

U. Washington Tsunami Certificate Program

Course 2: Tsunami Warning Systems

Exercise 5: Tsunami Warning Center Procedures

Purpose: The purpose of this exercise is for the participants to consider the types of decisions made by tsunami warning centers during events.

Instructions: Consider that you are a tsunami warning center watchstander for a tsunami warning center in your country or the national tsunami focal point who is responsible for making decisions based on information provided from a TWC in a neighboring country. You can issue tsunami warnings, advisories, watches, cancellations, and information statements. These messages have the following basic meanings:

Warning – evacuate towns to the maximum expected inundation limit

Advisory – move people out of the water and off the beach

Watch – stay alert for more information and be prepared to take action

Information – no danger is expected

Cancellation – Warning/Watch/Advisory are cancelled – there is no danger.

Describe the messages you issue given the following scenarios.

Scenario 1:

A – A magnitude 8.3 earthquake has occurred just off your coast:

B – 45 minutes later - A 3m wave was recorded on a local tide gage just before it stopped transmitting data.

Scenario 2:

A – A magnitude 7.4 earthquake has occurred just off your coast.

B – 45 minutes later - The nearest tide gage has recorded a 5 cm amplitude tsunami.

Scenario 3:

A – A magnitude 6.6 earthquake has occurred on the other side of the ocean basin. The travel time to your country is 6 hours.

B – 1 hour later - Tide gages indicate that no tsunami was generated.

Scenario 4:

A – A magnitude 8.3 earthquake has occurred on the other side of the ocean basin. The travel time is six hours.

B – 1 hour later - Near source tide gage records indicate that a large tsunami has occurred in the source zone.

C – 2 hours after that - DARTs located midway between your country and the source record a 15cm amplitude wave.

Scenario 5:

A – A magnitude 7.6 event has occurred just off your county's coast.

B – 30 minutes later - The nearest tide gage records a 50cm amplitude wave.

C – 15 minutes after that - The next tide gage records also records a 50cm amplitude wave.

Scenario 6:

A – A magnitude 8.0 earthquake has occurred on the other side of the ocean basin. The travel time is five hours.

B – 1 hour later - Near source tide gage records indicate that a large tsunami has occurred in the source zone.

C – 2 hours after that - DARTs located midway between your country and the source record a 3cm amplitude wave.