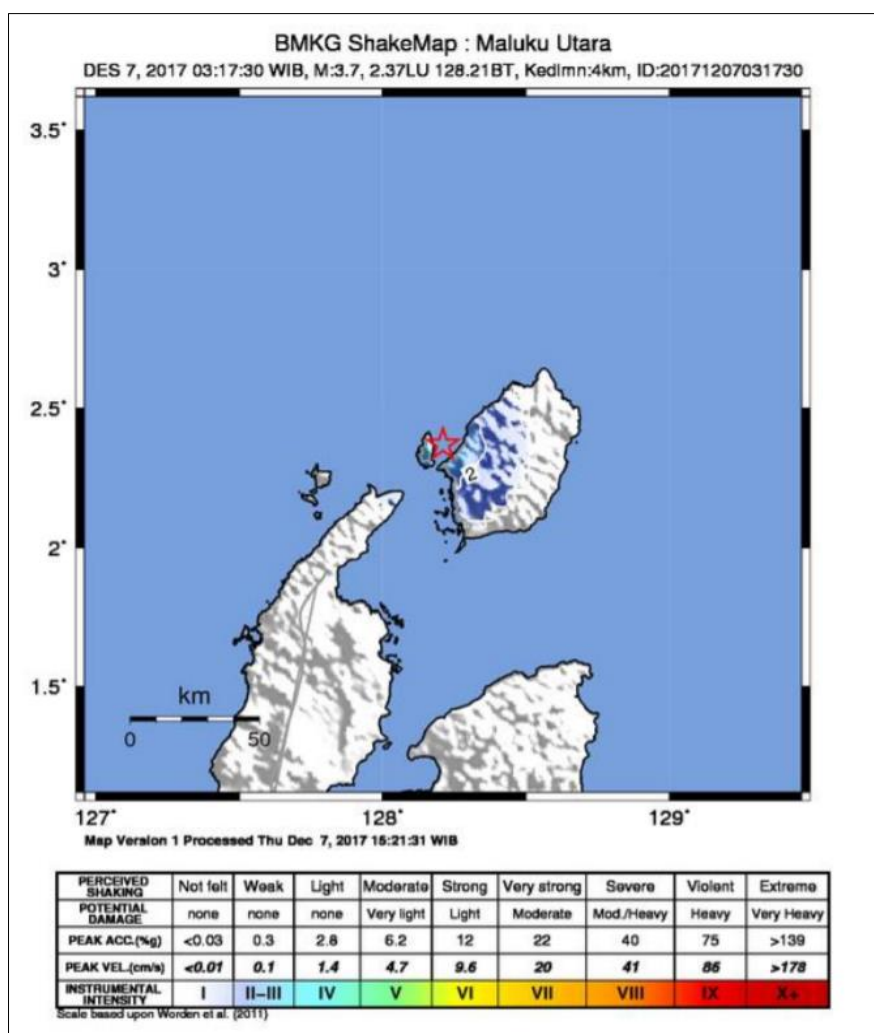
PERCEIVED SHAKING	Not felt	Weak	Light	Moderate	Strong	Very strong	Severe	Violent	Extreme
POTENTIAL DAMAGE	none	none	none	Very light	Light	Moderate	Mod./Heavy	Heavy	Very Heavy
PEAK ACC.(%g)	<0.05	0.3	2.8	6.2	12	22	40	75	>130
PEAK VEL.(cm/s)	<0.02	0.1	1.4	4.7	9.6	20	41	86	>178
INSTRUMENTAL INTENSITY	I	II-III	IV	V	VI	VII	VIII	IX	X+

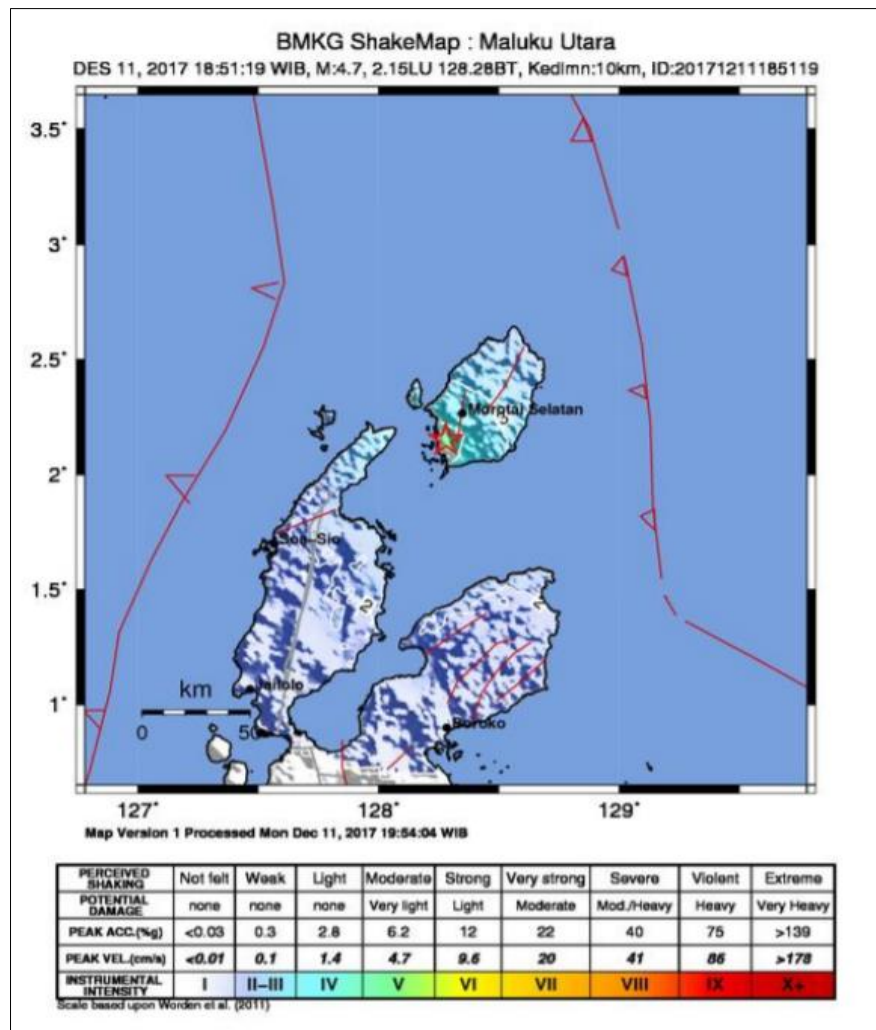
Scale based upon Worden et al. (2011)

Badan Meteorologi Klimatologi dan Geofisika
Laporan Kejadian Gempa Bidang Seismologi Teknik

Gempabumi 06 Desember 2017, jam 05:19:02 WIB, Mag:4.9, Lat:1.41°LU, Long:122.56°BT, Kedalaman:5 Km, 50 km Timurt

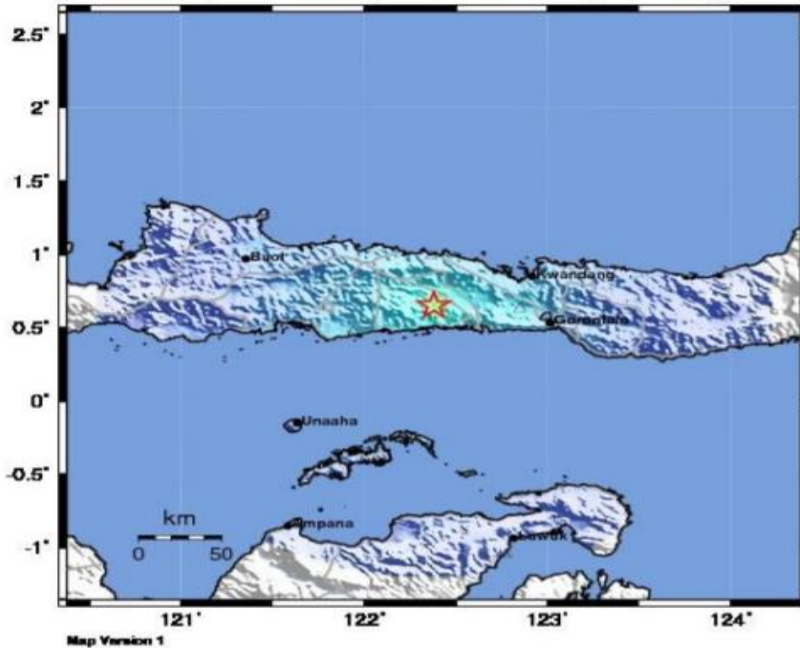
No	IdSta	Stasiun	Latitude	Longitude	Jarak	MMI	SIG	PGA-EW(gal)	PGA-NS(gal)	PGA-UD(gal)	Site Class
1	GMCI	STA MET GORONTALO	0.63	122.85	92.53	III	II	3.8112	4.2375	1.5396	D
2	MRSI	MARISA GORONTALO	0.48	121.94	124.49	II	I	0.7526	1.2299	0.4106	
3	KMSI	KOTA MUBAGO	0.57	123.98	183.27	I-II	I	0.3156	0.3283	0.1617	
4	LUWI	LUWUK	-1.04	122.77	273.65	I	I	0.2832	1.2299	0.247	







BMKG ShakeMap : Minahasa Peninsula, Sulawesi
 DES 16, 2017 04:27:31 WIB, M:5.1, 0.65 LU 122.38 BT, Kedalaman: 63 km,



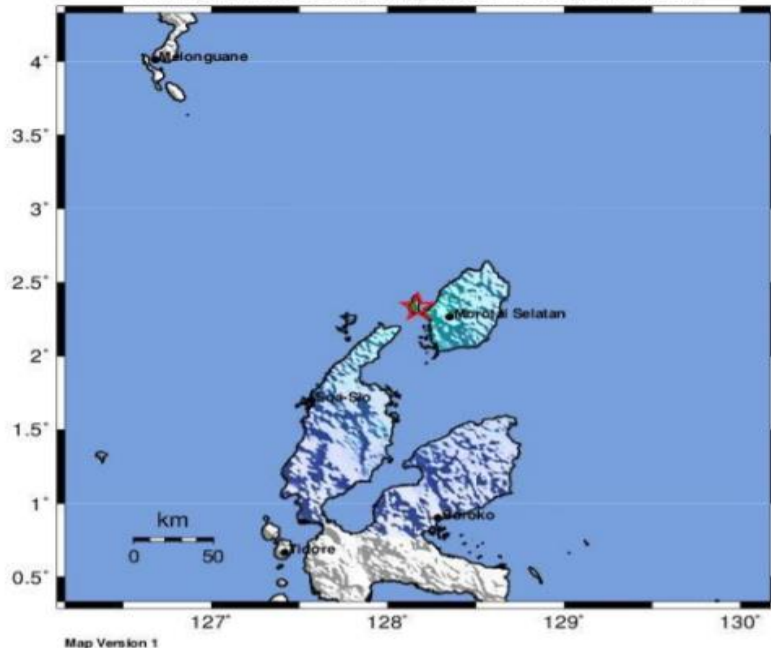
Map Version 1

PERSEPSI GEMPA	Not felt	Weak	Light	Moderate	Strong	Very strong	Severe	Violent	Extreme
POTENTIAL DAMAGE	none	none	none	Very light	Light	Moderate	Mod / Heavy	Heavy	Very Heavy
PEAK ACC. (mg)	<0.05	0.3	2.8	8.2	12	22	40	75	>139
PEAK VEL. (cm/s)	<0.02	0.1	1.4	4.7	6.8	20	41	88	>173
INSTRUMENTAL INTENSITY	I	II-III	IV	V	VI	VII	VIII	IX	X+

Scale based upon Wenden et al. (2011)



BMKG ShakeMap : 34 km BaratLaut DARUBA-MALUT
DES 17, 2017 22:53:20 WIB, M:4.9, 2.33LU 128.17BT, Kedlmn:10km,



Map Version 1

PERCEIVED SHAKING	Not felt	Weak	Light	Moderate	Strong	Very strong	Severe	Violent	Extreme
POTENTIAL DAMAGE	none	none	none	Very light	Light	Moderate	Mod./Heavy	Heavy	Very Heavy
PEAK ACC.(%g)	<0.05	0.3	2.8	6.2	12	22	40	75	>139
PEAK VEL.(cm/s)	<0.02	0.1	1.4	4.7	9.6	20	41	86	>178
INSTRUMENTAL INTENSITY	I	II-III	IV	V	VI	VII	VIII	IX	X+

Scale based upon Worden et al. (2011)

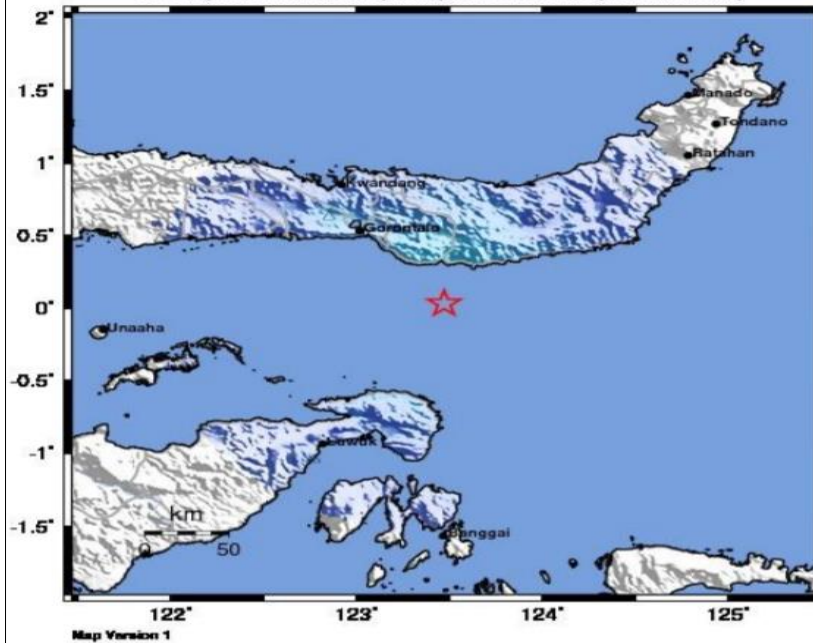
Badan Meteorologi Klimatologi dan Geofisika
Laporan Kejadian Gempa Bidang Seismologi Teknik

Gempabumi 17 Desember 2017, jam 22:53:20 WIB, Mag:4.9, Lat:2.33°LU, Long:128.17°BT, Kedalaman:10 Km, 34 km BaratLaut

No	IdSta	Stasiun	Latitude	Longitude	Jarak	MMI	SIG	PGA-EW(gal)	PGA-NS(gal)	PGA-UD(gal)	Site Class
1	TNTI	TERNATE	0.77	127.37	194.88	I	I	0.1431	NaN	0.0676	



BMKG ShakeMap : Minahasa Peninsula, Sulawesi
 DES 18, 2017 22:09:31 WIB, M=5.1, 0.03LU 123.47BT, Kedlmn:130km,



Map Version 1

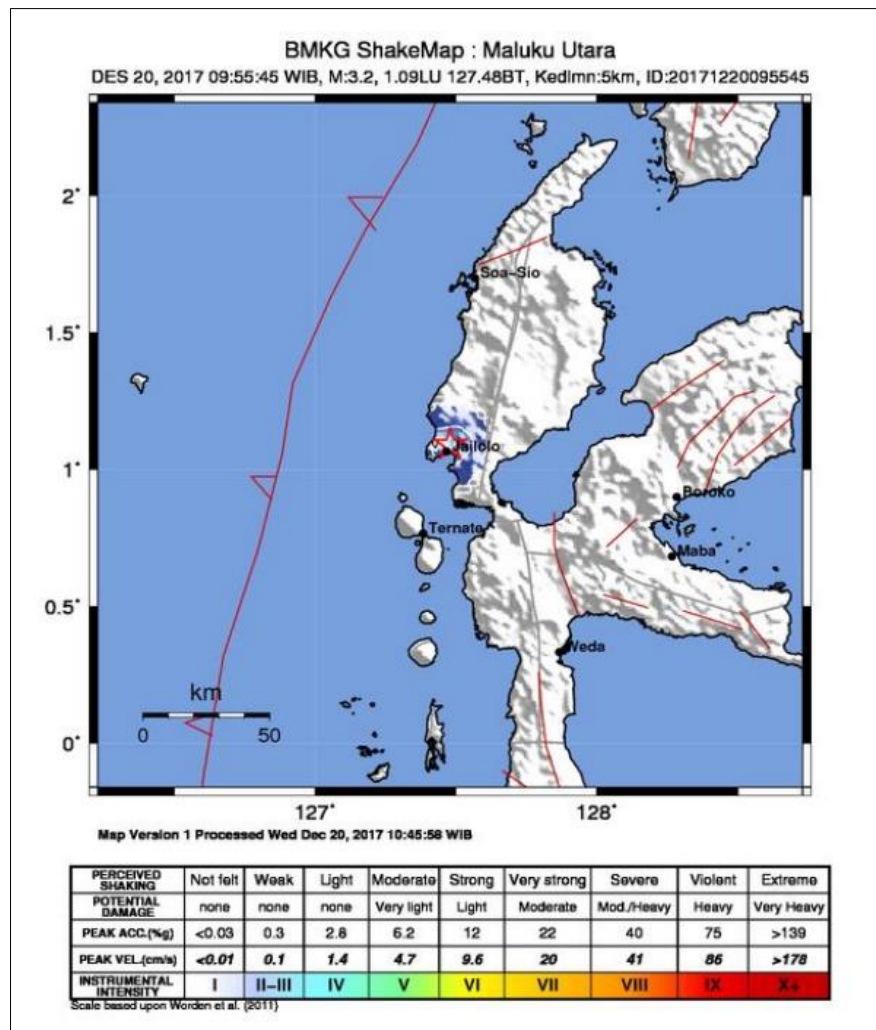
PERCEIVED SHAKING	Not felt	Weak	Light	Moderate	Strong	Very strong	Severe	Violent	Extreme
POTENTIAL DAMAGE	none	none	none	Very light	Light	Moderate	Mod / Heavy	Heavy	Very Heavy
PEAK ACC.(%)	<0.05	0.3	2.8	8.2	12	22	40	75	>139
PEAK VEL.(mm/s)	<0.02	0.1	1.4	4.7	9.8	20	41	88	>179
INSTRUMENTAL INTENSITY	I	II-III	IV	V	VI	VII	VIII	IX	X

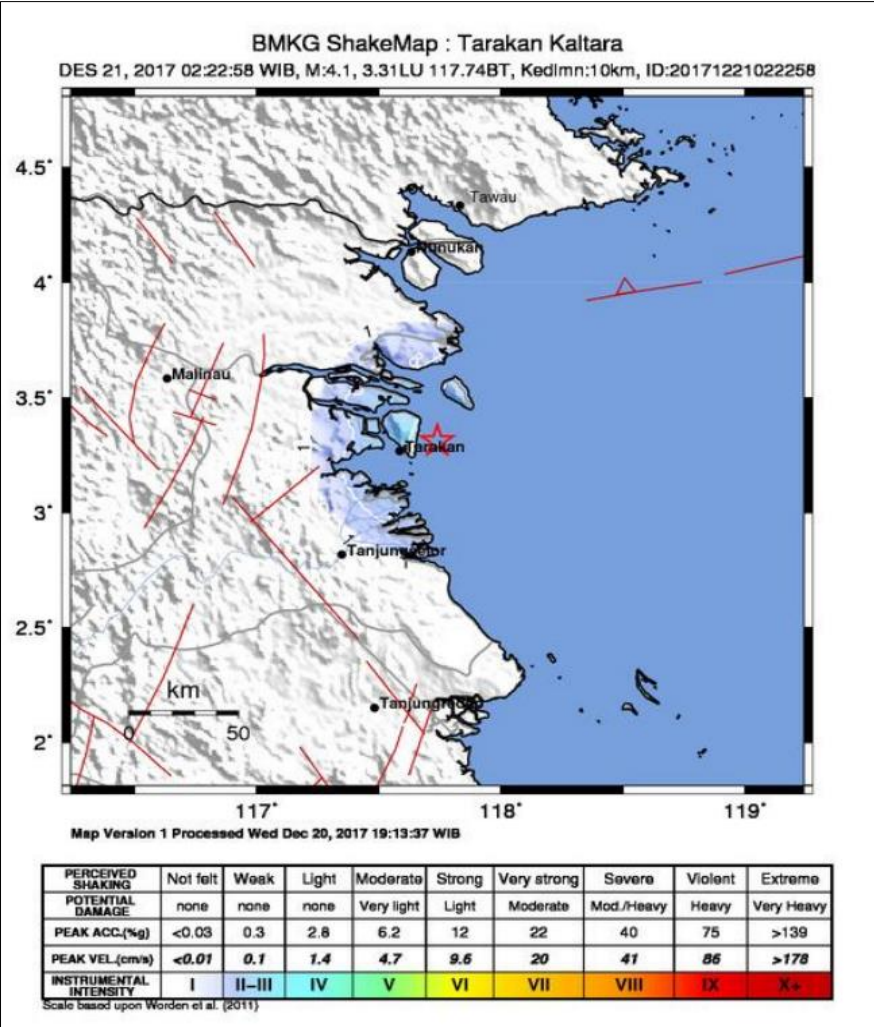
Scale based upon Weinstein et al. (2011)

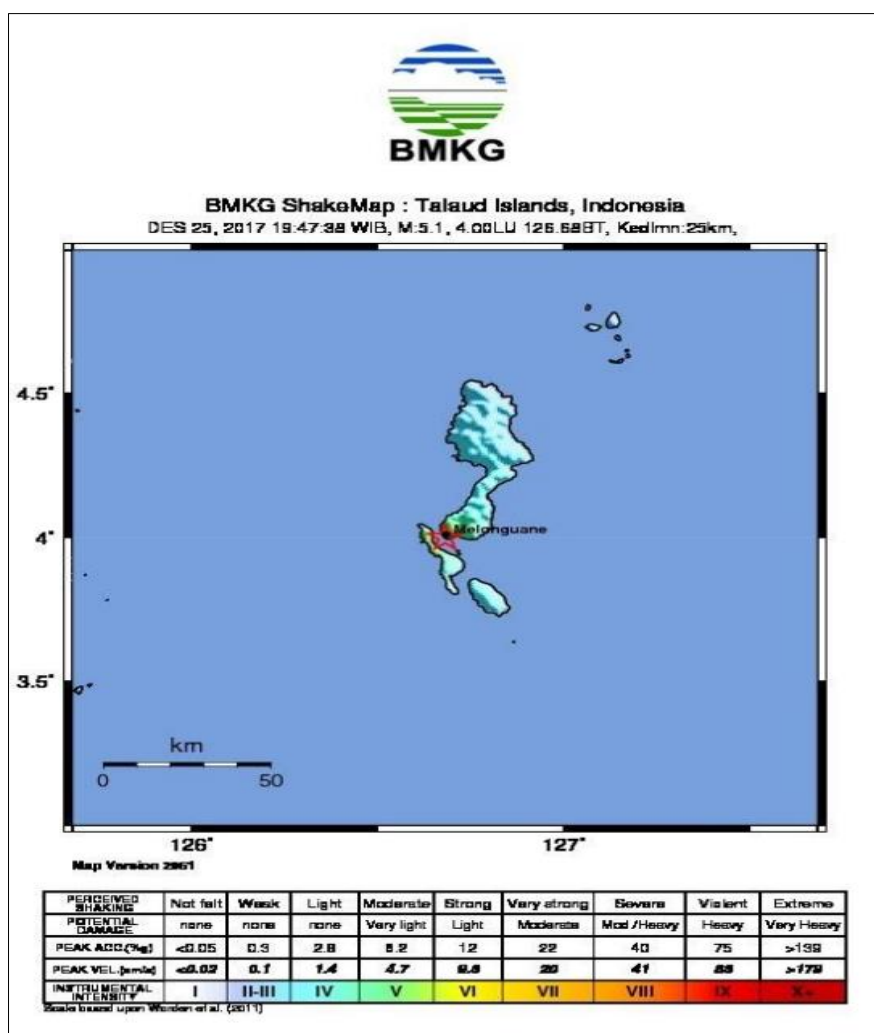
Badan Meteorologi Klimatologi dan Geofisika
 Laporan Kejadian Gempa Bidang Seismologi Teknik

Gempabumi 18 Desember 2017, jam 22:09:31 WIB, Mag:5.1, Lat:0.03°LU, Long:123.47°BT, Kedalaman:130 Km, Minahasa Peninsula, Sulawesi

No	IdSta	Stasiun	Latitude	Longitude	Jarak	MMI	SIG	PGA-EW(gal)	PGA-NS(gal)	PGA-UD(gal)	Site Class
1	KMSI	KOTA MUBAGO	0.57	123.98	82.18	I	I	0.4469	0.3959	0.2587	D
2	GMCI	STA MET GORONTALO	0.63	122.85	95.08	III	II	3.8053	2.3961	0.6703	
3	LWUI	LWUK	-1.04	122.77	141.36	III	II	0.6605	NaN	3.2017	
4	SMSI	SUMALATA	0.99	122.36	161.79	I	I	0.146	0.1431	0.1156	
5	MRSI	MARISA GORONTALO	0.48	121.94	176.28	I-II	I	0.6605	0.7262	0.294	





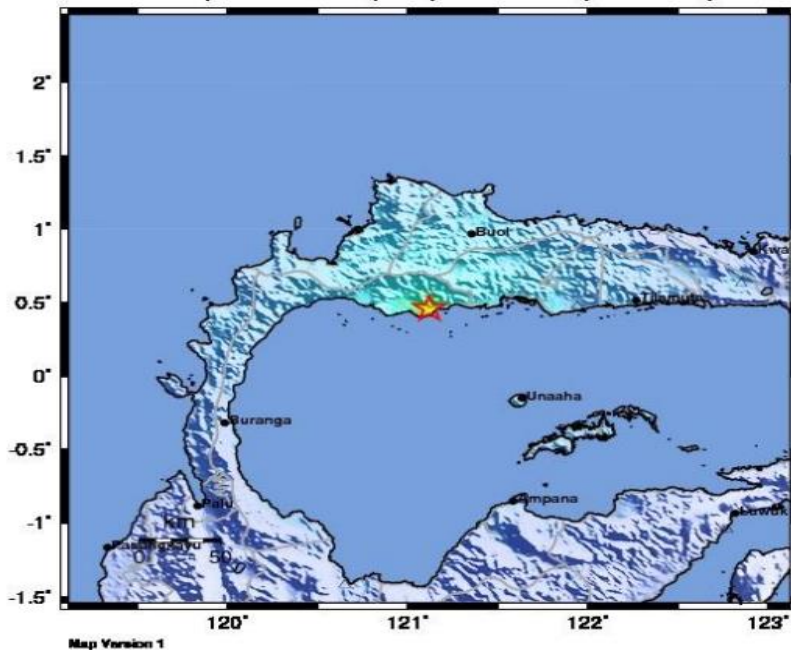


Badan Meteorologi Klimatologi dan Geofisika											
Laporan Kejadian Gempa Bidang Seismologi Teknik											
=====											
Gempabumi 25 Desember 2017, jam 19:47:38 WIB, Mag:5.1, Lat:4.0°LU, Long:126.68°BT, Kedalaman:25 Km, Talaud Islands, Indonesia											

No	IdSta	Stasiun	Latitude	Longitude	Jarak	MMI	SIG	PGA-EW(gal)	PGA-NS(gal)	PGA-UD(gal)	Site Class
1	TNTI	TERNATE	0.77	127.37	366.09	I	I	0.0265	NaN	0.0176	
2	NLAI	NAMLEA MALUKU	-3.24	127.10	805.43	I	I	0.0216	0.0255	0.0274	



BMKG ShakeMap : Minahassa Peninsula, Sulawesi
 DES 27, 2017 14:12:50 WIB, M:5.2, 0.46LU 121.12BT, Kedlmn:61km,



PERSENER SHAKING	Not felt	Weak	Light	Moderate	Strong	Very strong	Severe	Violent	Extreme
POTENTIAL DAMAGE	none	none	none	Very light	Light	Moderate	Mod/Heavy	Heavy	Very Heavy
PEAK ACC (m/s ²)	<0.05	0.5	2.8	8.2	12	22	40	75	>139
PEAK VEL (cm/s)	<0.02	0.1	1.4	4.7	9.8	20	41	88	>179
INTENSITY	I	II-III	IV	V	VI	VII	VIII	IX	X

Scale based upon Wenden et al. (2011)

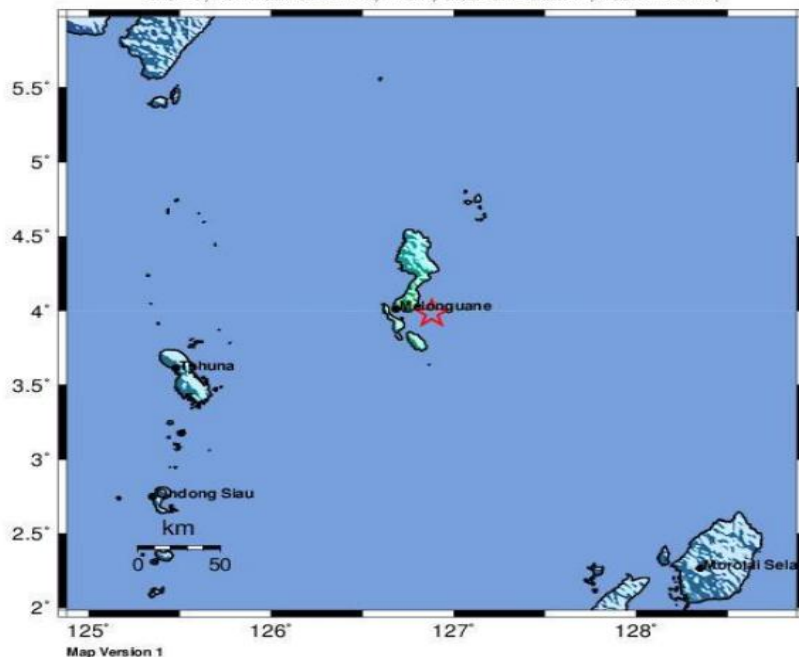
Badan Meteorologi Klimatologi dan Geofisika
 Laporan Kejadian Gempa Bidang Seismologi Teknik

Gempabumi 27 Desember 2017, jam 14:12:50 WIB, Mag:5.2, Lat:0.46°LU, Long:121.12°BT, Kedalaman:61 Km, Minahassa Peninsula, Sulawesi

No	IdSta	Stasiun	Latitude	Longitude	Jarak	MMI	SIG	PGA-EW(gal)	PGA-NS(gal)	PGA-UD(gal)	Site Class
1	MRSI	MARISA GORONTALO	0.48	121.94	90.32	II-III	I	1.6454	1.8022	1.127	
2	MPSI	MAPAGA SABANG PALU	0.34	119.90	135.57	III	II	5.3243	6.6865	2.35	C
3	SMSI	SUMALATA	0.99	122.36	149.40	I-II	I	1.1299	0.2666	0.4469	
4	GMCI	STA MET GORONTALO	0.63	122.85	192.30	III	II	1.1848	2.0551	0.5566	D
5	PMCI	STA MET POSO	-1.42	120.65	214.49	II-III	I	2.9282	2.4667	0.7909	
6	LUWI	LUWUK	-1.04	122.77	247.26	I	I	0.3381	0.4047	0.2127	
7	TTSI	TANATORAJA	-3.05	119.82	414.72	I	I	0.1009	0.1088	0.0421	D
8	BKB	BALIKPAPAN	-1.11	116.91	499.03	I	I	0.1049	2.0551	0.0666	
9	MJNE	STA MET MAJENE	-3.55	118.98	504.36	I	I	0.3665	0.4047	0.3381	C



BMKG ShakeMap : Talaud Islands, Indonesia
DES 29, 2017 00:20:21 WIB, M:5.7, 3.98LU 126.88BT, Kedlmn:16km,



PERCEIVED SHAKING	Not felt	Weak	Light	Moderate	Strong	Very strong	Severe	Violent	Extreme
POTENTIAL DAMAGE	none	none	none	Very light	Light	Moderate	Mod/Heavy	Heavy	Very Heavy
PEAK ACC. (%g)	<0.05	0.3	2.8	6.2	12	22	40	75	>139
PEAK VEL. (cm/s)	<0.02	0.1	1.4	4.7	9.6	20	41	86	>178
INSTRUMENTAL INTENSITY	I	II-III	IV	V	VI	VII	VIII	IX	X+

Scale based upon Worden et al. (2011)

Badan Meteorologi Klimatologi dan Geofisika
Laporan Kejadian Gempa Bidang Seismologi Teknik

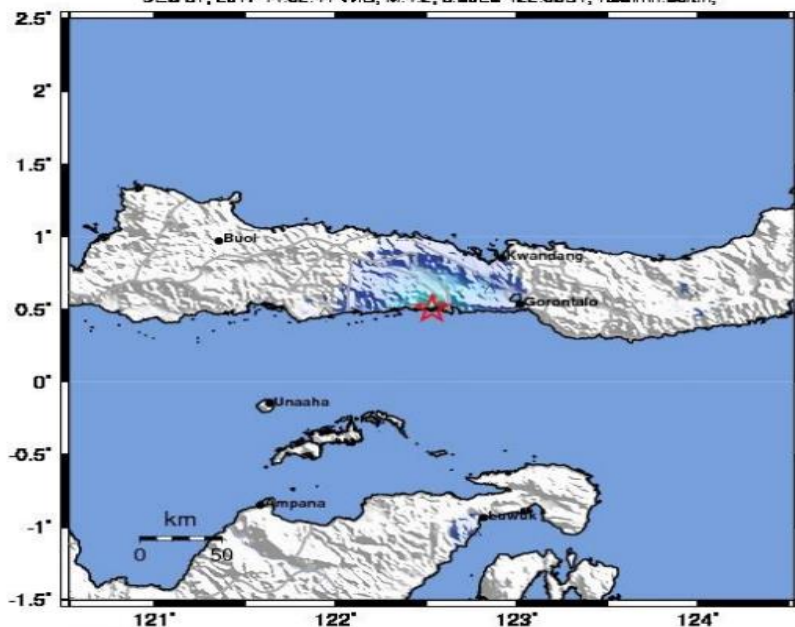
Gempabumi 29 Desember 2017, jam 00:20:21 WIB, Mag:5.7, Lat:3.98°LU, Long:126.88°BT, Kedalaman:16 Km, Talaud Islands, Indonesia

No	IdSta	Stasiun	Latitude	Longitude	Jarak	MMI	SIG	PGA-EW(gal)	PGA-NS(gal)	PGA-UD(gal)	Site Class
1	BTSI	STA MAR BITUNG	1.44	125.18	338.02	IV	II	15.141	15.7329	6.7826	
2	KWSI	STA KLIM KAYUWATU	1.50	124.92	349.87	III-IV	II	5.4155	5.0147	4.408	D
3	TNTI	TERNATE	0.77	127.37	359.27	I	I	0.2078	NaN	0.1098	
4	KMSI	KOTA MUBAGO	0.57	123.98	495.52	II	I	0.4047	0.391	0.2058	
5	LBMI	LABUHA	-0.64	127.50	516.51	I	I	0.0696	0.0784	0.0647	



BMKG ShakeMap : 17 km BaratDaya PAGUYAMAN-GORONTALO

DES 31, 2017 14:52:41 WIB, M:4.2, 0.50LU 122.53BT, Kedlmn:63km,



Map Version 1

PERCEREBER SHAKING	Not felt	Weak	Light	Moderate	Strong	Very strong	Severe	Violent	Extreme
POTENTIAL DAMAGE	none	none	none	Very light	Light	Moderate	Mod./Heavy	Heavy	Very Heavy
PEAK ACC (%g)	<0.05	0.5	2.8	8.2	12	22	40	75	>138
PEAK VEL. (cm/s)	<0.02	0.1	1.4	4.7	8.8	20	41	88	>179
INSTRUMENTAL INTENSITY	I	II-III	IV	V	VI	VII	VIII	IX	X+

Scale based upon Worden et al. (2011)

Badan Meteorologi Klimatologi dan Geofisika Laporan Kejadian Gempa Bidang Seismologi Teknik

Gempabumi 31 Desember 2017, jam 14:52:41 WIB, Mag:4.2, Lat:0.5°LU, Long:122.53°BT, Kedalaman:63 Km, 17 km BaratDaya

No	IdSta	Stasiun	Latitude	Longitude	Jarak	MMI	SIG	PGA-EW(gal)	PGA-NS(gal)	PGA-UD(gal)	Site Class
1	GMCI	STA MET GORONTALO	0.63	122.85	38.40	II-III	I	3.3781	3.0752	4.6325	D
2	SMSI	SUMALATA	0.99	122.36	57.33	I	I	0.8673	NaN	NaN	
3	MRSI	MARISA GORONTALO	0.48	121.94	65.54	I	I	0.8673	0.6978	0.4488	
4	KMSI	KOTA MUBAGO	0.57	123.98	161.55	I	I	0.2313	0.2832	0.1313	
5	LUWI	LUWUK	-1.04	122.77	173.54	I-II	I	0.0882	NaN	0.49	
6	MPSI	MAPAGA SABANG PALU	0.34	119.90	293.22	I	I	0.0882	0.0784	0.0353	C

DATA DAN INFORMASI TSUNAMI

1. JANUARI 2017 (NO DATA)
2. FEBRUARI 2017 (NO DATA)
3. MARET 2017 (NO DATA)
4. APRIL 2017

4.1. Informasi Gempa Bumi Berpotensi Tsunami

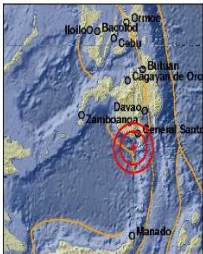
Hari Sabtu, tanggal 29 April 2017 gempa bumi tektonik mengguncang wilayah Mindanao - Filipina. Hasil analisis *update* dari Pusat Gempa Nasional PGN BMKG menunjukkan bahwa gempa bumi terjadi pada pukul 04:23:17 WITA dengan kekuatan $M = 7.3$ Skala Richter dengan episenter terletak pada koordinat 5.45 LU - 125.14 BT, pada kedalaman 43 km.

Guncangan gempa bumi dilaporkan dirasakan cukup kuat oleh masyarakat, peta tingkat guncangan (shakemap) BMKG menunjukan wilayah kabupaten Sangihe dan kabupaten Talaud dalam skala intensitas I-II SIG BMKG atau (III – IV MMI).

Akibat kejadian gempa bumi ini, BMKG mengeluarkan peringatan dini Tsunami pada pukul 04.29.33 WITA, dan diperbaharui pada pukul 05.27.49 Berdasarkan hasil validasi alat pemantau tinggi gelombang tsunami (tide gauge) di Bitung dan Filipina tidak terdeteksi terjadinya gelombang tsunami. BMKG menyatakan peringatan dini tsunami yang dikeluarkan berakhir pada pukul 06:06:58 WITA.

4.2. Diseminasi Informasi Peringatan Dini

4.2.1. Peringatan Dini lewat WRS DVB:

Berita 1: Waktu kirim: 29 April 2017, 03:29:33 WIB	Berita 2: (Update parameter) Waktu kirim: 29 April 2017, 04:27:49 WIB
 PERINGATAN DINI TSUNAMI BADAN METEOROLOGI KLIMATOLOGI DAN GEOFISIKA InaTEWS  Magnitude 7.1 Waktu : 29-Apr-17 03:23:17 WIB Lokasi : 5.45 LU - 125.00 BT Kedalaman: 10 Km Keterangan lokasi gempabumi : 210 km BaratLaut KEP-SANGIHE-SULUT 246 km BaratLaut KEP-TALAU-SULUT 347 km BaratLaut SIAUTAGULANDANGBIARO-SULUT 442 km TimurLaut MANADO-SULUT 2397 km TimurLaut JAKARTA-INDONESIA Berpotensi TSUNAMI untuk diteruskan pada Masyarakat Waktu kirim: 29 April 2017, 03:29:33 WIB	 PERINGATAN DINI TSUNAMI BADAN METEOROLOGI KLIMATOLOGI DAN GEOFISIKA InaTEWS  Magnitude 7.3 Waktu : 29-Apr-17 03:23:20 WIB Lokasi : 5.45 LU - 125.14 BT Kedalaman: 43 Km Keterangan lokasi gempabumi : 206 km BaratLaut KEP-SANGIHE-SULUT 234 km BaratLaut KEP-TALAU-SULUT 346 km BaratLaut SIAUTAGULANDANGBIARO-SULUT 442 km TimurLaut MANADO-SULUT 2410 km TimurLaut JAKARTA-INDONESIA (Pemutakhiran) Berpotensi TSUNAMI untuk diteruskan pada Masyarakat

Perkiraan wilayah terpapar, tingkat ancaman tsunami, dan perkiraan waktu tiba gelombang tsunami.

Berpotensi terjadi Tsunami di wilayah				
SULUT	Kepulauan Sangihe	SIAGA	03:39:24	29/04/2017
SULUT	Kepulauan Talaud	SIAGA	03:39:45	29/04/2017
SULTENG	Toli-Toli	SIAGA	04:14:30	29/04/2017
SULUT	Kota-Manado	WASPADA	04:00:45	29/04/2017
SULUT	Minahasa Bagian Utara	WASPADA	04:00:45	29/04/2017
SULUT	Kepulauan Minahasa	WASPADA	04:02:15	29/04/2017
SULUT	Minahasa-Selatan Bagian Utara	WASPADA	04:02:15	29/04/2017
SULUT	Minahasa-Utara Bagian Utara	WASPADA	04:04:00	29/04/2017
SULUT	Bolaangmongondow Bagian Utara	WASPADA	04:07:15	29/04/2017
GORONTA	LO Gorontalo Bagian Utara	WASPADA	04:11:05	29/04/2017
SULTENG	Buol	WASPADA	04:12:35	29/04/2017
SULUT	Minahasa-Utara Bagian Selatan	WASPADA	04:16:05	29/04/2017
MALUT	Halmahera-Utara	WASPADA	04:20:05	29/04/2017
SULUT	Minahasa Bagian Selatan	WASPADA	04:26:05	29/04/2017
SULUT	Minahasa-Selatan Bagian Selatan	WASPADA	04:26:05	29/04/2017
MALUT	Halmahera	WASPADA	04:26:15	29/04/2017
KALTIM	Berau	WASPADA	04:27:45	29/04/2017
SULUT	Bolaangmongondow Bagian Selatan	WASPADA	04:32:24	29/04/2017
KALTIM	Kutai-Timur	WASPADA	04:37:30	29/04/2017
MALUT	Kota-Ternate	WASPADA	04:37:45	29/04/2017
MALUT	Kota-Tidore	WASPADA	04:37:45	29/04/2017
SULTENG	Donggala Bagian Utara	WASPADA	04:38:20	29/04/2017
KALTIM	Bulungan	WASPADA	04:46:15	29/04/2017
MALUT	Halmahera-Selatan	WASPADA	04:53:30	29/04/2017
SULBAR	Mamuju Bagian Utara	WASPADA	04:59:35	29/04/2017

Keterangan :
 AWAS : Tsunami ($h \geq 3m$)
 SIAGA : Tsunami ($0.5m \leq h < 3m$)
 WASPADA : Tsunami ($h < 0.5m$)

Berita 3 : (Pemutakhiran)

Waktu kirim: 29 April 2017, 05:06:58 WIB

**4.2.2. Peringatan Dini lewat SMS:****Berita 1**

Info Gempa Mag:7.1 SR,29-Apr-17 03:23:17 WIB,Lok:5.45 LU,125.00 BT
(210 km BaratLaut KEP-SANGIHE-SULUT),Kedlmn:10 Km,Potensi TSUNAMI
utk dtrskn pd msyrkt::BMKG

Berita 2

Pemutakhiran Peringatan Dini Tsunami di
SULUT,GORONTALO,SULTENG,MALUT,KALTIM, Gempa Mag:7.3SR, 29-Apr-17
03:23:20WIB, Lok:5.45LU,125.14BT,Kdlmn:43Km::BMKG

Berita 3

Peringatan dini TSUNAMI yang disebabkan oleh gempa mag:7.3 SR,
tanggal: 29-Apr-17 03:23:20 WIB, dinyatakan telah berakhir::BMKG

4.2.3. Peringatan Dini lewat Surat Elektronik (e-mail):

Sistem Peringatan Dini Tsunami Indonesia (InaTEWS)
BADAN METEOROLOGI KLIMATOLOGI DAN GEOFISIKA
Alamat: Jl. Angkasa I no.2 Kemayoran, Jakarta, Indonesia, 10720
Telp.: (+62-21) 4246321/6546316 , Fax: (+62-21) 6546316/4246703
P.O. Box 3540 Jkt, Website : <http://www.bmkg.go.id>

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Tanggal dikeluarkan: 29 April 2017, 3:29:2 WIB
Informasi gempabumi
No.: 8/infogempa/InaTEWS/IV/2017

Telah terjadi gempa bumi dengan parameter sementara sbb:

Kekuatan : 7.1 SR
Tanggal : 29-Apr-17
Waktu Gempa : 03:23:17 WIB
Lintang : 5.45 LU
Bujur : 125.00 BT
Kedalaman : 10 Km

Lokasi : Mindanao, Philippines
Keterangan : 210 km BaratLaut KEP-SANGIHE-SULUT
246 km BaratLaut KEP-TALAUD-SULUT
347 km BaratLaut SIAUTAGULANDANGBIARO-SULUT
442 km TimurLaut MANADO-SULUT
2397 km TimurLaut JAKARTA-INDONESIA

Informasi Tsunami :

Kemungkinan terjadi TSUNAMI lokal yang merusak, untuk radius < 100 km dari episenter

Informasi ini telah diperiksa oleh Seismologist
Harap jangan me-reply kealamat email ini, tetapi kealamat :
info_inatews@bmkg.go.id

5. MEI 2017 (NO DATA)

6. JUNI 2017 (NO DATA)

7. JULI 2017 (NO DATA)

8. AGUSTUS 2017 (NO DATA)

9. SEPTEMBER 2017 (NO DATA)

10. OKTOBER 2017 (NO DATA)

11. NOVEMBER 2017 (NO DATA)

12. DESEMBER 2017 (NO DATA)