

Coastal Hazards

2:00 PM - 3:10 PM	Damage Ratings Breakouts by Hazard Description: Groups breakout by hazard to discuss current approaches to damage rating, possible framework for StEER damage ratings Scribe: Omar Issa Assist: Parsa Arefian
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NOTES:

DISCUSSION 1: Discuss and identify existing damage ratings for storm surge and tsunami

Ian: Let's a brief look at some of the existing damage ratings.

Example 1: Tomiczek et al. (2019) - Single-Family Residential (Wind and Flood)

Ian: Is it possible to have a building rating system or a different system for topology?

Also: Wind and Flood - together or separate?

- Audience Response
 - Do we need to have as much granulatory that's presented here? We may be able to use a simpler framework. (3 step system, for example.)
 - **Ian:** Background information must be recorded is already established. The question is whether we need a damage rating system.
 - We should deploy a dual team of wind/coastal experts

Example 2: Friedland & Levitan (2000)

Ian: This example gives the surveyors an idea of what is meant by each rating through imagery.

Example 3: Tsunami Damage States (Japan MLIT) *Ratings for Tsunami*

Next: Needs to be identified: Purpose of rating scale?

Purposes of ratings:

- 1 - *Safety (confusion over tagging) ****
- 2 - *Fragility development ****
- 3 - *Future improvements in design and construction ****
- 4 - *Screening tool for researchers to utilize data ****
- 5 - Insurance Loss
 - WIND
 - SURGE
- 6 - Policy
 - EMERGENCY OPERATIONS
 - HABITABILITY
 - PLANNING
 - RECOVERY
- 7 - Cross-event comparisons
- 8 - Economic Loss calculations
- 9 - Public Consumption
- 10 - Identify the level of functionality (training required)

Structural vs. Non-Structural

Example scenario: Building OK from outside, inside covered in seaweed.

May not be able to get inside to measure the damage

Structure may have no damage, but heavy non-structural damage

App could use individual component performance to compute rating

Rating Components

- Scaling various components of the rating scale based on importance (i.e. if the foundation is damaged -> rating is at least 4)
- Should a combination of individual ratings turn into a single overall rating? Should the worst individual rating become the overall rating? **DEPENDS ON PURPOSE**

Should we rate at all?

- Ultimately depends on the purpose.
- The rating could misrepresent the condition of the structure due to subjectivity
- Not enough time to make a final decision on this.

DISCUSSION 2: List the pros and cons of damage ratings and identify any needs for improvement

Pros:

- Can make color-coded maps to clearly visualize the spatial distribution of damage
- Can compare the overall level of damage between different communities

Cons:

- No benchmark

Improvements:

DISCUSSION 3: Discuss whether there is a need to develop a new damage rating

- Not enough time during this session to flesh out / make a group decision.