

**GOVERNMENT OF INDIA
MINISTRY OF EARTH SCIENCES
RAJYA SABHA
UNSTARRED QUESTION No. 15
TO BE ANSWERED ON THURSDAY, FEBRUARY 02, 2017**

DEVELOPMENT OF EARTHQUAKE WARNING SYSTEM

15. SHRI TIRUCHI SIVA:

Will the Minister of EARTH SCIENCES be pleased to state:

- (a) the details regarding the number of earthquakes that have taken place in the country during the last two years and the current year;**
- (b) the details of loss of life and property reported in such earthquakes;**
- (c) whether it is a fact that the Council for Scientific and Industrial Research (CSIR) has developed an earthquake warning system; and**
- (d) whether this warning system has been set up across different cities and if so, the details thereof?**

ANSWER

**MINISTER OF STATE FOR MINISTRY OF SCIENCE AND TECHNOLOGY AND
MINISTRY OF EARTH SCIENCES
(SHRI Y. S. CHOWDARY)**

- (a) Details of earthquakes detected and located in and around the country (covering the area bounded by 6°-38°N Latitude and 68°-98°E Longitude) by the National Seismological Network of National Centre for Seismology(NCS), during the last two years (period 2015, 2016 and up to January 2017) periods is in Annexure-I.**
- (b) During last two years, Bay of Bengal (275 km South-East of Paradip), Nepal, Afghanistan, Tajikistan, Manipur, Tripura and Burma earthquake and its aftershocks caused loss of life and property in Indian territory also. 115 deaths have been reported (Bihar-79; Uttar Pradesh -19; West Bengal-3; Rajashthan-1; Jammu & Kashmir-4 and Manipur-8; Tripura-1) and about 13000 houses were reported damaged.**
- (c) The constituent laboratory of Council of Scientific & Industrial Research (CSIR) namely, CSIR-Central Scientific Instruments Organisation (CSIO), Chandigarh has developed an earthquake warning system and it has been set up only at Delhi Metro Rail Corporation, New Delhi.**
- (d) CSIR-CSIO has established this network of five nodes at Mundka, Botanical Garden, Huda City Centre, Metro Bhawan and Faridabad, comprising seismic warning systems with local area network (LAN) connectivity with the Delhi Metro Rail Corporation (DMRC) network for generation of alarm signal on major earthquake.**

Annexure-I

Details of earthquakes which have been detected and located in and around the country (Covering the area bounded by 6°-38°N Latitude and 68°-98°E Longitude) by the National Seismological Network during 2015, 2016 and current year (up to 29th Jan, 2017).

1) YEAR 2015

Day		Origin-TIME			Latitude	Longitude	Depth	Magnitude	
Year	Mon	day	hr	min	sec	°N	°E	(Km)	(Richter scale)

(UTC)									

2015	01	02	07	23	34.0	24.10	93.90	20	3.5
2015	01	05	09	20	15.0	24.10	93.70	10	3.7
2015	01	05	19	41	40.0	29.00	81.80	5	4.2
2015	01	10	13	06	36.0	11.00	93.50	117	4.9
2015	01	13	06	33	56.0	24.60	94.00	10	3.2
2015	01	14	15	49	52.0	28.90	77.00	5	3.3
2015	01	15	01	33	1.0	22.60	92.50	5	4.0
2015	01	22	07	43	14.0	12.90	93.00	15	4.0
2015	01	23	00	29	44.0	12.90	92.80	38	4.5
2015	01	23	04	48	24.0	30.00	81.60	10	3.2
2015	01	24	16	11	32.0	25.10	95.00	10	4.8
2015	01	26	18	29	27.0	12.50	92.80	50	4.5
2015	01	31	13	59	47.0	28.20	83.80	10	4.6
2015	01	31	21	11	11.0	24.30	94.10	85	3.4
2015	02	01	16	00	47.0	26.40	93.20	10	4.1
2015	02	03	09	28	11.0	25.90	91.20	11	3.5
2015	02	04	10	44	17.0	33.00	83.40	10	5.3
2015	02	06	13	13	9.0	26.90	91.90	10	3.5
2015	02	06	22	39	27.0	25.40	94.60	15	3.5
2015	02	07	23	35	59.0	36.70	73.30	70	4.5
2015	02	09	14	13	10.0	9.20	93.30	10	4.7
2015	02	11	03	30	11.0	13.20	92.20	20	5.3
2015	02	12	08	19	35.0	34.00	74.10	14	3.5
2015	02	12	14	32	59.0	24.20	94.00	90	5.0
2015	02	12	15	32	52.0	24.00	94.00	50	3.5
2015	02	14	17	06	51.0	26.70	87.60	10	3.8
2015	02	15	14	14	16.0	34.10	75.20	10	4.2
2015	02	18	04	07	49.0	24.10	93.70	30	3.6
2015	02	19	09	18	24.0	26.60	96.20	10	3.8
2015	02	21	15	55	38.0	25.20	94.30	28	3.4
2015	02	23	06	31	59.0	10.20	92.10	10	4.8
2015	02	23	06	35	32.0	26.00	95.20	10	3.9
2015	02	23	08	17	49.0	23.80	91.30	25	3.5
2015	02	24	12	54	45.0	25.80	91.70	10	3.0
2015	02	25	00	39	24.0	16.70	80.10	10	4.0
2015	02	26	13	58	10.0	36.40	71.00	96	5.1
2015	02	26	21	59	2.0	34.60	73.20	10	5.3
2015	03	07	10	58	20.0	25.10	94.20	30	3.1
2015	03	17	15	28	37.0	24.50	94.50	96	4.0
2015	03	19	02	14	58.0	36.80	73.50	10	3.8
2015	03	19	03	36	59.0	16.10	80.90	5	3.0
2015	03	19	09	41	55.0	24.00	72.70	5	3.5

2015 03 20 21 44 58.0	24.90	94.60	10	3.1
2015 03 21 17 44 37.0	36.40	71.70	86	5.1
2015 03 22 10 20 19.0	25.40	92.60	44	3.7
2015 03 22 12 06 37.0	22.00	92.90	10	4.0
2015 03 23 11 53 26.0	29.10	77.50	10	3.0
2015 03 23 23 27 45.0	26.10	94.50	20	3.5
2015 03 25 06 41 32.0	36.50	71.50	108	5.1
2015 03 25 10 13 8.0	13.40	91.90	6	4.0
2015 03 27 18 51 49.0	10.10	93.50	70	5.0
2015 03 29 01 03 2.0	27.90	94.30	10	3.4
2015 03 30 19 56 48.0	24.60	93.10	10	3.0
2015 04 01 21 23 54.0	30.20	79.40	10	5.1
2015 04 03 12 45 22.0	10.60	93.20	100	4.0
2015 04 08 01 43 46.0	21.90	89.50	10	4.5
2015 04 09 11 19 55.0	26.60	92.80	10	3.1
2015 04 09 12 58 25.0	25.60	91.50	26	2.8
2015 04 09 22 49 40.0	14.20	92.90	10	5.1
2015 04 12 23 39 37.0	24.10	93.80	60	3.5
2015 04 15 17 57 4.0	24.30	95.90	10	4.1
2015 04 16 22 05 49.0	26.80	92.70	10	4.8
2015 04 17 00 20 14.0	26.30	92.40	20	3.8
2015 04 18 09 48 6.0	26.60	92.40	60	3.2
2015 04 21 00 17 28.0	14.30	92.90	10	5.0
2015 04 21 14 02 16.0	28.90	82.40	5	4.9
2015 04 23 20 26 37.0	27.30	88.10	10	4.0
2015 04 23 23 58 20.0	12.90	95.40	10	5.1
2015 04 25 06 11 25.0	28.10	84.60	10	7.9
2015 04 25 06 37 58.0	28.00	85.70	10	5.5
2015 04 25 06 45 20.0	28.10	84.80	10	6.6
2015 04 25 06 56 35.0	28.00	85.70	10	5.7
2015 04 25 07 08 3.0	27.80	85.60	10	5.0
2015 04 25 07 13 48.0	27.40	85.60	10	4.2
2015 04 25 07 16 59.0	27.70	85.60	10	4.4
2015 04 25 07 39 36.0	27.40	85.60	10	4.1
2015 04 25 07 47 1.0	27.90	85.50	10	5.0
2015 04 25 08 05 37.0	27.60	85.70	5	4.9
2015 04 25 08 17 1.0	27.80	85.70	10	5.0
2015 04 25 08 20 48.0	27.60	84.90	10	5.6
2015 04 25 08 29 28.0	28.10	84.80	20	5.0
2015 04 25 08 49 11.0	27.90	85.00	10	4.4
2015 04 25 08 55 55.0	27.30	85.10	10	5.7
2015 04 25 09 03 16.0	27.60	85.30	6	4.0
2015 04 25 09 17 1.0	28.30	87.30	5	5.8
2015 04 25 09 30 30.0	27.60	85.30	10	5.6
2015 04 25 10 23 19.0	27.40	85.60	10	4.0
2015 04 25 10 40 34.0	27.70	85.80	5	5.0
2015 04 25 10 53 43.0	27.10	85.60	20	4.0
2015 04 25 12 01 13.0	27.80	85.80	10	4.0
2015 04 25 12 12 15.0	27.60	85.70	5	4.4
2015 04 25 12 18 0.0	27.80	85.40	10	4.8
2015 04 25 12 44 5.0	28.10	84.50	10	5.3
2015 04 25 13 30 28.0	28.00	85.00	8	4.9
2015 04 25 13 36 14.0	27.20	85.70	10	4.0
2015 04 25 13 53 9.0	27.70	85.00	10	4.2
2015 04 25 14 10 5.0	27.80	85.90	10	4.7
2015 04 25 15 17 19.0	27.90	85.30	10	4.2
2015 04 25 16 27 25.0	27.70	85.50	10	4.9

2015 04 25 17 42 52.0	28.20	85.80	10	5.6
2015 04 25 18 58 33.0	27.70	85.40	10	4.0
2015 04 25 20 02 53.0	27.20	85.60	10	4.2
2015 04 25 20 23 33.0	28.20	85.80	10	3.6
2015 04 25 21 07 17.0	27.90	85.70	10	4.5
2015 04 25 23 12 52.0	27.80	86.20	10	3.5
2015 04 25 23 16 13.0	27.70	84.90	10	5.6
2015 04 25 23 41 52.0	27.50	85.90	10	4.4
2015 04 26 02 48 39.0	27.90	84.50	10	4.0
2015 04 26 03 21 36.0	27.40	85.40	10	4.5
2015 04 26 04 58 42.0	27.80	84.70	13	4.5
2015 04 26 07 09 8.0	27.60	85.90	10	6.9
2015 04 26 07 26 3.0	27.70	85.80	10	5.0
2015 04 26 07 36 28.0	27.70	85.90	6	4.0
2015 04 26 08 40 57.0	27.80	86.00	14	4.6
2015 04 26 08 46 19.0	27.60	85.60	10	4.0
2015 04 26 13 11 18.0	27.70	85.40	10	4.1
2015 04 26 14 44 51.0	27.50	85.90	15	3.7
2015 04 26 14 57 5.0	28.20	84.70	10	4.1
2015 04 26 15 56 51.0	26.30	92.80	30	3.2
2015 04 26 16 26 5.0	27.60	85.70	10	5.3
2015 04 26 17 38 47.0	27.70	85.30	10	3.4
2015 04 26 18 54 49.0	27.90	84.90	10	3.8
2015 04 26 20 39 20.0	27.90	85.80	10	3.7
2015 04 26 21 52 26.0	27.60	85.10	10	3.2
2015 04 26 22 32 35.0	27.50	85.70	10	3.9
2015 04 26 00 39 11.0	27.70	84.40	20	3.7
2015 04 27 12 35 49.0	26.70	88.10	10	5.1
2015 04 27 14 42 42.0	27.40	85.60	10	4.0
2015 04 27 14 57 1.0	27.80	86.00	10	4.2
2015 04 27 15 51 44.0	27.30	85.10	10	4.0
2015 04 27 17 45 27.0	28.10	84.90	5	3.5
2015 04 27 18 59 54.0	27.90	84.70	10	4.7
2015 04 27 21 27 45.0	27.80	85.60	10	4.2
2015 04 27 22 26 7.0	27.70	84.50	10	3.5
2015 04 27 23 20 33.0	28.00	85.40	10	4.5
2015 04 28 05 03 24.0	37.30	72.10	143	5.1
2015 04 28 19 11 29.0	27.70	85.70	10	3.2
2015 04 28 19 34 59.0	27.70	85.80	10	3.8
2015 04 28 22 29 9.0	27.60	85.80	10	3.3
2015 04 28 23 04 15.0	27.70	85.90	5	3.6
2015 04 29 00 48 17.0	26.80	92.50	5	3.5
2015 04 29 01 22 23.0	27.60	86.00	13	3.3
2015 04 29 09 39 18.0	27.60	84.70	12	3.9
2015 04 29 11 27 47.0	27.70	85.40	15	4.0
2015 04 29 17 16 34.0	27.70	85.50	5	4.0
2015 04 29 22 10 53.0	28.40	87.30	16	4.7
2015 04 30 00 37 11.0	27.70	84.70	10	4.1
2015 04 30 09 00 21.0	28.70	96.50	10	3.8
2015 04 30 19 13 36.0	27.80	85.80	49	3.0
2015 04 30 19 21 20.0	26.50	94.30	10	4.7
2015 04 30 20 19 0.0	26.70	92.60	10	3.4
2015 04 30 20 33 19.0	26.00	94.80	13	3.5
2015 05 01 08 58 45.0	10.80	92.00	10	5.4
2015 05 02 00 11 0.0	27.10	85.00	10	4.5
2015 05 02 05 35 44.0	28.00	84.70	10	4.5
2015 05 02 09 41 18.0	27.60	85.30	10	3.5

2015	05	02	15	16	20.0	27.60	86.00	10	3.5
2015	05	02	21	44	11.0	27.70	85.90	10	4.1
2015	05	02	22	39	32.0	28.00	85.00	10	3.2
2015	05	03	11	35	13.0	27.80	85.10	10	4.3
2015	05	03	23	14	17.0	27.70	85.80	10	3.6
2015	05	04	01	15	7.0	27.60	85.90	10	4.6
2015	05	05	00	54	6.0	28.00	85.00	20	3.2
2015	05	06	12	17	13.0	28.10	84.50	23	3.3
2015	05	06	15	13	20.0	27.40	85.50	10	3.7
2015	05	06	21	56	24.0	27.40	84.90	10	3.1
2015	05	07	11	00	44.0	27.30	92.20	10	3.2
2015	05	07	20	34	44.0	27.40	85.60	10	4.0
2015	05	08	00	32	33.0	27.50	85.90	10	4.8
2015	05	08	02	34	43.0	27.30	85.80	10	3.6
2015	05	08	07	47	54.0	27.50	85.70	12	4.0
2015	05	08	21	23	28.0	28.00	85.10	10	3.3
2015	05	09	01	01	41.0	23.30	70.40	10	3.4
2015	05	10	00	49	52.0	27.50	85.80	10	3.5
2015	05	10	09	38	34.0	27.70	85.50	10	3.5
2015	05	11	14	51	6.0	27.70	85.40	10	3.9
2015	05	12	07	05	19.0	27.70	86.00	10	7.3
2015	05	12	07	34	23.0	27.60	86.20	15	5.4
2015	05	12	07	36	54.0	27.60	86.10	10	6.2
2015	05	12	08	06	6.0	27.60	86.10	10	5.0
2015	05	12	08	13	55.0	27.60	86.00	10	4.8
2015	05	12	08	21	11.0	27.80	86.20	10	4.8
2015	05	12	08	34	23.0	27.80	85.90	10	4.2
2015	05	12	08	59	40.0	27.80	86.30	10	4.0
2015	05	12	10	04	5.0	27.70	86.00	10	3.3
2015	05	12	10	35	39.0	27.40	85.90	10	4.0
2015	05	12	10	41	31.0	27.40	86.20	10	3.9
2015	05	12	11	06	34.0	27.70	86.10	10	3.6
2015	05	12	11	21	31.0	27.60	86.10	10	3.7
2015	05	12	11	58	12.0	27.60	85.80	10	3.7
2015	05	12	12	28	23.0	27.70	85.90	10	3.9
2015	05	12	13	43	17.0	27.50	85.70	10	3.6
2015	05	12	15	28	20.0	27.60	86.20	15	3.7
2015	05	12	16	32	13.0	27.60	85.80	18	3.2
2015	05	12	16	55	23.0	27.60	85.80	10	3.5
2015	05	12	17	28	39.0	27.40	86.10	10	4.1
2015	05	12	18	51	45.0	27.70	86.20	16	3.3
2015	05	12	19	34	58.0	27.70	86.10	10	3.4
2015	05	12	19	37	44.0	27.50	86.00	48	3.8
2015	05	12	20	07	34.0	27.60	86.10	12	3.1
2015	05	12	20	22	15.0	27.60	85.20	10	3.4
2015	05	12	20	44	28.0	27.90	86.20	10	3.3
2015	05	12	21	25	12.0	27.70	84.60	10	5.1
2015	05	12	22	53	18.0	27.20	86.10	10	3.4
2015	05	13	02	23	13.0	27.50	86.20	10	3.7
2015	05	13	02	43	47.0	27.40	86.10	10	3.7
2015	05	13	04	48	9.0	27.50	86.00	10	3.3
2015	05	13	06	26	5.0	27.50	86.10	10	4.7
2015	05	13	06	37	30.0	27.60	86.10	10	4.2
2015	05	13	06	53	59.0	27.70	86.20	10	4.7
2015	05	13	08	45	56.0	27.70	86.20	10	3.3
2015	05	13	09	52	28.0	27.80	86.20	10	3.2
2015	05	13	10	59	44.0	27.50	86.10	10	3.6

2015	05	13	15	51	4.0	27.40	85.80	20	3.4
2015	05	13	18	31	1.0	27.70	86.10	10	3.6
2015	05	13	21	38	5.0	27.70	86.10	10	4.8
2015	05	14	03	07	10.0	27.40	86.00	10	3.8
2015	05	14	03	07	40.0	27.60	86.00	10	4.4
2015	05	14	09	35	31.0	27.60	85.20	10	3.2
2015	05	14	13	58	7.0	27.20	86.10	20	3.4
2015	05	14	14	36	39.0	27.90	85.20	15	3.7
2015	05	14	15	05	41.0	27.60	86.10	10	3.6
2015	05	14	15	55	8.0	27.90	86.00	10	3.5
2015	05	14	21	53	36.0	27.30	86.00	10	3.6
2015	05	14	22	21	16.0	27.50	86.00	10	4.0
2015	05	15	01	42	42.0	27.80	84.70	10	5.0
2015	05	15	05	06	2.0	27.80	84.80	10	3.4
2015	05	15	09	24	14.0	27.40	86.10	5	3.4
2015	05	16	03	39	26.0	27.50	85.70	10	4.2
2015	05	16	03	50	26.0	27.40	84.90	10	3.5
2015	05	16	11	34	10.0	27.50	86.00	10	5.7
2015	05	16	16	23	48.0	27.60	86.00	28	3.6
2015	05	16	20	02	55.0	28.10	84.80	10	3.0
2015	05	16	23	15	25.0	27.50	85.90	10	3.8
2015	05	17	05	45	37.0	27.20	85.90	8	3.9
2015	05	17	14	55	5.0	27.60	86.20	10	3.8
2015	05	18	12	42	12.0	28.00	84.70	30	3.5
2015	05	18	22	49	53.0	27.80	86.00	10	3.6
2015	05	19	10	59	32.0	27.80	85.80	10	3.7
2015	05	20	05	25	10.0	27.50	86.20	10	3.6
2015	05	20	09	02	37.0	27.60	85.10	10	3.9
2015	05	21	08	26	44.0	27.70	86.30	10	3.7
2015	05	22	10	59	37.0	28.10	85.00	10	4.2
2015	05	22	11	45	47.0	27.30	86.00	10	3.7
2015	05	22	19	07	42.0	29.90	81.90	10	4.2
2015	05	22	20	11	35.0	24.70	93.20	10	3.9
2015	05	22	20	52	36.0	24.50	93.40	63	3.2
2015	05	23	11	53	57.0	30.40	79.20	10	3.2
2015	05	23	16	41	19.0	27.40	85.90	10	3.7
2015	05	24	01	21	4.0	27.90	86.30	10	3.5
2015	05	24	17	30	36.0	27.00	85.90	20	3.5
2015	05	24	21	38	43.0	27.90	84.70	10	4.0
2015	05	26	17	07	15.0	27.90	85.10	10	4.5
2015	05	26	17	24	14.0	24.40	93.80	30	4.1
2015	05	27	07	30	44.0	27.90	85.60	10	4.0
2015	05	27	16	44	59.0	28.00	85.10	10	3.4
2015	05	28	11	46	28.0	28.10	93.40	10	4.0
2015	05	28	15	19	29.0	25.80	91.20	10	3.5
2015	05	29	03	57	54.0	25.90	90.20	15	3.9
2015	05	29	06	45	32.0	27.70	84.70	10	3.9
2015	05	29	10	00	0.0	28.00	84.70	10	4.7
2015	05	30	16	28	19.0	27.80	85.00	10	4.0
2015	06	02	20	33	7.0	29.80	81.80	10	4.0
2015	06	02	22	09	8.0	25.80	89.90	10	3.9
2015	06	03	07	52	37.0	27.60	85.60	10	3.8
2015	06	03	11	28	23.0	30.50	79.30	10	4.0
2015	06	03	11	53	32.0	27.70	86.20	10	3.8
2015	06	04	13	43	32.0	27.50	92.90	10	3.2
2015	06	07	05	17	41.0	27.60	85.90	10	3.5
2015	06	11	04	17	46.0	27.50	85.70	10	4.0

2015 06 11 16 12 17.0	27.90	85.70	10	4.7
2015 06 11 19 37 6.0	28.30	84.80	10	4.0
2015 06 12 04 34 7.0	27.80	86.10	10	3.8
2015 06 12 18 29 31.0	14.10	93.50	38	5.2
2015 06 13 01 18 29.0	27.60	86.00	10	4.6
2015 06 14 07 47 52.0	27.50	86.00	10	4.0
2015 06 17 00 13 19.0	27.60	85.20	10	3.6
2015 06 17 00 30 1.0	27.70	85.30	10	4.1
2015 06 17 02 15 16.0	28.10	85.60	10	4.4
2015 06 18 14 36 7.0	22.80	92.20	33	3.8
2015 06 20 12 23 4.0	28.50	82.70	10	4.2
2015 06 23 20 33 21.0	30.40	78.30	10	3.2
2015 06 27 06 04 26.0	29.90	80.30	10	3.0
2015 06 28 01 05 25.0	26.50	90.10	10	5.6
2015 06 28 23 57 14.0	27.60	86.10	10	4.6
2015 06 29 17 27 9.0	26.70	95.00	10	3.5
2015 06 29 22 07 46.0	36.60	71.40	160	5.5
2015 07 02 01 56 12.0	27.80	85.30	10	4.0
2015 07 02 07 18 24.0	34.40	73.80	10	5.1
2015 07 03 00 37 40.0	13.30	93.20	25	4.2
2015 07 03 01 07 45.0	37.50	78.20	10	6.2
2015 07 03 03 16 35.0	11.40	95.00	10	5.8
2015 07 03 20 04 8.0	27.70	85.00	10	4.3
2015 07 10 12 53 22.0	26.80	90.40	10	4.5
2015 07 10 21 13 0.0	27.40	86.00	10	4.5
2015 07 10 22 27 33.0	25.60	90.60	10	4.2
2015 07 14 14 35 50.0	35.90	71.10	80	5.2
2015 07 15 02 30 20.0	36.00	72.00	80	5.2
2015 07 18 23 48 7.0	30.50	79.10	13	4.3
2015 07 23 06 04 14.0	15.80	74.00	9	2.9
2015 07 23 14 36 5.0	21.40	79.90	10	3.9
2015 07 24 20 59 56.0	33.80	73.10	10	5.3
2015 07 26 10 04 5.0	36.60	71.60	10	5.0
2015 07 26 16 59 8.0	30.00	80.40	10	3.4
2015 07 27 07 33 42.0	27.30	91.00	10	4.3
2015 08 03 20 47 48.0	11.80	92.40	28	4.5
2015 08 09 22 30 26.0	28.00	84.70	10	4.4
2015 08 10 10 05 24.0	36.50	71.30	210	6.2
2015 08 15 05 42 24.0	27.40	88.00	36	4.0
2015 08 15 18 11 39.0	27.60	85.90	10	4.6
2015 08 19 19 18 11.0	31.70	77.00	10	4.0
2015 08 23 09 02 3.0	27.60	86.00	10	5.0
2015 08 24 06 53 43.0	27.80	87.10	10	3.7
2015 08 26 01 56 52.0	18.70	84.50	15	3.3
2015 08 28 19 21 56.0	25.50	89.40	10	4.0
2015 08 30 13 17 35.0	27.50	85.60	15	4.0
2015 09 01 19 17 4.0	36.40	71.30	223	5.1
2015 09 03 17 57 50.0	27.60	75.60	10	4.4
2015 09 04 11 49 52.0	36.50	70.90	123	5.4
2015 09 05 05 39 0.0	26.30	92.80	10	4.0
2015 09 06 12 23 14.0	26.20	92.80	10	3.4
2015 09 07 10 13 46.0	24.30	93.20	10	3.3
2015 09 07 12 55 48.0	27.60	87.90	15	4.2
2015 09 09 21 03 20.0	36.00	70.60	98	5.1
2015 09 13 09 45 20.0	28.60	76.40	10	3.3
2015 09 15 22 38 33.0	35.50	78.50	10	4.4
2015 09 16 11 10 10.0	35.50	78.60	15	5.0

2015 09 17 18 34 16.0	24.70	94.50	72	4.5
2015 09 22 06 32 46.0	27.50	85.00	10	4.0
2015 09 25 16 57 38.0	26.60	91.80	15	4.6
2015 09 26 16 54 7.0	26.60	92.20	10	3.5
2015 09 29 09 27 17.0	29.70	80.30	33	4.8
2015 10 02 11 29 20.0	22.50	93.20	5	4.0
2015 10 08 01 04 17.0	31.50	77.00	10	3.8
2015 10 09 20 10 13.0	28.70	77.40	5	3.0
2015 10 10 01 48 43.0	27.20	88.80	15	4.5
2015 10 11 08 34 56.0	25.10	93.80	21	4.1
2015 10 17 06 29 42.0	25.00	94.10	10	3.5
2015 10 19 00 04 38.0	29.50	80.30	10	2.6
2015 10 23 00 27 39.0	29.70	70.40	25	5.6
2015 10 24 04 35 0.0	30.30	80.20	20	3.9
2015 10 26 09 09 31.0	36.50	70.80	190	7.5
2015 10 26 09 49 35.0	36.50	70.20	170	5.0
2015 10 26 10 37 5.0	36.50	70.40	202	4.5
2015 10 27 13 14 7.0	36.60	70.70	187	5.0
2015 10 29 22 15 53.0	24.60	92.30	15	4.9
2015 10 31 05 16 46.0	25.50	91.80	10	4.0
2015 11 08 10 42 8.0	7.00	94.60	35	5.2
2015 11 08 10 53 31.0	6.80	94.60	35	5.0
2015 11 08 11 54 52.0	7.30	94.50	60	5.0
2015 11 08 13 24 3.0	7.50	94.50	35	5.2
2015 11 08 14 34 12.0	6.90	94.80	50	5.0
2015 11 08 14 47 8.0	7.00	94.60	50	4.9
2015 11 08 16 47 7.0	6.90	94.60	10	6.0
2015 11 08 16 59 26.0	7.10	94.60	10	5.6
2015 11 08 17 47 17.0	6.70	94.70	10	4.7
2015 11 08 18 48 47.0	6.60	94.60	10	4.9
2015 11 08 19 14 48.0	6.80	94.30	10	4.9
2015 11 09 06 12 24.0	6.50	94.80	10	5.1
2015 11 09 08 12 53.0	6.70	94.80	60	5.4
2015 11 13 07 44 33.0	29.80	80.20	10	3.0
2015 11 14 16 53 40.0	7.10	94.90	10	4.9
2015 11 18 00 59 10.0	36.50	70.50	184	5.0
2015 11 18 08 25 41.0	29.80	80.50	15	3.3
2015 11 18 14 31 21.0	34.00	74.70	10	3.1
2015 11 19 04 15 52.0	27.80	85.60	20	5.0
2015 11 22 18 16 2.0	36.50	71.60	80	6.0
2015 11 25 16 15 7.0	26.40	92.80	10	4.9
2015 11 27 08 34 2.0	22.50	94.70	47	5.2
2015 11 27 11 40 37.0	34.90	73.80	67	4.8
2015 11 29 02 47 38.0	30.60	79.60	10	4.0
2015 12 3 7 18 15.0	2.70	95.60	25	4.8
2015 12 6 18 5 17.0	28.80	76.80	36	2.9
2015 12 7 13 20 2.0	38.10	72.90	10	7.0
2015 12 13 23 54 25.0	26.20	92.30	10	3.3
2015 12 15 8 5 14.0	24.20	86.60	91	4.2
2015 12 16 10 18 16.0	13.50	94.00	10	4.8
2015 12 19 3 46 55.0	29.30	81.70	48	5.4
2015 12 23 18 57 12.0	25.80	94.70	186	4.2
2015 12 26 0 44 46.0	36.50	71.20	5	6.5
2015 12 27 10 12 50.0	25.40	91.90	10	2.7
2015 12 29 21 20 22.0	32.20	79.30	10	2.9
2015 12 30 22 54 54.0	25.10	91.10	10	3.7
2015 12 31 8 53 22.0	7.20	94.40	170	4.5

2) YEAR 2016

Day	Origin-TIME					Latitude	Longitude	Depth	Magnitude
Year	Mon	day	hr	min	sec	°N	°E	(Km)	(Richter scale)
(UTC)									
2016	1	02	14	7	19.0	36.50	70.90	17	5.8
2016	1	04	4	35	0.0	24.80	93.50	20	6.7
2016	1	04	9	27	46.0	24.90	93.40	20	3.6
2016	1	04	14	30	2.0	24.80	93.50	40	3.4
2016	1	06	15	55	8.0	25.20	93.20	32	4.0
2016	1	07	19	12	58.0	27.70	93.30	225	4.5
2016	1	08	14	37	10.0	36.60	71.00	220	5.5
2016	1	13	1	34	58.0	36.60	71.10	30	5.8
2016	1	13	11	17	32.0	0.60	92.30	10	5.1
2016	1	15	5	55	20.0	25.20	92.70	10	3.0
2016	1	16	0	54	52.0	11.90	92.50	10	4.0
2016	1	18	6	22	40.0	26.20	92.60	10	3.5
2016	1	22	0	52	43.0	28.10	85.10	50	4.8
2016	1	23	10	24	11.0	36.30	71.50	10	5.1
2016	1	24	22	39	26.0	27.00	92.20	250	3.2
2016	1	27	4	49	9.0	36.80	70.00	10	5.4
2016	1	29	4	17	8.0	27.10	75.50	111	3.8
2016	2	2	1	18	0.0	23.80	93.80	33	3.8
2016	2	2	5	19	0.0	26.40	93.40	10	3.7
2016	2	2	21	44	0.0	25.50	91.90	10	2.5
2016	2	4	12	40	27.0	32.70	75.70	10	4.1
2016	2	4	21	0	51.0	14.40	93.20	10	4.8
2016	2	5	21	50	9.0	27.80	85.40	118	5.2
2016	2	8	16	35	56.0	24.70	94.60	10	3.8
2016	2	9	20	43	47.0	32.80	76.40	6	4.4
2016	2	11	4	15	0.0	25.60	92.10	10	2.7
2016	2	15	22	5	29.0	30.20	79.60	10	3.5
2016	2	17	4	36	55.0	26.30	93.30	50	4.4
2016	2	21	9	9	42.0	7.10	92.10	5	4.5
2016	2	21	13	20	56.0	30.90	78.30	177	3.5
2016	2	21	14	42	8.0	36.50	70.90	50	5.7
2016	2	21	22	2	7.0	36.30	78.40	30	4.4
2016	2	21	23	40	0.0	27.80	84.60	20	5.0
2016	2	22	23	50	58.0	7.50	92.00	26	4.8
2016	2	24	7	36	51.0	24.90	72.30	19	3.0
2016	2	24	14	52	17.0	27.60	85.60	60	4.5
2016	2	27	6	1	3.0	13.60	94.00	10	4.6
2016	3	2	9	33	58.0	26.50	95.20	10	4.0
2016	3	2	12	5	14.0	29.90	70.10	30	5.0
2016	3	6	6	20	19.0	24.50	92.80	10	3.5
2016	3	6	14	21	18.0	24.70	92.90	8	3.3

2016	3	10	15	16	59.0	25.60	91.90	9	3.0
2016	3	10	15	20	32.0	25.60	91.90	21	3.2
2016	3	12	21	45	16.0	26.70	89.40	25	3.8
2016	3	13	10	45	36.0	27.80	84.90	10	3.8
2016	3	13	16	0	0.0	26.50	92.30	10	4.3
2016	3	15	2	57	40.0	27.20	86.20	10	3.9
2016	3	17	22	17	4.0	34.20	77.90	33	4.5
2016	3	18	9	7	33.0	25.40	73.40	10	3.5
2016	3	21	7	49	41.0	25.40	92.50	16	3.0
2016	3	21	20	18	51.0	27.80	66.30	49	5.3
2016	3	22	17	19	12.0	26.10	95.30	5	3.7
2016	3	28	21	12	42.0	24.10	93.10	15	3.7
2016	3	30	7	34	11.0	32.50	76.00	10	3.8
2016	3	30	17	56	42.0	28.00	85.70	35	4.4
2016	4	1	1	8	0.0	3.10	96.30	120	5.1
2016	4	4	2	1	0.0	24.40	94.30	10	4.0
2016	4	4	10	1	26.0	27.80	86.20	10	4.3
2016	4	5	13	12	27.0	25.90	90.40	15	5.4
2016	4	8	1	33	0.0	27.00	75.10	78	3.5
2016	4	8	20	0	43.0	36.90	71.20	10	5.0
2016	4	9	18	50	14.0	27.60	85.20	190	4.5
2016	4	10	15	58	57.0	36.40	71.20	10	6.8
2016	4	11	16	6	13.0	29.80	80.10	10	3.7
2016	4	12	17	25	48.0	26.50	90.80	10	3.8
2016	4	12	20	11	53.0	27.50	86.10	60	4.5
2016	4	13	9	26	54.0	24.90	94.00	134	4.6
2016	4	13	19	25	13.0	23.00	94.90	80	6.8
2016	4	14	11	11	55.0	23.80	94.00	5	4.5
2016	4	14	21	53	40.0	23.30	93.20	10	3.5
2016	4	19	6	44	46.0	24.80	92.70	10	3.7
2016	4	20	2	2	58.0	10.30	93.80	10	5.1
2016	4	24	2	1	1.0	28.70	85.10	150	4.6
2016	4	25	3	13	9.0	37.00	71.70	100	5.2
2016	5	05	18	00	30	30.4	80.1	15	4.1
2016	5	06	06	55	40	26.3	92.6	10	3.0
2016	5	06	08	36	18	28.1	92.3	20	3.8
2016	5	06	15	14	07	26.6	92.4	10	3.0
2016	5	07	09	43	39	25.5	91.9	10	4.0
2016	5	09	06	12	02	26.2	92.8	24	3.0
2016	5	09	16	03	48	11.5	91.5	10	5.3
2016	5	11	01	15	51	32.0	95.0	10	5.5
2016	5	11	08	52	46	27.9	84.6	23	4.5
2016	5	12	07	54	13	24.3	94.2	60	4.9
2016	5	12	11	56	45	25.1	94.0	10	3.3
2016	5	12	16	59	46	24.5	72.2	5	3.0
2016	5	13	06	59	31	30.6	66.7	10	5.2
2016	5	14	22	45	56	27.7	85.3	10	4.3
2016	5	15	06	56	04	23.2	70.1	10	3.4
2016	5	16	18	03	47	26.0	90.5	10	3.5
2016	5	17	10	12	32	26.2	88.8	08	3.5
2016	5	18	08	27	06	25.6	91.6	15	3.0
2016	5	18	13	23	24	17.3	73.7	05	3.9

2016	5	18	17	29	38	17.3	73.9	15	3.7
2016	5	18	19	17	42	17.3	73.7	05	4.0
2016	5	19	18	07	25	17.3	73.9	15	3.5
2016	5	20	13	36	18	24.9	92.3	25	3.2
2016	5	21	11	30	23	17.3	73.8	03	3.6
2016	5	24	12	35	15	26.2	92.4	10	3.2
2016	5	28	09	39	16	27.8	85.1	35	5.0
2016	5	30	22	39	25	25.1	93.2	10	3.2
2016	6	06	12	17	53	27.8	94.1	10	3.5
2016	6	07	12	01	13	27.4	92.7	5	3.8
2016	6	07	20	10	37	29.9	80.2	10	3.5
2016	6	09	16	17	32	27.5	92.7	10	3.5
2016	6	11	18	12	22	25.8	95.0	75	4.5
2016	6	12	11	20	22	17.2	73.9	16	3.5
2016	6	13	19	22	42	27.6	92.7	10	3.5
2016	6	13	23	27	44	27.7	84.6	10	4.2
2016	6	14	12	54	24	25.1	92.3	10	3.2
2016	6	21	16	47	11	35.7	74.0	33	4.5
2016	6	22	21	55	23	24.5	94.4	11	3.9
2016	6	23	11	35	36	36.4	70.7	170	5.5
2016	6	24	23	01	16	24.1	93.6	10	3.1
2016	6	25	04	03	51	27.3	95.2	5	3.5
2016	6	27	00	27	44	22.6	92.0	20	5.0
2016	6	27	07	22	13	23.3	94.0	5	4.2
2016	6	28	14	15	38	24.7	92.3	10	3.3
2016	6	29	09	27	02	29.2	81.1	10	3.9
2016	7	01	00	31	50	24.1	93.3	10	3.3
2016	7	01	19	22	40	24.9	95.2	105	5.0
2016	7	02	00	23	49	29.4	81.1	10	4.0
2016	7	02	13	29	28	25.1	94.2	36	3.6
2016	7	04	03	31	13	26.1	94.2	94	3.0
2016	7	05	06	25	00	25.2	94.3	40	3.8
2016	7	07	08	59	38	28.2	84.2	10	4.0
2016	7	07	22	24	02	26.8	89.5	40	3.3
2016	7	09	20	42	08	30.5	79.3	10	3.9
2016	7	14	06	54	25	35.5	77.4	10	4.6
2016	7	15	05	51	25	26.5	93.3	30	3.0
2016	7	17	02	31	52	24.2	94.2	10	3.2
2016	7	17	03	55	01	21.7	72.5	10	4.5
2016	7	17	11	54	55	31.1	74.3	15	4.6
2016	7	21	14	42	07	31.5	77.7	5	3.5
2016	7	24	15	33	11	13.3	93.2	30	4.4
2016	7	25	06	36	53	36.3	70.3	200	4.3
2016	7	26	06	06	47	26.3	92.5	10	4.0
2016	7	27	16	54	27	24.7	94.2	30	4.4
2016	7	30	20	37	01	24.7	94.3	90	4.0
2016	8	01	08	16	10	26.8	90.3	10	4.2
2016	8	01	10	01	08	21.2	94.7	120	5.7
2016	8	01	12	34	53	30.9	77.1	10	3.0
2016	8	01	13	38	32	31.4	77.6	10	3.6
2016	8	02	02	24	37	24.5	94.4	76	3.5
2016	8	03	18	31	23	28.5	95.5	20	3.4
2016	8	11	10	55	15	7.6	93.9	10	5.3
2016	8	11	21	27	00	25.6	91.1	10	3.3
2016	8	13	15	41	03	30.0	80.2	10	2.7
2016	8	18	20	05	54	30.8	78.2	5	3.8
2016	8	19	10	46	34	25.0	94.0	38	3.5
2016	8	19	19	05	34	27.6	92.7	10	4.0

2016	8	20	21	24	28	25.6	93.2	10	3.2
2016	8	21	09	04	17	25.1	94.0	19	3.1
2016	8	22	05	28	28	25.5	93.6	10	3.5
2016	8	23	00	00	47	25.6	93.2	10	3.1
2016	8	23	02	11	13	23.8	94.5	100	5.5
2016	8	24	10	34	57	21.0	94.4	58	6.7
2016	8	26	11	21	28	24.3	94.2	89	3.5
2016	8	26	18	20	41	8.9	94.6	10	4.5
2016	8	27	01	14	32	31.4	77.5	10	4.6
2016	8	27	01	35	07	31.4	77.5	10	4.3
2016	8	27	03	38	15	31.4	77.4	10	4.2
2016	8	27	07	07	21	31.3	77.6	10	3.7
2016	8	27	15	04	54	24.8	93.5	14	3.7
2016	8	28	09	18	49	32.8	76.0	20	4.4
2016	8	28	10	01	01	25.7	93.2	10	3.2
2016	8	28	12	54	51	28.0	88.7	90	4.2
2016	8	28	19	41	11	25.7	90.8	10	3.6
2016	8	31	01	26	52	24.8	93.3	27	3.2
2016	8	31	23	24	02	26.6	92.0	10	3.0
2016	9	02	14	30	58	28.7	94.7	10	4.6
2016	9	03	01	07	59	24.6	94.3	104	3.8
2016	9	03	11	41	14	26.3	92.0	10	3.4
2016	9	03	17	39	44	28.5	76.6	10	2.2
2016	9	05	02	04	16	27.7	86.2	10	4.5
2016	9	05	07	52	36	27.1	94.6	10	3.4
2016	9	07	20	52	45	24.3	70.5	10	3.9
2016	9	07	22	21	17	28.4	95.0	10	3.8
2016	9	08	20	46	48	26.6	89.4	10	3.5
2016	9	10	15	27	24	28.6	76.6	10	4.1
2016	9	11	08	00	37	17.4	73.8	10	3.6
2016	9	11	21	46	10	26.6	92.6	30	3.2
2016	9	13	21	52	13	25.0	93.8	21	3.7
2016	9	15	02	30	45	10.1	91.6	10	5.2
2016	9	17	02	46	25	24.5	93.6	40	4.0
2016	9	17	11	17	58	27.1	90.0	25	4.4
2016	9	18	05	28	58	26.9	93.6	10	3.2
2016	9	18	14	34	36	26.7	88.3	10	3.2
2016	9	20	21	59	20	26.8	92.5	10	3.0
2016	9	20	23	06	01	23.8	70.3	5	3.4
2016	9	23	22	27	20	8.4	94.6	10	4.6
2016	9	24	18	00	05	25.9	94.9	66	3.4
2016	9	25	20	43	52	23.7	70.2	19	3.5
2016	9	25	21	41	36	30.5	78.9	10	3.7
2016	9	26	19	04	13	8.0	94.5	10	4.7
2016	10	01	08	04	43	34.4	73.8	10	5.2
2016	10	03	21	16	03	25.0	94.6	114	3.7
2016	10	06	14	47	57	26.5	92.9	37	4.4
2016	10	07	04	52	33	27.7	86.1	15	4.5
2016	10	14	02	01	25	29.7	80.2	10	3.3
2016	10	14	10	34	36	25.6	92.0	10	3.6
2016	10	17	00	30	48	29.6	80.3	10	4.0
2016	10	18	21	31	33	22.9	92.5	147	3.5
2016	10	19	07	20	49	24.7	91.0	40	4.3
2016	10	20	00	39	01	36.4	71.4	102	5.4
2016	10	21	13	04	57	24.8	91.1	10	4.2
2016	10	22	06	00	32	26.2	92.7	10	3.9
2016	10	23	15	57	40	25.9	90.1	10	4.7
2016	10	23	22	57	51	24.2	71.2	10	3.0

2016	10	24	10	51	57	34.9	72.9	115	4.5
2016	10	24	10	51	57	34.9	72.9	115	4.5
2016	10	25	22	00	28	7.2	92.4	10	4.7
2016	10	26	02	21	58	22.8	94.3	90	5.0
2016	10	26	06	29	07	23.1	92.7	45	4.8
2016	10	27	08	50	11	29.9	80.1	15	3.2
2016	10	31	22	55	01	26.4	95.0	70	3.2
2016	11	03	04	06	54	23.7	70.1	25	3.3
2016	11	08	00	37	25	26.6	93.0	36	3.5
2016	11	13	21	22	26	10.6	94.2	45	4.6
2016	11	15	02	10	22	24.7	92.3	10	5.0
2016	11	15	14	27	16	24.5	93.7	35	3.3
2016	11	15	16	02	54	36.5	70.8	150	5.2
2016	11	16	05	07	44	31.4	75.7	13	3.6
2016	11	16	22	58	56	27.8	76.7	10	4.4
2016	11	17	04	10	41	26.6	93.2	30	3.3
2016	11	21	18	09	18	27.9	91.6	5	4.4
2016	11	23	02	31	03	30.3	78.0	10	3.4
2016	11	23	17	02	50	26.4	93.4	10	3.1
2016	11	23	19	57	54	24.7	94.6	107	3.5
2016	11	24	02	06	28	24.8	94.9	48	3.4
2016	11	24	14	16	37	33.5	72.5	10	4.6
2016	11	24	19	27	25	17.3	73.8	10	4.0
2016	11	25	11	17	09	13.4	92.9	10	4.4
2016	11	25	19	37	58	7.4	92.4	10	4.2
2016	11	27	23	35	21	27.7	86.4	10	5.5
2016	11	30	22	42	48	31.4	77.5	10	3.3
2016	12	01	16	52	48	29.8	80.6	10	5.2
2016	12	01	19	41	19	27.2	88.9	10	3.5
2016	12	01	22	03	05	25.0	94.6	90	3.5
2016	12	02	22	50	32	33.3	75.5	10	3.5
2016	12	03	19	42	13	11.0	91.9	10	4.8
2016	12	05	05	26	00	23.9	94.2	104	4.0
2016	12	06	20	36	39	24.9	93.8	33	3.2
2016	12	07	05	21	23	23.5	70.5	20	3.6
2016	12	08	07	46	25	23.5	94.2	10	4.0
2016	12	08	09	33	05	25.4	94.1	5	3.2
2016	12	11	01	57	26	25.7	91.7	10	4.2
2016	12	11	19	43	15	25.3	91.4	33	3.2
2016	12	12	02	21	40	30.8	78.2	10	2.8
2016	12	12	07	48	56	26.5	93.5	40	3.1
2016	12	13	19	14	04	30.8	78.0	5	3.9
2016	12	13	22	41	37	30.9	78.0	5	3.4
2016	12	17	17	26	00	33.8	73.7	10	4.6
2016	12	18	02	16	16	28.6	94.9	106	3.8
2016	12	18	16	08	10	26.1	92.2	10	3.2
2016	12	19	04	31	56	30.9	78.0	10	3.4
2016	12	19	17	14	02	24.9	94.1	70	3.2
2016	12	20	07	01	20	26.6	92.8	35	3.6
2016	12	20	08	56	18	27.0	92.6	15	3.1
2016	12	21	21	53	26	24.2	94.2	11	3.8
2016	12	23	04	56	16	12.5	92.3	13	4.5
2016	12	26	08	45	48	30.8	77.9	10	3.5
2016	12	26	08	45	48	30.8	77.9	10	3.5
2016	12	26	16	17	18	25.7	74.2	10	3.5
2016	12	26	22	26	55	31.4	77.2	10	3.2
2016	12	27	21	21	53	12.7	94.1	48	4.2

Current Year , 2017

2017	01	03	09	09	03	24.1	91.9	28	5.7
2017	01	03	18	49	51	23.4	94.0	10	5.4
2017	01	04	13	40	32	24.0	92.0	15	3.4
2017	01	05	05	56	52	25.1	95.0	123	4.3
2017	01	06	15	03	52	24.1	91.9	55	3.9
2017	01	08	04	28	16	25.2	94.4	20	3.3
2017	01	10	15	27	41	30.3	79.4	5	3.2
2017	01	11	13	21	14	28.3	94.1	10	3.3
2017	01	12	09	32	07	26.5	95.4	75	4.7
2017	01	17	15	22	16	27.6	88.6	10	3.6
2017	01	18	01	46	10	23.9	93.0	27	3.7
2017	01	18	03	03	17	24.5	94.8	22	4.2
2017	01	23	09	33	05	30.8	78.2	10	3.5