

Creating Climate Ready Communities

Communities around the nation and globe are experiencing extreme conditions and rapid change. Storms, floods, drought, and heat waves are becoming more frequent and extreme. Shifts in the ranges of plants, animals, diseases, and pests are disrupting natural systems, communities, and industries alike. And coastal communities are being impacted by storm surge, flooding, and ocean acidification.

As conditions become less predictable, local leaders are recognizing the need to make our communities more resilient in the face of rapid change. Fortunately, all communities can take action to strengthen their climate resilience. The Climate Ready Communities approach to resilience planning is a science-based approach. By combining the most up-to-date science and model projections with extensive local expertise, this framework results in robust solutions.

Many leaders are realizing that climate resilience strategies need to be developed in an integrated manner, across the different sectors and populations of a community, and including both nature and people. The Climate Ready Communities framework focuses on five **Community Systems: Social, Built, Economic, Natural, and Cultural**. Below are some examples of the unique impacts and potential strategies specific to each system. This “Whole Community” approach creates solutions that work across diverse sectors, leading to new relationships, leveraging and cost savings.

BUILT

Water infrastructure – Larger storms could overwhelm culverts and wash out roads. Larger storms also can clog intake structures with sediments, causing disruptions and expensive repairs to water filtration and distribution.

Potential resilience strategies –

- ▶ Increase culvert size during routine maintenance.
- ▶ Restore stream complexity, riparian areas, and meadows that hold sediments during large storms.
- ▶ Update planning processes to include model projections for streamflow to determine infrastructure needs.



Photo by U.S. Air Force, 2nd Lt. Brooke Betit

SOCIAL

Health – Climate impacts to human health are extensive and potentially severe. Heat waves, and especially hot nights, can cause increased heat stroke and morbidity, especially among elders and infants. Ground level ozone related to heat leads to respiratory and heart disease, as well as increases in asthma, especially in children.

Potential resilience strategies –

- ▶ Establish cooling centers and transportation to the cooling centers.
- ▶ Create networks for neighbors to check in on elders and other residents with limited mobility during extreme events.
- ▶ Landscape and build for passive cooling, to reduce the urban heat-island effect and reduce the need for air conditioning.



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NATURAL

Biodiversity – Natural systems are already responding to climate change. Species are shifting their ranges northward, forests are dying from pests and disease, and fish and wildlife are declining in many areas from loss of important habitats. These impacts are expected to accelerate and worsen over time.

Potential resilience strategies –

- ▶ Create redundancy in conservation areas, to protect against extreme events or disease that may affect part of a species range.
- ▶ Increase connectivity among natural areas, allowing species to move and shift their ranges as climatic conditions change.
- ▶ Reduce existing stressors to natural systems, including pollutants, development, invasive species, overharvest, or overuse.

CULTURAL

Cultural and Subsistence Resources

– Many indigenous people rely on specific plants, animals, and seasonal events for cultural traditions and subsistence. As these resources change in timing or abundance, important traditions may be lost for future generations. If traditional foods are unavailable, families may be pushed into poverty or forced to rely on less healthy processed foods.

Potential resilience strategies –

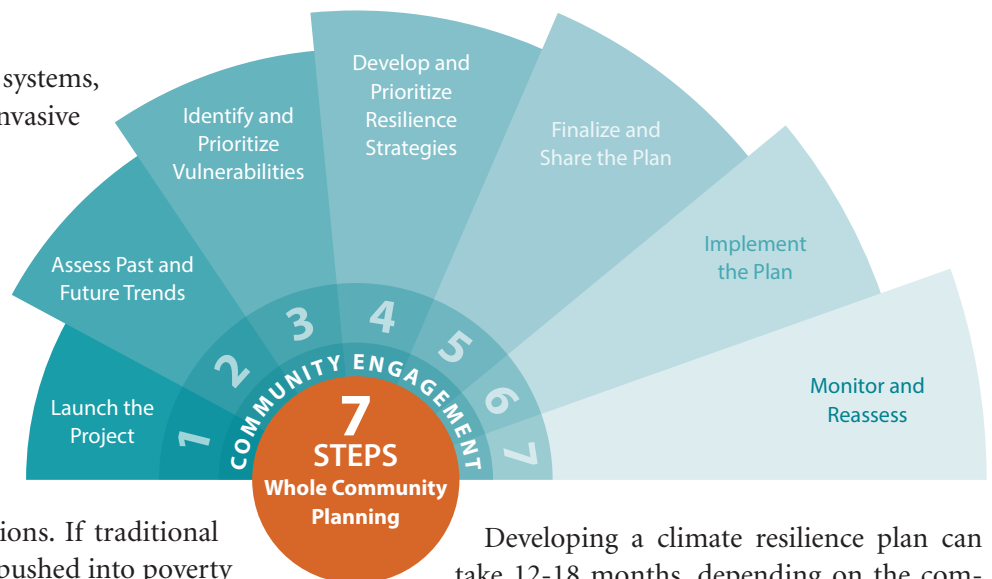
- ▶ Identify cultural resources most at risk.
- ▶ Protect, relocate, or improve management of important cultural resources.
- ▶ Engage the community to leverage local and traditional knowledge.
- ▶ Identify alternative resources so that young people can continue traditional cultural practices.

ECONOMIC

Agriculture – Less predictable rainfall, longer drought, severe heat, loss of cold nights, and the influx of new pests are all expected to affect agricultural production. Actual impacts will vary significantly by locality and crops.

Potential resilience strategies –

- ▶ Develop new strains or varieties of crops that are able to withstand changing conditions.
- ▶ Increase irrigation efficiency.
- ▶ Create support systems for farmers and seasonal farm workers, to buffer them during drought or other crop failures.



Developing a climate resilience plan can take 12-18 months, depending on the community. Implementation, monitoring, and re-assessment will be ongoing to ensure that the plan is current, scientifically sound, and effective. In addition, community engagement is vital from the very beginning, and will continue into the foreseeable future. Climate change is not going away in our lifetimes, so the resilience planning process is a long-term endeavor.

Climate change is a serious threat, but it also provides us with an opportunity for major updates to how our communities function. These updates create positive change to the social fabric and natural systems that make our communities vibrant and enticing places to live and visit.