

Disaster Preparedness Month

DISASTER RISK REDUCTION ADVISORY BOARD

reported by



An evening talk on Disaster Preparedness Month was held in conjunction with the National Preparedness Month (*Bulan Kesiapsiagaan Nasional, BKN*). The talk on 31 October, 2017 was by Ir. Loo Chee Kin, Chairman of DRRAB and supported by committee member Encik Azahari bin Rejab; the special invited speaker was Encik Ahmad Fairuz bin Mohd Yusoff, Principal Assistant Secretary of Selangor's Disaster Management Unit (DMU). About 50 IEM members as well as several non-engineers attended the talk.

En. Ahmad started the evening talk by presenting the role of the DMU and the assets that Selangor has for disaster management and mitigation. He also shared several drone videos. The use of drones has helped the DMU and the other government agencies in disaster investigation, planning, response and management. As part of the Smart Selangor programme, DMU has several monitoring terminals

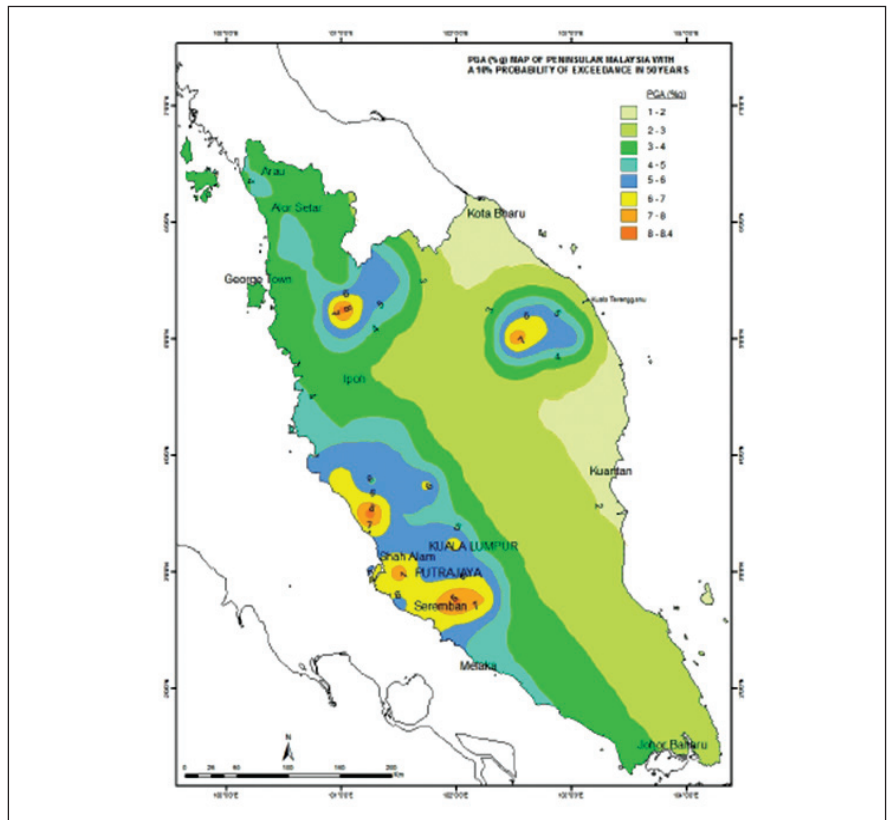


Figure 1: Draft Seismic Map for Peninsular Malaysia



Group picture of the speakers and some of the audience

in Plaza Perangasang to monitor weather, rivers, air pollution, etc.

Ir. Loo presented several engineering updates on the Kelantan Big Flood (2014), Flood Forecasting, Earthquake and Hillslope Risk Mapping. In the 2016 paper by *Nor Eliza Alias, et al.*, the 2014 flood in Kelantan was caused by two phases of heavy rainfall. From 15 to 19 December, the daily rainfall was 300 mm and this increased to 500 mm from 20 to 24 December. The rainfall during these periods was with Annual Recurrence Interval (ARI) of more than 500 years and broke a few past records.

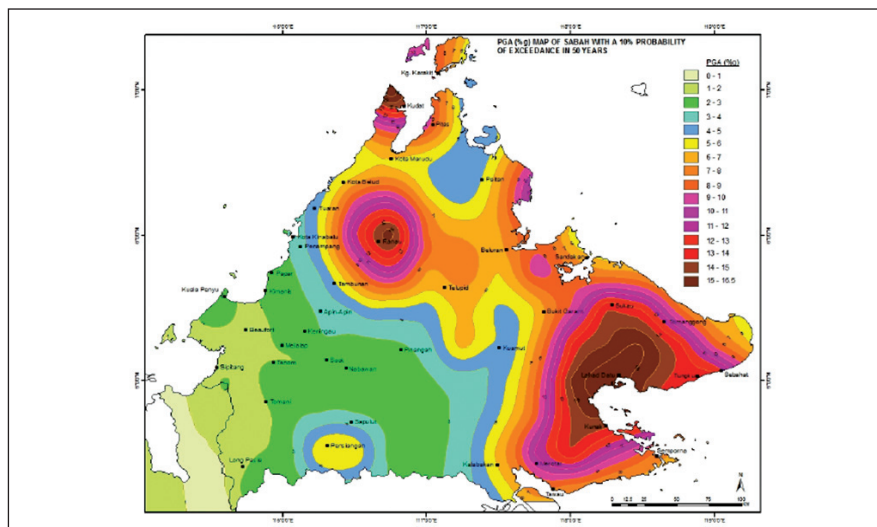


Figure 2: Draft Seismic Map for Sabah

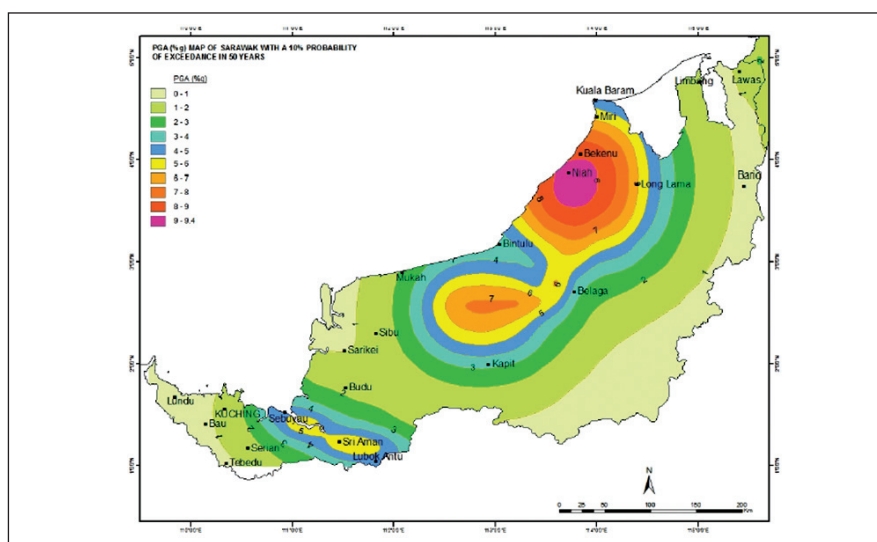


Figure 3: Draft Seismic Map for Sarawak

of the tidal flooding preparedness briefing package. It also contains a checklist for early preparation and steps which can be taken just before coastal flooding, during the evacuation and after the flood.

Malaysia had taken the first step to address the seismic risk for buildings by adopting the Eurocode 8 as MS EN 1998-1: 2015. The second step was writing the Malaysia National Annex for these codes. The draft predicted peak ground acceleration (PGA) from the annex is shown in the accompanying maps. The predicted PGA maps as prepared by Jabatan Mineral dan Galian (JMG) shows Sabah to have the whole spectrum of PGA value, which is 1-16.5% g. Known active areas like Lahad Datu, Ranau and Kudat have PGA values greater than 12% g (0.12g). Sarawak's highest PGA is 9% g (0.09g), located in the Niah area. In the peninsula, a few areas in Selangor, Negeri Sembilan, Perak and Terengganu, have the highest PGA. Once this annex is published, there will be many more steps to be engineered, such as drawing up standards or guidelines for seismic precautions for mechanical and electrical services as well as preparedness plans.

The other national project by JMG is the National Geospatial Terrain and Slope Information System (NaTSIS) to provide information on the dangers and risks of slopes. This will help local authorities in land use, planning and development control. About 1,350 sq. km. of selected areas in the highlands of Selangor, Cameron Highlands, Ipoh, Kota Kinabalu and Kundasang have been mapped under NaTSIS. (<http://www.natsis.jmg.gov.my/>)

In closing, Ir. Loo said the talk by DRRAB was to help engineers understand better the latest information on disaster risk. He hoped engineers will use the latest information for risk assessment, prevention, mitigation, design, construction and installation.

The talk was repeated on 20 December, 2017, at IEM Penang Branch and attended by 30 engineers. ■

The great national flood, from 14 December, 2014, to 10 January, 2015, affected eight states: Kelantan, Terengganu, Pahang, Perak, Perlis, Johor, Sabah and Sarawak. It was a prolonged flood as water stayed in some area for more than 15 days. The estimated flooded area was 11,500 sq. km. and areas were inundated by 1-12 m of water.

As part of the efforts by the government to better forecast and prepare for floods, the National Flood Forecasting and Warning Program (PRAB) started in 2015. It provides flood forecast 7 days in advance and 2 days for flood warning, an improvement from the previous one day and 6 hours respectively. The first phase of PRAB has been completed and covers Sg. Kelantan,

Sg. Terengganu and Sg. Pahang river basins. The current phase covers 29 river basins. The final phase will be the remaining 8 river basins and is expected to be completed by 2022. More information can be found at <http://h2o.water.gov.my/>.

IEM DRRAB made community efforts ahead of the 2017 year-end coastal flooding on the west coast and IEM helped to prepare an information booklet. En. Azahari said the booklet explained the cause of coastal flooding, how the time and water level can be predicted, why such flooding can be exuberated, the expected water level, levee protection and how the levee can be compromised. The booklet was distributed to the Selangor District Offices on 20 September, 2017 as part