

## Breakout 2 Long Term Recovery (12 mo to 10 Years)

- What new questions raised by these events require basic research?
  - Need for understanding process and a New Definition / new paradigm / Model / Recognition for “New Normal” Resilient?
  - How do you optimize the post event period of opportunity
  - Model for “Pre-Event Recovery Planning” These events could guide future Pre-event recovery planning
  - Need for Geotechnical & Environmental data as basis for pre-event mitigation and recovery planning
  - How response actions impacts short and long term recovery
  - What are tolerable impacts and acceptable risks
  - Cascading failures



- What new data are available as a result of these events?
  - Baseline and **Longitudinal** documentation of the decision process assessing what works in creating the new normal (barriers v. enhancements)  
Indicators & Metrics
  - Impact of multiple events
  - Impact of previous events on current recovery (benefits of mitigation)
  - Identification of the ‘players’, winners and non-winners. Impact on process and outcomes.
  - The disconnect between pre-event standards and what happens in recovery

- What unique aspects of these events require the development of a focused research program?
  - Resolve issue of damage in countries with high codes and planning standards
  - Long term impact of Fukushima Daiichi nuclear release on environment and community recovery
  - Cascading failure
  - Impact of events and aftershocks on capacity (resilience) for responding to additional large disasters (earthquakes) in Tokai, Kanto et al. & yet to be named New Zealand events
  - Impacts of small margins of resilience in large economies



- What are the important lessons from these larger than expected events for the U.S., Japan and New Zealand?
  - Cascading failures
  - Impact of population aging and migration on community resilience
  - Impact of event and in-migration of construction workers on gender equality
  - Impact of radiation exposure on fertility and social stigma
  - National scale of long term economic impact (positive and negative)