6) Programmi di cooperazione con il Nepal

L'INGV sta realizzando l'allestimento della Stazione Sismica AS-68 nella "Piramide" del Monte Everest in Nepal, nell'ambito del Progetto Everest del CNR. La Stazione, prevista dal Trattato, dovrebbe essere inserita nella rete del sistema di monitoraggio internazionale. L'installazione per il momento è stata sospesa da più di quattro anni, in conseguenza della necessità di ottenere l'approvazione preventiva del Governo Nepalese all'avvio delle operazioni tecniche sulla stazione. Per sollecitare il consenso sono stati presi contatti con le autorità nepalesi ed una missione diplomatica e tecnica rivolta alla soluzione del problema è stata svolta a Katmandu nella primavera del 2002.

IV. I problemi aperti

a. Argomenti di carattere generale

Nel 2003 la Commissione Preparatoria proseguirà l'esame dei problemi connessi con la realizzazione del sistema di monitoraggio internazionale, la raccolta e diffusione dei dati, la definizione di Accordi d'impianto con gli Stati che ospitano le stazioni di rilevamento, la certificazione degli impianti, la valutazione dei siti e lo status delle installazioni.

Per completare la realizzazione della rete internazionale nei prossimi anni è prevedibile un aumento considerevole dei costi, dovuto essenzialmente alla sostituzione della strumentazione obsoleta, alla realizzazione delle infrastrutture ed alla integrazione della rete di sensori.

b. Corsi

Per quanto riguarda la preparazione del personale degli Stati firmatari, anche nel 2003 il Segretariato ha organizzato numerosi corsi di addestramento ai quali si auspica che, compatibilmente con le risorse disponibili, possa partecipare anche personale italiano.

c. Sviluppo di software

Il Segretariato ha completato la valutazione della nuova versione del software per il trattamento dei dati, che è stata omologata nel 2002.

d. Risorse finanziarie per l'Autorità Nazionale dopo il 2000

La legge di ratifica del 15 dicembre 1998 n. 484 all'articolo 6 dispone che "*all'onere derivante dall'attuazione della legge, valutato in lire 6.900 milioni per l'anno 1998, 6.700 milioni per l'anno 1999, e 6.500 milioni per l'anno 2000 si provvede mediante corrispondente riduzione dello stanziamento iscritto, ai fini del bilancio triennale 1998-2000*".

Come accennato, ciò ha significato, alla fine del 2000, la cessazione della disponibilità finanziaria necessaria, non solo all'erogazione del contributo italiano alla Commissione Preparatoria, ma anche per le spese di funzionamento dell'Autorità Nazionale.

Mentre è prevedibile che dopo il 2003, in base al Piano Quinquennale 2003-2007, la quota annuale dovuta alla Commissione preparatoria possa aumentare del 10-15%, per lo svolgimento dei compiti dell'Autorità Nazionale (spese di impianto e di funzionamento e per la partecipazione alle attività internazionali) si prevede una esigenza di 852.567 EURO nel 2003 e di 715.706 EURO a partire dal 2004.

V. Attività di rilievo nel corso del 2003

Le principali attività di rilievo dell'Ufficio dell'Autorità Nazionale previste per il 2003 saranno finalizzate alla:

- partecipazione alle due sessioni annuali della Commissione Preparatoria, alle riunioni intersessionali dei Gruppi di Lavoro nonché agli incontri internazionali su temi di interesse;
- preparazione della legislazione nazionale e della normativa tecnica per l'attuazione del Trattato, per la raccolta e valutazione dei dati e lo scambio di informazioni con gli altri Stati Parte;
- completamento delle strutture operative del Centro Dati dell'Autorità Nazionale ed assunzione del personale tecnico necessario;
- definizione di convenzioni per il supporto tecnico conl'INGV, l'ANPA e l'ENEA;
- partecipazione di personale ai corsi di formazione internazionali;
- organizzazione di esercitazioni nazionali ed internazionali di monitoraggio e di simulazione di eventi significativi ai fini del Trattato;
- organizzazione di incontri e di seminari internazionali, rivolti all'universalità di applicazione del Trattato.

In particolare, è stato proposto al Segretariato Tecnico di effettuare nel 2003 in Italia una esercitazione che simuli una ispezione internazionale, in applicazione delle procedure ispettive dei manuali OSI, con particolare riferimento alle procedure del Punto d'ingresso, del Piano pre-ispezione e del Rapporto Iniziale sull'ispezione.

VI. Conclusioni

Il Trattato sul Bando Totale degli Esperimenti Nucleari rappresenta una tappa fondamentale per prevenire la proliferazione nucleare attraverso la drastica limitazione degli esperimenti nucleari. Ciò con notevoli riflessi di riduzione dei rischi ambientali.

Il ritardo nella ratifica del Trattato da parte di alcuni Stati firmatari, che hanno dichiarato il possesso di armamenti nucleari, non ha finora implicato un ostacolo all'impegno di realizzare la rete di monitoraggio prevista dal Trattato.

Si tratta di un aspetto importante poiché è opinione diffusa che la disponibilità della rete di monitoraggio in corso di realizzazione, potrà consentire una maggior trasparenza della situazione mondiale e stimolerà l'adesione di quegli Stati che ancora non vi hanno provveduto.

In definitiva e nel lungo periodo il Trattato potrà contribuire indubbiamente alla sicurezza internazionale, nonché alla salvaguardia dell'ambiente.

L'Italia ha sempre attribuito grande importanza all'integrale ed efficace applicazione del Trattato ed in tal senso si è attivamente impegnata, anche sul piano internazionale, per facilitare e incoraggiare la ratifica dei Paesi che non vi hanno ancora aderito.

ALLEGATI

Status delle firme e delle ratifiche

Stati	Firma	Ratifica
Afghanistan		
Albania	27 September 1996	
Algeria*	15 October 1996	
Andorra	24 September 1996	
Angola	27 September 1996	
Antigua and Barbuda	16 April 1997	
Argentina*	24 September 1996	4 December 1998
Armenia	1 October 1996	
Australia*	24 September 1996	9 July 1998
Austria*	24 September 1996	13 March 1998
Azerbaijan	28 July 1997	2 February 1999
Bahamas		
Bahrain	24 September 1996	
Bangladesh*	24 October 1996	8 March 2000
Barbados		
Belarus	24 September 1996	13 September 2000
Belgium*	24 September 1996	29 June 1999
Belize	14 November 2001	
Benin	27 September 1996	6 March 2001
Bhutan		
Bolivia	24 September 1996	4 October 1999
Bosnia and Herzegovina	24 September 1996	
Botswana	16 September 2002	28 October 2002
Brazil*	24 September 1996	24 July 1998
Brunei Darussalam	22 January 1997	
Bulgaria*	24 September 1996	29 September 1999
Burkina Faso	27 September 1996	17 April 2002
Burundi	24 September 1996	
Cambodia	26 September 1996	10 November 2000
Cameroon	16 November 2001	
Canada*	24 September 1996	18 December 1998
Cape Verde	1 October 1996	
Central African Republic	19 December 2001	
Chad	8 October 1996	
Chile*	24 September 1996	12 July 2000
China*	24 September 1996	
Colombia*	24 September 1996	

Comoros	12 December 1996	
Congo	11 February 1997	
Cook Islands	5 December 1997	
Costa Rica	24 September 1996	25 September 2001
Côte d'Ivoire	25 September 1996	
Croatia	24 September 1996	2 March 2001
Cuba		
Cyprus	24 September 1996	
Czech Republic	12 November 1996	11 September 1997
Democratic People's Republic of Korea*		
Democratic Republic of the Congo*	4 October 1996	
Denmark	24 September 1996	21 December 1998
Djibouti	21 October 1996	
Dominican Republic	3 October 1996	
Ecuador	24 September 1996	12 November 2001
Egypt*	14 October 1996	
El Salvador	24 September 1996	11 September 1998
Equatorial Guinea	9 October 1996	
Eritrea		
Estonia	20 November 1996	13 August 1999
Ethiopia	25 September 1996	
Fiji	24 September 1996	10 October 1996
Finland*	24 September 1996	15 January 1999
France*	24 September 1996	6 April 1998
Gabon	7 October 1996	20 September 2000
Gambia	24 September 1996	27 September 2002
Georgia	24 September 1996	27 September 2002
Germany*	24 September 1996	20 August 1998
Ghana	3 October 1996	
Greece	24 September 1996	21 April 1999
Grenada	10 October 1996	19 August 1998
Guatemala	20 September 1999	
Guinea	3 October 1996	
Guinea-Bissau	11 April 1996	
Guyana	7 September 2000	7 March 2001
Haiti	24 September 1996	
Holy See	24 September 1996	18 July 2001
Honduras	25 September 1996	
Hungary*	25 September 1996	13 July 1999
Iceland	24 September 1996	26 June 2000
India*		
Indonesia*	24 September 1996	
Iran* (Islamic Republic of)	24 September 1996	
Iraq		
Ireland	24 September 1996	15 July 1999
Israel*	25 September 1996	

Italy*	24 September 1996	1 February 1999
Jamaica	11 November 1996	13 November 2001
Japan*	24 September 1996	8 July 1997
Jordan	26 September 1996	25 August 1998
Kazakhstan	30 September 1996	14 May 2002
Kenya	14 November 1996	30 November 2000
Kiribati	7 September 2000	7 September 2000
Kuwait	24 September 1996	
Kyrgyzstan	8 October 1996	
Lao People's Democratic Republic	30 July 1997	5 October 2000
Latvia	24 September 1996	20 November 2001
Lebanon		
Lesotho	30 September 1996	14 September 1999
Liberia	1 October 1996	
Libyan Arab Jamahiriya	13 November 2001	
Liechtenstein	27 September 1996	
Lithuania	7 October 1996	7 February 2000
Luxembourg	24 September 1996	26 May 1999
Madagascar	9 October 1996	
Malawi	9 October 1996	
Malaysia	23 July 1998	
Maldives	1 October 1997	7 September 2000
Mali	18 February 1997	4 August 1999
Malta	24 September 1996	23 July 2001
Marshall Island	24 September 1996	
Mauritania	24 September 1996	
Mauritius		
Mexico*	24 September 1996	5 October 1999
Micronesia (Federated States of)	24 September 1996	25 July 1997
Monaco	1 October 1996	18 December 1998
Mongolia	1 October 1996	8 August 1997
Morocco	24 September 1996	17 April 2000
Mozambique	26 September 1996	
Myanmar	25 November 1996	
Namibia	24 September 1996	29 June 2001
Nauru	8 September 2000	12 November 2001
Nepal	8 October 1996	
Netherlands*	24 September 1996	23 March 1999
New Zealand	27 September 1996	19 March 1999
Nicaragua	24 September 1996	5 December 2000
Niger	3 October 1996	9 September 2002
Nigeria	8 September 2000	27 September 2001
Niue		
Norway*	24 September 1996	15 July 1999
Oman	23 September 1999	
Pakistan*		

Palau		
Panama	25 September 1996	23 March 1999
Papua New Guinea	25 September 1996	
Paraguay	25 September 1996	4 October 2001
Peru*	25 September 1996	12 November 1997
Philippines	24 September 1996	23 February 2001
Poland*	24 September 1996	25 May 1999
Portugal	24 September 1996	26 June 2000
Qatar	24 September 1996	3 March 1997
Republic of Korea*	24 September 1996	24 September 1999
Republic of Moldova	24 September 1997	
Romania*	24 September 1996	5 October 1999
Russian Federation*	24 September 1996	30 June 2000
Rwanda		
Saint Kitts and Nevis		
Saint Lucia	4 October 1996	5 April 2001
Saint Vincent and the Grenadines		
Samoa	9 October 1996	27 September 2002
San Marino	7 October 1996	12 March 2002
Sao Tome and Principe	26 September 1996	
Saudi Arabia		
Senegal	26 September 1996	9 June 1999
Serbia and Montenegro	8 June 2001	
Seychelles	24 September 1996	
Sierra Leone	8 September 2000	17 September 2001
Singapore	14 January 1999	10 November 2001
Slovakia*	30 September 1996	3 March 1998
Slovenia	24 September 1996	31 August 1999
Solomon Islands	3 October 1996	
Somalia		
South Africa*	24 September 1996	30 March 1999
Spain*	24 September 1996	31 July 1998
Sri Lanka	24 October 1996	
Sudan		
Suriname	14 January 1997	
Swaziland	24 September 1996	
Sweden*	24 September 1996	2 December 1998
Switzerland*	24 September 1996	1 October 1999
Syrian Arab Republic		
Tajikistan	7 October 1996	10 June 1998
Thailand	12 November 1996	
the former Yugoslav Republic of Macedonia	29 October 1998	14 March 2000
Togo	2 October 1996	
Trinidad and Tobago		
Tunisia	16 October 1996	

Turkey*	24 September 1996	16 February 2000
Turkmenistan	24 September 1996	20 February 1998
Tuvalu		
Uganda	7 November 1996	14 March 2001
Ukraine*	27 September 1996	23 February 2001
United Arab Emirates	25 September 1996	18 September 2000
United Kingdom of Great Britain and Northern Ireland*	24 September 1996	6 April 1998
Republic of Tanzania		
United States of America*	24 September 1996	
Uruguay	24 September 1996	21 September 2001
Uzbekistan	3 October 1996	29 May 1997
Vanuatu	24 September 1996	
Venezuela	3 October 1996	13 May 2002
Viet Nam*	24 September 1996	
Yemen	30 September 1996	
Zambia	3 December 1996	
Zimbabwe	13 October 1999	

* Stati la cui ratifica è necessaria per l'entrata in vigore del Trattato.

Il Sistema di Monitoraggio Internazionale

State	Location	Type	Treaty Code	Coordinates	
				Lat	Lon
Argentina	Paso Flores PLCA	Primary Seismic Station	PS01	-40.7	-70.6
Argentina	Coronel Fontana CFA	Auxiliary Seismic Station	AS001	-31.6	-68.2
Argentina	Ushuaia USHA	Auxiliary Seismic Station	AS002	-55.0	-68.0
Argentina	Buenos Aires	Radionuclide Station	RN01	-34.0	-58.0
Argentina	Salta	Radionuclide Station	RN02	-24.0	-65.0
Argentina	Bariloche	Radionuclide Station	RN03	-41.1	-71.3
Argentina	National Board of Nuclear Regulation Buenos Aires	Radionuclide Laboratory	RL01	TBD	TBD
Argentina	Paso Flores	Infrasound Station	IS01	-40.7	-70.6
Argentina	Ushuaia	Infrasound Station	IS02	-55.0	-68.0
Armenia	Garni GNI	Auxiliary Seismic Station	AS003	40.01.00	44.07.00
Australia	Warramunga, NT WRA	Primary Seismic Station	PS02	-19.9	134.03.00
Australia	Alice Springs, NT ASAR	Primary Seismic Station	PS03	-23.7	133.09.00
Australia	Stephens Creek, SA STKA	Primary Seismic Station	PS04	-31.9	141.06.00
Australia	Mawson, Antarctica MAW	Primary Seismic Station	PS05	-67.6	62.09.00
Australia	Charters Towers, QLD CTA	Auxiliary Seismic Station	AS004	-20.1	146.03.00
Australia	Fitzroy Crossing, WA FITZ	Auxiliary Seismic Station	AS005	-18.1	125.06.00
Australia	Narrogin, WA NWAO	Auxiliary Seismic Station	AS006	-32.9	117.02.00
Australia	Melbourne, VIC	Radionuclide Station	RN04	-37.5	144.06.00
Australia	Mawson, Antarctica	Radionuclide Station	RN05	-67.6	62.05.00
Australia	Townsville, QLD	Radionuclide Station	RN06	-19.2	146.08.00
Australia	Macquarie Island	Radionuclide Station	RN07	-54.0	159.00.00
Australia	Cocos Islands	Radionuclide Station	RN08	-12.0	97.00.00
Australia	Darwin, NT	Radionuclide Station	RN09	-12.4	130.07.00
Australia	Perth, WA	Radionuclide Station	RN10	-31.9	116.00.00
Australia	Australian Radiation Laboratory Melbourne, VIC	Radionuclide Laboratory	RL02	TBD	TBD
Australia	Cape Leeuwin,WA	Hydroacoustic Station	HA01	-34.4	115.01.00
Australia	Davis Base, Antarctica	Infrasound Station	IS03	-68.4	77.06.00
Australia	Narrogin, WA	Infrasound Station	IS04	-32.9	117.02.00
Australia	Hobart, TAS	Infrasound Station	IS05	-42.1	147.02.00
Australia	Cocos Islands	Infrasound Station	IS06	-12.3	97.00.00
Australia	Warramunga, NT	Infrasound Station	IS07	-19.9	134.03.00
Austria	Austrian Research Centre Seibersdorf	Radionuclide Laboratory	RL03	TBD	TBD
Bangladesh	Chittagong CHT	Auxiliary Seismic Station	AS007	22.04	91.08.00
Bolivia	La Paz LPAZ	Primary Seismic Station	PS06	-16.3	-68.1
Bolivia	San Ignacio SIV	Auxiliary Seismic Station	AS008	-16.0	-61.1
Bolivia	La Paz	Infrasound Station	IS08	-16.3	-68.1
Botswana	Lobatse LBTB	Auxiliary Seismic Station	AS009	-25.0	25.06.00
Brazil	Brasilia BDFB	Primary Seismic Station	PS07	-15.6	-48.0
Brazil	Pitinga PTGA	Auxiliary Seismic Station	AS010	-.7	-60.0
Brazil	Rio Grande do Norte RGNB	Auxiliary Seismic Station	AS011	-6.9	-37.0
Brazil	Rio de Janeiro	Radionuclide Station	RN11	-22.5	-43.1
Brazil	Recife	Radionuclide Station	RN12	-8.0	-35.0
Brazil	Institute of Radiation Protection and Dosimetry Rio de Janeiro	Radionuclide Laboratory	RL04	TBD	TBD
Brazil	Brasilia	Infrasound Station	IS09	-15.6	-48.0
Cameroon	Douala	Radionuclide Station	RN13	4.02	9.09
Canada	Lac du Bonnet, Man. ULMC	Primary Seismic Station	PS08	50.02.00	-95.9
Canada	Yellowknife, N.W.T. YKAC	Primary Seismic Station	PS09	62.05.00	-114.6
Canada	Schefferville, Quebec SCH	Primary Seismic Station	PS10	54.08.00	-66.8
Canada	Iqaluit, N.W.T. FRB	Auxiliary Seismic Station	AS012	63.07.00	-68.5
Canada	Dease Lake, B.C. DLBC	Auxiliary Seismic Station	AS013	58.04.00	-130.0

Canada	Sadowa, Ont. SADO	Auxiliary Seismic Station	AS014	44.08.00	-79.1
Canada	Bella Bella, B.C. BBB	Auxiliary Seismic Station	AS015	52.02.00	-128.1
Canada	Mould Bay, N.W.T. MBC	Auxiliary Seismic Station	AS016	76.02.00	-119.4
Canada	Inuvik, N.W.T. INK	Auxiliary Seismic Station	AS017	68.03.00	-133.5
Canada	Vancouver, B.C.	Radionuclide Station	RN14	49.03.00	-123.2
Canada	Resolute, N.W.T.	Radionuclide Station	RN15	74.07.00	-94.9
Canada	Yellowknife, N.W.T.	Radionuclide Station	RN16	62.05.00	-114.5
Canada	St. John's N.L.	Radionuclide Station	RN17	47.00.00	-53.0
Canada	Health Canada Ottawa, Ont	Radionuclide Laboratory	RL05	TBD	TBD
Canada	Queen Charlotte Islands, B.C.	Hydroacoustic Station	HA02	53.03.00	-132.5
Canada	Lac du Bonnet, Man.	Infrasound Station	IS10	50.02.00	-95.9
Cape Verde	Cape Verde Islands	Infrasound Station	IS11	16.00	-24.0
Central African Republic	Bangui BGCA	Primary Seismic Station	PS11	5.02	18.04
Central African Republic	Bangui	Infrasound Station	IS12	5.02	18.04
Chile	Easter Island RPN	Auxiliary Seismic Station	AS018	-27.2	-109.4
Chile	Limon Verde LVC	Auxiliary Seismic Station	AS019	-22.6	-68.9
Chile	Punta Arenas	Radionuclide Station	RN18	-53.1	-70.6
Chile	Hanga Roa, Easter Island	Radionuclide Station	RN19	-27.1	-108.4
Chile	Juan Fernandez Island	Hydroacoustic Station	HA03	-33.7	-78.8
Chile	Easter Island	Infrasound Station	IS13	-27.0	-109.2
Chile	Juan Fernandez Island	Infrasound Station	IS14	-33.8	-80.7
China	Hailar HAI	Primary Seismic Station	PS12	49.03.00	119.07.00
China	Lanzhou LZH	Primary Seismic Station	PS13	36.01.00	103.08.00
China	Baijiatuan BJT	Auxiliary Seismic Station	AS020	40.00.00	116.02.00
China	Kunming KMI	Auxiliary Seismic Station	AS021	25.02.00	102.08.00
China	Sheshan SSE	Auxiliary Seismic Station	AS022	31.01.00	121.02.00
China	Xi'an XAN	Auxiliary Seismic Station	AS023	34.00.00	108.09.00
China	Beijing	Radionuclide Station	RN20	39.08.00	116.02.00
China	Lanzhou	Radionuclide Station	RN21	35.08.00	103.03.00
China	Guangzhou	Radionuclide Station	RN22	23.00	113.03.00
China	Beijing	Radionuclide Laboratory	RL06	TBD	TBD
China	Beijing	Infrasound Station	IS15	40.00.00	116.00.00
China	Kunming	Infrasound Station	IS16	25.00.00	102.08.00
Colombia	El Rosal XSA	Primary Seismic Station	PS14	4.09	-74.3
Cook Islands	Rarotonga RAR	Auxiliary Seismic Station	AS024	-21.2	-159.8
Cook Islands	Rarotonga	Radionuclide Station	RN23	-21.2	-159.8
Costa Rica	Las Juntas de Abangares JTS	Auxiliary Seismic Station	AS025	10.03	-85.0
Cote d'Ivoire	Dimbroko DBIC	Primary Seismic Station	PS15	6.07	-4.9
Cote d'Ivoire	Dimbokro	Infrasound Station	IS17	6.07	-4.9
Czech Republic	Vranov VRAC	Auxiliary Seismic Station	AS026	49.03.00	16.06
Denmark	Sondre Stromfjord, Greenland SFJ	Auxiliary Seismic Station	AS027	67.00.00	-50.6
Denmark	Dundas, Greenland	Infrasound Station	IS18	76.05.00	-68.7
Djibouti	Arta Tunnel ATD	Auxiliary Seismic Station	AS028	11.05	42.09.00
Djibouti	Dijibouti	Infrasound Station	IS19	11.03	43.05.00
Ecuador	Isla San Cristobal, Galapagos Islands	Radionuclide Station	RN24	-1.0	-89.2
Ecuador	Galapagos Islands	Infrasound Station	IS20	.0	-91.7
Egypt	Luxor LXEG	Primary Seismic Station	PS16	26.00.00	33.00.00
Egypt	Kottamya KEG	Auxiliary Seismic Station	AS029	29.09.00	31.08.00
Ethiopia	Furi FURI	Auxiliary Seismic Station	AS030	8.09	38.07.00
Ethiopia	Filtu	Radionuclide Station	RN25	5.05	42.07.00
Fiji	Monasavu, Viti Levu MSVF	Auxiliary Seismic Station	AS031	-17.8	178.01.00
Fiji	Nadi	Radionuclide Station	RN26	-18.0	177.05.00
Finland	Lahti FINES	Primary Seismic Station	PS17	61.04.00	28.01.00
Finland	Centre for Radiation and Nuclear Safety Helsinki	Radionuclide Laboratory	RL07	TBD	TBD
France	Tahiti PPT	Primary Seismic Station	PS18	-17.6	-149.6
France	Port Laguerre, New Caledonia NOUC	Auxiliary Seismic Station	AS032	-22.1	166.03.00
France	Kourou, French Guiana KOG	Auxiliary Seismic Station	AS033	5.02	-52.7

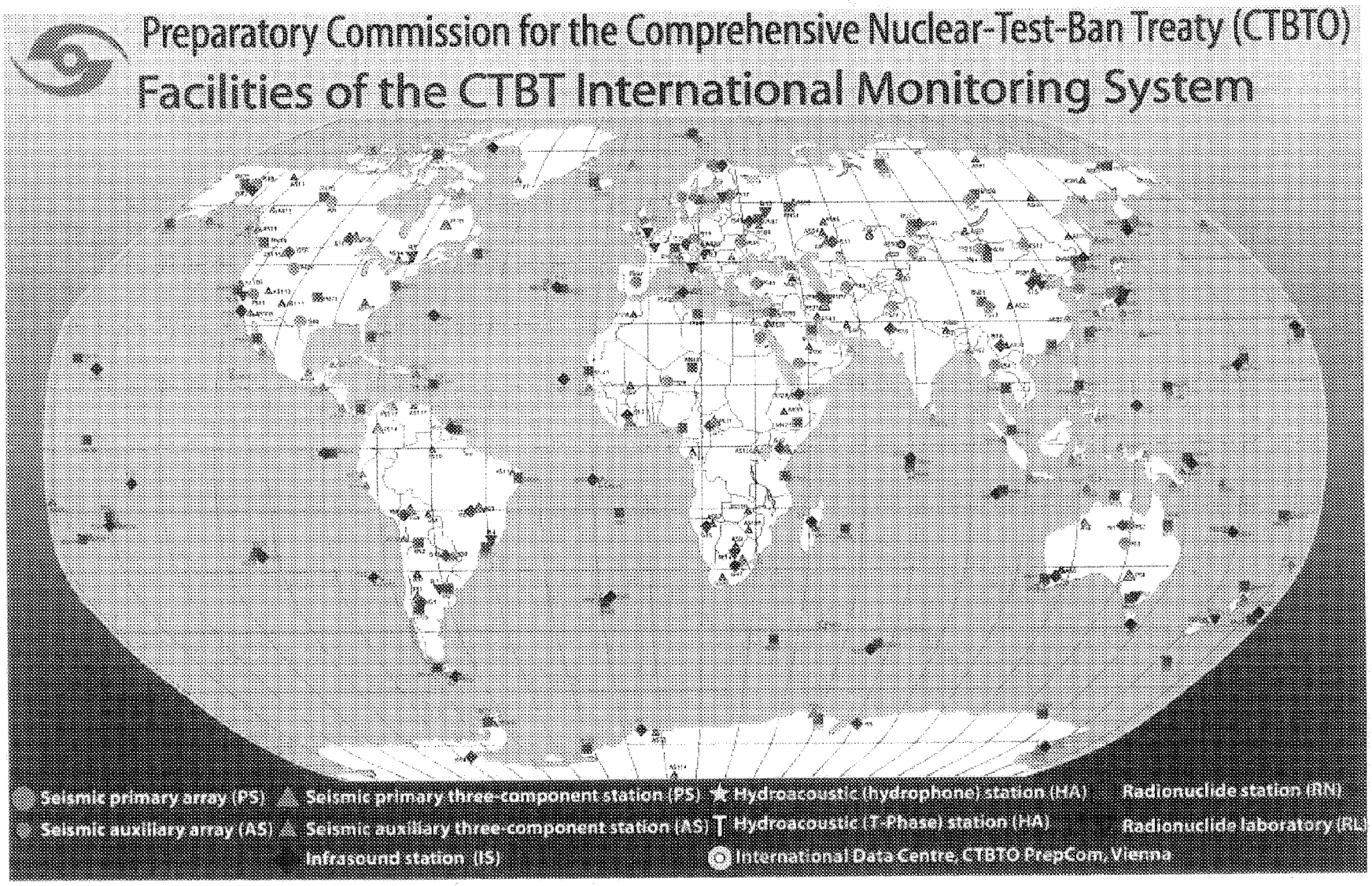
France	Papeete, Tahiti	Radionuclide Station	RN27	-17.0	-150.0
France	Pointe-a-Pitre, Guadeloupe	Radionuclide Station	RN28	17.00	-62.0
France	Reunion	Radionuclide Station	RN29	-21.1	55.06.00
France	Port-aux-Francais, Kerguelen	Radionuclide Station	RN30	-49.0	70.00.00
France	Cayenne, French Guiana	Radionuclide Station	RN31	5.00	-52.0
France	Dumont d'Urville, Antartica	Radionuclide Station	RN32	-66.0	140.00.00
France	Atomic Energy Commission Montlhery	Radionuclide Laboratory	RL08	TBD	TBD
France	Crozet Islands	Hydroacoustic Station	HA04	-46.5	52.02.00
France	Guadeloupe	Hydroacoustic Station	HA05	16.03	-61.1
France	Marquesas Islands	Infrasound Station	IS21	-10.0	-140.0
France	Port LaGuerre, New Caledonia	Infrasound Station	IS22	-22.1	166.03.00
France	Kerguelen	Infrasound Station	IS23	-49.2	69.01.00
France	Tahiti	Infrasound Station	IS24	-17.6	-149.6
France	Kourou, French Guiana	Infrasound Station	IS25	5.02	-52.7
Gabon	Bambay BAMB	Auxiliary Seismic Station	AS034	-1.7	13.06
Germany	Freyung GEC2	Primary Seismic Station	PS19	48.09.00	13.07
Germany	Schauinsland/Freiburg	Radionuclide Station	RN33	47.09.00	7.09
Germany	Freyung	Infrasound Station	IS26	48.09.00	13.07
Germany	Georg von Neumayer, Antarctica	Infrasound Station	IS27	-70.6	-8.4
Germany/South Africa	SANAE Station, Antarctica SNAA	Auxiliary Seismic Station	AS035	-71.7	-2.9
Greece	Anogia, Crete IDI	Auxiliary Seismic Station	AS036	35.03.00	24.09.00
Guatemala	Rabir RDG	Auxiliary Seismic Station	AS037	15.00	-90.5
Iceland	Borgames BORG	Auxiliary Seismic Station	AS038	64.08.00	-21.3
Iceland	Reykjavik	Radionuclide Station	RN34	64.04.00	-21.9
Indonesia	Cibinong, Jawa Barat PACI	Auxiliary Seismic Station	AS040	-6.5	107.00.00
Indonesia	Jayapura, Irian Jaya JAY	Auxiliary Seismic Station	AS041	-2.5	140.07.00
Indonesia	Sorong, Irian Jaya SWI	Auxiliary Seismic Station	AS042	-.9	131.03.00
Indonesia	Parapat, Sumatera PSI	Auxiliary Seismic Station	AS043	2.07	98.09.00
Indonesia	Kappang, Sulawesi Selatan KAPI	Auxiliary Seismic Station	AS044	-5.0	119.08.00
Indonesia	Kupang, Nusatenggara Timur KUG	Auxiliary Seismic Station	AS045	-10.2	123.06.00
Iran, Islamic Republic of	Tehran THR	Primary Seismic Station	PS21	35.08.00	51.04.00
Iran, Islamic Republic of	Kerman KRM	Auxiliary Seismic Station	AS046	30.03.00	57.01.00
Iran, Islamic Republic of	Masjed-e-Soleyman MSN	Auxiliary Seismic Station	AS047	31.09.00	49.03.00
Iran, Islamic Republic of	Tehran	Radionuclide Station	RN36	35.00.00	52.00.00
Iran, Islamic Republic of	Tehran	Infrasound Station	IS29	35.07.00	51.04.00
Israel	Eilath MBH	Auxiliary Seismic Station	AS048	29.08.00	34.09.00
Israel	Parod PARD	Auxiliary Seismic Station	AS049	32.06.00	35.03.00
Israel	Soreq Nuclear Research Centre Yavne	Radionuclide Laboratory	RL09	TBD	TBD
Italy	Enna, Sicily ENAS	Auxiliary Seismic Station	AS050	37.05.00	14.03
Italy	Laboratory of the National Agency for the Protection of the Environment Rome	Radionuclide Laboratory	RL10	TBD	TBD
Japan	Matsushiro MJAR	Primary Seismic Station	PS22	36.05.00	138.02.00
Japan	Ohita, Kyushu JNU	Auxiliary Seismic Station	AS051	33.01.00	130.09.00
Japan	Kunigami, Okinawa JOW	Auxiliary Seismic Station	AS052	26.08.00	128.03.00
Japan	Hachijojima, Izu Islands JHJ	Auxiliary Seismic Station	AS053	33.01.00	139.08.00
Japan	Kamikawa-asahi, Hokkaido JKA	Auxiliary Seismic Station	AS054	44.01.00	142.06.00
Japan	Chichijima, Ogasawara JCJ	Auxiliary Seismic Station	AS055	27.01.00	142.02.00
Japan	Okinawa	Radionuclide Station	RN37	26.05.00	127.09.00
Japan	Takasaki, Gunma	Radionuclide Station	RN38	36.03.00	139.00.00
Japan	Japan Atomic Energy Research Institute Tokai, Ibaraki	Radionuclide Laboratory	RL11	TBD	TBD
Japan	Tsukuba	Infrasound Station	IS30	36.00.00	140.01.00
Jordan	Ashqof	Auxiliary Seismic Station	AS056	32.05.00	37.06.00
Kazakhstan	Makanchi MAK	Primary Seismic Station	PS23	46.08.00	82.00.00
Kazakhstan	Borovoye BRVK	Auxiliary Seismic Station	AS057	53.01.00	70.03.00
Kazakhstan	Kurchatov KURK	Auxiliary Seismic Station	AS058	50.07.00	78.06.00
Kazakhstan	Aktyubinsk AKTO	Auxiliary Seismic Station	AS059	50.04.00	58.00.00

Kazakhstan	Aktyubinsk	Infrasound Station	IS31	50.04.00	58.00.00
Kenya	Kilimambogo KMBO	Primary Seismic Station	PS24	-1.1	37.02.00
Kenya	Kilimambogo	Infrasound Station	IS32	-1.3	36.08.00
Kiribati	Kiritimati	Radionuclide Station	RN39	2.00	-157.0
Kuwait	Kuwait City	Radionuclide Station	RN40	29.00.00	48.00.00
Kyrgyzstan	Ala-Archa AAK	Auxiliary Seismic Station	AS060	42.06.00	74.05.00
Libyan Arab Jamahiriya	Misratah	Radionuclide Station	RN41	32.05.00	15.00
Madagascar	Antananarivo TAN	Auxiliary Seismic Station	AS061	-18.9	47.06.00
Madagascar	Antananarivo	Infrasound Station	IS33	-18.8	47.05.00
Malaysia	Kuala Lumpur	Radionuclide Station	RN42	2.06	101.05.00
Mali	Kowa KOWA	Auxiliary Seismic Station	AS062	14.05	-4.0
Mauritania	Nouakchott	Radionuclide Station	RN43	18.00	-17.0
Mexico	Tepich, Yucatan TEYM	Auxiliary Seismic Station	AS063	20.02	-88.3
Mexico	Tuzandepeti, Veracruz TUVM	Auxiliary Seismic Station	AS064	18.00	-94.4
Mexico	La Paz, Baja California Sur LPBM	Auxiliary Seismic Station	AS065	24.02.00	-110.2
Mexico	Baja California	Radionuclide Station	RN44	28.00.00	-113.0
Mexico	Clarin Island	Hydroacoustic Station	HA06	18.02	-114.6
Mongolia	Javhlant JAVM	Primary Seismic Station	PS25	48.00.00	106.08.00
Mongolia	Ulaanbaatar	Radionuclide Station	RN45	47.05.00	107.00.00
Mongolia	Javhlant	Infrasound Station	IS34	48.00.00	106.08.00
Morocco	Midelt MDT	Auxiliary Seismic Station	AS066	32.08.00	-4.6
Namibia	Tsumed TSUM	Auxiliary Seismic Station	AS067	-19.1	17.04
Namibia	Tsumeb	Infrasound Station	IS35	-19.1	17.04
Nepal	Everest EVN	Auxiliary Seismic Station	AS068	28.00.00	86.08.00
New Zealand	Erewhon, South Island EWZ	Auxiliary Seismic Station	AS069	-43.5	170.09.00
New Zealand	Raoul Island RAO	Auxiliary Seismic Station	AS070	-29.2	-177.9
New Zealand	Urewera, North Island URZ	Auxiliary Seismic Station	AS071	-38.3	177.01.00
New Zealand	Chatham Island	Radionuclide Station	RN46	-44.0	-176.5
New Zealand	Kaitaia	Radionuclide Station	RN47	-35.1	173.03.00
New Zealand	National Radiation Laboratory Christchurch	Radionuclide Laboratory	RL12	TBD	TBD
New Zealand	Chatham Island	Infrasound Station	IS36	-44.0	-176.5
Niger	New Site	Primary Seismic Station	PS26	TBD	TBD
Niger	Bilma	Radionuclide Station	RN48	18.00	13.00
Norway	Hamar NAO	Primary Seismic Station	PS27	60.08.00	10.08
Norway	Karasjok ARAO	Primary Seismic Station	PS28	69.05.00	25.05.00
Norway	Spitsbergen SPITS	Auxiliary Seismic Station	AS072	78.02.00	16.04
Norway	Jan Mayen JMI	Auxiliary Seismic Station	AS073	70.09.00	-8.7
Norway	Spitsbergen	Radionuclide Station	RN49	78.02.00	16.04
Norway	Karasjok	Infrasound Station	IS37	69.05.00	25.05.00
Oman	Wadi Sarin WSAR	Auxiliary Seismic Station	AS074	23.00	58.00.00
Pakistan	Pari PPPK	Primary Seismic Station	PS29	33.07.00	73.03.00
Pakistan	Rahimyar Khan	Infrasound Station	IS38	28.02.00	70.03.00
Palau	Palau	Infrasound Station	IS39	7.05	134.05.00
Panama	Panama City	Radionuclide Station	RN50	8.09	-79.6
Papua New Guinea	Port Moresby PMG	Auxiliary Seismic Station	AS075	-9.4	147.02.00
Papua New Guinea	Bialla BIAL	Auxiliary Seismic Station	AS076	-5.3	151.01.00
Papua New Guinea	New Hanover	Radionuclide Station	RN51	-3.0	150.00.00
Papua New Guinea	Rabaul	Infrasound Station	IS40	-4.1	152.01.00
Paraguay	Villa Florida CPUP	Primary Seismic Station	PS30	-26.3	-57.3
Paraguay	Villa Florida	Infrasound Station	IS41	-26.3	-57.3
Peru	Cajamarca CAJP	Auxiliary Seismic Station	AS077	-7.0	-78.0
Peru	Nana NNA	Auxiliary Seismic Station	AS078	-12.0	-76.8
Philippines	Davao, Mindanao DAV	Auxiliary Seismic Station	AS079	7.01	125.06.00
Philippines	Tagaytay, Luzon TGY	Auxiliary Seismic Station	AS080	14.01	120.09.00
Philippines	Quezon City	Radionuclide Station	RN52	14.05	121.00.00
Portugal	Ponta Delgada, S?o Miguel, Azores	Radionuclide Station	RN53	37.04.00	-25.4
Portugal	Flores	Hydroacoustic Station	HA07	39.03.00	-31.3

Portugal	Azores	Infrasound Station	IS42	37.08.00	-25.5
Republic of Korea	Wonju KSRS	Primary Seismic Station	PS31	37.05.00	127.09.00
Romania	Muntele Rosu MLR	Auxiliary Seismic Station	AS081	45.05.00	25.09.00
Russian Federation	Khabaz KBZ	Primary Seismic Station	PS32	43.07.00	42.09.00
Russian Federation	Zalesovo ZAL	Primary Seismic Station	PS33	53.09.00	84.08.00
Russian Federation	Norilsk NRI	Primary Seismic Station	PS34	69.00.00	88.00.00
Russian Federation	Peleduy PDY	Primary Seismic Station	PS35	59.06.00	112.06.00
Russian Federation	Petropavliovsk-Kamchatskiy PET	Primary Seismic Station	PS36	53.01.00	157.08.00
Russian Federation	Ussuriysk USK	Primary Seismic Station	PS37	44.02.00	132.00.00
Russian Federation	Kirov KIRV	Auxiliary Seismic Station	AS082	58.06.00	49.04.00
Russian Federation	Kislovodsk KIVO	Auxiliary Seismic Station	AS083	44.00.00	42.07.00
Russian Federation	Obninsk OBN	Auxiliary Seismic Station	AS084	55.01.00	36.06.00
Russian Federation	Arti ARU	Auxiliary Seismic Station	AS085	56.04.00	58.06.00
Russian Federation	Seymchan SEY	Auxiliary Seismic Station	AS086	62.09.00	152.04.00
Russian Federation	Talaya TLY	Auxiliary Seismic Station	AS087	51.07.00	103.06.00
Russian Federation	Yakutsk YAK	Auxiliary Seismic Station	AS088	62.00.00	129.07.00
Russian Federation	Urgal URG	Auxiliary Seismic Station	AS089	51.01.00	132.03.00
Russian Federation	Bilibino BIL	Auxiliary Seismic Station	AS090	68.00.00	166.04.00
Russian Federation	Tiksi TIXI	Auxiliary Seismic Station	AS091	71.06.00	128.09.00
Russian Federation	Yuzhno-Sakhalinsk YSS	Auxiliary Seismic Station	AS092	47.00.00	142.08.00
Russian Federation	Magadan MA2	Auxiliary Seismic Station	AS093	59.06.00	150.08.00
Russian Federation	Zilim ZIL	Auxiliary Seismic Station	AS094	53.09.00	57.00.00
Russian Federation	Kirov	Radionuclide Station	RN54	58.06.00	49.04.00
Russian Federation	Norilsk	Radionuclide Station	RN55	69.00.00	88.00.00
Russian Federation	Peleduy	Radionuclide Station	RN56	59.06.00	112.06.00
Russian Federation	Bilibino	Radionuclide Station	RN57	68.00.00	166.04.00
Russian Federation	Ussuriysk	Radionuclide Station	RN58	43.07.00	131.09.00
Russian Federation	Zalesovo	Radionuclide Station	RN59	53.09.00	84.08.00
Russian Federation	Petropavlovsk-Kamchatskiy	Radionuclide Station	RN60	53.01.00	158.08.00
Russian Federation	Dubna	Radionuclide Station	RN61	56.07.00	37.03.00
Russian Federation	Central Radiation Control Laboratory Ministry of Defence Special Verification Service Moscow	Radionuclide Laboratory	RL13	TBD	TBD
Russian Federation	Dubna	Infrasound Station	IS43	56.07.00	37.03.00
Russian Federation	Petropavlovsk-Kamchatskiy	Infrasound Station	IS44	53.01.00	158.08.00
Russian Federation	Ussuriysk	Infrasound Station	IS45	43.07.00	131.09.00
Russian Federation	Zalesovo	Infrasound Station	IS46	53.09.00	84.08.00
Samoa	Afiamalu AFI	Auxiliary Seismic Station	AS095	-13.9	-171.8
Saudi Arabia	New Site	Primary Seismic Station	PS38	TBD	TBD
Saudi Arabia	Ar Rayn RAYN	Auxiliary Seismic Station	AS096	23.06	45.06.00
Senegal	Mbour MBO	Auxiliary Seismic Station	AS097	14.04	-17.0
Solomon Islands	Honiara, Guadalcanal HNR	Auxiliary Seismic Station	AS098	-9.4	160.00.00
South Africa	Boshof BOSA	Primary Seismic Station	PS39	-28.6	25.06.00
South Africa	Sutherland SUR	Auxiliary Seismic Station	AS099	-32.4	20.08
South Africa	Marion Island	Radionuclide Station	RN62	-46.5	37.00.00
South Africa	Atomic Energy Corporation Pelindaba	Radionuclide Laboratory	RL14	TBD	TBD
South Africa	Boshof	Infrasound Station	IS47	-28.6	25.04.00
Spain	Sonseca ESDC	Primary Seismic Station	PS40	39.07.00	-4.0
Sri Lanka	Colombo COC	Auxiliary Seismic Station	AS100	6.09	79.09.00
Sweden	Hagfors HFS	Auxiliary Seismic Station	AS101	60.01.00	13.07
Sweden	Stockholm	Radionuclide Station	RN63	59.04.00	18.00
Switzerland	Davos DAVOS	Auxiliary Seismic Station	AS102	46.08.00	9.08
TBD	TBD	Primary Seismic Station	PS20	TBD	TBD
TBD	TBD	Auxiliary Seismic Station	AS039	TBD	TBD
TBD	TBD	Radionuclide Station	RN35	TBD	TBD
TBD	TBD	Infrasound Station	IS28	TBD	TBD
Thailand	Chiang Mai CMTO	Primary Seismic Station	PS41	18.08	99.00.00
Thailand	Bangkok	Radionuclide Station	RN65	13.08	100.05.00

Tunisia	Thala THA	Primary Seismic Station	PS42	35.06.00	8.07
Tunisia	Thala	Infrasound Station	IS48	35.06.00	8.07
Turkey	Belbashi BRTR	Primary Seismic Station	PS43	39.09.00	32.08.00
Turkmenistan	Alibeck GEYT	Primary Seismic Station	PS44	37.09.00	58.01.00
Uganda	Mbarara MBRU	Auxiliary Seismic Station	AS103	-.4	30.04.00
Ukraine	Malin AKASG	Primary Seismic Station	PS45	50.04.00	29.01.00
United Kingdom	Eskdalemuir EKA	Auxiliary Seismic Station	AS104	55.03.00	-3.2
United Kingdom	BIOT/Chagos Archipelago	Radionuclide Station	RN66	-7.0	72.00.00
United Kingdom	St. Helena	Radionuclide Station	RN67	-16.0	-6.0
United Kingdom	Tristan da Cunha	Radionuclide Station	RN68	-37.0	-12.3
United Kingdom	Halley, Antarctica	Radionuclide Station	RN69	-76.0	-28.0
United Kingdom	AWE Blacknest Chilton	Radionuclide Laboratory	RL15	TBD	TBD
United Kingdom	BIOT/Chagos Archipelago	Hydroacoustic Station	HA08	-7.3	72.04.00
United Kingdom	Tristan da Cunha	Hydroacoustic Station	HA09	-37.2	-12.5
United Kingdom	Tristan da Cunha	Infrasound Station	IS49	-37.0	-12.3
United Kingdom	Ascension	Infrasound Station	IS50	-8.0	-14.3
United Kingdom	Bermuda	Infrasound Station	IS51	32.00.00	-64.5
United Kingdom	BIOT/Chagos Archipelago	Infrasound Station	IS52	-5.0	72.00.00
United Republic of Tanzania	Dar es Salaam	Radionuclide Station	RN64	-6.0	39.00.00
United States of America	Lajitas, TX LJTX	Primary Seismic Station	PS46	29.03.00	-103.7
United States of America	Mina, NV MNV	Primary Seismic Station	PS47	38.04.00	-118.2
United States of America	Pinedale, WY PIWY	Primary Seismic Station	PS48	42.08.00	-109.6
United States of America	Eiesoen, AK ELAK	Primary Seismic Station	PS49	64.08.00	-146.9
United States of America	Vanda, Antarctica VNDA	Primary Seismic Station	PS50	-77.5	161.09.00
United States of America	Guam, Marianas Islands GUMO	Auxiliary Seismic Station	AS105	13.06	144.09.00
United States of America	Palmer Station, Antarctica PMSA	Auxiliary Seismic Station	AS106	-64.8	-64.1
United States of America	Tuckaleechee Caverns, TN TKL	Auxiliary Seismic Station	AS107	35.07.00	-83.8
United States of America	Pi?on Flat, CA PFCA	Auxiliary Seismic Station	AS108	33.06.00	-116.5
United States of America	Yreka, CA YBH	Auxiliary Seismic Station	AS109	41.07.00	-122.7
United States of America	Kodiak Island, AK KDC	Auxiliary Seismic Station	AS110	57.08.00	-152.5
United States of America	Albuquerque, NM ALQ	Auxiliary Seismic Station	AS111	35.00.00	-106.5
United States of America	Attu Island, AK ATTU	Auxiliary Seismic Station	AS112	52.08.00	172.07.00
United States of America	Elko, NV ELK	Auxiliary Seismic Station	AS113	40.07.00	-115.2
United States of America	South Pole, Antarctica SPA	Auxiliary Seismic Station	AS114	-90.0	.0
United States of America	Newport, WA NEW	Auxiliary Seismic Station	AS115	48.03.00	-117.1
United States of America	San Juan, PR SJG	Auxiliary Seismic Station	AS116	18.01	-66.2
United States of America	Sacramento, CA	Radionuclide Station	RN70	38.07.00	-121.4
United States of America	Sand Point, AK	Radionuclide Station	RN71	55.00.00	-160.0
United States of America	Melbourne, FL	Radionuclide Station	RN72	28.03.00	-80.6
United States of America	Palmer Station	Radionuclide Station	RN73	-64.5	-64.0
United States of America	Ashland, KS	Radionuclide Station	RN74	37.02.00	-99.8
United States of America	Charlottesville, VA	Radionuclide Station	RN75	38.00.00	-78.0
United States of America	Salchaket, AK	Radionuclide Station	RN76	64.04.00	-147.1
United States of America	Wake Island	Radionuclide Station	RN77	19.03	166.06.00
United States of America	Midway Islands	Radionuclide Station	RN78	28.00.00	-177.0
United States of America	Oahu, HI	Radionuclide Station	RN79	21.05	-158.0
United States of America	Upi, Guam	Radionuclide Station	RN80	13.07	144.09.00
United States of America	McClellan Central Laboratories Sacremento, CA	Radionuclide Laboratory	RL16	TBD	TBD
United States of America	Ascension	Hydroacoustic Station	HA10	-8.0	-14.4
United States of America	Wake Island	Hydroacoustic Station	HA11	19.03	166.06.00
United States of America	Eielson, AK	Infrasound Station	IS53	64.08.00	-146.9
United States of America	Siple Station, Antarctica	Infrasound Station	IS54	-75.5	-83.6
United States of America	Windless Bight, Anarctica	Infrasound Station	IS55	-77.5	161.08.00
United States of America	Newport, WA	Infrasound Station	IS56	48.03.00	-117.1
United States of America	Pi?on Flat, CA	Infrasound Station	IS57	33.06.00	-116.5
United States of America	Midway Islands	Infrasound Station	IS58	28.01.00	-177.2
United States of America	Hawaii, HI	Infrasound Station	IS59	19.06	-155.3

United States of America	Wake Island	Infrasound Station	IS60	19.03	166.06.00
Venezuela	Santo Domingo SDV	Auxiliary Seismic Station	AS117	8.09	-70.6
Venezuela	Puerto la Cruz PCRV	Auxiliary Seismic Station	AS118	10.02	-64.6
Zambia	Lusaka LSZ	Auxiliary Seismic Station	AS119	-15.3	28.02.00
Zimbabwe	Bulawayo BUL	Auxiliary Seismic Station	AS120	TBD	TBD


Preparatory Commission for the Comprehensive Nuclear-Test-Ban Treaty (CTBTO)
Facilities of the CTBT International Monitoring System
Seismic primary array (PS)
Seismic primary three-component station (PS)
Hydroacoustic (hydrophone) station (HA)
Radionuclide station (RN)
Seismic auxiliary array (AS)
Seismic auxiliary three-component station (AS)
Hydroacoustic (T-Phase) station (HA)
Radionuclide laboratory (RL)
Infrasound station (IS)
International Data Centre, CTBTO PrepCom, Vienna