Risk Interpretation and Action (RIA)

Bapon Fakhruddin, Ann Bostrom & Mark Pelling (RIA ICoE)

18th Science Committee Meeting

The Pacific Meteorology Council 2017
14-17 August 2017

- Risk based early warning systems sessions in the PMC-4

- The PMC consists of members of the Pacific National Meteorological and Hydrological Services supported by its technical partners, regional organisations, non-government organisations and private sectors.

IRDR's Science Committee Member and Co-Chair for RIA Dr Bapon (Shm) Fakhruddin Took Centre Stage at the Pacific Meteorology Council and Emphasized End-to-End Impact Based Early Warning System for Risk Communication and Interpretation

Better community engagement of at-risk communities, with a particular focus on the disabled, was up for discussion at the Fourth Pacific Meteorological Council and second Pacific Meteorological Ministers Meeting (PMMM) held in Honiara, Solomon Islands.
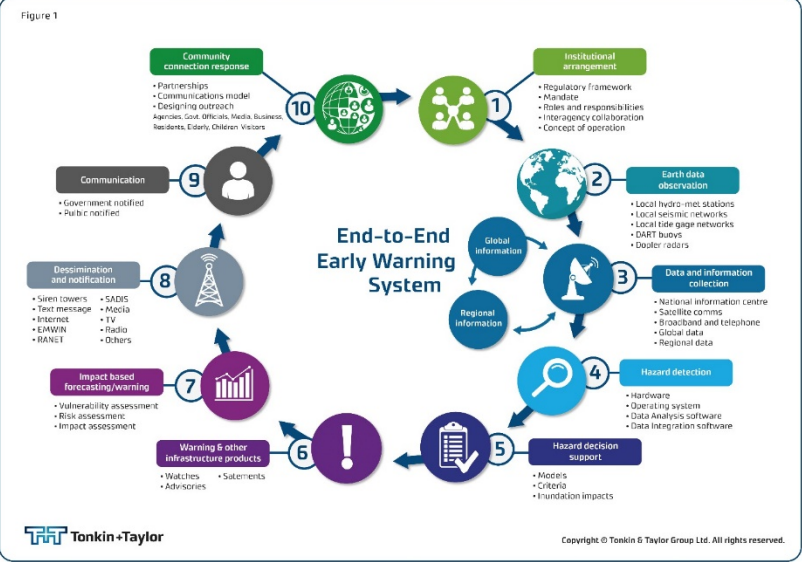
IRDR's Science Committee Member and Co-Chair for RIA Dr Bapon (Shm) Fakhruddin, currently working in Tonkin + Taylor International in New Zealand, took centre stage at the 14-17 August meeting, co-hosted by the government

Design Tsunami Early Warning System for Fiji

- IRDR SC approved the impact based EWS framework in the 16th SC meeting.

- The first impact based EWS operationalized in Fiji first time in the Pacific.

Dr Bapon Fakhruddin's dedication to creating natural hazards resilient communities across the Asia-Pacific region has been rewarded yet again – this time in Fiji. Thanks to his expertise and commitment, Tonkin + Taylor International has beaten off stiff competition to be awarded the Fiji Government contract for the design of a tsunami early warning dissemination system.

Dr Bapon Fakhruddin, Early Warning System Specialist

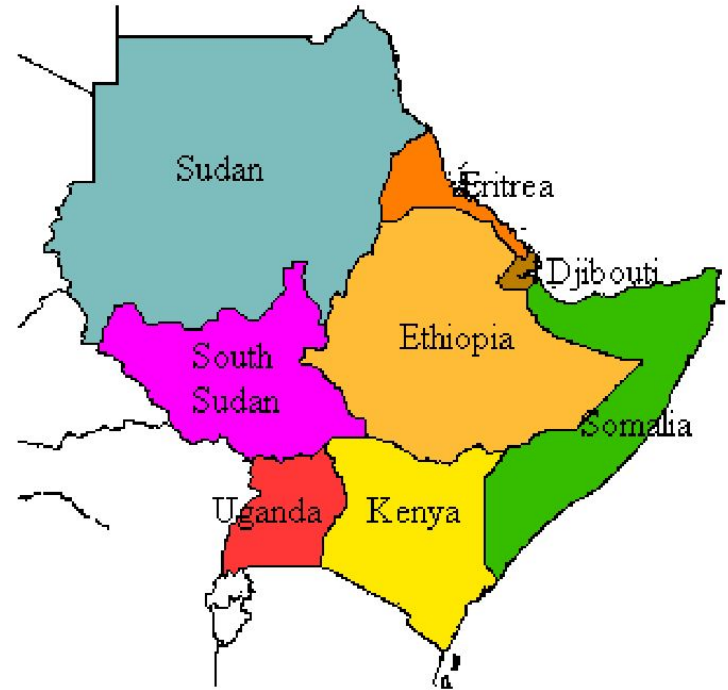Figure 1

End-to-End Early Warning System

Mayor's Award for the IRDR RIA Activities

- In addition to the Global Platform in May, Bapon visited Cozumel and was rewarded with a Mayoral award of appreciation for his efforts to help City resilience initiatives.

Partnership IGAD Climate Prediction and Application Center

- Bapon and Shuaib are working on a proposal to work with 8 countries in the IGAD region to assist DRR and early warning system activities in partnership with IGAD climate prediction and application center.
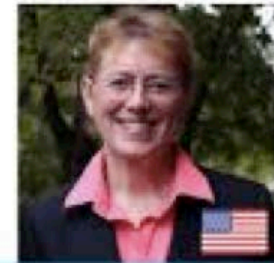
AFAC17 – research conference plenary
bushfire & natural HAZARDS Collaborative Research Centre

- Ann gave an invited plenary talk on *Toward improving forecast and warning systems*, September 4, 2017 in Sydney.

The National Academies of
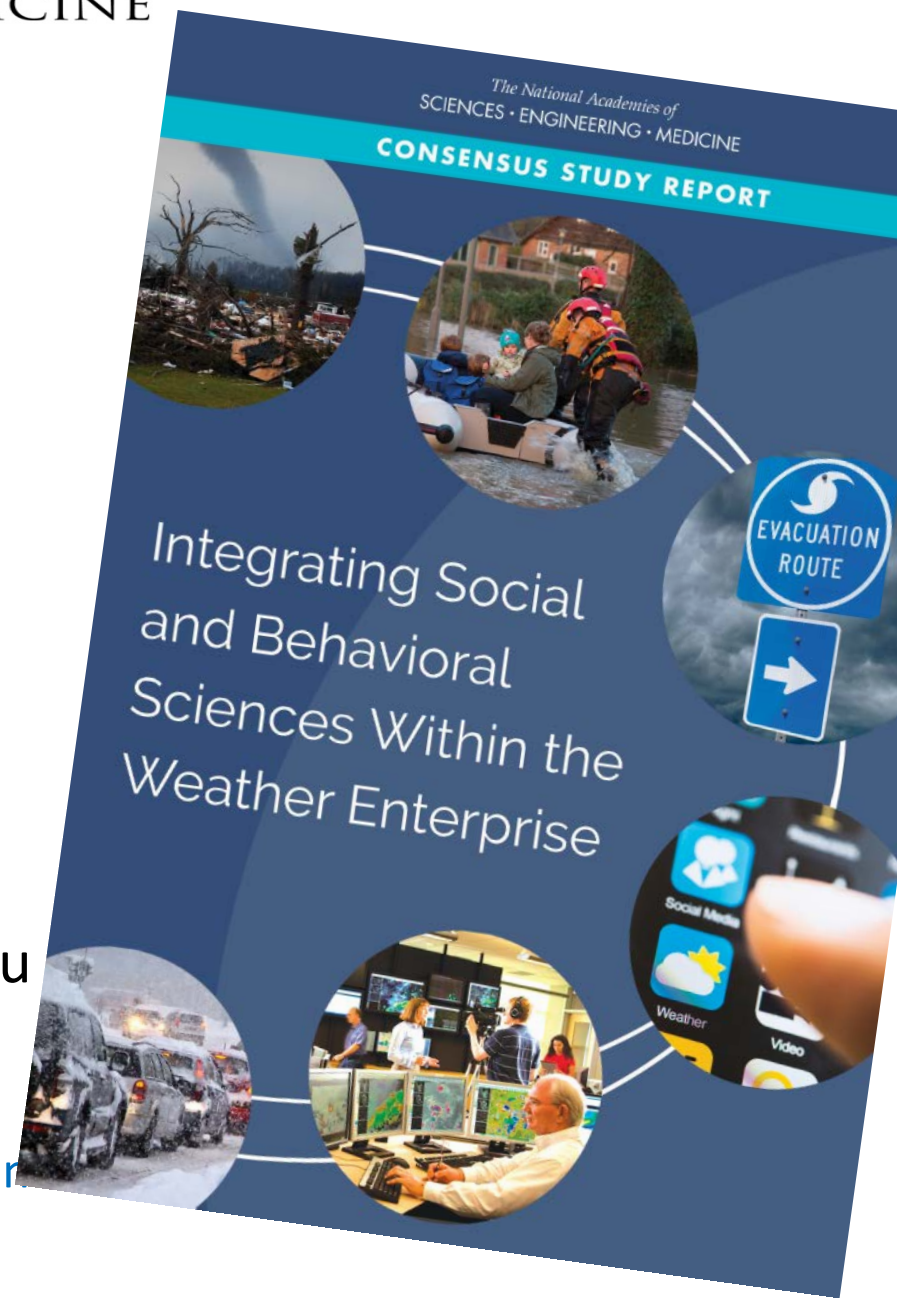SCIENCES · ENGINEERING · MEDICINE

Integrating Social and Behavioral Sciences Within
the Weather Enterprise

Board on Atmospheric Sciences and Climate
Board on Environmental Change and Society
Board on Human-Systems Integration

Ann Bostrom and William Hooke
Committee Co-Chairs

Report publicly released Nov 1, 2017, available at www.nap.edu

The National Academies of
SCIENCES · ENGINEERING · MEDICINE
CONSENSUS STUDY REPORT

EVACUATION ROUTE

Integrating Social
and Behavioral
Sciences Within the
Weather Enterprise

Social Media

Weather

Video

Why now?

Weather Research and Forecasting Innovation Act of 2017

- "enhance the integration of social science knowledge into weather forecast and warning processes"

Initiatives like Weather Ready Nation and Impact Based Decision Support create new demand for SBS

- SBS research can provide critical insights and understanding in all the stages of action associated with hazardous weather

Preparedness and mitigation
- Identify effective strategies for enabling and motivating individuals and households to prepare for possible hazards
- Elucidate the forces that constrain local governments from pursuing measures that reduce vulnerability to weather hazards

Monitoring, assessment, forecasting
- Help forecasters design effective data visualization
- Guide forecasters in the design and selection of risk/action thresholds
- Aid the translation of standard data visualizations to tailored information for specific users

Dissemination of warnings, recommended actions
- Improve design and evaluation of warning messages and products
- Understand how social and cultural factors affect people's response to warnings
- Better understand what recommended actions are effective and feasible to implement

Emergency management and response actions
- Identify ways of improving communication and cooperation among different actors in response efforts
- Help identify vulnerable subpopulations and their needs

Recovery
- Design post-disaster surveys and processes that help us understand the social dynamics that led to deaths and injuries
- Study how households, communities, and regions can rebuild in ways that reduce vulnerability to similar future events

London ICoE (RIA): 7 workshops June-Sep 2017

1. Workshop in Philippi (Cape Town) with local communities, June 3rd, 2017.

2. Workshop "Experimental methods for visualizing resilience" with urban planners and resilience practioners, Cape Town library, June 13th, 2017.Cape Town

3. July 2017, Monitoring, evaluation and learning workshop with Tanzania Meteorological Agency and UK Met, Arusha. Knowledge exchange between Regional and District Government in Agriculture, Livestock and Water Resources, NGOs and meteorological agencies.

4. July 2017, Second International Seminar on Mount Paektu, Royal Society 12-13 July 2017.

5. Sept, 2017 Cross-BRACED Learning workshop, BRACED, funded by DFID

6. September 2017, Mid-term Conference, Future Climate for Africa, Cape Town. Provided session on assessing impact for early career researchers, included knowledge exchange between social and physical scientists. Presented poster on co-production. Contributed within my engagement within DFID NERC FCFA-funded AMMA-2050.

7. September 2017, Inception workshop for DFID SHEAR-funded Towards Forecast-based Preparedness and Action (ForPAc) in Kenya. Knowledge exchange between climate scientists, meteorologists, stakeholders. 1-day Stakeholder engagement workshop for Nairobi Flood early warning case study, involving organisations working in informal settlements, County Government, Kenya Met Department, Nairobi Risk Group, Kenya Red Cross, University of Sussex

London ICoE (RIA): 5 talks June-Sep 2017

1. Borie, M. et al. Visualizing the intangible? Exploring the potential of GIS and creative practices to map (for) resilience. Presentation at the Symposium on Mapping in Arts and Humanities, jointly hosted by UCL and KCL. June 27th, 2017, London

2. Donovan, A. Scientific challenges and opportunities in managing and understanding a border volcano: Baegdu/Paektu/Changbaishan, International Seminar on Mount Baegdu, Seoul, September 2017.

3. Pelling M Discussant, Interpreting everyday urban risk, IHRR conference, Durham University, 20 September 2017

4. Pelling M Annual Aadel Brun Tschudi Lecture, 'Breaking cycles of risk accumulation', Department of Geography, University of Oslo, 13 October 2017

5. Pelling M Plenary presentation, Science-Policy Coproduction, GCRF Southeast Regional Event, University of Essex, 16 October 2017

London ICoE (RIA): 3 policy briefs, 10 papers in 2017, *e.g.*

- Solecki, W., Pelling, M and Garschagen M (2017) Transitions between risk management regimes in cities. *Ecology and Society* 22(2):38. https://doi.org/10.5751/ES-09102-220238

- Kruse1, S, Abeling T, Deeming H, Fordham M, Forrester J, Jülich S, Karanci AN, Kuhlicke C, Pelling M, Pedoth L, Schneiderbauer S (2017) Conceptualizing community resilience to natural hazards – the emBRACE framework, *Natural Hazards and Earth Systems Sciences, Discussions* DOI:10.5194/nhess-2017-156, 2017

- Marengo, J. A., Nunes, L. H., Souza, C. R. G., Harari, J., Muller-Karger, F., Greco, R., Hosokawa, E. K., Tabuchi, E. K., Merrill, S. B., Reynolds, C. J., Pelling M, Alves, L. M., Aragão, L. E., Chou, S. C., Moreira, F., Paterson, S., Lockman, J. T. and Gray, A. G. (2017) A globally deployable strategy for co-development of adaptation preferences to sea-level rise: the public participation case of Santos, Brazil, *Natural Hazards*, 1-15. DOI http://dx.doi.org/10.1007/s11069-017-2855-x

- Fraser, A., Leck, H., Pelling, M., Parnell, S., Lwasa, S., and Brown, D (eds). 2017. Africa's Urban Risk and Resilience, Editorial, Special Issue in International Journal for Disaster Risk Reduction, 26, 1-6: https://doi.org/10.1016/j.ijdrr.2017.09.050.

- Donovan, A., Suppasri, A., Kuri, M., Torayashiki, T., The complex consequences of volcano warnings: Trust, risk perception and experiences of businesses near Mount Zao following the 2015 unrest period. International Journal of Disaster Risk Reduction (in press).