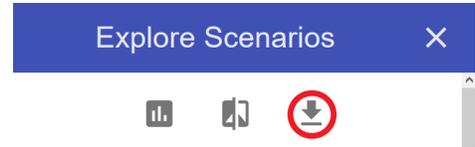# Accessing downloadable GIS data: Flooding

1 To access **FLOODING** data (including for the SF Bay Area), go to: ourcoastourfuture.org/hazard-map and click the "download" button under the left-side Explore Scenarios menu

2

Register as a user to access the download page.

- Please do provide a description of the project and/or purpose of the data, and any contact info to find out more about the project. It really helps us to keep track of user metrics and report on the broader impact of the modeling and web tool!
  - e.g., who are you supporting and how are they planning to use the info from your analysis
  - What is the geography of your analysis
  - Any web links to a project or program are helpful as well.

3 You will receive a **welcome email** approving your registration, which you can then follow to access the downloads page

4 **Download** zip files by county, data product, and sea level rise (SLR) scenario

Shoreline position, cliff retreat, and groundwater

5 To access SHORELINE POSITION and CLIFF RETREAT data (currently available for Southern and Central California) go to USGS ScienceBase here:
https://www.sciencebase.gov/catalog/item/5633fea2e4b048076347f1cf

6 To access GROUNDWATER data (available statewide) go to USGS ScienceBase. To download the data that is currently visualized in the OCOF tool, select "Projected groundwater emergence and shoaling…" and the MHHW scenario.

How to Cite

- Suggested citations: ourcoastourfuture.org/about/#cite

Metadata

- Metadata for Southern California (CoSMoS v3.0; south of Point Conception) and the outer Central Coast (CoSMoS v3.1, Point Conception north to Golden Gate) can be found here https://www.sciencebase.gov/catalog/item/5633fea2e4b048076347f1cf
- Information for CoSMoS v2.x (inner San Francisco Bay Area, and outer coast from Golden Gate north to Point Arena) is available on the following page.

What CoSMoS versions of data are currently packaged for download
(as of June 28, 2021)

- For a map showing CoSMoS versions: ourcoastourfuture.org/about
- SLR 250cm and 300cm scenarios are only available for v3.1 geography (outer coast from the Golden Gate south to Pt Conception)
- San Mateo County and San Francisco County: data are v2.1 for the inner bay, and the latest v3.1 for the outer coast. One implication is that any of the SLR 125cm and 175cm scenarios will only have data for inner SF Bay (from v2.1), as they have been dropped from v3.1 models in order to provide 250cm and 300cm scenarios.
- Marin County: CoSMoS v2.1 for inner bay, and v2.0 for outer coast
- Sonoma County: v2.1 (inner bay) and v2.0 and v2.2 for different stretches of the outer coast
- Santa Barbara County: CoSMoS v3.0 for south of Pt. Conception, and v3.1 for the area north of Pt. Conception; these two regions are packaged separately based on UTM zone
- Note for inner San Francisco Bay: flood extent shapefiles for the entire inner SF Bay are provided with each county download, but raster data (e.g., flood depth) cover only the county geography

Contact ocof@pointblue.org for additional questions. Last updated: 9/23/2021

San Francisco Bay Area (CoSMoS v2.x) metadata

Last updated Sept 2019

USGS CoSMoS v2.x data are only available on Our Coast Our Future (ourcoastourfuture.org) and not on USGS's digital repository. As such, we do not have any official metadata, but we hope the information and references below provide some basic information. The information provided below is for the flood extent layers and associated vector (shapefile) data. If you used flood depth or any other raster product, please contact Maya Hayden (ocof@pointblue.org) or Andy O'Neill (aoneill@usgs.gov) and we can put similar information together for those data.

- **Who created this and who is it for** -- Coastal Storm Modeling System (CoSMoS) v2.0, v2.1, and v2.2 were created by the CoSMoS project team led by Patrick Barnard, at the USGS Pacific Coastal and Marine Science Center. Science questions should be directed to him (pbarnard@usgs.gov, 831-460-7556), and data/format questions can be directed to Andy O'Neill (aoneill@usgs.gov, 831-460-7586). These data are intended for policy makers, resource managers, science researchers, students, and the general public. These data can be used with geographic information systems or other software to identify and assess possible areas of vulnerability. These data are not intended to be used for navigation.
- **What is being depicted and measured** -- For the flood extent layers and associated data: Attribute values are extents of flood projections, low-lying vulnerable areas, and maximum/minimum flood potential (flood uncertainty) due to plausible sea-level rise and future storm conditions and therefore cannot be validated against observations. The projections were generated using the latest downscaled climate projections and calibrated hydrodynamic models.
- **When was it done** -- Completion dates -- CoSMoS v2.0: December 2012. CoSMoS v2.1: June 2014. CoSMoS v2.2 (Pt. Arena expansion): 2015.
- **Where** -- CoSMoS v2.0 for the Central California outer coast from Half Moon Bay to Bodega Bay (not including SF Bay). CoSMoS v2.1 covers inside San Francisco Bay. CoSMoS v2.2 covers from Bodega Head north to Pt. Arena.
- **Datums** -- Data is referenced to UTM 11 (2 m resolution), and vertical datum NAVD88 (in m).
- **Why was it done** -- CoSMoS was developed for hindcast studies, operational applications and future climate scenarios to provide emergency responders and coastal planners with critical storm-hazards information that can be used to increase public safety, mitigate physical damages, and more effectively manage and allocate resources within complex coastal settings.

Additional references for purpose and methods:

- Barnard, P.L., van Ormondt, M., Erikson, L.H. et al. Nat Hazards (2014) 74: 1095. https://doi.org/10.1007/s11069-014-1236-y
- Li H. Erikson, Andrea C. O'Neill and Patrick L. Barnard "Estimating Fluvial Discharges coincident with 21st Century Coastal Storms Modeled with CoSMoS," Journal of Coastal Research (JCR) 85(sp1), (1 May 2018). https://doi.org/10.2112/SI85-159.1
- O'Neill, A. C., L. H. Erikson, and P. L. Barnard (2017), Downscaling wind and wavefields for 21st century coastal flood hazard projections in a region of complex terrain, Earth and Space Science, 4, 314–334, doi:10.1002/2016EA000193.
- Hummel, M.A., Wood, N.J., Schweikert, A. et al. Reg Environ Change (2018) 18: 1343. https://doi.org/10.1007/s10113-017-1267-5

Point Blue Conservation Science   USGS science for a changing world

Collaborative, Trusted Science to Support Decision Making

Our Coast Our Future is a partnership between Point Blue Conservation Science and USGS, and was collaboratively developed with many local, state, and federal stakeholders. It is the platform for data visualization, synthesis, and download of all output products from the USGS Coastal Storm Modeling System (CoSMoS).