Australian Government
Geoscience Australia

GEM
GLOBAL EARTHQUAKE MODEL
working together to assess risk

Scientific Collaboration

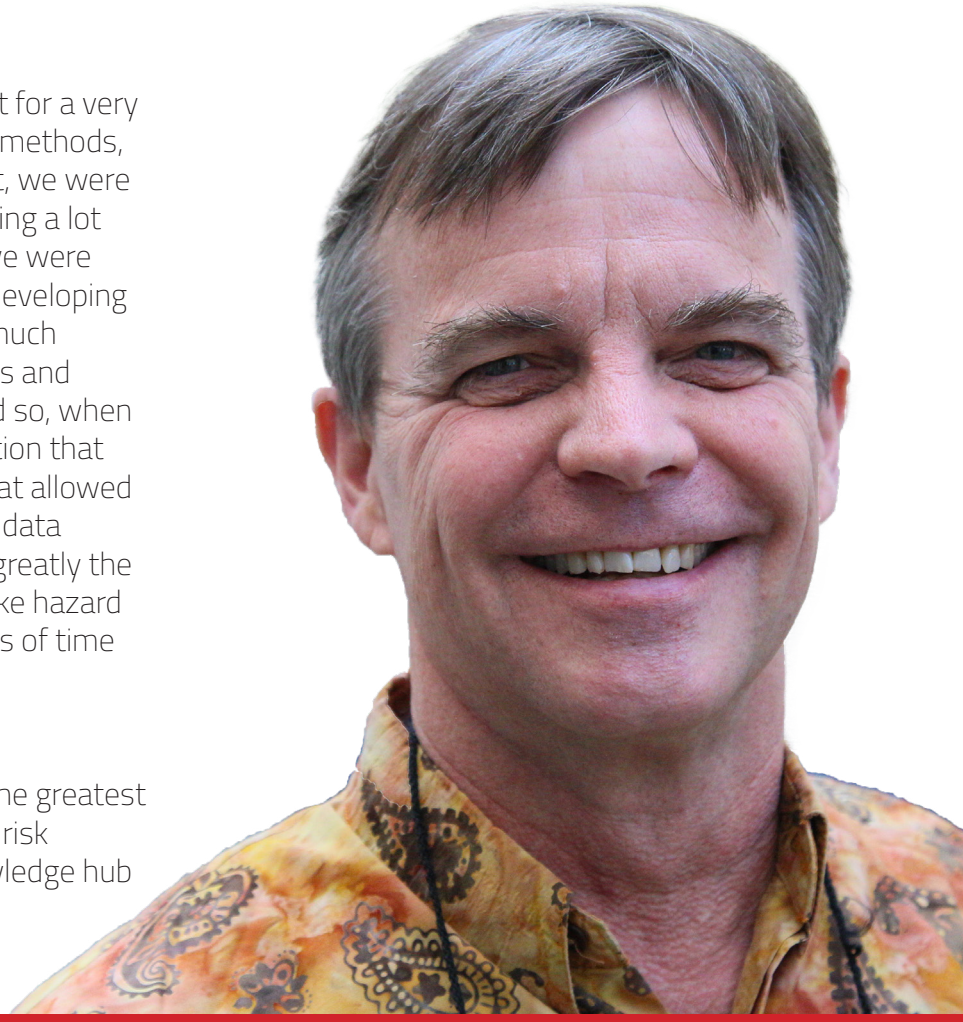
a vital element for productivity

How did you get interested in earthquakes?
Early in my career, I worked in Japan but prior to going to Japan my seismology really didn't involve earthquakes. It involved earth structure which people aren't that interested in. But in Japan when I started working on earthquakes people were very interested in earthquakes. Every time I talk to anyone, friends or people I met on the street or at the bus station, they were very interested in earthquakes and so that really got me excited and I just became much more interested in the earthquakes themselves.

How did you get involved with GEM?
I represented Geoscience Australia till 2019. Geoscience Australia provides expert geo scientific information to the Australian government and to the public and that includes earthquake hazard information. So, we have been involved in earthquake hazard assessment in Australia for a very long time.

What was your experience with GEM, OpenQuake?
Well we've done earthquake assessment for a very long time and we have used a variety of methods, a software to do that. And at some point, we were developing our own software and spending a lot of resources to do that and found that we were really spending so much resources just developing the software that we really didn't have much time to devote to the actual data analysis and improving the quality of information. And so, when GEM came along they were an organization that provided excellent tools and software that allowed us to focus more on the science and our data analysis. We were able then to improve greatly the information that went into the earthquake hazard assessment without having to spend lots of time just developing the software.

What does GEM mean to you?
Currently I'd say, in the world, GEM has the greatest concentration of earthquake hazard and risk expertise available anywhere. It's a knowledge hub for earthquake hazard and risk analysis.



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How did GEM impact your work, research at GA?
Working with GEM has improved the quality of our research on earthquakes because it has greatly improved the quality of our earthquake hazard assessments, because of this we've been able to focus a lot more on our data quality and the quality of the inputs, so it has made a dramatic difference in the quality of the output. As I have mentioned, working with GEM allowed us to focus more on the quality of our data and our data analysis rather than the software development and this has really resulted in a dramatic improvement in the Australian earthquake hazard map.

Why is it important to support GEM?
Well I think that there are places in the world where earthquake risk is very much unappreciated that over the course of the past couple of centuries, or in the people's living memory, there haven't been big earthquakes but the population has grown dramatically and they've built lots of buildings without really thinking about the earthquake risk. And so, I think at the moment the world faces, at least in some places, very pronounced earthquake risk and people don't really know how to deal with this. So, having an organization like GEM where they have expertise, they have a place they can go to benefit from this kind of expertise in earthquake hazard and risk assessment. It is really important for those places in order to try to reduce future fatalities.

About the GEM Impact Stories
Earthquake risk remains abstract and highly technical, and there are significant risks due to poor or limited understanding of it. Because of this prevailing condition, policymakers and the public at large may not be able to fully take advantage of existing and future information that can either help create better or enhance existing earthquake risk reduction and management strategies, especially at the local and national level.

Specifically, the GEM Impact Stories project aims to:

- Collect and document stories where GEM or its partners have contributed to positive change
- Encourage policy and decision makers to use science- and evidence- based information to formulate earthquake DRR strategy at the national level through positive stories of change
- Increase awareness of the public at large on earthquake risk and preparedness

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