

GOVERNMENT OF INDIA
MINISTRY OF EARTH SCIENCES
RAJYA SABHA
UNSTARRED QUESTION No. 2582
ANSWERED ON 23/03/2023

Seismological network in the country

2582. SHRI PRABHAKAR REDDY VEMIREDDY:

Will the Minister of Earth Sciences be pleased to state:

- (a) the details of national seismological network and stations situated in the country, with a particular reference to Andhra Pradesh;
- (b) whether all stations are connected with VSAT and having state-of-the-art seismographs; and
- (c) the estimated time the stations will take to disseminate information about earthquake to various stakeholders from the time of its occurrence?

ANSWER

THE MINISTER FOR STATE (INDEPENDENT CHARGE) FOR
MINISTRY OF SCIENCE AND TECHNOLOGY
AND EARTH SCIENCES
(DR. JITENDRA SINGH)

- (a) National Center for Seismology (NCS) under the Ministry of Earth Sciences (MoES), is a nodal agency of the Government of India, for monitoring earthquake activity in the country, maintains the National Seismological Network consisting of 152 observatories at present, spread across the country for round-the-clock monitoring of seismic activity in and around the country. Out of 152 observatories, 6 (Vijayawada, Visakhapatnam, Anantapur, Tirupati, Kurnool, Rajahmundry) are situated in Andhra Pradesh. The state-wise distribution of 152 observatories is enclosed as Annexure-1. Besides National Seismological Network, various national institutions, namely, Wadia Institute of Himalayan Geology (WIHG), Dehradun; CSIR Labs like North East Institute of Science & Technology (NEIST), Jorhat; National Geophysical Research Institute (NGRI), Hyderabad etc; State Governments like Institute of Seismological Research (ISR), Gandhinagar, Government of Gujarat; Karnataka State Natural Disaster Monitoring Centre (KSNDMC), Bengaluru, Government of Karnataka, etc., a few Universities and IITs; and dam authorities like NHPC and River Valley Projects etc. as per dam safety guidelines of Central Water Commission (CWC); etc. are maintaining the seismological observatories as per their technical and research requirements targeting to a particular area of seismic monitoring.
- (b) & (c) In order to improve the real-time seismic monitoring and data collection, all the 152 seismological observatories having state-of-the-art seismographs are provided with a dedicated VSAT/GPRS-modem connectivity to collect the ground motion data in real-time at 24x7 operational center located at New Delhi for quickly estimating the earthquake parameters soon after the occurrence of earthquake. The Operational Centre is equipped with state-of-the-art facilities for data collection, processing and dissemination of earthquake information to user agencies within 5-10 minutes from the time of its occurrence through various modes of communications, such as mobile app (Bhookamp), SMS, Fax, Email, social media platforms like Twitter, Facebook, WhatsApp and published with value-added products on official website of NCS (<https://seismo.gov.in>).

Annexure-1

Sr.No.	STATION	STATE/UT	LATITUDE	LONGITUDE
1	Campbell Bay	Andaman & Nicobar	7.192	93.927
2	Diglipur	Andaman & Nicobar	13.178	92.931
3	Port Blair	Andaman & Nicobar	11.656	92.744
4	Vijayawada	Andhra Pradesh	16.517	80.65
5	Visakhapatnam	Andhra Pradesh	17.721	83.329
6	Anantapur	Andhra Pradesh	14.607	77.6441
7	Tirupati	Andhra Pradesh	13.7079	79.5954
8	Kurnool	Andhra Pradesh	15.7619	78.0363
9	Rajahmundry	Andhra Pradesh	17.0639	81.8737
10	Itanagar	Arunachal Pradesh	27.144	93.722
11	Pasighat	Arunachal Pradesh	28.061	95.326
12	Tawang	Arunachal Pradesh	27.594	91.867
13	Ziro	Arunachal Pradesh	27.526	93.85
14	Hayuliang	Arunachal Pradesh	28.0819	96.5251
15	Tuting	Arunachal Pradesh	28.9936	94.892
16	Dhubri	Assam	26.02	89.995
17	Dibrugarh	Assam	27.468	94.911
18	Guwahati	Assam	26.193	91.691
19	Jorhat	Assam	26.743	94.251
20	Lekhapani	Assam	27.333	95.846
21	Silchar	Assam	24.781	92.803
22	Tezpur	Assam	26.617	92.8
23	Gaya	Bihar	24.8029	85.2316
24	Jamui	Bihar	24.9288	86.2277
25	Jogbani	Bihar	26.1352	87.4658
26	Sitamarhi	Bihar	26.7529	85.2736
27	Valmiki Nagar	Bihar	27.317	83.867
28	Chandigarh	Chandigarh	30.733	76.779
29	Bilaspur	Chhattisgarh	22.129	82.132
30	Kanker	Chhattisgarh	20.0166	81.4989
31	Jagdapur	Chhattisgarh	19.0776	82.0367
32	Raipur	Chhattisgarh	21.2116	81.659
33	Ayanagar	Delhi	28.482	77.127
34	Lodi Road, New Delhi	Delhi	28.583	77.217
35	Najafgarh (Ujwa) Delhi	Delhi	28.562	76.915
36	Narela Delhi	Delhi	28.853	77.091
37	Ridge, Delhi	Delhi	28.683	77.217
38	Jamia University	Delhi	28.569	77.292
39	NPL Pusa New Delhi	Delhi	28.637	77.169
40	Goa	Goa	15.492	73.825

41	Bhavnagar	Gujarat	21.75	72.143
42	Bhuj	Gujarat	23.254	69.654
43	Surat	Gujarat	21.1448	72.7547
44	Veraval	Gujarat	20.9078	70.357
45	Bahadurgarh	Haryana	28.688	76.939
46	Ganaur	Haryana	29.134	77.018
47	Jhajjar	Haryana	28.617	76.687
48	Kundal	Haryana	28.144	76.489
49	Kurukshetra	Haryana	29.962	76.821
50	Palwal	Haryana	28.148	77.332
51	Rohtak	Haryana	29.033	76.414
52	Sohna	Haryana	28.245	77.063
53	Pataudi	Haryana	28.325	76.7809
54	Faridabad	Haryana	28.4146	77.3132
55	Bhakra	Himachal Pradesh	31.417	76.417
56	Kalpa	Himachal Pradesh	31.546	78.26
57	Sundernagar	Himachal Pradesh	31.539	76.909
58	Tissa	Himachal Pradesh	32.837	76.15
59	Dharamshala	Himachal Pradesh	32.248	76.307
60	Shimla	Himachal Pradesh	31.128	77.167
61	Jammu	Jammu & Kashmir	32.717	74.9
62	Srinagar	Jammu & Kashmir	34.1	74.85
63	Udhampur	Jammu and Kashmir	32.913506	75.124493
64	Bokaro Thermal	Jharkhand	23.795	85.886
65	Khunti	Jharkhand	23.058	85.285
66	Sahibganj	Jharkhand	25.217	87.667
67	Mangalore	Karnataka	12.942	74.823
68	Bangalore	Karnataka	13.021	77.5704
69	Mysore	Karnataka	12.41	76.5743
70	Kodagu District	Karnataka	12.4859	75.9089
71	Bellary	Karnataka	15.2796	76.3194
72	Uttara Kannada	Karnataka	15.2625	74.5349
73	Kalaburgi	Karnataka	17.292233	76.766308
74	Thiruvananthapuram	Kerala	8.508	76.959
75	Kochi	Kerala	10.0802	76.4516
76	Chottupara, Idukki District	Kerala	9.815	77.2166
77	Hanley	Ladakh	32.678	78.973
78	Alchi (Leh)	Ladakh	34.214	77.184
79	Minicoy	Lakshadweep	8.282	73.059
80	Narmadanagar	Madhya Pradesh	22.7192	77.1672

81	Guna	Madhya Pradesh	24.6493	77.332
82	Bhopal	Madhya Pradesh	23.241	77.425
83	Gwalior	Madhya Pradesh	26.211	78.2022
84	Jabalpur	Madhya Pradesh	23.196	79.9443
85	Chhindwara	Madhya Pradesh	22.0509	78.9351
86	Indore	Madhya Pradesh	22.5321	75.9203
87	Akola	Maharashtra	20.703	77.015
88	Karad	Maharashtra	17.308	74.183
89	Latur	Maharashtra	18.416	76.56
90	Mumbai	Maharashtra	18.896	72.813
91	Nagpur	Maharashtra	21.102	79.062
92	Pune	Maharashtra	18.53	73.849
93	Solapur	Maharashtra	17.6702	75.9229
94	Hingoli	Maharashtra	19.6542	77.0943
95	Nashik	Maharashtra	20.0299	73.7983
96	Palghar	Maharashtra	20.0348	72.9132
97	Imphal	Manipur	24.831	93.946
98	Tura	Meghalaya	25.517	90.224
99	Shillong	Meghalaya	25.567	91.856
100	Aizawal	Mizoram	23.738	92.69
101	Saiha	Mizoram	22.5	93
102	Champai	Mizoram	23.4951	93.3103
103	Kohima	Nagaland	25.72	94.108
104	Mokokchung	Nagaland	26.321	94.516
105	Bhubaneswar	Odisha	20.296	85.806
106	Jharsuguda	Odisha	21.761	83.773
107	Rayagada	Odisha	19.247	83.457
108	Talwara	Punjab	31.956	75.955
109	Thein Dam	Punjab	32.433	75.717
110	Amritsar	Punjab	31.6459	74.857
111	Jaisalmer	Rajasthan	26.924	70.903
112	Bikaner	Rajasthan	28.0205	73.2769
113	Sriganganagar	Rajasthan	29.922	73.886
114	Udaipur	Rajasthan	24.58	73.7128
115	Ajmer	Rajasthan	26.479	74.643
116	Jaipur	Rajasthan	26.8212	75.8178
117	Churu	Rajasthan	28.2834	74.9591
118	Jodhpur	Rajasthan	26.2568	73.0407
119	Barmer	Rajasthan	25.7521	71.4124
120	Gangtok	Sikkim	27.319	88.601

121	Kodaikanal	Tamil Nadu	10.233	77.467
122	Chennai	Tamil Nadu	13.068	80.246
123	Salem	Tamilnadu	11.65	78.2
124	Hyderabad	Telangana	17.4186	78.5518
125	Agartala	Tripura	23.889	91.246
126	Belonia	Tripura	23.248	91.447
127	Allahabad	Uttar Pradesh	25.309	81.809
128	Asaura	Uttar Pradesh	28.756	77.772
129	Bahraich	Uttar Pradesh	27.567	81.583
130	Banda	Uttar Pradesh	25.47	80.35
131	Basti	Uttar Pradesh	26.795	82.487
132	Bisrakh	Uttar Pradesh	28.571	77.439
133	Farrukhabad	Uttar Pradesh	27.386	79.577
134	Gorakhpur	Uttar Pradesh	26.738	83.438
135	Jhansi	Uttar Pradesh	25.466	78.54
136	Lucknow	Uttar Pradesh	26.766	80.8835
137	Meerut	Uttar Pradesh	28.974	77.735
138	Thakurdwara	Uttar Pradesh	29.149	78.855
139	Unchagaon	Uttar Pradesh	28.31	77.91
140	Varanasi	Uttar Pradesh	25.3	83.017
141	Agra	Uttar Pradesh	27.1392	78.0072
142	Joshimath	Uttarakhand	30.556	79.558
143	Lohaghat	Uttarakhand	29.417	80.1
144	Pithoragarh	Uttarakhand	29.583	80.217
145	Uttarkashi	Uttarakhand	30.7303	78.446
146	Dehradun	Uttarakhand	30.323	78.056
147	Mukteshwar, Nainital District	Uttarakhand	29.4582	79.6543
148	Chaukhutiya, Almora District	Uttarakhand	29.8876	79.354
149	Munsiyari	Uttarakhand	30.0672	80.2567
150	Coochbehar	West Bengal	26.294	89.461
151	Kolkata	West Bengal	22.539	88.331
152	Jalpaiguri	West Bengal	26.5473	88.7162
