

Working Groups / Existing/ AD Hoc / Working Groups and Task Forces

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TSUNAMI SCIENCE & TECHNOLOGY ADVISORY PANEL (TSTAP)



- 1: Improve unification and capabilities of the Tsunami Forecast System.
 - Align and consolidate TWCs and overhaul the forecast system to unify detecting earthquake parameters and produce the same products (e.g., forecast wave heights).
 - Undertake a comprehensive, enterprise-wide technology upgrade for the warning system/program.
 - Strengthen the collaborative relationship and expand MOU with the USGS for identifying earthquake parameters and source mechanism.
 - Ensure sufficient backup capabilities for tsunami forecasting and alerting.



- 2: Improve tsunami detection and observation systems.
 - Increase development and improve dissemination of observation networks like tide gauges, web-cameras, and real-time observer programs.
 - Expand detection capabilities to all seismic and nonseismic sources.
 - Work with NSF and international partners to share and expand the use of GNSS to determine fault rupture extent and movement.
 - Further consider the use of airborne and satellite observing platforms.



Center for Operational Oceanographic Products & Senices (CO-OPS) [National Ocean Senice (NOS) National Oceanic and Atmospheric Administration [U.S. Department of Commerce | Privacy Policy | Metadata : Water Level

- 3: Provide more extensive, consistent, and accurate tsunami messages and products.
 - Improve the integration of TWC warning functions with USGS, state, and local warning needs and functions.
 - Improve tsunami message composition and dissemination methods including updating the tsunami.gov website, creating a single domestic bulletin, and early messaging before a tsunami forecast is developed.
 - Make available foundational forecast data from propagation models and inundation model results to constituents.



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- 4: Develop enhancements to Tsunami Warning Center forecasts and alert systems.
 - Expand granularity in tsunami alert regions where complicated waterways exist (e.g., Puget Sound, San Francisco Bay, etc.)
 - Update special procedure areas, threat database thresholds, breakpoints, and forecast point locations.



- 5: Improve consistency in tsunami preparedness and mitigation products for communities.
 - Develop a standardized framework for characterizing, selecting, and using consistent tsunami sources between states.
 - As the sponsor of the NTHMP, NOAA should ask the NTHMP to update guidelines for evacuation maps that ensure consistency between states/ communities; further, the NWS should update the tsunami map page on the NTHMP website.
 - Prioritize probabilistic tsunami hazard mapping at a national scale, especially for updating ASCE/Building Code "Tsunami Design Zone" maps.





- 6: Produce guidance for improving long-term community resilience to tsunami hazards.
 - Develop guidance and products for tsunami mitigation/recovery consistent with and leveraging climate change adaptation strategies.
 - Conduct evacuation modeling, feasibility studies, and risk analyses for vertical evacuation structures.



- 7: Improve tsunami hydrodynamic modeling.
 - Improve tsunami modeling capabilities in the following conditions/areas: variable landscapes (i.e., surface roughness), heavy vegetation, built environment, and dynamic river systems.
 - Conduct a greater number of high-resolution bathymetric surveys.
 - Develop a data portal for detailed information for advancing research and model development.



- 8: Develop tsunami research priorities and leverage research opportunities
 - Coordinate with Federal, state and territory agencies that have funded research that includes tsunami to leverage and prioritize research opportunities and provide consistent and useful products.

