



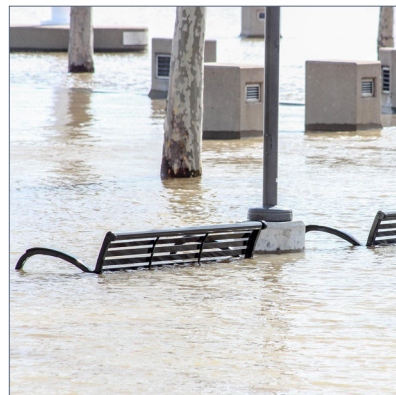
## An Overview of NCCOS's Community Vulnerability Assessment Portfolio

### Detailed Summary for Partners

#### What are we doing?

Coastal communities face increased flooding, storms, erosion, and other natural hazards worsened by climate change. The impacts are felt differently across the nation and some communities are more at risk than others.

Through our Community Vulnerability Assessment Portfolio, we serve one community or region each year by assessing their vulnerability to natural hazards in a series of maps. We work with local partners and stakeholders to ensure that results are locally tailored and relevant for effective, equitable planning.



#### Why is this research important?

Many of our nation's coastal communities have limited economic resources and are disproportionately exposed to natural hazards. As climate change continues, natural hazard events are likely to become stronger and more frequent as climate change continues, increasing coastal vulnerability. Historic inequalities in service provision have deprioritized coastal restoration and infrastructure upgrades in underserved communities. As a result, underserved communities have had fewer opportunities to prepare for hazardous events. This underscores the need for equitable access to services supporting adaptation, emergency response, and recovery planning.

While there are national tools that screen for vulnerable populations, they often do not provide place-based information at a scale or resolution meaningful for local action. Our place-based community vulnerability assessments support this research gap.



## How do we identify where to provide services?

We begin one new assessment each year. Our team has developed and deployed an intentional, equitable approach for identifying communities in greatest need of our services. We organize U.S. coastal counties by region, and then screen potential client communities through the criteria explained below. This ensures that our services are reaching those who have been historically underserved and may not have the resources to secure assistance otherwise.

<b>Low resilience</b>	Low national resilience in the Baseline Resilience Indicators for Communities (BRIC) <a href="#">Index</a> or the Climate Resilience Screening <a href="#">Index</a> (CRSI)
<b>High social vulnerability</b>	High national vulnerability in the CDC's Social Vulnerability Index <a href="#">tool</a>
<b>High environmental justice exposure</b>	High environmental justice exposure in the EPA's EJScreen <a href="#">tool</a>
<b>Underserved populations</b>	Includes underserved communities as described in <a href="#">Executive Order 13985</a>
<b>Research need</b>	Lacks data to fulfill current climate vulnerability or adaptation needs & those needs align with NCCOS capacity
<b>Partner availability</b>	Partners are trusted by the community & have time and availability to serve as project liaisons
<b>Stakeholder support</b>	Community stakeholders are supportive of the project & have expressed research or planning need
<b>Timely climate action</b>	Data are needed for timely local climate action or adaptation planning



## What does each assessment include?

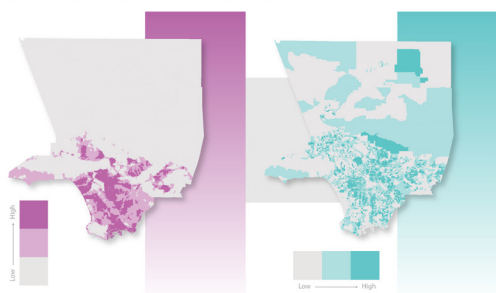
Step 1	Step 2	Step 3	Step 4	Step 5	Step 6
<p><b>Partner engagement</b></p> <p>Determine project advisory committee. Hold workshop meeting(s) to determine project goals and prioritize local needs.</p>	<p><b>Indicator development</b></p> <p>Gather local and national data to develop indicators and indices, using partner/stakeholder input.</p>	<p><b>Assess vulnerability and hazard</b></p> <p>Develop maps of each vulnerability (or exposure) and hazard index. Present for key partner feedback.</p>	<p><b>Assess risk</b></p> <p>Spatially assess risk by intersecting vulnerability (and/or exposure) with hazard. Present for key partner feedback.</p>	<p><b>Conduct place-based analysis</b></p> <p>Develop additional place-based indices and intersect with other assessment maps. Present for key partner feedback.</p>	<p><b>Develop and release products</b></p> <p>Develop products. Present findings and products to full list of partners and stakeholders. Revise and finalize.</p>

Our assessment framework is described above. Each assessment takes about 2 years and begins with developing a project scope document that guides project goals. We work with a project advisory committee throughout all assessment phases and often benefit and learn from stakeholder workshops. Our project teams use the best available, existing data from local and national sources to tailor all indicators and indices to meet local community needs. At a minimum, each assessment identifies and produces maps of:

- **Social vulnerability** (e.g., social, demographic, and economic factors);
- **Structural vulnerability** (e.g., housing structure vulnerabilities) or structural exposure (e.g., extent of hospitals, schools, roads);
- **Flood hazard(s)** of local importance (e.g., coastal flooding, stormwater flooding); and
- **At-risk communities or community assets** in relation to chosen flood hazard(s).

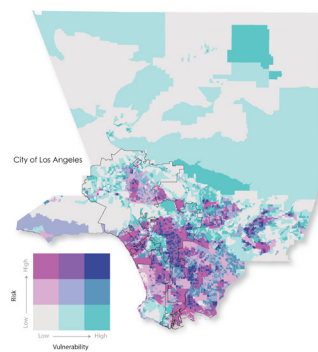
At NCCOS, we define vulnerability as “the propensity or predisposition of assets to be adversely affected by hazards” (U.S. Climate Resilience [Toolkit](#)). Other terms can be found in our [portfolio glossary](#).

### HAZARDS



### VULNERABILITIES

### RISKS



Example Project in Los Angeles County, CA



## Are there other local considerations?

In addition to our standard maps, communities often have additional research questions to further address local needs. Partners will be able to select up to **two place-based analyses** that support local climate vulnerability planning. Research needs vary by location, but here is a list of examples from past projects:

- Expansion to additional hazard categories (i.e., drought, wildfire, extreme heat, or a locally important hazard type);
- Further downscaled vulnerability assessment (i.e., originally conducted for a county, but then conducted for a community within that county);
- Exploration of natural resource exposure as it relates to social systems (i.e., access equity or hazard impacts);
- Transportation assessment (e.g., network interruptions, evacuation route access, walkability index);
- Exploration of flood insurance access and equity of flood insurance claims; or
- Development of a waterborne toxins and contaminants index.

All requests will be assessed for feasibility prior to commitment or execution. Additionally, partners may substitute one or more place-based analysis types for an online map portal.



## How large is each assessment area?

The size of each assessment geography depends on a community's needs. Assessments may be completed for a state, region, congressional tract, county, or municipality. The chosen boundary depends on partner preferences, data availability, and any data limitations. Each assessment's unit of analysis also accounts for local needs. It might include the Census Block, Block Group, Zip Code Tabulation Area, or utilize a hexagonal grid system or appropriate geographical mesh.



## What are our standard products?

We provide information to municipal, regional, and federal government agencies and their stakeholders that helps communities better protect themselves. Our tailored geospatial data and products can be used in climate adaptation, resilience, emergency response, and other types of planning at multiple scales.

We do this by providing a report, mapbook, spatial dataset, and one communications item (e.g., infographic, onepager, storymap). Each assessment also has a plain language webpage summarizing the project.

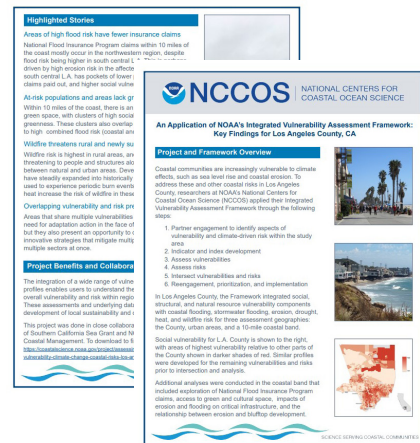
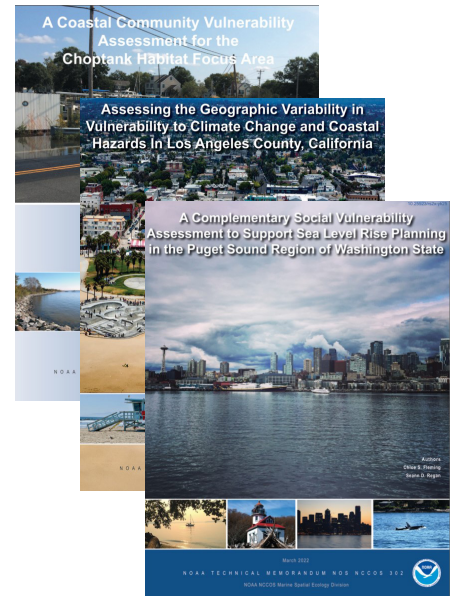
## How important are our partners?

Our partners are key to our success. As a national portfolio, we rely on our partners to:

- **Serve** as liaisons between our team and local stakeholders;
- **Represent** the needs of local stakeholders or ensure that key stakeholders are involved appropriately;
- **Recommend** local data sources or connect us with knowledgeable stakeholders;
- **Assist** in the coordination of any stakeholder workshops (once or twice per assessment);
- **Provide** assessment feedback at key inflection points;
- **Assist** in the coordination of a roll-out meeting to communicate assessment findings and next steps;
- **Assist** in the transfer of information and/or training of stakeholders to use assessment products; and
- **Share** assessment uses 12 months following assessment completion.

Partners are also **invited** to take a more active role in the overall assessment as their schedules allow.

Visit us at: <https://coastalscience.noaa.gov/project/programmatic-execution-of-nccos-vulnerability-assessments/>



## For More Information

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