

Geological Society of Australia

Media release



Monday 21 September 2009

Australian authorities must better prepare for 'overdue' volcano risk, medal recipient urges

Geological Society of Australia (Victoria Division) Selwyn Medal 2009

A significant volcano eruption in Australia is 'well overdue' and emergency authorities must better prepare themselves and the wider community to respond to it, the recipient of the prestigious Geological Society of Australia (Victoria Division) Selwyn Medal for 2009 has warned.

Internationally-respected Melbourne geologist and Geological Society of Australia member, Associate Professor Bernie Joyce, will receive the Selwyn Medal this coming Thursday at the Geological Society of Australia's (Victoria Division) annual Selwyn Symposium 2009.

The Medal is named in honour of Sir Alfred Selwyn, an eminent Victorian pioneering geologist and founder of the Geological Survey of Victoria.

In a career spanning 45 years, Associate Professor Joyce has produced significant research papers and assessments regarding volcanic risk and hazard in south-eastern Australia. He is currently studying the landforms of Western Victoria to see what they can reveal about future volcanic risk.

Associate Professor Joyce was also instrumental in achieving the 2008 declaration by UNESCO of the Kanawinka Global Geopark, the first geopark in Australia, situated in south-west Victoria and south-east South Australia.

"We can't say with 100% certainty that a significant volcano will strike tomorrow, next week, next year, or even 100 years down the track—but these geo-hazards are real and they must be given much more focus by emergency management authorities" Associate Professor Joyce said.

"There are around 400 volcanoes stretching from the Western District of Victoria into the Western Uplands around Ballarat and to the north of Melbourne around Kyneton and Kilmore, in some parts of the Eastern Uplands such as to the north of Benambra, and across to the South Australian border near Mt Gambier. A volcanic eruption in the Western Uplands could potentially see lava flows and ash falls impacting on Melbourne.

"There is also similar volcano risk present in various provinces in Far North Queensland, stretching from south-west of Townsville to near Cairns and up to Cooktown in the Far North. There are more than 380 volcanoes in total across this part of Queensland.

"A future eruption in any of these regions would be unlikely to come from an existing volcano (as the volcanoes there are generally considered to be 'once only' erupters). Rather, future eruptions would occur at new sites nearby. The geological record shows that new volcanoes in these areas have erupted perhaps every 2000 years in the past 40,000 years—and given there has not been a major eruption there for the past 5000 years, a significant eruption seems well overdue.

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“While any future volcanoes may discharge only small amounts of lava and ash, the real possibility remains that there could be a significant eruption—and it makes sense that the population centres potentially affected should be well-prepared for that worst-case scenario. To this end, eruption response plans should be developed and publicised by the emergency management authorities.

“It is telling that in New Zealand, which has volcano types similar to those in Australia, there is much more focus on the need to educate the public about volcano risk. For example, the Auckland Regional Council has a webpage devoted to volcano risk for that region alone, which has a history of earlier volcanoes very similar to those of Australia.

“The risk from a volcano would not just be from the initial eruption. For example, its red-hot lava and explosive ash would be a major fire hazard on the dry grassland plains of Western Victoria, and lava flows could continue for up to 20 years and for distances of more than 60 kilometres down river systems, cutting off essential water supplies and destroying infrastructure like towns, farming land, roads, railways and bridges. Ash falls could also continue for many years and an initial eruption could, in some circumstances, be followed by further volcanoes erupting near the first eruption site, affecting a wider area for a longer period.

“Eruptions can also produce a mix of toxic gases, including carbon dioxide that could collect in depressions in the surrounding land and asphyxiate those who came across it or were caught in it. An education process is needed to inform the community about how to avoid these situations if they arise.

“The geological record shows us that up to 200,000 years ago there was not a high level of volcanic activity on the Australian continent, yet during the past 40,000 years there has been a cycle of increased activity—this may be pointing to future activity.

“So it is much more likely to be a matter of when, rather than if, a significant volcano occurs in Australia, and emergency authorities should be better preparing themselves and the wider community for that eventuality.”

Chair of the Geological Society of Australia (Victoria Division), Professor David Cantrill, said Associate Professor Joyce’s career in Earth Science has been “internationally recognised, extremely productive and of immense benefit to the Australian community.

“Bernie has made a significant contribution to Victorian geology—including geomorphology, regolith mapping, volcanology, natural disaster assessment, geological heritage and the history of geology—during his exceptional career” he said.

“He has also made a major contribution in achieving UNESCO’s declaration of the Kanawinka Global Geopark, ensuring that this unique geological landscape will be preserved for the benefit of scientific research, community education and protection of the local environment for many generations to come.

“Bernie is the former Chair of the Australian Heritage Commission’s Natural Evaluation Panel (Victoria), and is currently a member of the National Trust (Victoria) Landscape Committee, working on volcanic landscapes. He has been a member and chair of the Victorian Government’s Geomorphology Reference Committee for over 12 years and is a past President of the Victorian Branch of the International Association of Hydrogeologists.

“Bernie has been a keen and regular participant in Geological Society of Australia (GSA) activities. He was Convenor of the GSA’s National Standing Committee for Geological Heritage from 1983 to 2004, and produced the first Australian report on Australian geological sites of national and international heritage significance. He is also immediate past-Chair of the GSA’s Earth Sciences History Group.

“Additionally, Bernie has served for many years (and continues to serve) as a lecturer and tutor in the Geology Department, School of Geology, and School of Earth Sciences at The University of Melbourne, and through these roles has contributed significantly to the science of geology in Victoria and beyond.

“Bernie’s commendable and substantial contributions to Victorian geology make him a very worthy candidate for the Selwyn Medal. We warmly congratulate him on receiving this prestigious award.”

Available for interview:

Associate Professor Bernie Joyce and Chair of the Geological Society of Australia (Victoria Division),
Professor David Cantrill.

Media contact:

Patrick Daley (Patrick Daley Public Relations) on 0408 004 890.

Note (and request) to media:

Associate Professor Bernie Joyce will receive the Selwyn Medal as part of the Geological Society of Australia's (Victoria Division) Selwyn Symposium 2009, to be held this coming Thursday, 24 September 2009, at the University of Melbourne. Promotion of the symposium — and particularly the free public lecture which follows it on Thursday evening — would be greatly appreciated, particularly by Melbourne media. Please mention in any story / interview that the Selwyn Symposium and Selwyn Lecture 2009 is being organised by the Geological Society of Australia (Victoria Division) and will be held at the University of Melbourne this coming Thursday. Please find further details below.

Geological Society of Australia (Victoria Division) Selwyn Symposium 2009

Origin of the Australian Highlands

Thursday 24 September 2009, 9am (registration from 8am)

Fritz-Loewe Theatre, McCoy Building, Earth Sciences, University of Melbourne,
cnr Elgin & Swanston Streets, Melbourne.

Further information at www.vic.gsa.org.au/Selwyn/symposium.htm.

Free public lecture – Geological Society of Australia (Victoria Division) Selwyn Lecture 2009

Theories of the Earth and Mountain Building

Professor Cliff Ollier, University of Western Australia

Thursday 24 September 2009, 6:30pm

JH Mitchell Theatre – Richard Berry Building, University of Melbourne

* Includes presentation of the Geological Society of Australia (Victoria Division) Selwyn Medal 2009 to Associate Professor Bernie Joyce *

Further information at www.vic.gsa.org.au/Selwyn/symposium.htm.