

The Australian National Seismograph Network

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The Australian Seismological Centre of the Australian Geological Survey Organisation, operates and co-operates a national seismograph network consisting of 24 analogue and 8 digitally telemetered (3 broadband) stations (see fig. 1 and table I). The network covers the Australian continent and the Australian Antarctic Territory. There are plans for a major upgrade of the network in the next few years. Most of the existing stations will be upgraded and a few new sites will be installed. Three sites will be upgraded to broadband (ASPA – ASAR's three-component site – COOL and Fitzroy), and it is proposed that all the upgraded sites will eventually be converted to broadband.

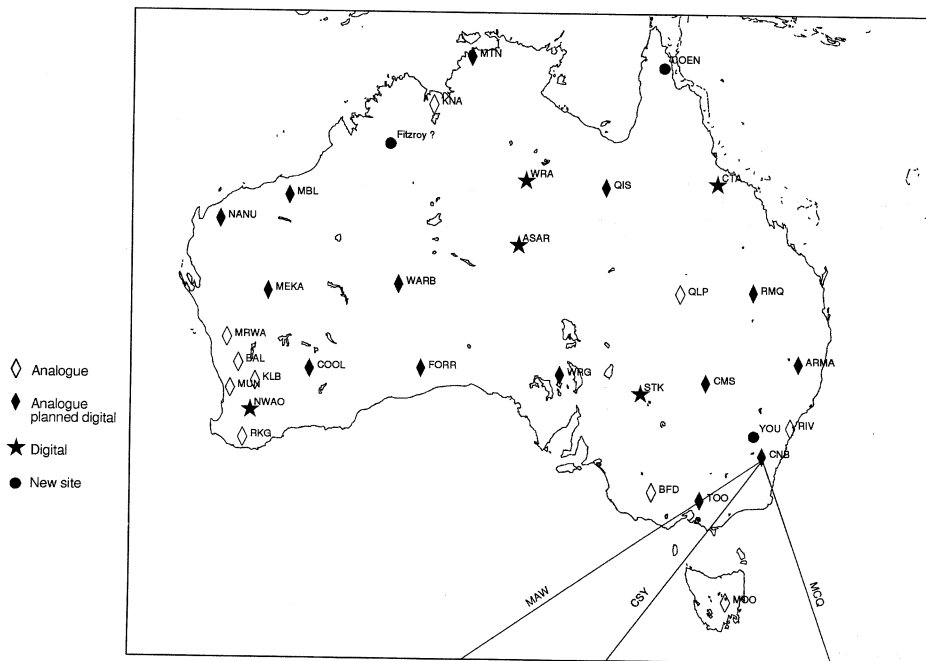


Fig. 1. Present and future configuration of the Australian National Seismograph Network.

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Table I. ANSN – stations.

Station	Code	Lat.°S	Long.°E	Characteristics	Co-operating agency (*)
Casey	CSY	66.2894	110.5289	SPZ, digital	
Mawson	MAW	67.6040	62.8710	BB, digital	
Macquarie	MCQ	54.4986	158.9561	SPZ, digital	
Narrogen	NWAO	32.9267	117.2333	SP, LP, digital	IRIS
Charters Towers	CTA	20.0880	146.2540	BB, digital	
Stephens Creek	STK	31.8817	141.5917	BB, digital	
Warramunga array	WRA	19.9426	134.3394	20 SPZ, digital	ANU
Alice Springs array	ASAR	23.6660	133.9040	19 SPZ, SP, LP, digital	AFTAC
Armidale	ARMA	30.4198	151.628	SPZ, analogue	
Bellfield	BFD	37.1761	142.5444	SPZ, analogue	
Cobar	CMS	31.4867	145.8283	SPZ, analogue	
Canberra	CNB	35.3137	149.3620	SPZ, analogue	
Mt Isa	QIS	20.5577	139.6052	SPZ, analogue	
Quilpie	QLP	26.5837	144.2348	SPZ, analogue	
Roma	RMQ	26.4890	148.7550	SPZ, analogue	
Riverview	RIV	33.8294	151.1583	SPZ, analogue	St. Ignatius
Toolangi	TOO	37.5714	145.4906	SPZ, LPZ	
Moorlands	MOO	42.4417	147.1903	SPZ, analogue	Uni. Tas
Woomera	WRG	31.105	136.763	SPZ, analogue	SADME
Manton Dam	MTN	12.8467	131.1300	SPZ, analogue	
Kununurra	KNA	15.7500	128.7667	SPZ, analogue	
Marble Bar	MBL	21.1600	119.8333	SPZ, analogue	
Nanutarra	NANU	22.5620	115.5290	SPZ, analogue	
Meekatharra	MEKA	26.6142	118.5336	SPZ, analogue	
Warburton	WARB	26.1838	126.6430	SPZ, analogue	
Forrest	FORR	30.7992	128.0673	SPZ, analogue	
Morawa	MRWA	29.2180	115.9960	SPZ, analogue	
Ballidu	BAL	30.6065	116.7072	SPZ, analogue	
Kellerberrin	KLB	31.5923	117.7600	SPZ, analogue	
Mundaring	MUN	31.9783	116.2083	SPZ, analogue	
Rocky Gully	RKG	34.5698	117.0103	SPZ, analogue	
Coolgardie	COOL	30.8838	121.1447	SPZ, analogue	

(*) ANU: Australian National University; AFTAC: Air Force Technical Applications Centre; Uni. Tas: University of Tasmania; SADME: South Australia Department of Mines and Energy.

Upgraded stations will transmit continuous seismic data to Canberra using the Starnet satellite service of Optus Communications. The digital upgrade consists of 2 main components, a data acquisition and timing (GPS) unit, linked to a PC based communication unit. The two units can coexist or be linked via radio modems. The PC is capable of storing up to a week's data on a circular disk buffer. Data are transmitted using X25 protocol to the VSAT dish and then up to the satellite. The data are received at an earth station in Sydney and transmitted by land line to the Australian Seismological Centre in Canberra.

Waveform data of the current digitally telemetred sites are available on line via a Data Request Manager (DRM) for about 2 weeks. As each satellite station is installed, its data will be available on line. Requested waveform data is written in GSE (Group of Scientific Experts) format. At the moment the DRM has been restricted to GSE and a few other specific users. However an anonymous account will be set up to allow anyone access to the data.

The station codes, coordinates, and map locations, of all sites in the Australian National Seismograph Network are given in fig. 1 and table I.