26- 27 February 2015

Venue: Research Division Seminar Room (AS7 06-42),

Faculty of Arts and Social Sciences, NUS Kent Ridge Campus

A Workshop Co-Sponsored by the National University of Singapore (Faculty of Arts and Social Sciences Environment Cluster and the Institute of Water Policy, Lee Kuan Yew School of Public Policy) and AONBenfield Asia Pte. Ltd.

As flood damage increases in Asia and elsewhere, as a result of increased flood frequency, flood magnitude, and human vulnerability, there is a growing need for better forecasting of floods. The challenges are however enormous, with short and spatially sparse gauged records or no records, increasing evidence of statistical non-stationarity of precipitation and floods, climate change that may take the world into a domain not experienced during the industrial age, and an increasing demand for flood insurance in countries where assets and wealth are rapidly accumulating and are exposed to floods. This Workshop will bring together experts in both the ‘traditional’ hydrologic analysis of floods with those who use non-traditional sources of information about floods. Expertise will come from risk analysis, hydrology, mathematics/statistics, geomorphology/geology, geochronology, climatology, history and archives.

The Agenda begins by showcasing by the insurance industry’s three approaches to flood forecasting: Fully Probabilistic Models; Historical Scenarios; and Realistic Disaster Scenarios. This is followed by inputs from sources of knowledge that are not traditionally used by mainstream flood forecasters. A key challenge for risk modeling is to address Epistemic Uncertainty; that is, uncertainty about a phenomenon that we could in principle know about but do not in practice, and so is amenable to improvement by collecting more information. Here is where non-traditional sources of knowledge may assist those involved in this challenging field.

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| **DAY ONE PROGRAMME** | | |
| **09:30 –10:00** | **REGISTRATION & REFRESHMENTS** | |
| **10:00 – 10:30** | **WELCOME AND INTRODUCTORY REMARKS FROM NUS AND AONBENFIELD** | |
| **PANEL ONE:  THE INSURANCE INDUSTRY’S APPROACH TO FLOOD FORECASTING**  **CHAIRED BY KIERAN DUNNE** | | |
| **10:30 –**  **11:00** | [On Singapore] | Claire Kennedy |
| **11:00 –11:30** | Flood Frequency Analysis Using Probabilistic Models | Santosh Dronamraju |
| **11:30 –**  **12:00** | Historical Scenarios | Dhara Venkata Subrahmanya Sastry |
| **12:00 –**  **12:30** | Realistic Disaster Scenarios | Bachu Radha Krishna Murthy |
| **12:30 –**  **13:00** | Catastrophe Models | Brad Weir |
| **13:00 –**  **13:30** | Q & A / Discussion | Kieran Dunne |
| **13:30–**  **14:30** | **LUNCH** | |
| **PANEL TWO:  NON-TRADITIONAL KNOWLEDGE FOR FLOOD FORECASTING PART 1**  **CHAIRED BY ELISHA TEO** | | |
| **14:30 –**  **15:00** | Palaeoflood Deposits and Flood Histories | Robert Wasson |
| **15:00 –**  **15:30** | Accuracy and Precision in the Geochronology of Flood Deposits OR  An overview on luminescence dating of flood deposits | Ashok Singhvi |
| **15:30 –**  **16:00** | Hydraulic Modeling of Flood Deposits | Lim Han She |
| **16:00 –**  **16:30** | Documentary Evidence of Floods in Thailand | Nanthaka Pollachai |
| **16:30 –**  **17:00** | More documentary evidence; Floods and Extreme Weather records in Colonial Malaysia | Fiona Williamson |
| **17:00 –**  **17:30** | A Community of Flood Memories: Living with(in) the Riverine Landscape in Ayutthaya, Thailand | Serene Ng |
| **17:30–18:00** | Q & A / Discussion | Brian McAdoo |
| **18:00** | **Workshop Dinner at Jumbo Seafood, Dempsey Hill** | |
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| **DAY TWO PROGRAMME** | | |
| **10:00 –10:30** | **REFRESHMENTS AND OPENING REMARKS** | |
| **PANEL THREE: NON-TRADITIONAL KNOWLEDGE FOR FLOOD FORECASTING PART 2 & UNCERTAINTIES AND PREDICTIONS**  **CHAIRED BY ROBERT WASSON** | | |
| **10:30 –**  **11:00** | Himalayan Palaeofloods | Pradeep Srivastava |
| **11:00–11:30** | Flood Risk Assessment for Thailand Rice Supply-Chain : Climate Scenario Analysis | Poon Thiengburanathum |
| **11:30 –**  **12:00** | Adapting the Insurance Industries Approach to Flood Risk Management | Marie Delalay |
| **12:00 –12:30** | Reflections on the Presentations | Shipra Chaudhary |
| **12:30 –**  **13:00** | Q & A | Brian McAdoo |
| **13:00–**  **14:00** | **LUNCH** | |
| **PANEL FOUR:  NEXT STEPS**  **CHAIRED BY ALAN ZIEGLER** | | |
| **14:00 –**  **14:30** | A Plan for A Publication from the Workshop | Alan Ziegler |
| **14:30 –**  **15:30** | Ideas for Research Collaboration | Adityam Krovvidi |
| **15:30–15:45** | **CLOSING REMARKS** | |