



## TSUNAMIREADY GUIDELINES: TIER TWO

The NOAA/NWS TsunamiReady program recognizes that some communities are at greater risk for major tsunami impacts than others—particularly those on the earthquake-prone West Coast of United States and within the Caribbean. For these communities, a “TsunamiReady: Tier Two” level of additional guidelines is available. These guidelines will help high-risk communities more completely prepare for and mitigate extreme tsunami risks and will help communities reach a higher level of disaster resilience.

Resilience is defined in the hazards world in many ways. For purposes of these guidelines, it is defined as “sustained ability to respond to, withstand, and recover from adverse situations.”

TsunamiReady: Tier Two includes more difficult mitigation elements, including the physical elements of mitigation that typically cannot be done without significant external funding (e.g., bonds and/or FEMA grants). It also incorporates recovery, which may be more difficult, take longer to accomplish, and also require funding to support.

A two-tiered approach leverages FEMA’s local hazard mitigation plan concept. It focuses on a long-term plan, even long enough for land use policy to affect resilience.

Following are additional guidelines that if met, would qualify communities to be recognized by letter from the local National Weather Service Forecast office as TsunamiReady: Tier Two. If these additional guidelines are not met, but Tier One (Fundamental) TsunamiReady Guidelines are met, then TsunamiReady status is recognized.

### **MITIGATION (MIT)**

**MIT-4. Identify natural high or inland ground outside the tsunami evacuation zone for purposes of evacuation of at-risk populations.** If suitable high or inland ground is available, then it should be determined if at-risk populations can reasonably reach these areas before tsunami waves are predicted to arrive. Evacuation assessments and/or modeling should take into account the population in the tsunami evacuation zone, including subpopulations that may be at greater risk for injury (e.g., elderly people, children, tourists, people with disabilities, seasonal workers, etc.). They should also take into account the reliability of evacuation routes (e.g., bridges, roads), especially in areas where the tsunami may be triggered by a strong earthquake that could weaken or destroy the road, bridge, etc. If natural high or inland ground is not currently accessible within the time the first wave is predicted to arrive, see Mit-6.

**MIT-5. Have a plan to maintain, improve, and strengthen evacuation routes** to enable at-risk populations to effectively evacuate to natural high or inland ground in the time available. For communities with local tsunami threats related to earthquakes, strengthening of evacuation routes may mean developing and maintaining foot trails through areas of heavy vegetation, improving roads, and seismic strengthening of bridges and roads.

Communities must demonstrate progress in implementing this plan or provide reasons why such progress is not possible or unnecessary at subsequent reviews for TsunamiReady Tier Two recognition.

After strengthening evacuation routes, if people are still unable to reach natural high or inland ground within the time the first wave is predicted to arrive, see Mit-6.

If it has been determined and demonstrated that there would be no added tsunami safety benefit to strengthening evacuation routes, see Mit-6.

**MIT-6. Have a plan for vertical evacuation using existing or planned berms and other structures** if it is unlikely that at-risk populations would be able to reach natural high ground and inland locations before arrival of first wave. This plan identifies current or proposed locations of vertical evacuation structures, the at-risk populations they would serve, funding sources, land use considerations, and a timeline for implementation. Communities must demonstrate progress in implementing this plan at subsequent reviews for TsunamiReady Tier Two.

### **RECOVERY (REC)**

**REC-1. Have a pre-disaster recovery plan that considers how communities will continue to operate and recover** after a tsunami disaster. According to the National Disaster Recovery Framework: “Pre-disaster recovery planning enables local, state, and tribal governments to effectively direct recovery activities and expedite a unified recovery effort. Pre-disaster plans provide a common platform to guide recovery decisions and activities.”

A pre-disaster recovery plan should guide the full range of recovery efforts, both short- and long-term (it is not the same thing as a multi-hazard mitigation plan or an EOP), and ensure all affected populations are included. A pre-disaster recovery plan could be an annex to an EOP or a multi-hazard mitigation plan or it could be a stand-alone plan. It should be consistent with the National Disaster Recovery Framework consistent with the framework’s key principles and recommended activities. It should also include other hazards, as appropriate, such as floods, hurricanes, severe storms, or earthquakes.

### **RESPONSE (RESP)**

**RESP-8: Have a plan for the management of debris after a tsunami disaster.** This plan could be described in the community’s EOP, pre-disaster recovery plan, or in a stand-alone plan.