Instructions for Form 4 - Coastal Analysis

This form is intended to document the steps taken by the requester in the process of preparing the revised models or analyses and the resulting revised Flood Insurance Study information.

Download Form 4 - Coastal Analysis.

Resources

For coastal analyses and mapping procedures used by FEMA for coastal areas, refer to the following documents on FEMA's website.

- Coastal General Study Considerations
- Coastal Wave Setup
- Determination of Wave Characteristics
- Overland Wave Propagation
- Coastal Structures
- Coastal Water Levels
- Coastal Floodplain Mapping
- Coastal Statistical Simulation Methods
- Coastal Flood Frequency and Extreme Value Analysis
- Coastal Notation, Acronyms, and Glossary of Terms
- Combined Coastal and Riverine Floodplain
- Guidelines for Coastal Flood Hazard Analysis and Mapping for the Pacific Coast of the United States
- Coastal Erosion

FEMA developed the Coastal Hazard Analysis Modeling Program (CHAMP) 2.0 computer program to analyze wave height, wave runup and storm-induced erosion. In addition, a list of accepted FEMA coastal models can be found on the FEMA website. The guidelines below should be followed when completing this form.

Section A: Coastline to be Revised

Describe the limits of the restudied area. Road names and/or landmarks near the restudied area or transects used in the effective Flood Insurance Study may be used as reference points.

Section B: Effective Flood Insurance Study

Provide the type of analyses (approximate or detailed wave parameter computations) used for the effective Flood Insurance Study for the community being restudied. This information is available in the hydrologic and hydraulic sections of the Flood Insurance Study report.

Section C: Revised Analysis

All changes to effective models must be supported by certified topographic information, structure plans, survey notes, storm surge data, meteorological data, etc. All equations or models used must be referenced. Attach descriptions and/or sketches of transect profiles for revised erosion, wave height, wave runup, wave setup, and wave overtopping analyses. Wave runup and wave overtopping should be considered when the wave heights approach the crest of the shore protection structure or natural landforms. Special care should be taken when addressing wave setup, as newer model configurations may implicitly consider setup in the reported stillwater elevations. Refer to the relevant effective Flood Insurance Study report for this information. If FEMA procedures are not used in the revised analyses, provide an explanation.

Section D: Results

Information must be provided to determine the impact of the analysis on the mapping of the coastal high hazard areas (VE zones), including the location of the coastal high hazard area boundaries, maximum wave height elevation, Limit of Moderate Wave Action placement (where applicable), and maximum wave runup elevation. Mapping resulting from the restudy must tie in with the mapping of areas that were not restudied. The mapped inland limit of the coastal high hazard

areas from the restudy must comply with National Flood Insurance Program regulations in the Code of Federal Regulations Title 44 Section §65.11 in areas where primary frontal dunes are present.

Section E: Mapping Requirements

With the revision request, submit a certified topographic map showing the information indicated in the Mapping Requirements Section of the Coastal Analysis Form. Please also submit a copy of the current Flood Insurance Rate Map annotated to show the revised 1%-annual-chance floodplain boundaries that tie into the effective 1%-annual-chance floodplain boundaries.