

**31<sup>st</sup> January** is the annual closing date for applications which should be sent to:

The Administrative Secretary,  
New Zealand National Society for Earthquake Engineering,  
P O Box 48-046,  
Silverstream,  
**Upper Hutt.**

## EARTHQUAKE COMMISSION REPORTS

Graham Quirke, the Administrative Secretary has recently received copies of the following EQC Research Reports:

*"The Design of Permanent Slopes for Residential Building Development"* by SA Crawford, PJ Millar, (Tonkin & Taylor), *EQC funded report 95/183- May 1998.*

*"Earthquake-Induced Landsliding in New Zealand and Implications for MM Intensity and Seismic Hazard Assessment"* by GT Hancox, ND Perrin, GD Dellow (IGNS), *EQC funded report 95/196- December 1997.*

*"Seismotectonics of the Arthur's Pass Earthquake of 18 June 1994"* by R Robinson, RE Abercrombie, TH Webb, PJ McGinty, T Arnadottir, JJ Mori, RJ Beavan, M Reyners  
262 *JS funded report 95/197- July 1998.*

*"Evaluation of Wells and Coppersmith (1994) Earthquake and Fault Relationships in the New Zealand Context"* by Mark Stirling, David Rhoades, Kelvin Berryman (IGNS), *EQC funded report 97/249- December 1998.*

*"Ash Predictions, How Successful Were they?"* by AW Hurst and BJ Scott (IGNS), *EQS funded report 97/268- October 1998.*

These reports may be borrowed by applying to the NZSEE Administrative Secretary, PO Box 48 086, Silverstream, Upper Hutt.

## 12WCEE 30 January- 4 February 2000, Auckland, NZ

The 12<sup>th</sup> World Conference on Earthquake Engineering was a great success, attracting about 1,950 registrants and 200 partners from about 70 countries. Over 1,550 papers were presented over the 5 full days, about 90% by poster presentation. Each day began with a plenary session with either 2 or 3 State-of-the-Art speakers in the Aotea Centre's Main Auditorium. These were followed by 7 concurrent sessions in both the Aotea Centre and the Town Hall. Prior to lunch a 1.5 hour poster session was set up on two levels, with about 250 posters being presented each day. The afternoon concluded with 2 sessions of oral paper presentations, again in up to 7 concurrent sessions.

Special sessions were fitted into the programme on the recent Turkey and Taiwan earthquakes, both attracting large audiences.

The Opening Ceremony included a full Maori welcome (featuring a Karanga Challenge and Powhiri) and the Conference was officially opened by the Governor General, The Rt. Hon. Sir Michael Hardie Boys.

The social events were wide ranging and a large number of the registrants and their partners were entertained at the Groundbreaker Reception, the Carnival night and the Gala dinner held at the Ti Papa equestrian stadium south of Auckland.

A debate was held for the first time on the Wednesday evening. 8 entertaining and thought provoking speakers entertained a large audience in the Aotea Centre.

A full technical display was manned during the conference and attracted a continual number of viewers.

The Society's AGM was held during the Wednesday lunch hour and special thanks and gifts were accorded to the 12WCEE Organising Committee and the Technical Committee members.

During the relatively short Closing Ceremony the President of IAEE (Prof. Shel Cherry) thanked the organisers and it ended with a school choir singing a Maori song. Everyone present was invited to the 13WCEE to be held in Vancouver, Canada in mid-2004.

## WORLD EARTHQUAKES OF MAGNITUDE 6.0 AND GREATER October - December 1999.

Data from the U.S. National Earthquake Information Service.

Date	Lat.	Long.	Depth (km)	Mag.	
Sep 22	23.73N	121.17E	26	6.4	<b>Taiwan</b> Felt (VI JMA) in the epicentral area; (V JMA) at Hua-lien and Tai-chung; (IV JMA) at Chia-i; (III JMA) at I-lan, Kao-hsuing, Taipei and Tai-tung. Felt in much of Taiwan. Also felt (IV JMA) on Peng-hu Tao and (III JMA) on Lan Yu. Felt (I JMA) on Iriomote-shima, Ishigaki-shima and Yonaguni, Ryukyu Islands.
Sep 25	23.74N	121.16E	17	6.5	<b>Taiwan</b> Additional casualties, damage and landslides in the



Nov 21	21.84S	68.83W	101	6.0	<b>Chile-Bolivia Border Region.</b> Felt (IV) at Calama, Chuquicamata, Iquique, Maria Elena and Pozo Almonte, (III) at Arica and (II) at Pisagua, Chile.	Dec 07	57.15N	154.48W	44	6.5	<b>Kodiak Island Region.</b> Felt at Anchorage, Homer and Kodiak.
Nov 21	18.38N	107.20W	33	6.2	<b>Off Coast Of Jalisco, Mexico.</b>	Dec 07	15.88S	174.00W	137	6.4	<b>Tonga Islands.</b>
Nov 26	16.43S	168.23E	33	7.5	<b>Vanuatu Islands.</b> At least five people killed and 100 injured by collapsed buildings and landslides on Pentecost Island. At least three people killed and two others missing off the south coast of Pentecost Island by a local tsunami, which was also recorded at Suva, Fiji. Felt strongly on Ambrym and Epi. Felt in much of Vanuatu.	Dec 08	9.81S	159.96E	33	6.2	<b>Solomon Islands.</b>
Nov 29	1.29S	89.06E	10	6.4	<b>South Indian Ocean.</b> Felt on Sri Lanka.	Dec 09	6.07S	148.19E	58	6.4	<b>New Britain Region, P.N.G.</b>
Nov 30	18.93S	69.21W	128	6.6	<b>Northern Chile.</b> Felt (V) at Arica, Camarones, Putre, Tarapaca and Ticnamar; (IV) at Iquique and (III) at Antofagasta, Chile. Also felt (V) at Tanca and (III) at Arequipa and Ilo, Peru.	Dec 10	36.29S	97.18W	10	6.5	<b>West Chile Rise.</b>
Dec 01	17.89N	82.40W	10	6.3	<b>Caribbean Sea.</b>	Dec 11	15.78N	119.77E	33	7.3	<b>Luzon, Philippine Islands.</b> One person killed by a collapsed wall at Masinloc. Four people died from heart attacks and 40 injured on Luzon. Damage to structures (VII RF) at Santa Cruz; (VI RF) at Iba, Manila and Masinloc. Felt (VI RF) at Clark Air Base and San Fernando; (V RF) at Dagupan, Pasig, Quezon and Taguig; (IV RF) at Baguio, Lucban, Malolos, Palayan, San Jose, Santo Domingo and Tagaytay; (III RF) at Santa; (II RF) at Guinyangan; (I RF) at Tuguegaro. Power outages in the Manila area.
Dec 06	57.46N	154.57W	33	7.0	<b>Kodiak Island Region.</b> Pictures knocked from walls and power outages on Kodiak Island. Felt at Akhiok, Anchorage, Dillingham, Eagle River, Fairbanks, Kasilof, Nelson Lagoon, Nikiski, Old Harbour and Wasilla.	Dec 15	5.74S	150.89E	33	6.3	<b>New Britain Region.</b>
						Dec 17	50.26S	139.51E	10	6.1	<b>South Of Australia.</b>
						Dec 17	7.99N	38.00W	10	6.0	<b>Central Mid-Atlantic Ridge.</b>
						Dec 18	2.46S	139.64E	33	6.2	<b>Near North Coast Of Irian Jaya.</b> Felt strongly at Jayapura. Felt at Sarmi, Wamena and much of Irian Jaya province.
						Dec 19	13.03N	144.54E	70	6.1	<b>Mariana Islands.</b> Felt throughout Guam. Also felt on Saipan.
						Dec 21	6.82S	105.65E	56	6.6	<b>Sunda Strait.</b>

						At least five people killed, 220 injured and 2,800 houses damaged on western Java.	Oct 05	37.45S	177.05E	5	4.0	<b>14 km north-west of White Island.</b>
							Oct 05	37.51S	177.01E	5	4.3	<b>55 km north-north-east of Whakatane.</b>
Dec 24	56.16S	146.90E	10	6.1		<b>West Of Macquarie Island.</b>	Oct 05	37.45S	177.08E	5	4.4	<b>11 km north-west of White Island.</b> Largest of a swarm of small earthquakes near White island.
Dec 29	18.19N	101.36W	45	6.0		<b>Guerro, Mexico.</b> Minor damage at Coahuaytla de Guerro. Felt at Mexico City.	Oct 05	37.50S	177.03E	5	4.0	<b>13 km north-west of White Island.</b>
Dec 29	10.90S	165.39E	33	6.8		<b>Santa Cruz Islands.</b>	Oct 05	37.45S	177.11E	5	4.1	<b>9 km north-west of White Island.</b>
Dec 29	11.01S	165.22E	33	6.2		<b>Santa Cruz Islands.</b>	Oct 05	37.43S	177.09E	5	4.2	<b>12 km north-west of White Island.</b>
							Oct 05	37.45S	177.15E	5	4.0	<b>8 km north-west of White Island.</b>
							Oct 06	37.46S	177.07E	5	4.0	<b>12 km north-west of White Island.</b>
							Oct 07	37.43S	177.20E	5	4.0	<b>9 km north of White Island.</b>
							Oct 11	41.13S	174.82E	25	3.7	<b>1 km west of Porirua.</b> Felt from Tawa to Stokes Valley.
							Oct 17	44.79S	167.92E	79	4.5	<b>12 km south of Milford Sound.</b> Felt at Milford Sound.
							Oct 17	38.50S	176.03E	5	3.0	<b>23 km north-north-east of Taupo.</b> Felt in Taupo.
							Oct 18	45.70S	166.95E	5	4.0	<b>67 km west-south-west of Te Anau.</b>
							Oct 21	42.91S	170.93E	33	3.9	<b>10 km east of Ross.</b> Felt in Hokitika.
							Oct 24	39.79S	177.13E	44	4.8	<b>28 km east-south-east of Hastings.</b> Felt from Patoka to Waipawa.
							Oct 25	38.53S	175.90E	177	7.0	<b>25 km north-west of Taupo.</b> Felt from Te Kuiti to Cromwell, maximum intensity MM5.
							Oct 28	42.66S	174.96E	33	4.0	<b>109 km east-south-east of Kaikoura.</b>

**Significant New Zealand Earthquakes.  
1999 October – December.**

Date	Lat.	Long.	Depth (km)	Mag.	
Oct 03	37.40S	177.08E	5	4.1	<b>16 km north-west of White Island.</b>
Oct 03	38.80S	177.45E	59	4.7	<b>27 km north of Wairoa.</b> Felt in Wairoa.
Oct 03	44.79S	167.53E	5	4.3	<b>34 km west-south-west of Milford Sound.</b>
Oct 03	35.02S	177.43E	33	4.8	<b>254 km north-east of Whitianga.</b>
Oct 04	37.37S	177.13E	5	4.0	<b>17 km west-north-west of White Island.</b>
Oct 04	41.08S	174.58E	34	3.5	<b>27 km north-west of Wellington.</b> Felt in Wellington.
Oct 04	37.43S	177.04E	5	4.3	<b>16 km north-west of White Island.</b>
Oct 04	36.78S	177.69E	33	4.1	<b>93 km north-north-east of White Island.</b>
Oct 04	36.75S	177.58E	33	4.0	<b>92 km north-north-east of White Island.</b>
Oct 05	37.45S	177.08E	5	4.0	<b>11 km north-west of White Island.</b>