

# A Case of Utilizing Results

## Technical support to designating the assumptions of tsunami inundation by preparing guidelines

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### 1. Outline

To support prefectural governors to designate the assumptions of tsunami inundation along the tsunami prevention region development law, the Coast Division prepared the guidelines on designating the assumptions of tsunami inundation in February 2012, and gave prefectures technical advices, cooperatively with the Sea Coast Office of the Water and Disaster Management Bureau, Ministry of Land, Infrastructure, Transport and Tourism. The guidelines mainly introduce tsunami inundation simulations and methods to use the results of the simulations.

### 2. Guidelines on designating the assumptions of tsunami inundation estimates

The assumptions of tsunami inundation present the area and depth of inundation predicted by tsunami inundation simulations for the top class tsunami.

The following are the major items in the guidelines.

- Designating the assumptions of tsunami inundation are a series of setting the top class tsunami, setting calculation conditions, simulating tsunami inundation, and outputting the area and depth of inundation.

- The top class tsunami is set for each region's coastline to be the largest tsunami among the past tsunamis and the estimated tsunamis. Region's coastline is dividing a coastal region for shore protection basic plan into coherent coastlines assumed the height of the tsunami is the same considering natural conditions, past tsunami heights, and estimated tsunami heights.

- Fault models that give the initial tsunami profile can be set by referring reasonable models reviewed and published by public organizations such as the Central Disaster Management Council and the Headquarter for the Earthquake Research Promotion.

- In tsunami inundation simulations for designating the assumptions of tsunami inundation, facility damage induced by earthquakes and tsunamis should be considered that the top class tsunami may occur in adverse conditions and cause inundation from the viewpoint of protecting human life by all means, based on a lesson that there is no upper limit to the disaster.

- To understand inundation induced by tsunami run up to the land, the largest area and depth of inundation etc. to be designated in the assumptions of tsunami inundation are output as the results of tsunami inundation simulations.

To solve issues grasped through works for the assumptions of

tsunami inundation, the guidelines were revised three times (March, April, and October, 2012) to enrich explanations of facility conditions against earthquakes and tsunamis and others.

### 3. Utilizing the guidelines

Together with preparing the guidelines, contact point for technical consultation on tsunami inundation simulations was set up in the Coast Division, and explanatory meetings with prefectural officials and construction consultants were held in February and March 2012. Besides these, to solve technical problems in designating the assumptions of tsunami inundation, the Sea Coast Office of the headquarter and the Coast Division held opinion exchange meetings with officials in prefectures and regional development bureaus in ten regional blocks after April 2012, and responded to the consultation of each prefecture. As of January 2013, Ibaraki, Aomori (only a part of coastlines), Tokushima, and Kochi Prefectures have already designated the assumptions of tsunami inundation, and the other prefectures are supposed to proceed in works.

[Sources]

1) Guidelines on designating the assumptions of tsunami inundation

[http://www.mlit.go.jp/river/shishin\\_guideline/bousai/saigai/tsunami/shinsui\\_settei.pdf](http://www.mlit.go.jp/river/shishin_guideline/bousai/saigai/tsunami/shinsui_settei.pdf)

2) The assumptions of tsunami inundation in Ibaraki Prefecture

<http://www.pref.ibaraki.jp/bukyoku/doboku/01class/class06/kaigan/tsunamisinsui/2shinsui.html>

3) The assumptions of tsunami inundation in Aomori Prefecture

<http://www.pref.aomori.lg.jp/kotsu/build/tunami-sinsuisout/ei.html>

4) The assumptions of tsunami inundation in Tokushima Prefecture

<http://anshin.pref.tokushima.jp/docs/2012121000010/>

5) The assumptions of tsunami inundation in Kochi Prefecture

<http://www.pref.kochi.lg.jp/soshiki/170201/tsunamimap.html>