

# **MES Action: Population At Risk Assessment Tool**

**Anne Gravier, Alaska**

**Rocky Lopes, NOAA**

**Kevin Miller , California**

**Cindi Preller, NOAA**

**Kevin Richards, Hawaii**

**Roy Ruiz, Puerto Rico**

**Davila Saylisse, Puerto Rico**

**Nate Wood, USGS**

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# National Tsunami Hazard Mitigation Program 2013 – 2017 Strategic Plan

**Outcome:** Establishment of more tsunami resilient communities

**Strategy:** Promote development of tsunami emergency response procedures including collaboration among federal, state, local, and non-governmental agencies.

**Milestone:** In preparing and responding to disasters, it is indispensable that the characteristics of the population at risk be identified.

- A clear understanding of the population composition and distribution in the areas at risk provide responders with the capacity to attend, manage, and channel aid more effectively.
- Decision support tools will help emergency officials and a wide range of decision makers to better visualize **manage** the potential impacts of a particular event.

**Execution:** MES

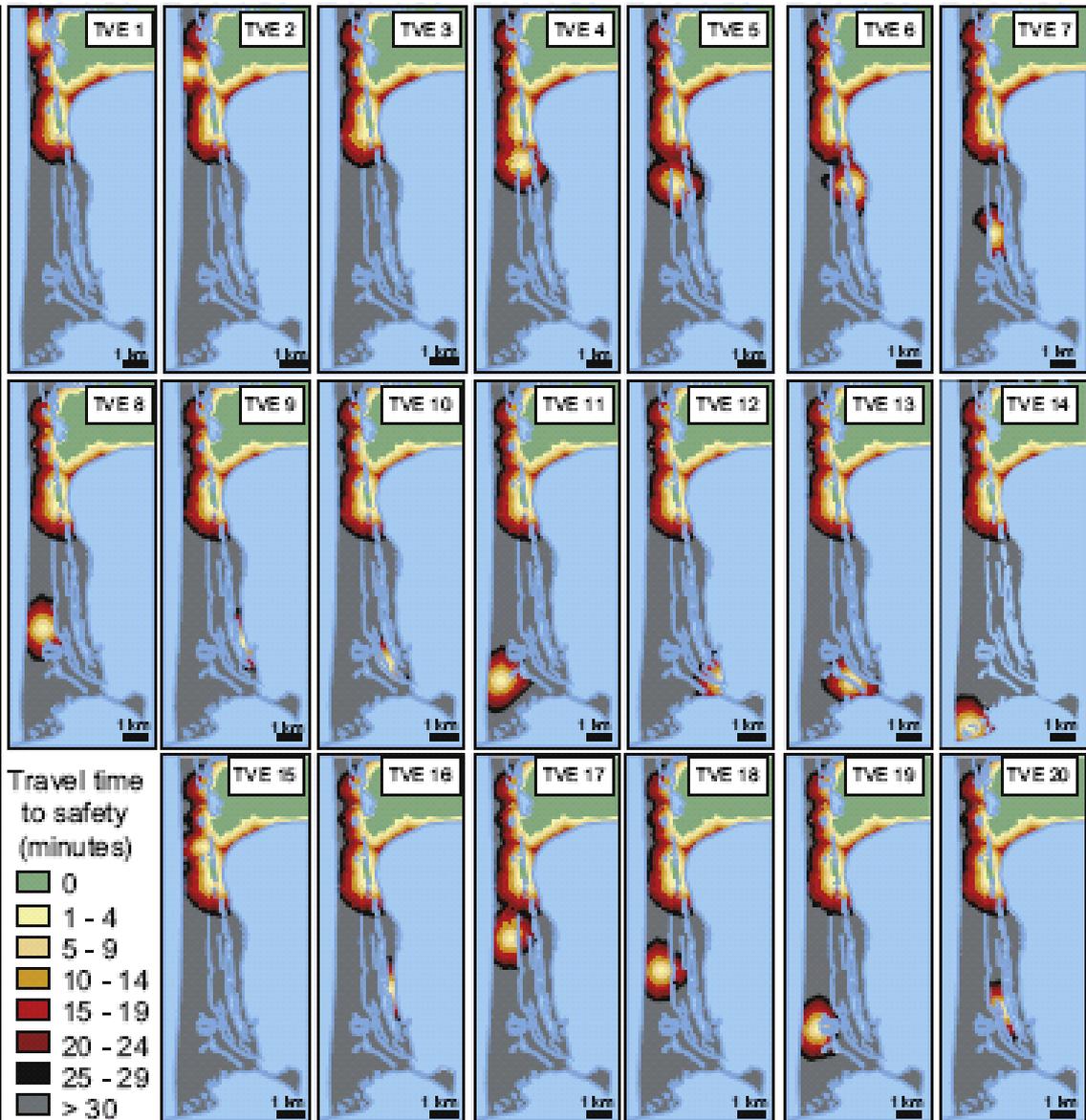
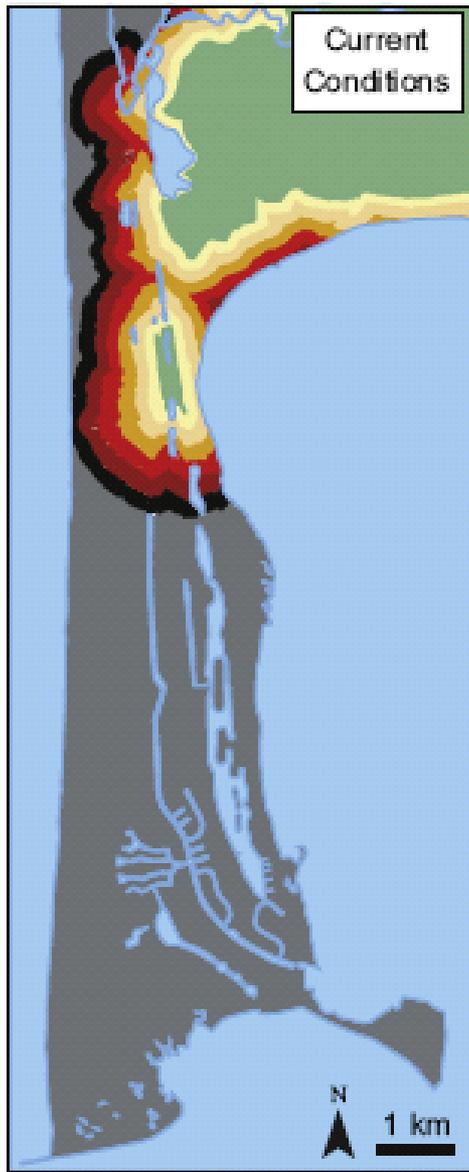
- *From Appendix A Performance Measure Chart (page 31).*

# Assessment & Decision Tool Reports

- 1. USGS** Tsunami Vertical Evacuation planning in the Pacific Northwest as a geospatial, Multi-criteria decision analysis problem
- 2. USGS** Vulnerability assessments completed (AK, CA, HI, OR, WA)
- 3. Puerto Rico:** A Conceptual Framework for Measuring the Exposure to Tsunamis of Puerto Rican Coastal Communities
- 4. Hawaii** HHARP Program Elements
- 5. California** FASTER tool, and land and sea evacuation “Playbooks” (5 county pilots)

# What can communities do to reduce risk to their populations?

1. Map the Tsunami Hazard Zone (and develop evacuation zones based on inundation zones)
2. **Exposure** (who/what is in the zone exposed to tsunamis).
  - How many people? (Residents, Employees, State/Nat'l Parks, Businesses, Dependent Care, Public Venues, Local Retail).
3. **Sensitivity** (what degree of harm might the population incur based on type of people in the zone; inferred ability to respond to tsunami based on characteristics).
  - For example: age less than 5, age over 65, ethnicity, single parent households, renters
  - Helps emergency managers determine where and what types of risk reduction actions are needed.
4. **Adaptive Capacity** (what at-risk individuals are able to do in light of potential threats to reduce exposure and risk).
  - Amount of time needed to evacuate to high ground before a tsunami arrives.
  - Evacuation modeling: results for communities can help emergency managers identify appropriate risk-reduction strategies.



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# Initial Questions

1. What is meant by tool? (DSS can have specific implications.)
  2. What will a tool do? Is it to assist with estimating how long to evacuate (time window, based on pop characteristics)?
  3. How will it address exposure / vulnerability?
  4. Is this to assist with addressing other response needs? and/or is this to assist with recovery?
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5. How could or would such a tool be used to help recognized and emerging TsunamiReady Communities determine information to address TsunamiReady Guidelines requirements -- especially in the proposed Guidelines under review?
  6. How could we integrate the two and have the tool help with informing progress toward meeting TR requirements?

# What is the MES Action?

We spent time in discussion, helping better define and clarify our MES milestone into three distinct aspects based on community need.

A community first needs:

1. A mapped zone (of inundation / evacuation)
2. Assessment of what's in the zone (vulnerability / exposure analysis (report))
3. Decision Support Tool:
  - a. Who is the tool for? What type of decision maker?
  - b. What is the decision?
  - c. What is the timeframe for making that decision?

# Does MES need to define scope of work?

1. Who: Local Emergency Managers
2. How: As tsunami-specific decision support tools are developed, they need to be run through some type of exercise/testing phase prior to any recommendation or implementation.
3. What about digital implementation? Yes, but keep in mind jurisdictional and funding limitations.
  - a. Recommend, even for an online database, minimum, conservative approach.
4. Define:
  - a. Decision Maker
  - b. Threat
5. What about liability?

# Ideas

1. Survey of county emergency managers looking at:
  - a. Turning information into actionable intelligence
  - b. Allowing emergency managers to make informed decisions
  - c. This could be as simple as a one-page decision tree
  - d. A one-page/two-page tool for EOP implementation in immediate response (e.g. Small Community Emergency Response Guide)
  - e. Decision Flow Chart
  - f. These can start small (as for small communities) and grow (for larger communities).
  
2. A start could be developing 1 pagers on how do decision makers use specific types of info (e.g. those provided in vulnerability analysis reports).
  - a. To answer specific questions (like the 3-4 which we would ask emergency managers to define).
  - b. E.G. what decisions are being made once your tsunami zone has been defined? How do people evacuate?
  
3. Aggregate and list/promote, from NTHMP level, different efforts going on nationally with regard to decision support tools.