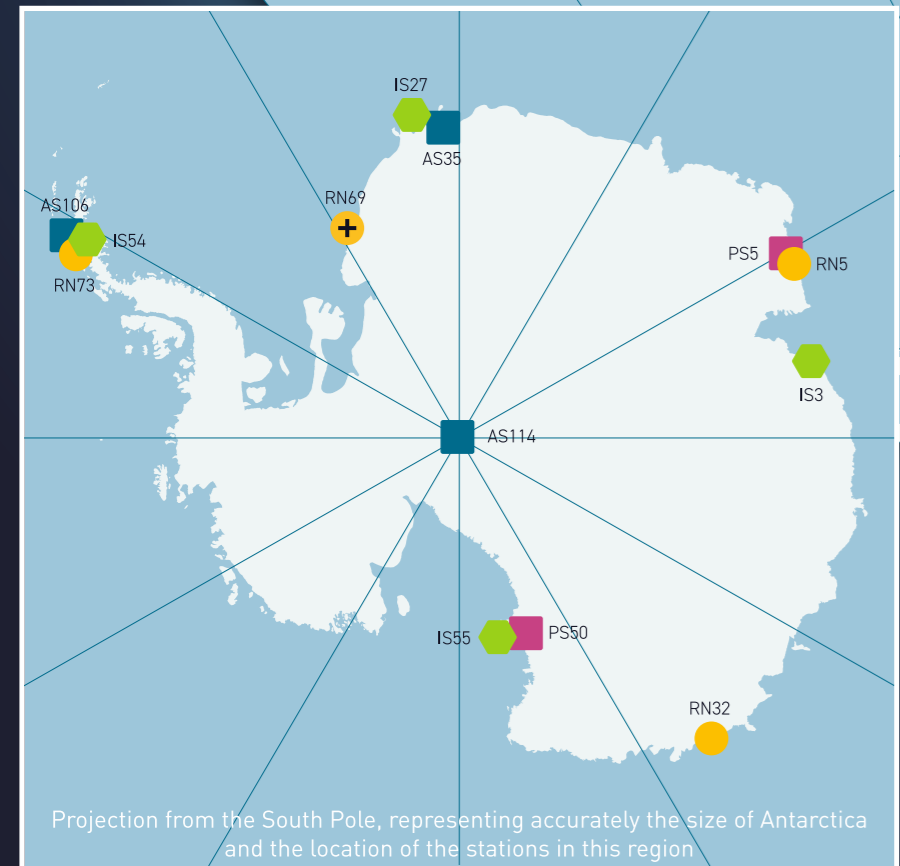
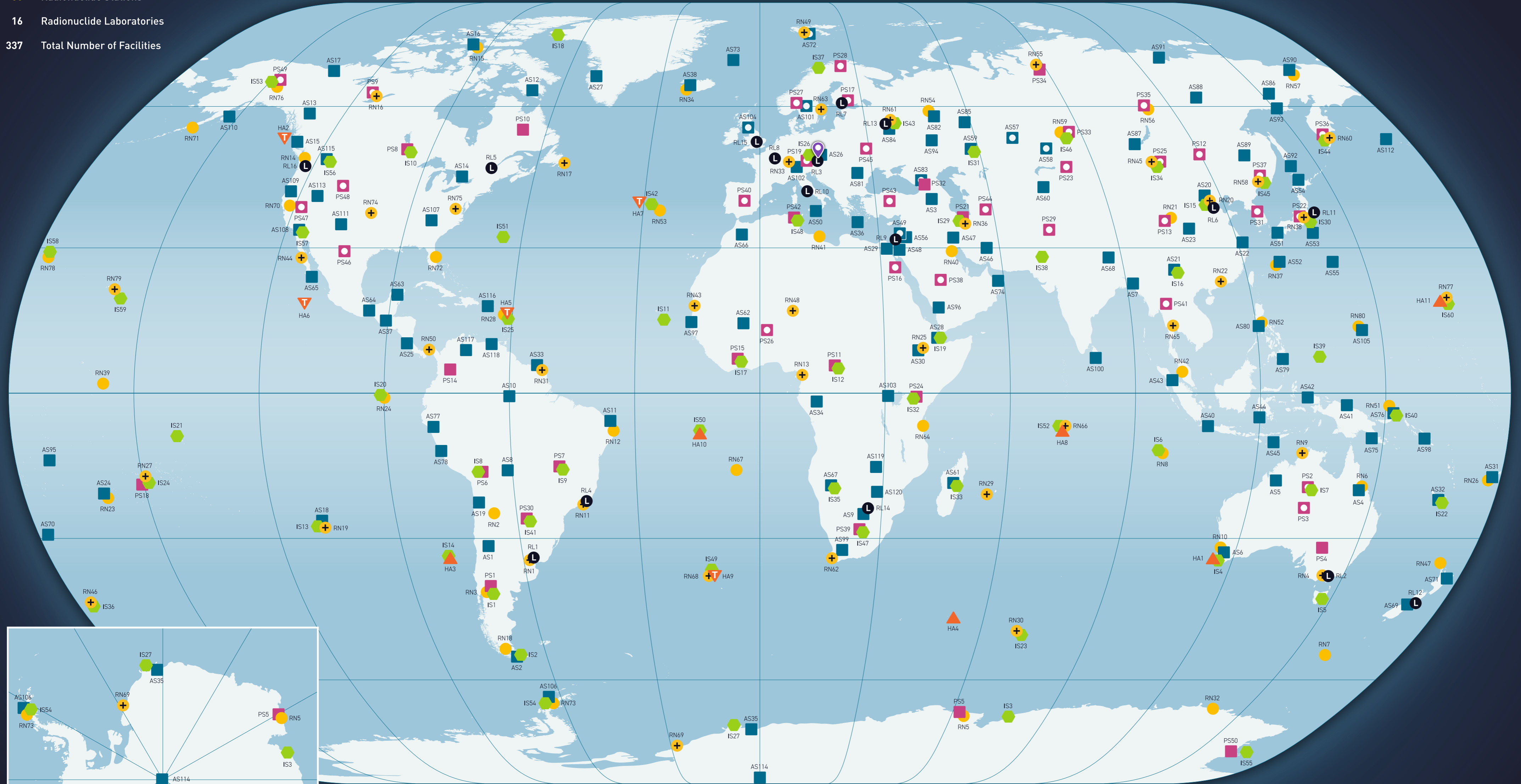













International Monitoring System

- 50 Primary Seismological Stations
- 120 Auxiliary Seismological Stations
- 11 Hydroacoustic Stations
- 60 Infrasound Stations
- 80 Radionuclide Stations
- 16 Radionuclide Laboratories
- 337 Total Number of Facilities



Projection from the South Pole, representing accurately the size of Antarctica and the location of the stations in this region

- | | | | | | |
|---|--|---|--|---|--|
|  | Seismic Primary Array (PS) |  | Radionuclide Station (RN) |  | Hydroacoustic (Hydrophone) Station (HA) |
|  | Seismic Primary 3-Component Station (PS) |  | Radionuclide Station with Noble Gas Monitoring Capabilities (RN) |  | Hydroacoustic (T-Phase) Station (HA) |
|  | Seismic Auxiliary Array (AS) |  | Radionuclide Laboratory (RL) |  | Infrasound Station (IS) |
|  | Seismic Auxiliary 3-Component Station (AS) | | |  | International Data Centre - CTBTO - Vienna |

The boundaries and presentation of material on this map do not imply the expression of any opinion on the part of the Comprehensive Nuclear-Test-Ban Treaty Organization (CTBTO) Preparatory Commission concerning the legal status of any country, territory, city or area or its authorities, or concerning the delimitation of its frontiers or boundaries.

Monitoring facilities by type and location

[as of November 2024]

PRIMARY SEISMOLOGICAL STATIONS

TOTAL: 50 STATIONS				
#	State responsible & location	Latitude	Longitude	Type of station
Argentina				
1	Paso Flores	40.7 S	70.6 W	3-component
Australia				
1	Warramunga, NT	19.9 S	134.3 E	Array
3	Alice Springs, NT	23.7 S	133.9 E	Array
4	Stephens Creek, NSW	31.9 S	141.6 E	3-component
5	Mawson, Antarctica	67.6 S	62.9 E	3-component
Bolivia				
4	La Paz	16.3 S	68.1 W	3-component
Brazil				
7	Brasília	15.6 S	48.0 W	3-component
Canada				
8	Lac du Bonnet, Man.	50.2 N	95.9 W	3-component
9	Yellowknife, N.W.T.	62.5 N	114.6 W	Array
10	Schefferville, Quebec	54.8 N	66.8 W	3-component
Central African Republic				
11	Bangui	5.2 N	18.4 E	3-component
China				
12	Hailar	49.5 N	119.8 E	Array
13	Lanzhou	36.0 N	103.7 E	Array
Colombia				
14	El Rosal	4.9 N	74.3 W	3-component
Côte d'Ivoire				
15	Dimbokro	6.7 N	4.9 W	3-component
Egypt				
16	Luxor	26.0 N	33.5 E	Array
Finland				
17	Lahti	61.4 N	26.1 E	Array
France				
18	Tahiti	17.6 S	149.6 W	3-component
Germany				
19	Freyung	48.8 N	13.7 E	Array
TBD				
20	TBD			
Iran (Islamic Republic of)				
21	Tehran	35.9 N	51.1 E	3-component
Japan				
22	Matsushiro	36.5 N	138.2 E	Array
Kazakhstan				
23	Makanchi	46.8 N	82.3 E	Array
Kenya				
24	Kilimambogo	1.1 S	37.3 E	3-component
Mongolia				
25	Songino	47.8 N	106.4 E	Array
Niger				
26	Torodi	13.1 N	1.7 E	Array
Norway				
27	Hamar	60.8 N	10.8 E	Array
28	Kerasjok	69.5 N	25.5 E	Array
Pakistan				
29	Pari	33.7 N	73.3 E	Array
Paraguay				
30	Villa Florida	26.3 S	57.3 W	3-component
Republic of Korea				
31	Wonju	37.5 N	127.9 E	Array
Russian Federation				
32	Khabez	43.7 N	42.9 E	3-component
33	Zalesovo	53.9 N	84.8 E	Array
34	Norilsk	69.4 N	87.6 E	3-component
35	Paleduy	59.4 N	112.6 E	Array
36	Petropavlovsk-Kamchatskiy	53.1 N	157.7 E	Array
37	Ussuriysk	44.2 N	132.0 E	Array
Saudi Arabia				
38	Haleban	23.4 N	44.5 E	Array
South Africa				
39	Boshof	28.6 S	25.3 E	3-component
Spain				
40	Sansea	39.7 N	4.0 W	Array
Thailand				
41	Chiang Mai	18.5 N	98.9 E	Array
Tunisia				
42	Kesra	35.7 N	9.3 E	3-component
Türkiye				
43	Keskin	39.7 N	33.6 E	Array
Turkmenistan				
44	Alibek	37.9 N	58.1 E	Array
Ukraine				
45	Malyn	50.7 N	29.2 E	Array
United States of America				
46	Lajitas, TX	29.3 N	103.7 W	Array
47	Mina, NV	38.4 N	118.3 W	Array
48	Pinedale, WY	42.8 N	109.4 W	Array
49	Eielson, AK	64.8 N	146.9 W	Array
50	Vanda, Antarctica	77.5 S	161.9 E	3-component

Three-component stations are seismological stations with sensors that measure seismic motion in three orthogonal directions (one vertical and two horizontal) of the arriving seismic waves, enabling detection of the time and amplitude of arrivals from events such as earthquakes and explosions, and in many cases also an estimate of the direction to the source of the event.

Array stations consist of geometrically arranged seismic sensors. These arrays are more sensitive than individual three-component seismic stations and in particular measure the direction to the source of an event with a high accuracy.

Primary stations transmit data continuously to the International Data Centre.

AUXILIARY SEISMOLOGICAL STATIONS

TOTAL: 120 STATIONS				
#	State responsible & location	Latitude	Longitude	Type of station
Argentina				
1	Coronel Fontana	31.6 S	68.2 W	3-component
2	Ushuaia	54.8 S	68.4 W	3-component
Armenia				
3	Garni	40.1 N	44.7 E	3-component
Australia				
4	Charters Towers, QLD	20.1 S	146.3 E	3-component
5	Fitzroy Crossing, WA	18.1 S	125.6 E	3-component
6	Narrogin, WA	32.9 S	117.2 E	3-component
Bangladesh				
7	Bariahdaha, Chittagong	22.7 N	91.6 E	3-component
Bolivia				
8	San Ignacio	16.0 S	61.1 W	3-component
Botswana				
9	Lobatse	25.0 S	25.6 E	3-component
Brazil				
10	Pitinga	0.7 S	60.0 W	3-component
11	Riachuelo	5.8 S	35.9 W	3-component
Canada				
12	Iqaluit, NU	63.7 N	68.5 W	3-component
13	Dease Lake, B.C.	58.4 N	130.0 W	3-component
14	Sadown, Ont.	44.8 N	79.1 W	3-component
15	Bella Bella, B.C.	52.2 N	128.1 W	3-component
16	Resolute, NU	74.7 N	94.9 W	3-component
17	Inuvik, N.W.T.	68.3 N	133.5 W	3-component
Chile				
18	Easter Island	27.1 S	109.3 W	3-component
19	Limon Verde	22.6 S	68.9 W	3-component
China				
20	Baijiatuan	40.0 N	116.2 E	3-component
21	Kunming	25.1 N	102.7 E	3-component
22	Sheshan	31.1 N	121.2 E	3-component
23	Xi'an	34.0 N	108.9 E	3-component
Cook Islands				
24	Rarotonga	21.2 S	159.8 W	3-component
Costa Rica				
25	Las Juntas de Abangares	10.3 N	85.0 W	3-component
Czech Republic				
26	Vranov	49.3 N	16.6 E	3-component
Denmark				
27	Søndre Strømfjord, Greenland	67.0 N	50.6 W	3-component
Djibouti				
28	Arta Tunnel	11.5 N	42.8 E	3-component
Egypt				
29	Kottamya	29.9 N	31.8 E	3-component
Ethiopia				
30	Furi	8.9 N	38.7 E	3-component
Fiji				
31	Monasavu, Viti Levu	17.7 S	178.1 E	3-component
France				
32	Mont Dzumac, New Caledonia	22.1 S	166.4 E	3-component
33	Montagne des Péres, GF	5.1 N	52.6 W	3-component
Gabon				
34	Masuku	1.7 S	13.6 E	3-component
Germany/South Africa *				
35	SANAE Station, Antarctica	71.7 S	2.8 W	3-component
Greece				
36	Angia, Crete	35.3 N	24.9 E	3-component
Guatemala				
37	El Apazote	15.0 N	90.5 W	3-component
Iceland				
38	Borgarnes	64.7 N	21.3 W	3-component
TBD				
39	TBD			
Indonesia				
40	Lembang, Jawa Barat	6.8 S	107.6 E	3-component
41	Jayapura, Irian Jaya	2.5 S	140.7 E	3-component
42	Sorong, Irian Jaya	0.9 S	131.3 E	3-component
43	Parapat, Sumatera	2.7 N	98.9 E	3-component
44	Kappang, Sulawesi Selatan	5.0 S	119.8 E	3-component
45	Baumata Timur	10.2 S	123.7 E	3-component
Iran (Islamic Republic of)				
46	Kerman	30.0 N	56.8 E	3-component
47	Shushtar	32.1 N	48.8 E	3-component
Israel				
48	Eilat	29.7 N	35.0 E	3-component
49	Mount Meron	33.0 N	35.4 E	Array
Italy				
50	Valguarnera, Sicily	37.5 N	14.4 E	3-component
Japan				
51	Ohita, Kyushu	33.1 N	130.9 E	3-component
52	Kunigami, Okinawa	26.8 N	128.3 E	3-component
53	Hachijojima, Izu Islands	33.1 N	139.8 E	3-component
54	Kamikawa-asahi, Hokkaido	44.1 N	142.6 E	3-component
55	Chichijima, Ogasawara	27.1 N	142.2 E	3-component
Jordan				
56	Tel-Alasfar	32.2 N	36.9 E	3-component
Kazakhstan				
57	Borovoye	53.0 N	70.4 E	Array
58	Kurchatov	50.7 N	78.6 E	Array
59	Aktyubinsk	50.4 N	58.0 E	3-component
Kyrgyzstan				
60	Ala-Archa	42.6 N	74.5 E	3-component
Madagascar				
61	Ambhidratompo	18.6 S	47.2 E	3 component
Mali				
62	Kowa	14.5 N	4.0 W	3-component

* Jointly administered station

AUXILIARY SEISMOLOGICAL STATIONS

TOTAL: 80 STATIONS				
#	State responsible & location	Latitude	Longitude	Type of station
Mexico				
63	Tepich, Quintana Roo	20.4 N	88.5 W	3-component
64	Colonia Cuauhtémoc	17.1 N	94.9 W	3-component
65	Matias Romero, Oaxaca	24.1 N	110.3 W	3-component
66	La Paz, Baja California Sur	24.1 N	110.3 W	3-component
Morocco				
67	Midelt	32.8 N	4.6 W	3-component
Namibia				
68	Tsumeb	19.2 S	17.6 E	3-component
Nepal				
69	Everest	28.0 N	86.8 E	3-component
New Zealand				
70	Rata Peaks, South Island	43.7 S	171.1 E	3-component
71	Raoul Island	29.3 S	177.9 W	3-component
72	Urevera, North Island	38.3 S	177.1 E	3-component
Norway				
73	Spitsbergen	78.2 N	16.4 E	Array
74	Jan Mayen	71.0 N	8.5 W	3-component
Oman				
75	Wadi Sarin	23.2 N	58.6 E	3-component
Papua New Guinea				
76	Port Moresby	9.4 S	147.2 E	3-component
77	Keravat	4.3 S	152.0 E	3-component
Peru				
78	Atahualpa	7.0 S	78.4 W	3-component
79	Nana	12.0 S	76.8 W	3-component
Philippines				
80	Davao, Mindanao	7.1 N	125.6 E	3-component
81	Tagaytay, Luzon	14.1 N	120.9 E	3-component
Romania				
82	Muntele Rosu	45.5 N	25.9 E	3-component
Russian Federation				
83	Kirov	58.6 N	49.4 E	3-component
84	Kislovodsk	44.0 N	42.7 E	Array
85	Obninsk	55.1 N	36.6 E	3-component
86	Arti	56.4 N	58.4 E	3-component
87	Seymchan	62.9 N	152.4 E	3-component
88	Talaya	51.7 N	103.6 E	3-component
89	Yakutsk	62.0 N	129.7 E	3-component
90	Kuldur	49.2 N	131.8 E	3-component
91	Bilibino	68.0 N	166.4 E	3-component
92	Tiksi	71.6 N	128.9 E	3-component
93	Yuzhno-Sakhalinsk	47.0 N	142.8 E	3-component
94	Magadan	59.6 N	150.8 E	3-component
95	Belogor'ne	52.4 N	47.6 E	3-component
Samoa				
96	Afiatolu	13.9 S	171.8 W	3-component
Saudi Arabia				
97	Dhaban Al-Janub	17.7 N	43.5 E	3-component
Senegal				
98	Babate	14.7 N	16.6 W	3-component
Solomon Islands				
99	Honiara, Guadalcanal	9.4 S	159.9 E	3-component
South Africa				
100	Sutherland	32.4 S	20.8 E	3-component
Sri Lanka				
101	Pallekele	7.3 N	80.7 E	3-component
Sweden				
102	Hagfors	60.1 N	13.7 E	Array
Switzerland				
103	Davos	46.8 N	9.9 E	3-component
Uganda				
104	Mbarara	0.6 S	30.7 E	3-component
United Kingdom				
105	Eskdalemuir	55.3 N	3.2 W	Array
United States of America				
106	Guam, Marianas Islands	13.6 N	144.9 E	3-component
107	Palmer Station, Antarctica	64.8 S	64.0 W	3-component
108	Tuckaleechee Caverns	35.7 N	83.8 W	3-component
109	Piñon Flat, CA	33.6 N	116.5 W	3-component
110	Yreka, CA	41.7 N	122.7 W	3-component
111	Kodiak Island, AK	57.8 N	152.6 W	3-component
112	Albuquerque, NM	34.9 N	106.5 W	3-component
113	Shemya Island, AK	52.7 N	174.1 E	3-component
114	Elko, NV	40.7 N	115.2 W	3-component
115	South Pole, Antarctica	89.9 S	145.0 W	3-component
116	Newport, WA	48.3 N	117.1 W	3-component
117	San Juan, PR	18.1 N	66.2 W	3-component
Venezuela				
118	Santo Domingo	8.9 N	70.6 W	3-component
119	Puerto la Cruz	10.2 N	64.6 W	3-component
Zambia				
120	Lusaka	15.3 S	28.6 E	3-component
Zimbabwe				
121	Matopos	20.4 S	28.5 E	3-component