FL Coastal Map Viewer User's Guide

ABOUT THIS WEBSITE

Taylor Engineering developed this map-based web application which graphically illustrates coastal areas in the state of Florida listed as "Special Building Environmental Factors" (SBEF) in ICC's *Ensuring the Safety of Existing Buildings in Florida: Codes, Standards, and Inspections*. The interactive web map illustrates the Coastal Building Zone, FEMA flood zones, and Ultimate Design Wind Loading zones. Upon user selection of a point-based location, the web application informs the user if the chosen point exists within the SBEFs. The information section of each map layer explains where to find the publicly-available datasets which the web application is using.

HOW TO USE THE ICC FL COASTAL MAP VIEWER

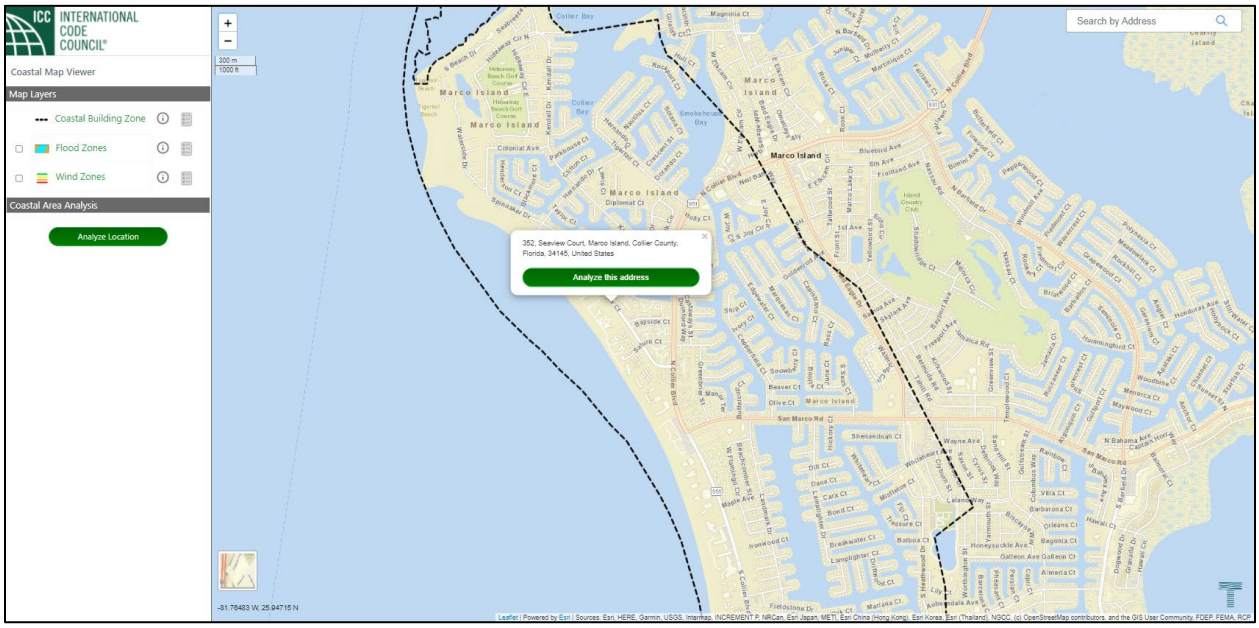
The webtool is user-friendly and works quickly to analyze a user's selected location for applicable SBEFs.

To Analyze a Chosen Location:

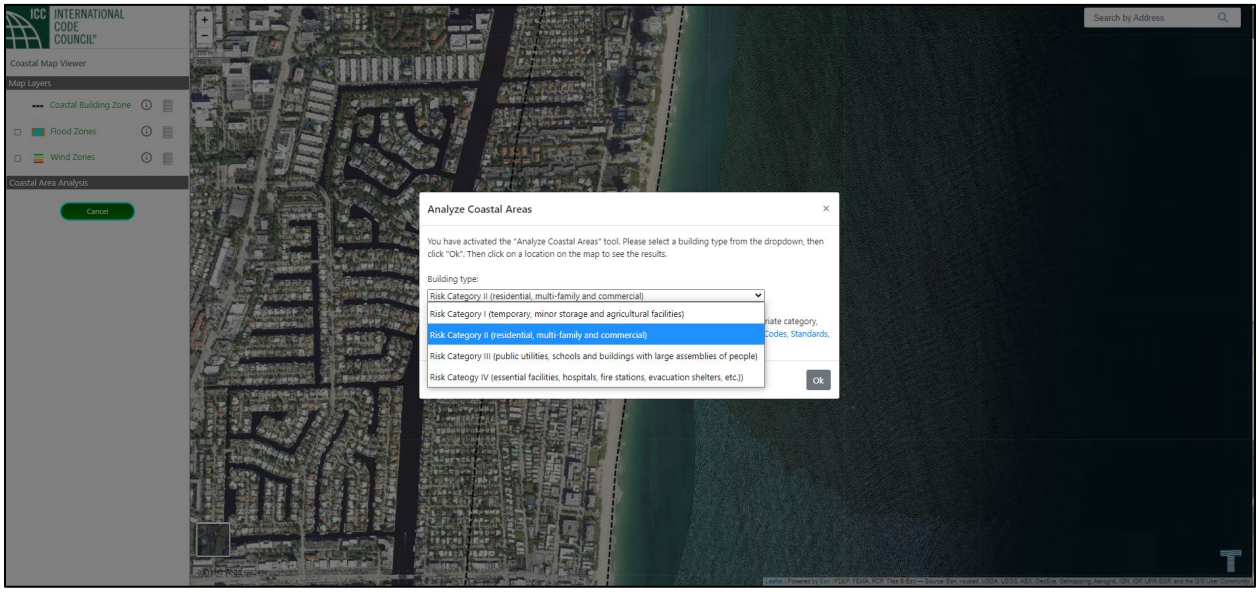
Step 1 – To navigate the map, four options are available:

1) Type an address into the box at the top right corner of the map, then select the magnifying glass icon;
2) Zoom using the + and – buttons in the top left corner of the map or using the mouse's scroll-wheel;
3) Move the map by clicking and holding the left mouse button and dragging the map to a new location;
4) Double-click on the map multiple times to center the map and zoom in to a chosen location.

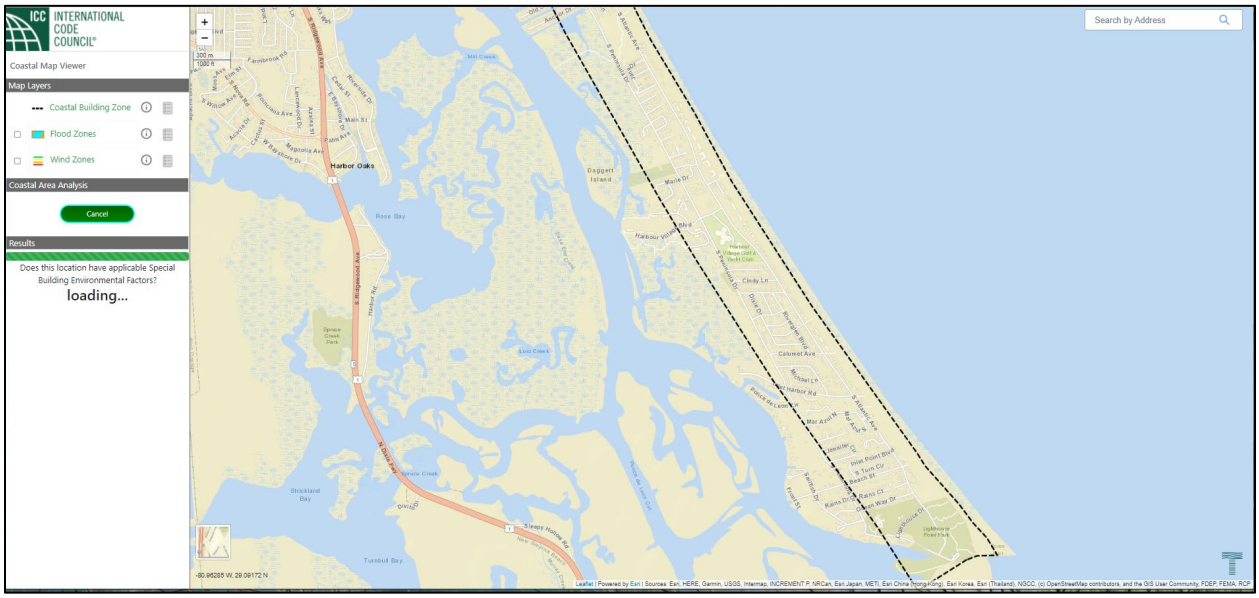
Step 2 – To start the Coastal Area Analysis, select the “Analyze Location” button by clicking it; or, if the “Search by Address” box was used, select the “Analyze this address” button (shown below).



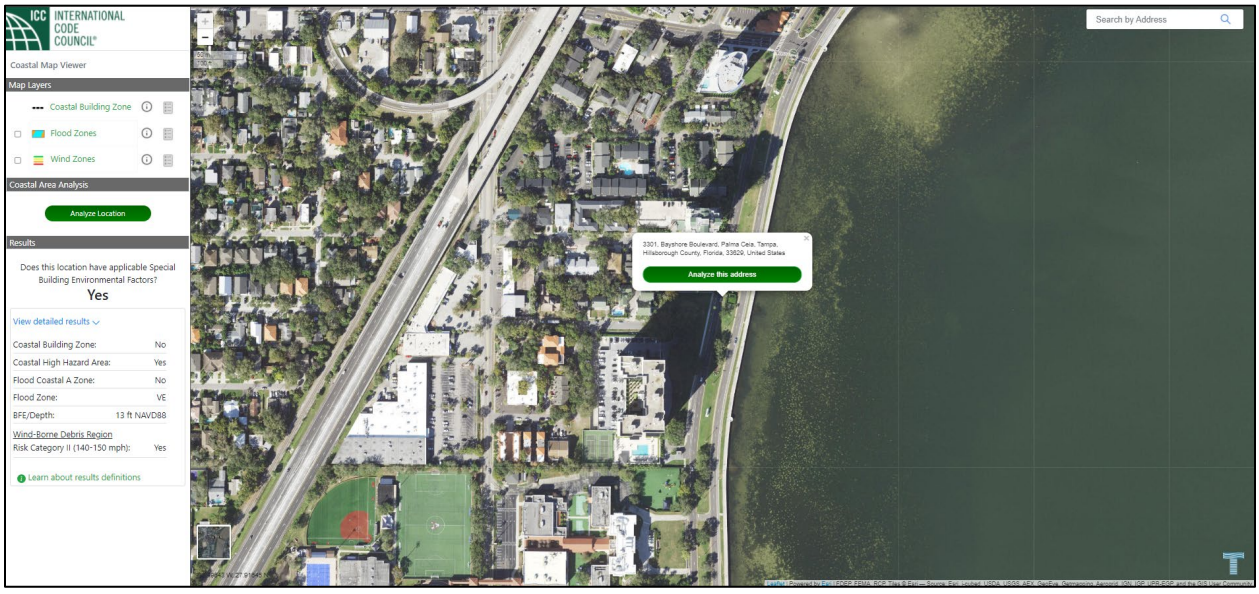
Step 3 – Select a Building Risk Category from the drop-down menu which appears (shown below). Further information on selecting the Building Risk Category is available on the pop-up box.



Step 4 – Once the Building Risk Category has been selected, click OK in the pop-up box. A green bar will appear on the left (shown below), indicating that the website is completing its analysis.



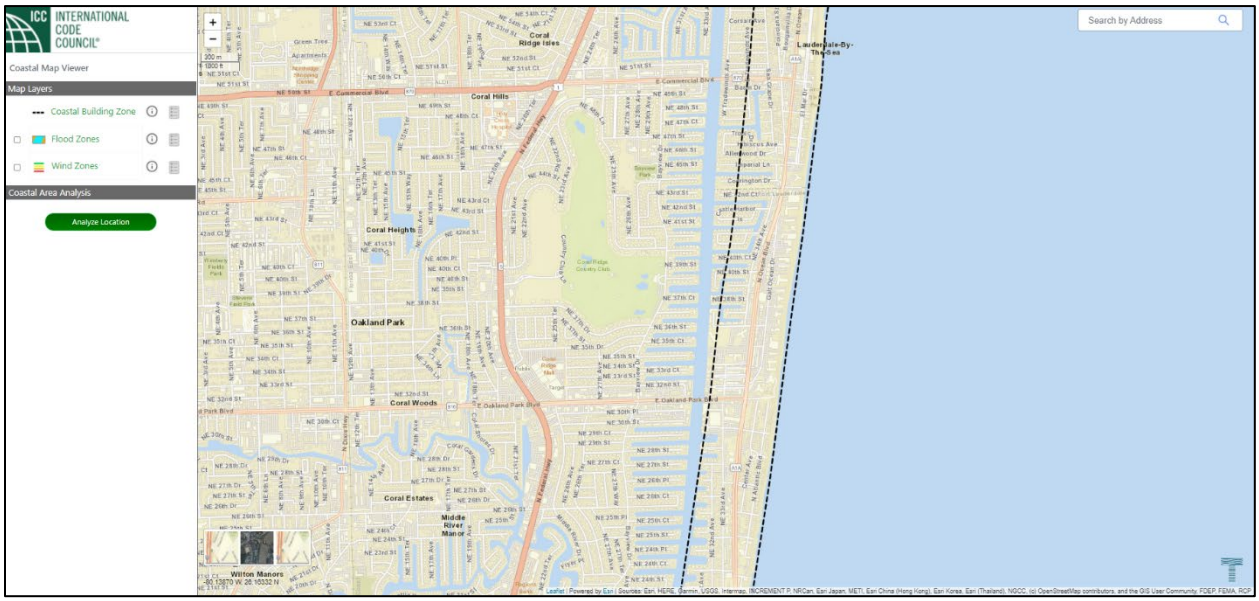
Step 5 – Once the analysis is complete, the results are shown in the bottom left panel of the website, noting any applicable Special Building Environmental Factors for the chosen location. The user can then select “View detailed results” for more information.



Other Features of the FL ICC Coastal Map Viewer:

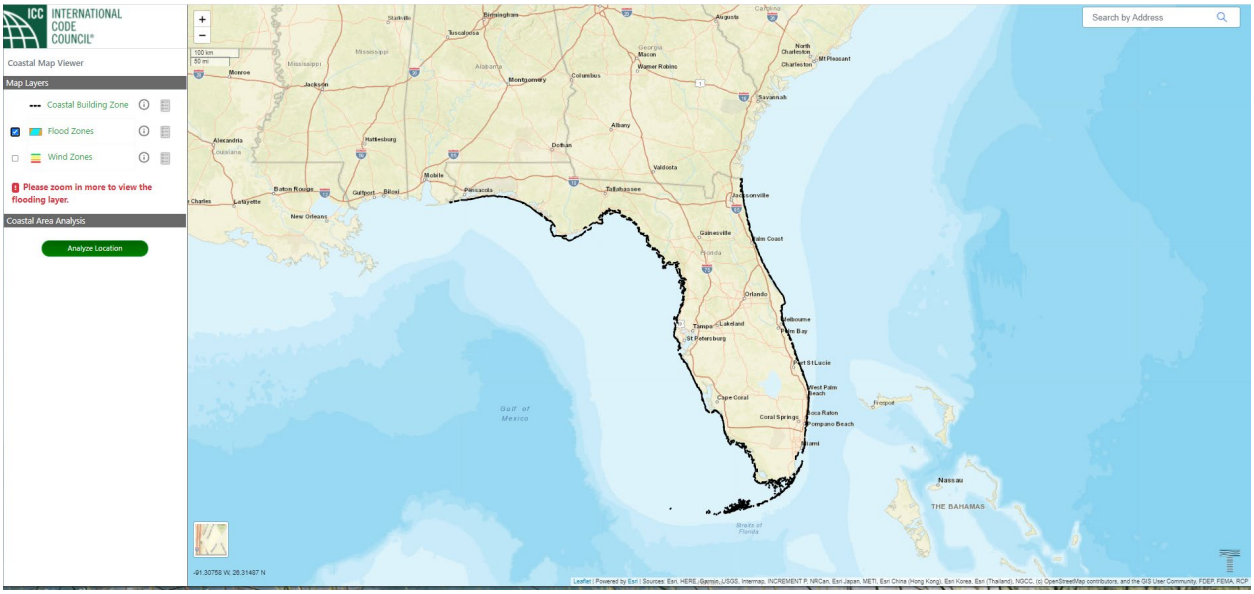
Changing the Base Map

The user can easily choose either a street map or satellite aerial view, by clicking on the box in the bottom left corner of the map. The two screenshots below show the same map, with the two different views.

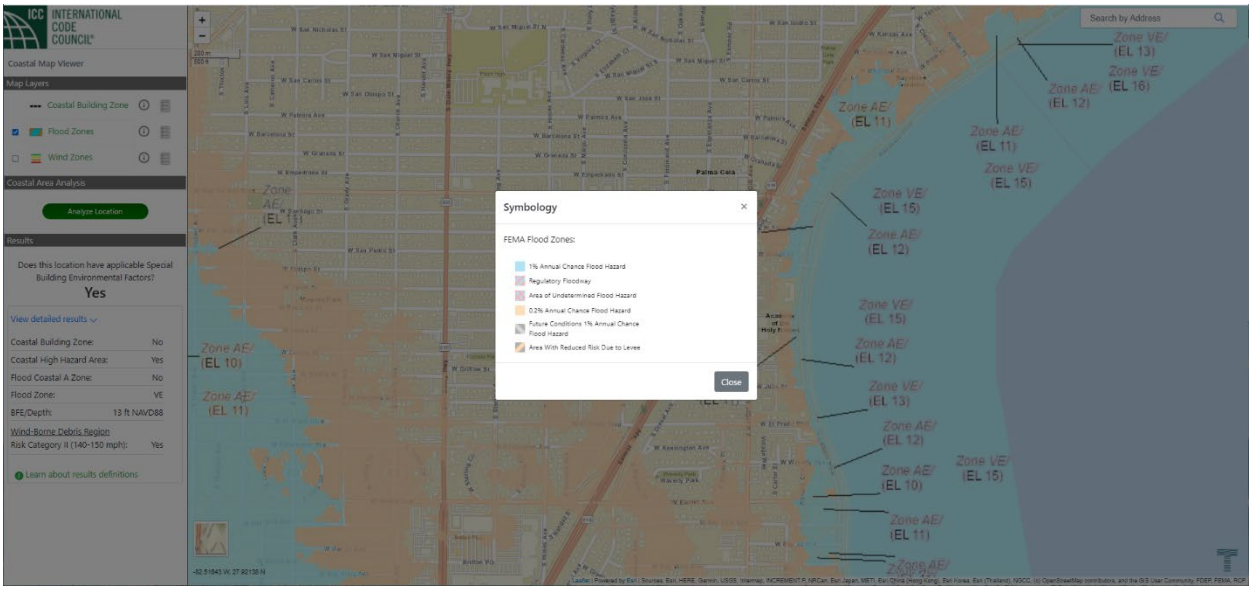


Viewing the FEMA Flood Zones

By selecting the box next to the word “Flood Zones” in the top left corner of the website, the FEMA Flood Zones layer is activated. An advisory message will appear in red text, if the user must zoom the map in more to view this detailed dataset.

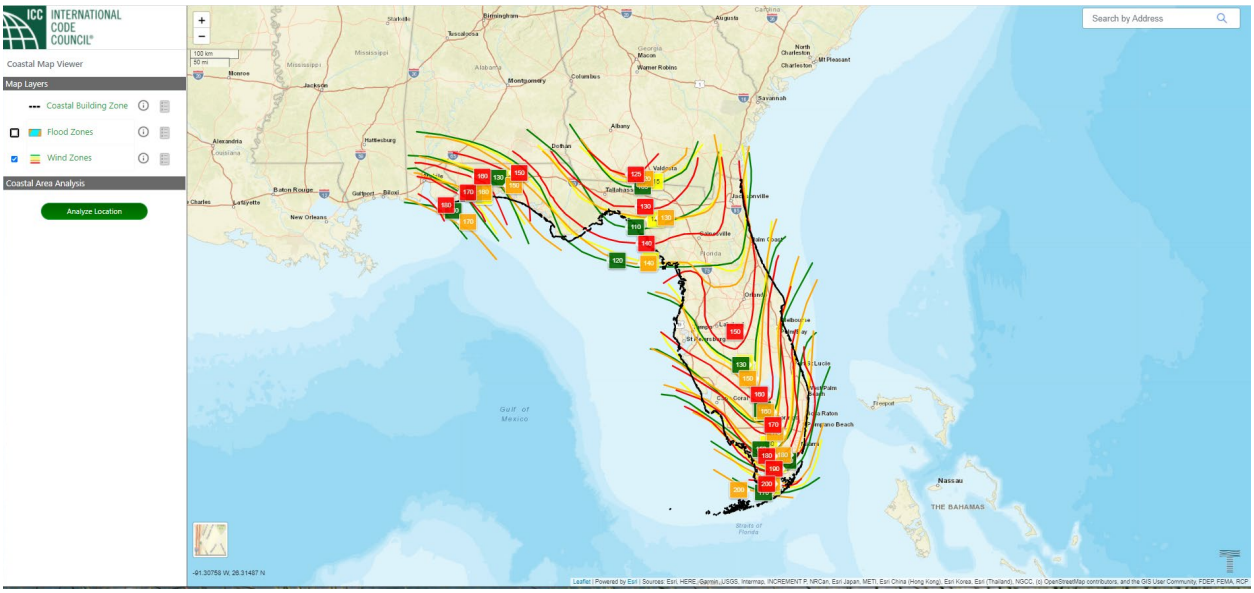


The legend for the FEMA Flood Zones layer can be viewed by selecting the icon.

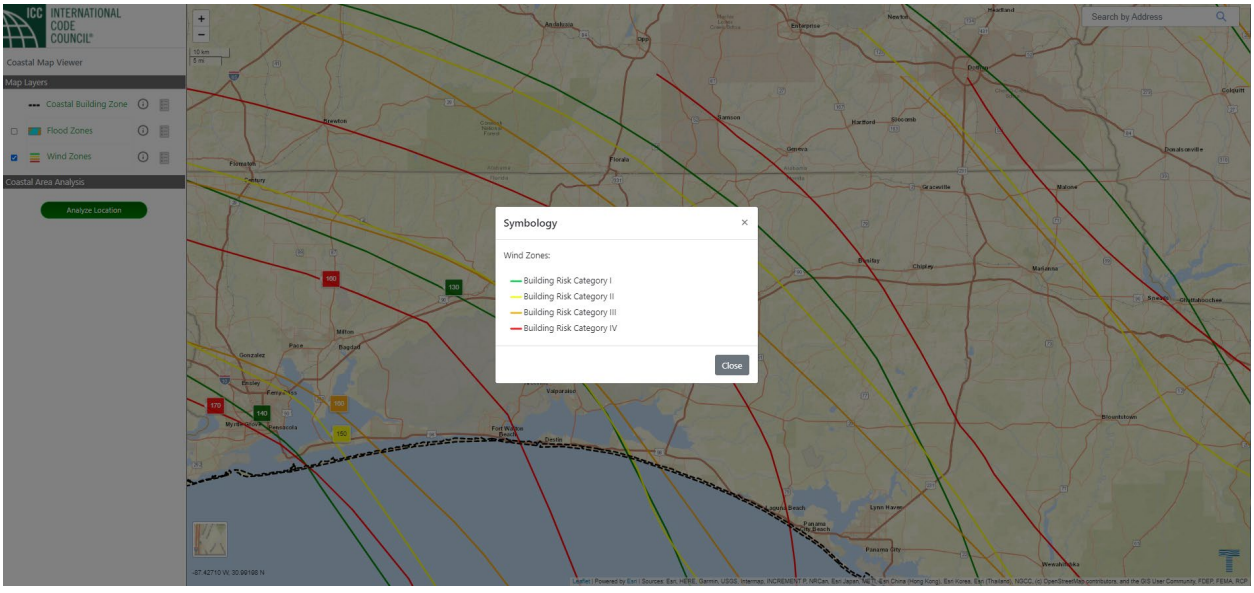


Viewing the Wind Zones

By selecting the box next to the word “Wind Zones” in the top left corner of the website, the Florida Building Code Wind Zones layer is activated. The wind zones depict the ultimate design windspeed prescribed for a structure based on the Building Risk Category Type.



The legend for the FBC Wind Zones layer can be viewed by selecting the  icon.



SPECIAL BUILDING ENVIRONMENTAL FACTORS (SBEF) DEFINITIONS

Coastal Building Zone
The land area from the seasonal high-water line landward to a line 1,500 feet landward from the coastal construction control line as established pursuant to s. 161.053, and, for those coastal areas fronting on the Gulf of Mexico, Atlantic Ocean, Florida Bay, or Straits of Florida and not included under s. 161.053, the land area seaward of the most landward velocity zone (V-zone) line as established by the Federal Emergency Management Agency and shown on flood insurance rate maps.

Coastal High Hazard Area
COASTAL HIGH HAZARD AREA. Area within the special flood hazard area extending from offshore to the inland limit of a primary dune along an open coast and any other area that is subject to high-velocity wave action from storms or seismic sources, and shown on a Flood Insurance Rate Map (FIRM) or other flood hazard map as velocity Zone V, VO, VE or V1-30.

Flood Coastal A Zone
Area within a special flood hazard area, landward of a V zone or landward of an open coast without mapped coastal high hazard areas. In a coastal A zone, the principal source of flooding must be astronomical tides, storm surges, seiches or tsunamis, not riverine flooding. During the base flood conditions, the potential for breaking wave height shall be greater than or equal to 1½ feet (457 mm). The inland limit of the coastal A zone is (a) the Limit of Moderate Wave Action if delineated on a FIRM, or (b) designated by the authority having jurisdiction.

Wind-Borne Debris Region
Areas within hurricane-prone regions located:

1. Within 1 mile (1.61 km) of the coastal mean high water line where the ultimate design wind speed, V_{ult}, is 130 mph (58 m/s) or greater; or
2. In areas where the ultimate design wind speed, V_{ult}, is 140 mph (63.6 m/s) or greater.

For Risk Category II buildings and structures and Risk Category III buildings and structures, except health care facilities, the wind-borne debris region shall be based on *Florida Building Code* Figure 1609.3.(1). For Risk Category III health care facilities, the wind-borne debris region shall be based on *Florida Building Code* Figure 1609.3(2). For Risk Category IV buildings and other structures, the wind-borne debris region shall be based on *Florida Building Code* Figure 1609.3(3).

All terms above defined by 2020 *Florida Building Code*, Building, 7th Edition, Section 202, https://codes.iccsafe.org/content/FLBC2020P1/chapter-2-definitions#FLBC2020P1_Ch02_Sec202

Link to Figures 1609. 3(1), 1609.3(2), 1609.3(3), and 1609.3(4):
https://codes.iccsafe.org/content/FLBC2020P1/chapter-16-structural-design#FLBC2020P1_Ch16_Sec1609.3

REFERENCES / LINKS TO DATASETS UTILIZED BY THE ICC FL COASTAL MAP VIEWER

Coastal Building Zone

Description

This polygon depicts the possible extent of the Coastal Building Zone (CBZ) of the state of Florida, based on the Florida Statutes s. 161.54 Definitions and s. 161.55 Requirements for activities or construction within the coastal building zone. The criteria to define the extent of the zone varies, depending whether there is a Coastal Construction Control Line (CCCL) in the area or not, and whether it is in the mainland or in a coastal barrier island. Coastal barrier islands were defined as geological features surrounded by marine waters fronting the open waters of the Gulf of Mexico or the Atlantic Ocean, not separated from the mainland by artificial channelization. The criteria used to delineate the boundaries is detailed below:

Mainland Areas with CCCL – Limits cover from the Mean High Water (MHW) line to a line 1,500 feet landward from the CCCL. The distance was measured perpendicular to every segment of the CCCL, with the CBZ boundary being the line formed by connecting the landward-most point of all measurements taken.

Coastal Barrier Islands with CCCL – Limits cover from the MHW line to either a line 5,000 feet landward from the CCCL measured perpendicularly, or the entire island, whichever is less. Smaller islands attached to the main island were considered part of the coastal barrier island when delineating the CBZ area.

Mainland Areas without CCCL – Limits cover all the land seaward from the most landward boundary of the velocity zone (V-zone) fronting upon the Gulf of Mexico or the Atlantic Ocean.

Coastal Barrier Islands without CCCL – Limits cover from the MHW line to the landward boundary of the island. All land area in the Florida Keys located within Monroe County is included in the CBZ.

161.54 Definitions.

https://m.flsenate.gov/Statutes/161.54

161.55 Requirements for activities or construction within the coastal building zone.

https://m.flsenate.gov/Statutes/161.55

For issues with this data please contact Jeohusua Lugo at Jeohusua.Lugo@FloridaDEP.gov

Direct Link: https://fdep.maps.arcgis.com/home/item.html?id=ad2ed94e4f9a4eec8631e4610a6a58b5

FEMA National Flood Hazard Layer

Note: Performance and speed of data in this layer are directly dependent on FEMA as the data is generated from a map service running on their website.

Description: Effective regulatory flood hazard information is available as Geographic Information Systems (GIS) data in the form of the National Flood Hazard Layer (NFHL). The NFHL provides users with the ability to determine the flood zone, base flood elevation and floodway status for a particular geographic location. It also has National Flood Insurance Program (NFIP) community information, map panel information, cross section and hydraulic structure information, Coastal Barrier Resource System information (if applicable) and base map information, such as road, stream and public land survey data. The NFHL dataset represents the current effective flood risk data for those parts of the country where maps have been modernized. It is a compilation of effective Flood Insurance Rate Map (FIRM) databases and Letters of Map Revision (LOMR). The NFHL is updated as new data reaches its designated effective date and becomes valid for regulatory use under the NFIP.

Website: https://msc.fema.gov/nfhl

Map Service: https://hazards.fema.gov/gis/nfhl/rest/services/public/NFHL/MapServer

FL Building Code Wind Zones

The ultimate design wind speed in miles per hour, for the development of wind loads, shall be determined from Figures 1609.3(1), 1609.3(2), 1609.3(3) and 1609.3(4) in the 2020 Florida Building Code. The exact location of wind speed lines shall be established by local ordinance using recognized physical landmarks such as major roads, canals, rivers and lake shores whenever possible.

Link to Figures 1609.3(1), 1609.3(2), 1609.3(3) and 1609.3(4):
https://codes.iccsafe.org/content/FLBC2020P1/chapter-16-structural-design#FLBC2020P1_Ch16_Sec1609.3

Website illustrating Figure 1609.3(3):
https://www.arcgis.com/home/webmap/viewer.html?webmap=6c8665e9c72d49d38033a4f245a9bdd7&extent=-90.2185,24.1483,-77.2931,31.3082