



# National Tsunami Hazards Mitigation Program (NTHMP) Rules of Procedure

February 2018 Revision

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The NTHMP is designed to reduce the impact of tsunamis through hazard assessment, warning guidance, and mitigation. These components of the NTHMP are achieved by a strong and active partnership between Federal and State agencies (here within, the term “State” or “State Members” refers to all 28 State, Commonwealth and Territory NTHMP Members (Appendix A)). This partnership enables all levels of government to prepare for a damaging tsunami in coordination with each other providing the greatest benefit to taxpayers. The Program’s ultimate goal is saving lives of all U.S. residents and visitors to our nation’s coastlines, and reducing damage to property and the economy during a tsunami.

## NTHMP STRUCTURE

### Membership

The National Tsunami Hazard Mitigation Program, a partnership between Federal and State agency representatives, is the instrument through which the National Weather Service (NWS) shall conduct “a community-based tsunami hazard mitigation program to improve tsunami preparedness and resiliency of at-risk areas in the United States and the territories of the United States.” – *P.L. 115-25* (Appendix B).

The NTHMP partnership includes: The National Oceanic and Atmospheric Administration (NOAA), the United States Geological Survey (USGS), the Federal Emergency Management Agency (FEMA), and all 28 U.S. coastal states, territories, and commonwealths.

## **GOVERNANCE – COORDINATING COMMITTEE**

### **Authority**

The NTHMP was formed in 1995 by Congressional action which directed the National Oceanic and Atmospheric Administration (NOAA) to form and lead a Federal/State working group. Since its inception, the NTHMP has built upon the strengths of its partnership to provide the greatest benefit to tax payers with the goal of protecting the lives of all U.S. residents and visitors to our nation's coastlines and reducing damage to property and the economy from tsunami hazards.

The NTHMP Coordinating Committee (CC) conducts its business in the model provided in Section 3204 of PL 115-25. To fulfill its specific responsibilities, the Coordinating Committee shall:

- (1) Through action of the Chair, appoint a Federal Grant Panel composed of at least 3 people who shall recommend how funds appropriated for carrying out the program under Section 5 shall be distributed.
- (2) Ensure that areas described in section 3203(c) of this title in the United States and its territories can have the opportunity to participate in the program.
- (3) Provide recommendations to the National Weather Service on how to improve the TsunamiReady® program, particularly on ways to make communities more tsunami resilient through the use of inundation maps and other mitigation practices; and
- (4) Ensure that all components of the program are integrated with ongoing hazard warning and risk management activities, emergency response plans, and mitigation programs in affected areas, including integrating information to assist in tsunami evacuation route planning.

### **Coordinating Committee Membership**

Coordinating Committee membership will be comprised of two representatives from:

- NOAA (excluding Chair position)
- FEMA
- USGS
- The NTHMP Administrator is an ex-officio, non-voting member of the Coordinating Committee.

Also included in the Coordinating Committee will be one Emergency Management and one Science representative from:

- Alaska
- American Samoa
- California
- Commonwealth of the Northern Mariana Islands
- Guam
- Hawai'i
- Oregon
- Puerto Rico
- Washington
- U.S. Virgin Islands
- U.S. East Coast States
- U.S. Gulf Coast States

Each member organization (i.e., Federal, State, Commonwealth, and Territory Government) will be responsible for designating official representatives. Each Coordinating Committee member officially designated by the member organization may designate one alternate to participate on their behalf in the event they are unable to execute their duties. The Coordinating Committee member shall be responsible for informing the NTHMP Administrator of the alternate's name in advance of the meeting(s) in which the alternate will attend on behalf of the official representative.

Invitational travel may be offered by the National Weather Service to officially designated Coordinating Committee members from an NTHMP partner that does not have grant funds available to support travel to participate in official NTHMP in-person meetings. Requests for invitational travel funding will be evaluated on a case-by-case basis and several factors, including available funding.

The NTHMP Chair will appoint the emergency management and science representatives for the East Coast and Gulf Coast states. A majority vote of the Coordinating Committee is required to affirm these appointments. A list of current representatives will be posted on the [NTHMP Website](#).

If a person designated to serve on the Coordinating Committee does not attend any in-person or telephonic meeting of the Coordinating Committee for five successive meetings, that person is subject to removal for non-participation by action of the Chair upon recommendation by the NTHMP Administrator. In that situation, the appointing authority will be requested to appoint another member who qualifies for appointment.

## **Officers**

1. The NTHMP Coordinating Committee shall vote in even years to recommend a NOAA Chairperson to the NWS Director (or designee) at the NTHMP Annual Meeting. The NWS has the final authority to appoint the NTHMP Chair.
2. In the event that the NTHMP Chair leaves his/her position within NOAA or resigns from office before his/her two-year term expires, the Chair shall recommend a replacement to the NWS Director/designee who shall confirm the replacement appointment. The Coordinating Committee shall vote to accept the appointment of the new Chair at its next regularly-scheduled meeting or at a special meeting if called by 60% or more of State voting members.
3. The NTHMP Coordinating Committee also may recommend a co-Chair from a State to assist with administrative tasks and facilitate communication among Federal and State partners.
4. The NOAA Chairperson shall preside over the meetings of the NTHMP and NTHMP Coordinating Committee and shall exercise all powers usually incident to the office.
5. The NOAA Chairperson does not have voting rights unless a Coordinating Committee vote ends in a tie. In the event of a tie, the NOAA Chairperson will cast the deciding vote.
6. The NOAA Chairperson, or his/her designated appointee, shall attend meetings at which important NTHMP recommendations are presented and shall speak on behalf of the NTHMP.
7. A staff member designated by NOAA shall serve as NTHMP Administrator. The NTHMP Administrator shall keep a record of all meetings of the NTHMP and shall keep such files as may be required. All meeting minutes will be posted to the NTHMP website (<http://nws.weather.gov/nthmp/>). Meeting minutes for closed Coordinating Committee meetings shall consist of meeting outcomes, decisions, and policy statements and not individual member comments. The NTHMP Administrator may convene and facilitate meetings of Work Groups and otherwise support activities of the NTHMP as requested by the Chair.

## MEETINGS

The NTHMP will hold one meeting per year known as the Annual NTHMP Meeting. Meetings shall be open to the public, except at the discretion of the NTHMP Chair or with a vote of at least 60% of the members of the Coordinating Committee if the discussion will involve sensitive matters. Additional teleconference calls, Coordinating Committee meetings, and subcommittee meetings may be convened as necessary, provided at least two weeks' notice of any special meeting is given to each member at his/her established business email account. Agendas for additional teleconferences or other meetings throughout the year shall be provided in a timely way as needed by the NTHMP Chair or the appropriate subcommittee co-Chair. The NTHMP Administrator may distribute meeting agendas once approved by the appropriate Chair. If necessary, to ensure a constructive and democratic process, meeting business shall be conducted following "Roberts Rules of Order".

### **Annual NTHMP Meeting**

1. The NTHMP will hold its annual meeting during January or February of each year for the purpose of addressing NTHMP business, convening subcommittee meetings, reviewing NTHMP member project accomplishments, presenting new and ongoing grant Applications (provided NOAA/NWS grant funds are available), and reviewing the activities of the NTHMP. Due to budget uncertainties, the Annual Meeting may be moved to a different time of year.
2. The NTHMP Chair (via the NTHMP Administrator) will submit a draft agenda one month prior to the scheduled date of the Annual Meeting. Through correspondence with the Chair through the NTHMP Administrator, the Coordinating Committee may provide input, comments, and recommend topics to add to the agenda up to two weeks before the meeting.
3. The revised, final Annual Meeting agenda shall be submitted to the Coordinating Committee by the Chair (via the NTHMP Administrator) at least five working days before the meeting date.
4. Time will be allotted for each group that participates with the NTHMP to provide a brief report on accomplishments reached during the last fiscal year. All NOAA/NWS grant-funded reports will be tied to goals and strategies in the NTHMP Strategic Plan.
5. Time will be allotted for groups requesting NOAA/NWS grant funding for the current fiscal year to give a short summary of proposed project(s).
6. The Coordinating Committee may meet in closed session to formulate out-year priorities for the long-term vision of the program, which take into account recommendations of individual subcommittees and NTHMP members. The Coordinating Committee also will review each Subcommittee's Annual Work Plan measures and milestones to ensure progress is on track.
7. The Annual Meeting may also include work sessions for NTHMP subcommittees and additional caucus(es) or working group(s) as the Chair may appoint.
8. Items not included on the advance agenda will be discussed under new business or appended to the agenda of the next meeting.

## **Voting Procedures**

Voting rights are distributed as follows: one vote each for Hawaii, Alaska, Oregon, Washington, California, Puerto Rico, USVI, American Samoa, Commonwealth of the Northern Mariana Islands, Guam, U.S. East Coast States, U.S. Gulf Coast states; and two each from NOAA, FEMA, and USGS. A simple majority will determine the Coordinating Committee's decision. The type of vote (ballot, voice, hand, etc.) is left to the Chair's discretion. In the event of a tie, the NOAA Chair will cast the deciding vote.

The only Federal Government employees who have a vote on the Coordinating Committee are the Chair (in the event of a tie) and the two appointed representatives from NOAA, FEMA, and USGS. If a Federal Employee is appointed by a State, Territory, or Commonwealth to serve as one of its representatives on the Coordinating Committee, that person must abstain from voting.

A quorum, consisting of a majority of state representatives (minimum of seven state/territory representatives) and a majority of federal agency representatives (minimum of four federal agency representatives), must be satisfied in order to hold a vote on any NTHMP decision. NTHMP voting members must be physically present at an in-person meeting (on the phone during a teleconference) to vote. Proxies are not allowed; however, an alternate member (as defined in the Membership section of the Rules of Procedure) may attend Coordinating Committee meetings. The state/territory decides who has the vote on behalf of the official representative in their absence.

## **NOAA/NWS Tsunami Activities Grant Program**

The NOAA/NWS Tsunami Activities Grant Program is the mechanism used to fund NTHMP tsunami mitigation projects. Types of projects that qualify for funding are provided in annual NOAA/NWS Grant Guidance provided by NOAA/National Weather Service. All NTHMP state, territory, and university partners who have members appointed to serve on the NTHMP Coordinating Committee and Tribes recognized by the U.S. Department of Interior are eligible to submit applications for new funding to the NOAA/NWS Tsunami Activities Grant Program. Grant applications are submitted through Grants.gov.

Grant proposals for mitigation projects specific to localities within a state, commonwealth, or territory will be considered by the primary state applicant for inclusion in its overall request for grant funding and scored based on criteria provided in the NOAA/NWS Grant Guidance appendix on "Grant Application Process for Tribes and Local Governments." Local governments may not submit grant proposals directly to NOAA. Grants may have a performance period for up to two years.

*Note: Approved funding for NOAA projects will be executed within NOAA. Funding for Federal Agencies (non-NOAA) will be transferred via the Federal Interagency Transfer process and applicable Federal transfer authorities. Funding to support a Subcommittee or Caucus activity will be requested by an NTHMP partner as part of its overall grant request. The requesting state will have administrative authority over conducting and reporting on the grant-funded activity.*

The general timeline and procedures for grant applications will be provided in the annual NOAA/NWS Grant Guidance. NOAA/NWS will provide guidance by November 15 each year to all NTHMP members pertaining to grant pre-application content and format.

## Grant Reporting

Each grant recipient receiving funds through the NOAA/NWS Tsunami Activities Grant Program will provide a brief written report for inclusion in the NTHMP Annual Report that includes accomplishments during the last fiscal year. All reports will be coordinated with the appropriate subcommittee and tied to the goals and strategies listed in the NTHMP Strategic Plan. Written reports to NOAA are required as part of the Grant's terms and conditions. Submission of these reports will be timed such that the report on the previous year's activities will be available to Coordinating Committee members and Subcommittee Chairs prior to the Annual Meeting and the Grant Panel's deliberations on awarding the next year's grants.

Recipients of grant funds are required to submit semi-annual grant progress reports (using the Semi-Annual Grant Report template provided by the NTHMP Administrator or designee) and financial expense reports via Grants Online on or before due-dates established by NOAA. NOAA's Grant system will notify grant recipients when these reports are due. Failure to submit these reports is a violation of the terms and conditions of grant awards and can result in:

- NOAA Acquisition and Grants Office (AGO) freezing future funding on current awards
- NOAA AGO not awarding future NOAA/NWS grant funding requests (new grant awards)
- NOAA AGO not releasing funding for other non- NOAA/NWS grant awards to the agency/institution who is delinquent on a required report for the NOAA/NWS grant.

To avoid being delinquent on required semi-annual grant progress reports and financial grant expenses reports, it is the responsibility of NOAA/NWS grant recipients to ensure the correct person within their organization is listed on the grant award to receive on-line notices of report deadlines. This can be updated on-line through Grants Online.

## SUBCOMMITTEES

A subcommittee structure is used to meet the expanded NTHMP and strengthened US tsunami warning system requirements as well as to oversee implementation of the NTHMP Strategic Plan. Each subcommittee must have at least one co-Chair who is a member of the Coordinating Committee. The Coordinating Committee approves the Terms of Reference for each subcommittee. The following subcommittees are consistent with PL 115-25 as well as other authorities and findings of the GAO and NTHMP 5-year review:

- 1. Warning Coordination Subcommittee** – co-chaired by the Directors of NOAA's National Weather Service's (NWS) two Tsunami Warning Centers (TWC) (or designated TWC employees) and a state member;
- 2. Mitigation and Education Subcommittee** – co-chaired by a NOAA representative, a FEMA representative, and a state member;
- 3. Mapping and Modeling Subcommittee** - co-chaired by a NOAA representative and a state representative.

## **Subcommittee Terms of Reference:**

*Note about Terms of Reference: NTHMP Subcommittees may update their respective Terms of Reference at their discretion and with approval by the NTHMP Coordinating Committee. If updated Terms of Reference are adopted, that Terms of Reference document supersedes the related section below.*

## **Warning Coordination Subcommittee (WCS) Terms of Reference** (adopted February 2018)

**Introduction:** In 2005, the NTHMP West Coast Tsunami Warning Coordination Subcommittee was formed to provide a mechanism for tsunami warning system participants along the U.S. West Coast, Alaska, and British Columbia coastal regions to provide input on warning products and dissemination to the West Coast/Alaska Tsunami Warning Center. As the NTHMP expanded to all U.S. coastal states, commonwealths and territories, the subcommittee membership expanded to include these other areas and the scope expanded correspondingly. During the November 1, 2007 NTHMP meeting, the NTHMP subcommittee structure was re-aligned and this subcommittee was officially broadened to include all coastal states and territories with the purpose and authority given below.

**Purpose:** The WCS will help improve U.S. tsunami warning system effectiveness by providing NTHMP partners a means to exchange experiences and discuss improvements related to operational product dissemination. WCS members will formulate and agree to actions and recommendations regarding components of the tsunami warning system such as warning center products, warning procedures, message dissemination, system exercises, and Emergency Alert System activation. The WCS will execute strategies as assigned in the NTHMP Strategic Plan, and activities as assigned by the NTHMP Coordinating Committee.

**Authority:** The WCS will be considered the primary mechanism for NTHMP partner input to NOAA's operational tsunami warning system. As such, its actions and recommendations, achieved by consensus of the members, will be considered to represent the collective will of those partners. Major changes proposed through the Subcommittee will be vetted through the NWS service change process and the NWS Directive and Instruction system as appropriate. Minor changes proposed and approved through the Subcommittee will be implemented by the Tsunami Warning Centers.

**Membership:** The WCS will be composed of designees from the NTHMP partners who can represent the operational tsunami warning program interests of those partners as well as NWS tsunami warning system specialists. The NTHMP Administrator is an ex-officio member.

Membership on the WCS may include:

- Emergency management representatives appointed to the NTHMP Coordinating Committee
- NWS TWC Directors and/or designated TWC employees
- NWS Regional Tsunami Program leaders (Eastern, Southern, Western, Pacific, and Alaska Regions)
- Caribbean Tsunami Warning Program (CTWP) Manager
- International Tsunami Information Center (ITIC) Director
- US Navy – Joint Typhoon Warning Center representative
- US Coast Guard – Atlantic and Pacific Region representatives

Outside experts and other stakeholders may be invited to participate in WCS discussions but they will not participate in any consensus recommendations of this subcommittee. These might include:

- NWS Warning Coordination Meteorologists (WCM)
- Other NTHMP state/territory emergency management representatives
- FEMA Representatives
- USGS Representatives
- NOAA Tsunami Program Leaders
- Canadian Tsunami Program Representatives
- Social Science Experts

Chairpersons: Chairpersons are approved by a majority of the NTHMP Coordinating Committee, and shall include both TWC directors (or designated TWC employee from each Center) and a representative from one of the member states.

In the event a State Co-Chair resigns from the position during his/her term of office, the NTHMP Administrator shall make a call for nominees from the State partners within 30 days of the vacancy to WCS members. Up to 10 days is allowed for the nominations period, but may be shorter if the WCS is meeting in person.

A vote among the WCS members will be conducted by the NTHMP Administrator within 30 days of close of nominations. The winner of the vote total will be recommended to the Coordinating Committee for confirmation at the next Coordinating Committee meeting. The new Co-Chair assumes the position upon Coordinating Committee confirmation to fulfill the remainder of the term of office for the person who vacated the position.

In the event a TWC Director vacates his/her position, the Director vacating the position may designate someone from that TWC to serve as an Interim WCS Co-Chair until someone is hired permanently for the position. Upon permanent appointment, that person will become the WCS Co-Chair representing that TWC or may designate an official alternate selected from among TWC Federal Employees.

There are no term limits for the State WCS Co-Chair position, although it is desirable to limit the service to two full two-year terms.

Communications: Meetings will normally be held annually in conjunction with the Annual NTHMP Meeting. Between meetings, communication will take place primarily by email and conference calls. Notes and Action Items will be maintained by the Co-Chairs and posted to the NTHMP web site. Completion of actions will be coordinated by the Co-Chairs. Recommendations will be forwarded to the appropriate organizations by the Co-Chairs.

Activities:

1. The WCS will develop an annual work plan that describes WCS activities to be accomplished during the calendar year and submit it for approval at the Annual Meeting by the Coordinating Committee. The WCS Annual Work Plan will provide milestones with metrics to measure progress and be tied to one or more strategies and outcomes in the NTHMP Strategic Plan.
2. The WCS will update progress on measurable milestones identified in the Annual Work Plan during regularly-scheduled meetings during the year.



3. The WCS will review any proposed grant activities by a grant application where WCS endorsement is required.
4. When requested by the NTHMP Administrator, the WCS will submit content for the NTHMP Annual Report that summarizes WCS progress for the year.

NOAA/NWS Grants duties: The WCS Co-Chairs will be provided copies of semi-annual and final grant progress reports from grantees for their use to assess progress toward stated goals and strategic objectives.

### **Mitigation and Education Subcommittee (MES) Terms of Reference** (updated February 2, 2018)

Introduction: In 1996, the NTHMP Mitigation Subcommittee was formed to provide a mechanism for the Federal and State Emergency Management participants and their State Geoscience participants in the program to address ongoing emergency management issues of mitigation, preparedness and response and recovery with regard to tsunami risk to the impacted FEMA Regions, coastal states and local jurisdictions. Mitigation is an integrated set of processes and capacities to improve community resilience to tsunamis as well as other natural and man-made hazards. The outcome of mitigation efforts are increased understanding of the tsunami hazard; tools to mitigate the risk; dissemination and exchange of risk information; and institutionalization of tsunami planning. One important tool used by emergency managers and urban planners is a tsunami inundation study that can guide evacuation planning, establishment of evacuation routes, and location of critical and essential infrastructure. One key outcome is improved reception of warning information. Today, the Mitigation Subcommittee continues as the Mitigation and Education Subcommittee. MES members work closely with the other subcommittees on such important cross-cutting issues.

The Subcommittee's role is to analyze and prioritize state and local needs, address them through products and activities, and then disseminate and share these products with other at-risk communities. The first product was the Strategic Implementation Plan for Mitigation Projects that listed, prioritized and then led to development of relevant projects and initiatives to address those needs, and to widely disseminate the products to the original West Coast, Alaska Coast and Hawaiian Coast jurisdictions funded under the NTHMP. As the NTHMP expanded to all U.S. coastal states, territories, and commonwealths, the subcommittee membership expanded to include these other areas and the scope expanded correspondingly. The membership also expanded to include the TsunamiReady Program component. During the November 1, 2007 NTHMP meeting, the NTHMP subcommittee structure was re-aligned and this subcommittee was officially broadened to include all coastal states, territories, and commonwealths with the purpose and authority given below.

Purpose: The MES will help improve tsunami mitigation, preparedness, response and recovery effectiveness by providing NTHMP partners a means to integrate and share their experience with existing State and Federal programs and apply that to tsunami risk reduction activities. MES members will use this experience to develop and agree to actions and recommendations relating to products and activities that will provide increased education, outreach, and training to the public and other stakeholders.

Some of these activities include but are not limited to:

- promoting community education networks and programs to ensure readiness including development of comprehensive coastal risk and vulnerability assessment training and decision support tools
- implementation of technical training and public education programs and providing certification of prepared communities
- integration of tsunami activities into ongoing all-hazard warning and risk management activities, response plans, and mitigation programs
- promoting adoption of tsunami warning and mitigation measures by Federal, State, Tribal, and local governments and nongovernmental entities, including education programs to discourage development in high-risk areas
- developing and disseminating model practices in mitigation and preparedness
- participating in meetings, conferences, workshops, and special events
- supporting requested international tsunami efforts through the United Nations' Intergovernmental Oceanographic Commission (IOC) and the International Tsunami Information Center (ITIC)
- improving tsunami education and training to support tsunami resilient behavior
- serving as a source educational expertise to the other subcommittees
- fielding requirements from outside the NTHMP, analyzing and presenting them to the NTHMP for discussion and adjudication.

Other activities to be performed by this subcommittee include but are not limited to:

- developing educational guidance that support the [\*Tsunami Warning, Research and Education Act \(P. L. 115-25\)\*](#)
- developing and offering educational programs that can be used by member States of NTHMP
- developing evaluation tools to monitor the effectiveness of educational programs of NTHMP
- and developing research requirements related to MES activities.

Authority: The MES will be considered the primary mechanism for NTHMP partner input to the mitigation and education component of the NTHMP. The subcommittee's actions and recommendations will be achieved by consensus, and considered to represent the collective will of those partners.

Membership: The MES will be composed of designees from the NTHMP partners who can represent the emergency management activities of mitigation, preparedness, response and recovery, and also the geo-science, education, and community warning coordination expertise related to these activities. The NTHMP Administrator is an ex-officio member.

These might include:

- State Tsunami Program Emergency Management and Education and Science Representatives
- FEMA Representatives
- NWS Warning Coordination Meteorologists
- NOAA Tsunami Program Leaders and Regional Tsunami Program Leaders
- NOAA Office for Coastal Management
- NWS Marine and Coastal Services Representatives

- NWS TWC Directors
- International Tsunami Information Center Director
- USGS Representatives

Outside experts and other stakeholders may be invited to participate in M&E Subcommittee discussions but they will not participate in any consensus recommendations of this sub-committee. These might include: international tsunami program representatives, social science experts, etc.

**Chairpersons:** Chairpersons are approved by a majority of the NTHMP Coordinating Committee, and shall include a FEMA, NOAA, and State representative. Terms of service are customarily for two years. Positions of the State and Federal Co-Chairs are staggered to provide continuity. The State Co-Chair and NOAA Co-Chair are elected in odd years. The FEMA Co-Chair is elected in even years.

In the event a Co-Chair resigns from the position during his/her term of office, the NTHMP Administrator shall make a call for nominees for the respective grouping (FEMA, NOAA, or State) within 30 days of the vacancy to MES members. Up to 10 days is allowed for the nominations period, but may be shorter if the MES is meeting in person.

A vote among the MES members will be conducted by the NTHMP Administrator within 30 days of close of nominations. The winner of the vote total will be recommended to the Coordinating Committee for confirmation at the next Coordinating Committee meeting. The new Co-Chair assumes the position upon Coordinating Committee confirmation to fulfill the remainder of the term of office for the person who vacated the position.

There are no term limits for MES Co-Chair positions.

**Communications:** Meetings will normally be held annually in conjunction with NTHMP meetings. Between meetings, communication will occur primarily through email and conference calls. Notes and Action Items will be maintained by Chairpersons and posted to the NTHMP web site. Completion of actions will be coordinated by the Chairpersons. Recommendations will be forwarded to the appropriate organizations by the Chairpersons. Meeting notes will be sent to the NTHMP Administrator for posting on the NTHMP website.

**Activities:**

1. The MES will develop an annual work plan that describes MES activities to be accomplished during the calendar year and submit it for approval at the Annual Meeting by the Coordinating Committee. The MES Annual Work Plan will provide milestones with metrics to measure progress and be tied to one or more strategies and outcomes in the NTHMP Strategic Plan.
2. The MES will update progress on measurable milestones identified in the Annual Work Plan during regularly-scheduled meetings during the year.
3. The MES will review any proposed grant activities by a grant application where

- MES endorsement is required.
4. When requested by the NTHMP Administrator, the MES will submit content for the NTHMP Annual Report that summarizes MES progress for the year.

NOAA/NWS Grants duties: The MES Co-Chairs will be provided copies of semi-annual and final grant progress reports from NOAA/NWS grantees for their use to assess progress toward stated goals and strategic objectives.

## **Mapping and Modeling Subcommittee (MMS) Terms of Reference** (updated February 2, 2018)

Introduction: The National Tsunami Hazard Mitigation Program's (NTHMP) Mapping and Modeling Subcommittee (MMS) brings together expertise on a variety of tsunami and coastal mapping, modeling, and hazard issues. The MMS supports the NTHMP Coordinating Committee on tsunami hazard analysis, modeling, and mapping activities including but not limited to: tsunami hazard and source identification; inundation, evacuation, and maritime modeling; strategic guidance and standards for modeling and mapping priorities; and Digital Elevation Model (DEM) development priorities.

The MMS identifies and applies educational opportunities related to modeling and mapping products as well as hazard mitigation deficiencies that can be addressed by further mapping and modeling research, and uses opportunities to integrate modeling and mapping efforts into NTHMP mitigation activities. The MMS vision is to be the authoritative source of scientific and technical guidance for tsunami modeling and mapping projects done by the NTHMP.

### Purpose:

- To provide technical guidance and recommendations to the NTHMP Coordinating Committee on matters related to tsunami hazard analysis, modeling, and mapping.
- To execute tasks related to tsunami hazard mapping and modeling as approved by the NTHMP Coordinating Committee.
- To operate in an environment respecting the core values of honesty, integrity, trust, and diligence with a focus on service to the State and Nation, providing value to stakeholders within the mandate of the NTHMP while remaining objective, reasonable, and respectful.

By achieving this, we create an opportunity to be an effective body in predicting the potential damaging effects of major tsunami events.

Authority:

The MMS shall be considered the primary mechanism for NTHMP partner input to the mapping, modeling, and hazard components of the NTHMP. The subcommittee's actions and recommendations will be achieved by consensus, and considered to represent the collective will of those partners. This authority is established within the [context of PL 115-25](#) and subject to the provisions of Section 3204 of the Act.

Membership:

The MMS is composed of 12 state representatives, one from each of the regions of the NTHMP Coordinating Committee, one representative from the USGS, and two NOAA representatives, one from a Tsunami Warning Center. The NTHMP Administrator is an ex-officio member.

The current official membership is maintained on the [NTHMP website](#). Outside experts and other stakeholders may be invited to participate in MMS discussions but their agreement is not required for any formal consensus. These might include:

- University, NOAA, or other modeling and mapping experts
- Social Science Experts
- U.S. Geological Survey representatives
- Other

State membership is the Technical Representative from each of the NTHMP regions of the Coordinating Committee: Alaska, American Samoa, California, Commonwealth of the Northern Mariana Islands, East Coast States, Guam, Gulf Coast States, Hawaii, Puerto Rico, Oregon, the U.S. Virgin Islands, and Washington.

Chairpersons: The subcommittee shall have two chairpersons selected from the body of the MMS and approved by a majority vote of the NTHMP Coordinating Committee at the annual NTHMP meeting. One chairperson must be a representative from NOAA and the other a representative from one of the member states. Chairpersons will serve for two years with rotation staggered to maintain continuity in leadership. The NOAA Co-Chair is elected in even years, and the State Co-Chair is elected in odd years.

In the event a Co-Chair resigns from the position during his/her term of office, the NTHMP Administrator shall make a call for nominees from the respective grouping (NOAA or State) within 30 days of the vacancy to MMS members. Up to 10 days is allowed for the nominations period, but may be shorter if the MMS is meeting in person.

A vote among the MMS members will be conducted by the NTHMP Administrator within 30 days of close of nominations. The winner of the vote total will be recommended to the Coordinating Committee for confirmation at the next Coordinating Committee meeting. The new Co-Chair assumes the position upon Coordinating Committee confirmation to fulfill the remainder of the term of office for the person who vacated the position.

There are no term limits for MMS Co-Chair positions, although it is desirable to limit each Co-Chair to two full two-year terms.

Communications: Meetings shall normally be held semi-annually, once in conjunction with the Annual NTHMP Meeting (winter), and once as a joint MES/MMS Subcommittee Meeting or the MMS Science Exchange Meeting (summer). Between meetings, communication will take place primarily by email and conference calls, although meetings for specific subcommittees or task teams are encouraged. MMS Meeting notes and actions items will be summarized by the Chairpersons, and circulated to its members and/or posted to the NTHMP web site.

Activities:

The MMS shall develop a five-year vision plan for the period covered by the current strategic plan. An Annual Work Plan that describes MMS activities to be accomplished during the calendar year will be developed and submitted for approval at the Annual Meeting by the Coordinating Committee. The MMS vision plan will be evaluated annually to measure progress and the tie to one or more strategies and outcomes in the NTHMP Strategic Plan. Strategies for the completion of action items will be coordinated by the Chairpersons. Recommendations from MMS will be forwarded to the appropriate organizations by the Chairpersons.

The MMS will update progress on measurable milestones identified in the Annual Work Plan during regularly-scheduled meetings during the year.

The MMS will review any proposed grant activities by a grant application where MMS endorsement is required.

When requested by the NTHMP Administrator, the MMS will submit content for the NTHMP Annual Report that summarizes MMS progress for the year.

NOAA/NWS Grants duties: This subcommittee's Co-Chairs will be provided copies of semi-annual and final grant progress reports from NOAA/NWS grantees so the Co-Chairs can assess progress toward stated goals and strategic objectives.

## **CHANGE OF RULES**

The Rules of Procedure may be amended at any meeting or teleconference of the NTHMP Coordinating Committee by a majority vote of the membership of the NTHMP Coordinating Committee.

Adopted: April, 2008

Amended: November, 2008

Amended: August, 2009

Amended: September 2014

Amended: July 2015

Amended: all subcommittee Terms of Reference updated per subcommittee actions effective before or during the NTHMP Annual Meeting of February, 2017.

Amended: February 2018

## **Appendix A – Listing of Eligible NTHMP Member States, Territories, Commonwealths and US Agencies**

### **The Member States, Territories, and Commonwealths**

States and Territories with representatives on the NTHMP Coordinating Committee:

Alaska  
American Samoa  
California  
Commonwealth of the Northern Mariana Islands  
Guam  
Hawaii  
Oregon  
Puerto Rico  
Washington  
U.S. Virgin Islands

States represented on the NTHMP Coordinating Committee by the Gulf Coast members

Alabama  
Florida (Gulf Coast)  
Louisiana  
Mississippi  
Texas

States represented on the NTHMP Coordinating Committee by the East Coast members:

Connecticut  
Delaware  
Florida (East Coast)  
Georgia  
Maine  
Maryland  
Massachusetts  
New Hampshire  
New Jersey  
New York  
North Carolina  
Rhode Island  
South Carolina  
Virginia

### **The Agency Members**

Department of Commerce's NOAA  
Department of Interior's USGS  
Department of Homeland Security's FEMA



## **Appendix B – NTHMP Structure**

The following, taken directly from the *Tsunami Warning, Education, and Research Act of 2017* (PL 115-25, Section 3204), identifies the requirements for the structure and scope of the NTHMP.

### **§3204. National tsunami hazard mitigation program**

#### **(a) Program required**

The [NOAA] Administrator, in coordination with the Administrator of the Federal Emergency Management Agency and the heads of such other agencies as the Administrator considers relevant, shall conduct a community-based tsunami hazard mitigation program to improve tsunami preparedness and resiliency of at-risk areas in the United States and the territories of the United States.

#### **(b) Coordinating committee**

In conducting the program under this section, the Administrator shall establish a coordinating committee comprising representatives of Federal, State, local, and tribal government officials.

The Administrator may establish subcommittees to address region-specific issues. The committee shall—

- (1) Recommend how funds appropriated for carrying out the program under this section will be allocated;
- (2) ensure that areas described in section 3203(c) of this title in the United States and its territories can have the opportunity to participate in the program;
- (3) provide recommendations to the National Weather Service on how to improve the TsunamiReady program, particularly on ways to make communities more tsunami resilient through the use of inundation maps and other mitigation practices; and
- (4) ensure that all components of the program are integrated with ongoing hazard warning and risk management activities, emergency response plans, and mitigation programs in affected areas, including integrating information to assist in tsunami evacuation route planning.

#### **(c) Program components**

The Program conducted under subsection (a) shall include the following:

- (1) Technical and financial assistance to coastal States, territories, tribes, and local governments to develop and implement activities under this section.
- (2) Integration of tsunami preparedness and mitigation programs into ongoing State-based hazard warning, resilience planning, and risk management activities, including predisaster planning, emergency response, evacuation planning, disaster recovery, hazard mitigation, and community development and redevelopment planning programs in affected areas.

- (3) Coordination with other Federal preparedness and mitigation programs to leverage Federal investment, avoid duplication, and maximize effort.
- (4) Activities to promote the adoption of tsunami resilience, preparedness, warning, and mitigation measures by Federal, State, territorial, tribal, and local governments and nongovernmental entities, including educational and risk communication programs to discourage development in high-risk areas.
- (5) Activities to support the development of regional tsunami hazard and risk assessments. Such regional risk assessments may include the following:
  - (A) The sources, sizes, and other relevant historical data of tsunami in the region, including paleotsunami data.
  - (B) Inundation models and maps of critical infrastructure and socioeconomic vulnerability in areas subject to tsunami inundation.
  - (C) Maps of evacuation areas and evacuation routes, including, when appropriate, traffic studies that evaluate the viability of evacuation routes.
  - (D) Evaluations of the size of populations that will require evacuation, including populations with special evacuation needs.
  - (E) Evaluations and technical assistance for vertical evacuation structure planning for communities where models indicate limited or no ability for timely evacuation, especially in areas at risk of near shore generated tsunami.
  - (F) Evaluation of at-risk ports and harbors.
  - (G) Evaluation of the effect of tsunami currents on the foundations of closely-spaced, coastal high-rise structures.
- (6) Activities to promote preparedness in at-risk ports and harbors, including the following:
  - (A) Evaluation and recommendation of procedures for ports and harbors in the event of a distant or near-field tsunami.
  - (B) A review of readiness, response, and communication strategies to ensure coordination and data sharing with the Coast Guard.
- (7) Activities to support the development of community-based outreach and education programs to ensure community readiness and resilience, including the following:
  - (A) The development, implementation, and assessment of technical training and public education programs, including education programs that address unique characteristics of distant and near-field tsunami.
  - (B) The development of decision support tools.
  - (C) The incorporation of social science research into community readiness and resilience efforts.
  - (D) The development of evidence-based education guidelines.
- (8) Dissemination of guidelines and standards for community planning, education, and training products, programs, and tools, including—
  - (A) standards for—

- (i) mapping products;
  - (ii) inundation models; and
  - (iii) effective emergency exercises; and
- (B) recommended guidance for at-risk port and harbor tsunami warning, evacuation, and response procedures in coordination with the Coast Guard and the Federal Emergency Management Agency.

**(d) Authorized activities**

In addition to activities conducted under subsection (c), the program conducted under subsection (a) may include the following:

- (1) Multidisciplinary vulnerability assessment research, education, and training to help integrate risk management and resilience objectives with community development planning and policies.
- (2) Risk management training for local officials and community organizations to enhance understanding and preparedness.
- (3) In coordination with the Federal Emergency Management Agency, interagency, Federal, State, tribal, and territorial intergovernmental tsunami response exercise planning and implementation in high risk areas.
- (4) Development of practical applications for existing or emerging technologies, such as modeling, remote sensing, geospatial technology, engineering, and observing systems, including the integration of tsunami sensors into Federal and commercial submarine telecommunication cables if practicable.
- (5) Risk management, risk assessment, and resilience data and information services, including—
  - (A) access to data and products derived from observing and detection systems; and
  - (B) development and maintenance of new integrated data products to support risk management, risk assessment, and resilience programs.
- (6) Risk notification systems that coordinate with and build upon existing systems and actively engage decisionmakers, State, local, tribal, and territorial governments and agencies, business communities, nongovernmental organizations, and the media.

**(e) No preemption with respect to designation of at-risk areas**

The establishment of national standards for inundation models under this section shall not prevent States, territories, tribes, and local governments from designating additional areas as being at risk based on knowledge of local conditions.

**(f) No new regulatory authority**

Nothing in this chapter may be construed as establishing new regulatory authority for any Federal agency.

## **Appendix C – NTHMP Fundable Mitigation Activities**

The content of this appendix is included in NOAA/NWS Tsunami Activities Grant Guidance which is an administrative function of the grant provider: NOAA/NWS, not the NTHMP.

## **Appendix D– Description of Grant Program Distribution Process**

The content of this appendix is not applicable to the NTHMP. The grant provider, NOAA, determines the grant distribution process, not the NTHMP.

## Appendix E – Acronyms

AGO – NOAA Acquisition and Grants Office  
CC – Coordinating Committee  
CNMI – Commonwealth of the Northern Mariana Islands  
DEM - Digital Elevation Model  
DOC – Department of Commerce  
FEMA – Federal Emergency Management Agency  
GAO – The United States Government Accountability Office  
IOC - Intergovernmental Oceanographic Commission  
ITIC – International Tsunami Information Center  
MES – Mitigation and Education Subcommittee  
MMS – Mapping and Modeling Subcommittee  
NOAA – National Oceanic and Atmospheric Administration  
NTHMP – National Tsunami Hazard Mitigation Program  
NWS – NOAA’s National Weather Service  
PL 109-479 – (original) *Tsunami Warning and Education Act of 2007*  
PL 115-25 – *The Tsunami Warning, Education, and Research Act of 2017*  
POC – Point of Contact  
TWC - US Tsunami Warning Center  
USGS – United States Geological Survey  
USVI – United States Virgin Islands  
WCM - Warning Coordination Meteorologist  
WCS – Warning Coordination Subcommittee