

Nicaraguan Seismic Network FDSN Report 2005

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The Instituto Nicaragüense Estudios Territoriales (INETER, Nicaraguan Geosciences Institute) monitors the seismicity of Nicaragua (fig. 1) and Central America with a total of 61 seismic stations in Nicaragua (Table 1). 15 of them are broad-band stations (2 STS-2 and 13 Trillium seismometers) or broad band combined with short period (fig. 2, fig. 5), 27 are short period telemetric stations (fig. 2) and 18 are accelerographic stations (fig. 3). INETER operates also a small seismic array at its headquarters in Managua (fig. 4).

Data are acquired with SeisComp, Seislog and Earthworm software systems. Routine data processing is carried out with SEISAN software at INETER's seismic data center in Managua.

Data access to Managua broad band station MGAN is possible using SeedLink protocol. Access to other stations will be made available as soon as bandwidth of INETER's INTERNET connection allows it.

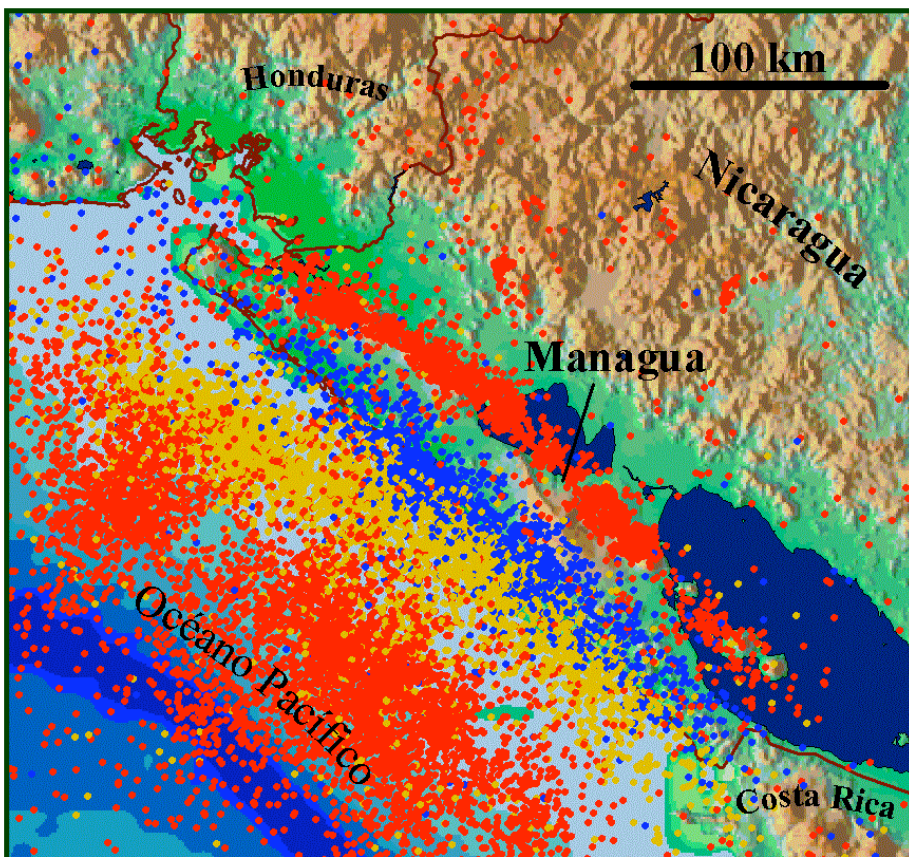


Figure 1. Seismicity of Western Nicaragua, 1975-2003
(hypocenter depths in km - red: < 40, yellow: 40-100, blue: >100)

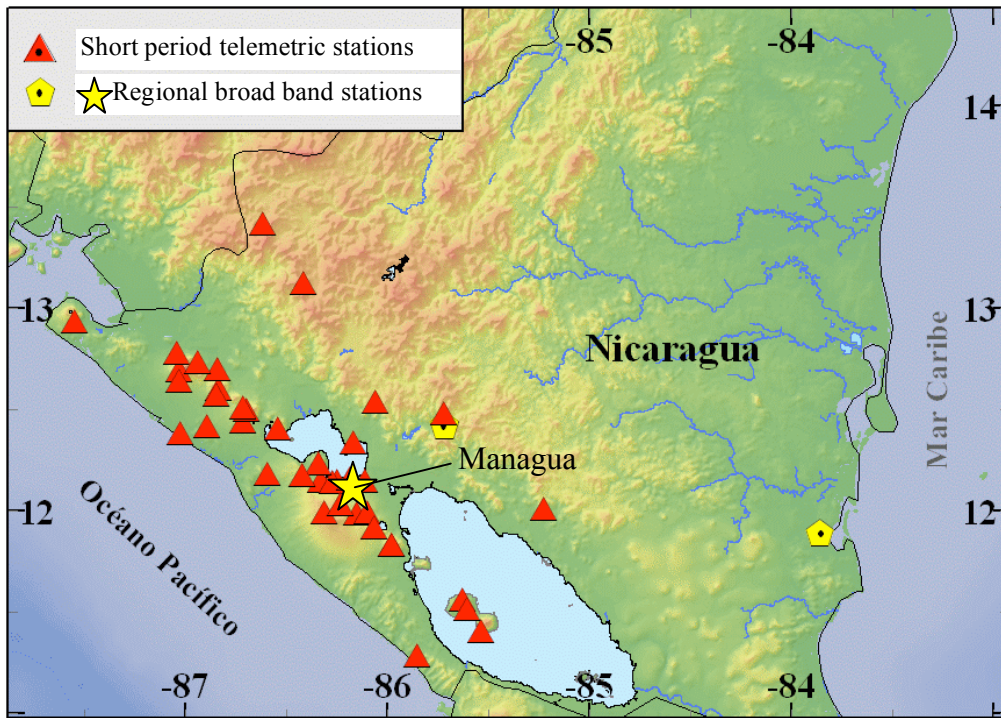


Figure 2. Short period and regional broad band stations

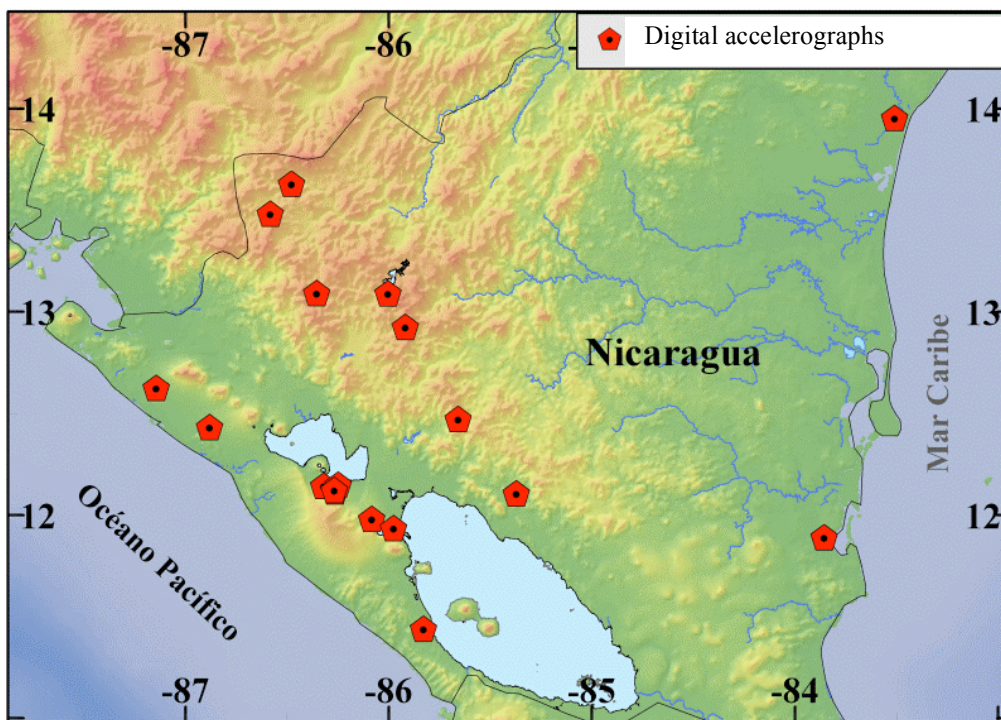


Figure 3. Accelerographic stations



Figure 4. Configuration of the small seismic array at INETER, Managua (4.5 Hz sensors)

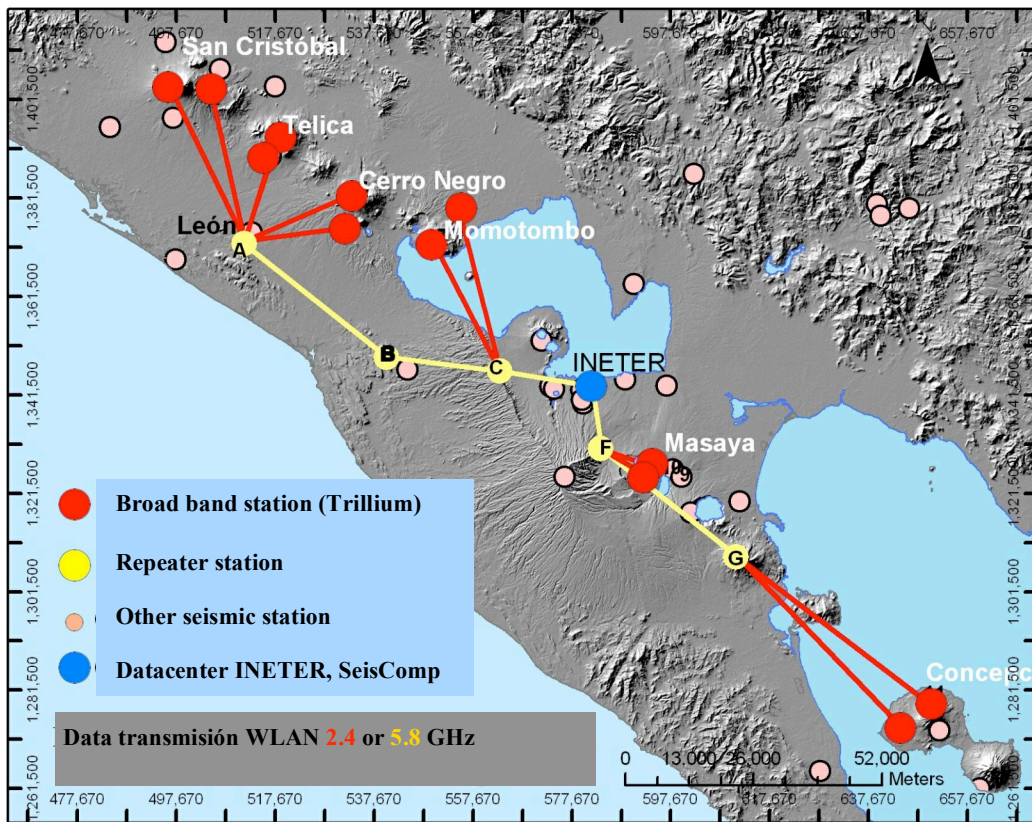


Figure 5. Seismic broad band network for volcano monitoring in the Nicaraguan volcanic chain

Table 1. List of seismic stations

N°	Name	Códe	# Comp	Sensors	Latitude	Longitude	Height (m)	Data transmission
1	Acoyapa	ACYN	1	S-13	12°00.56'N	85°13.70'O	350	Radio
2	Aguas Caliente	AGUN	1	L-4	12°40.00'N	86°50.20'O	300	Radio
3	Américas2 Managua	WILN	1	SM-3	12°09.64'N	86°11.25'O	60	Radio, Wlan
4	Apoyeque	APYN	1	L-4C	12°14.03'N	86°21.03'O	300	Radio
5	Apoyo	APON	1	L-4	11°55.00'N	86°04.00'O	600	Radio
6	Boaco	BOA1	1	SS-1	12°29.23'N	85°41.67'O	734	Radio
7	Ciudad Sandino	CSAN	1	SS-1	12°10.60'N	85°25.20'O	300	Radio
8	Cofradía	COFN	1	L-4	12°09.00'N	86°06.60'O	100	Radio
9	Copaltepe	COPN	1	SS-1	12°10.80'N	86°35.50'O	150	Radio
10	Cosigüina	COSN	1	SS-1	12°56.21'N	87°32.82'O	228	Radio
11	Coyotepe	CYN	1	L-4	11°59.75'N	85°05.92'O	345	Radio
12	Chinandega	CHIN	1	L-4	12°38.58'N	86°01.62'O	300	Radio
13	El Crucero	CRUN	1	L-4	11°59.00'N	86°18.00'O	930	Radio
14	Gruta Xavier	XAVN	1	SS-1	12°08.92'N	86°19.58'O	193	Radio
15	INETER Managua	MGAN	3	S 13,FBA 23,STS 2	12°08.81'N	86°14.83'O	80	LAN
16	INETER Array	MGAR	9	4.5 Hz Geophones	12°08.81'N	86°14.83'O	80	LAN
17	Laguna de Tiscapa	TISN	1	L-4C	12°08.55'N	86°16.16'O	200	Radio
18	León (Fortín)	LEON	1	S-13, Trillium	12°24.96'N	86°53.55'O	160	Radio
19	Miramar	MIRN	3	SS-1, Trillium	12°26.40'N	86°42.70'O	280	Radio
20	Mocorón	MOCN	1	L-4	12°46.90'N	87°02.40'O	300	Radio
21	Mombacho	MOB1	1	SS-1	11°49.98'N	85°58.81'O	1150	Radio
22	Playitas	PYTN	1	SS-1	12°32.26'N	86°03.46'O	460	Radio
23	Poneloya	PYN	1	S-13	12°22.93'N	87°01.34'O	50	Radio
24	Punta Huete	HUEN	1	SS-1	12°20.15'N	86°10.20'O	300	Radio
25	Quiabú	QUIN	1	SS-1	13°07.50'N	86°25.00'O	1600	Radio
26	San Juan del Sur	SSNN	1	SS-1	11°17.27'N	85°50.97'O	415	Radio
27	Santa Cruz	SCRN	1	L-4	12°43.90'N	86°56.30'O	500	Radio
28	Somoto	SOMN	1	SS-1	13°25.22'N	86°36.83'O	1200	Radio
29	Telica3	TEL3	3	SS-1, Trillium	12°34.33'N	86°50.69'O	300	Radio, Wlan
30	Ticuantepete	TICN	1	L-4C	12°02.01'N	86°13.90'O	400	Radio
31	Urbaite	URBN	1	HS-10	11°30.35'N	85°36.90'O	273	Radio
32	Volcán Cerro Negro	CNGN	3	L-4, Trillium	12°30.00'N	86°41.91'O	515	Radio, Wlan
33	Volcán Concepción	CON2	3	Trillium	11°32.17'N	85°41.20'O	149	Radio, Wlan
34	Volcán Concepción	CONN	3	SS-1, Trillium	11°33.85'N	85°37.54'O	250	Wlan
35	Volcán Maderas	MADN	3	SS-1	11°24.50'N	85°32.00'O	50	Radio
36	Volcán Masaya	MASN	3	L-4, Trillium	11°59.24'N	86°09.08'O	500	Radio, Wlan
37	Volcán Masaya 2	MAS2	3	Trillium	11°59.86'N	86°12.00'O	300	Wlan
38	Volcán Momotombo	MOMJ	3	L-4, Trillium	12°24.50'N	86°32.40'O	500	Radio, Wlan
39	Volcán San Cristóbal	CRIN	3	L-4, Trillium	12°42.00'N	87°03.00'O	685	Radio, Wlan
40	Volcán Telica	TELN	3	L-4, Trillium	12°36.25'N	86°49.88'O	850	Radio, Wlan
41	Volcán Casita	CASN	3	Trillium				Wlan
42	Boaco	BBON	3	STS-2	12°26.95'N	85°39.97'O	320	-
43	Bluefields	BLUN	3	Trillium	11°53.46'N	83°51.42'O	50	-
44	Granada	GRAN	3	4.5 Hz Geophones	11°55.78'N	85°57.35'O		Internet
45	Boaco	BOAA	3	Etna	12°28.35'N	85°39.48'O	379	-
46	Chinandega	CHIA	3	Etna	12°37.52'N	87°08.62'O	160	Internet
47	Defensa Civil Managua	DECA	3	Etna	12°07.42'N	86°16.05'O	70	Wlan
48	Estelí	ESTA	3	Etna	13°05.98'N	86°21.73'O	839	Internet
49	Granada	GRAA	3	Etna	11°56.20'N	85°58.55'O	62	Internet
50	IBW (Managua)	IBWA	3	Etna	12°06.99'N	86°15.35'O	70	Internet
51	Jinotega	JINA	3	Etna	13°03.67'N	85°59.68'O	1004	Internet
52	Juigalpa	JUIA	3	Etna	12°06.40'N	85°22.34'O	117	
53	León	LEOA	3	Etna	12°25.95'N	86°52.87'O	109	Internet
54	Masaya	MASA	3	Etna	11°58.91'N	86°04.99'O	150	Internet
55	Matagalpa	MATA	3	Etna	12°55.54'N	85°55.10'O	678	Internet
56	Ocotal	OCOA	3	Etna	13°37.81'N	86°28.68'O	596	Internet
57	Refinería (Managua)	REFA	3	Etna	12°08.63'N	86°19.18'O	70	-
58	Rivas	RIVA	3	Etna	11°26.47'N	85°49.70'O	63	Internet
59	Somoto	SOMA	3	Etna	13°28.94'N	86°34.98'O	699	-
60	UNAN (Managua)	UNAA	3	Etna	12°07.42'N	86°16.05'O	70	-
61	Puerto Cabezas	CABN	3	GEO-SIG	13°57.22'N	83°30.64'O	50	-