



Climate Vulnerability Assessments 101

What is Climate Vulnerability?

Climate vulnerability is a measure of how vulnerable a given resource (e.g., species, habitat, ecosystem service, heritage resource, or community) is to the cumulative impacts of climate change and non-climate stressors. It is a function of the sensitivity of a particular resource or community to climate changes, its exposure to those changes, and its capacity to adapt to those changes (IPCC 2007). To determine the vulnerability of a resource, three components are assessed:

- *Exposure* is a measure of how much change in climate or other environmental factor a resource or community is likely to experience.
- *Sensitivity* is a measure of whether and how a resource or community is likely to be affected by a given change in climate or other environmental factor.
- *Adaptive Capacity* is a measure of the ability of the resource or community to adapt to the effects or impacts of climate change.

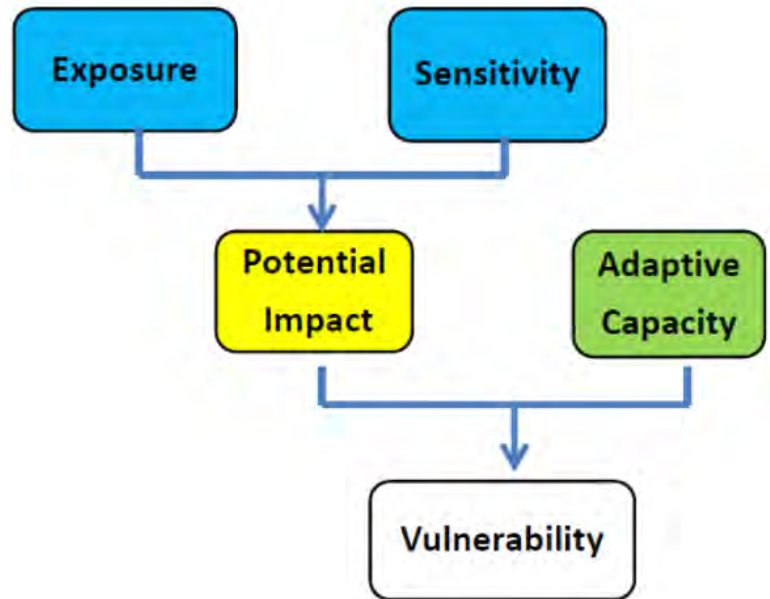


Photo: XL Catlin Seaview Survey

What is a Climate Vulnerability Assessment (CVA)?

A CVA is a process used to qualitatively describe and evaluate how climate and non-climate stressors impact a species, habitat, or area's vulnerability to climate change in order to improve management approaches for long-term success. The CVA process uses worksheets with specific questions, including rankings for each resource assessed.



Photo: NOAA

Why undergo a CVA?

A CVA is a tool in a manager's toolbox to make informed decisions based on current and projected conditions, how they will affect resources, and why those resources are vulnerable. Specifically, a CVA can help:

- Prioritize resources and systems for management actions
- Develop management strategies to address climate change by more specifically targeting the mechanism(s) identified to be causing the vulnerability
- Efficiently allocate resources

Who participates in a CVA?

Typically, a CVA is conducted by protected area managers, with broad participation from subject-matter experts. For NOAA's Office of National Marine Sanctuaries (ONMS), each site conducts its own CVA, with assistance from ONMS climate staff as needed, and invites participation from subject matter experts, similar to a Condition Report process.



Photo: NOAA

What do you need to conduct a CVA?

- An interest in learning how climate change is affecting your site.
- Knowledge of the site being evaluated (habitat types, basic ecological information, existing threats, management mechanisms, current status and trends), and a list of key resources (species, habitats, cultural resources and/or ecosystem services) to be assessed.
- Awareness of relevant climate impacts and access to basic climate information to support your understanding (a [climate impacts summary](#) or climate profile).



Photo: NOAA

For more information, contact the ONMS Climate Coordinator, Dr. Zachary Cannizzo (zac.cannizzo@noaa.gov)