

What can you do to help the Salmon Valley region thrive in a changing climate?

Climate scientists agree that the world's climate is changing. The impacts of climate change—lower stream flows, increased wildfires, and heat waves—are already starting to affect cities, suburbs, and rural communities, lakes and rivers, forests and grasslands around the U.S.

There are two major courses of action we can take to provide a climate resilient future for our communities. Communities can work to mitigate climate change, which includes actions that reduce the release of greenhouse gases into the atmosphere, or increase the uptake and storage of greenhouse gases. *The goal of **mitigation** is to reduce global climate change.*



Salmon, Idaho. Photo Source: Jane Hawkey, Integration and Application Network, University of Maryland Center for Environmental Science (ian.umces.edu/imagelibrary/).

At the same time, we must *adapt to the changes that we cannot prevent* in order to protect our communities, places, and species. *The goal of **adaptation** is to limit the harm caused by climate change, or to take advantage of the opportunities that may arise.* To protect vulnerable communities, both human and non-human, we must develop and implement *adaptation strategies*. These include actions that reduce the vulnerability of human and natural systems to climate change, and increase the ability of these systems to take advantage of climate change.

FOR EVERY PROBLEM...

Rising air temperatures

Warmer stream temperatures and lower summer flows

Declines in snowpack

Larger, more severe wildfires

Changes in forest structure and composition

Challenges for fish and wildlife

Impacts on agriculture, recreation, and tourism

Concerns about public health and infrastructure

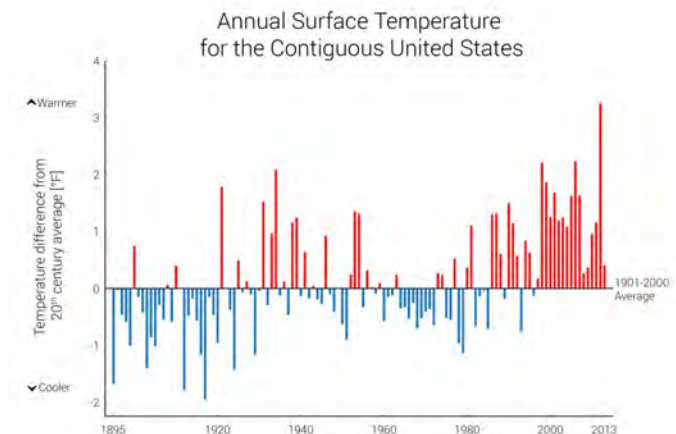


Image Source: NOAA NCDC, NWF

...THERE IS A SOLUTION

Water:

- Identify and protect groundwater sources and recharge areas. Cold groundwater helps keep stream temperatures from rising too much, and keeps streams running even during times of drought.
- Reintroduce beavers in appropriate locations, especially in compatible high elevation wetlands, to help increase natural water storage.
- Restore and maintain stream channel complexity by removing up- and downstream passage barriers (e.g., dams, diversions) as well as barriers resulting from poorly designed road crossings and culverts.
- Support a shift to drip irrigation and other systems that minimize water demand in residential and agricultural areas. This could be done through policies, incentives, mandates, or education.

Forests:

- Identify, protect, and restore land and stream reaches that provide critical support for ecosystem services such as water supply, flood and erosion protection, or carbon storage, among others.
- Work with the local tourism industry to enhance conservation efforts and create new conservation and recreational opportunities.
- Restore and protect high elevation riparian areas and biodiversity hot spots (e.g., locations where species richness or endemism is especially high), especially in the near and mid-term.
- Incorporate likely climate impacts into timber harvest plans, considering the potential for future regrowth, productivity and fire.

Wildfire:

- Increase forest function, diversity, and resistance to catastrophic fire through the use of strategic fire, by replanting burned areas with diverse native species, and by strategically planned and carefully executed fuels reduction projects.
- Rehabilitate burned areas as post-fire loss of vegetation and hydrophobic soil contribute to flash flooding and erosion risk.
- Create defensible space and fire resistant homes while maintaining wildlife habitat and visual qualities.
- Increase education and outreach efforts about wildfire and the dynamic nature of ecosystems and fire.
- Develop value-added markets for restoration products such as blue stain pine or biochar.

Human Communities:

- Adopt policies that prevent development of permanent structures in the floodplain and/or high fire risk interface areas, and relocate permanent structures already located in those areas to safer places if and when they are damaged by flood or fire.
- Create cooling centers and/or increase passive cooling and air conditioning in public places for extremely hot days and develop a transportation system for bringing vulnerable populations (e.g., the elderly) to them.
- Use land use planning and tools (e.g., zoning, other regulations) to maintain habitat connectivity for wildlife, sustain agricultural lands, and protect riparian areas, floodplains, and watersheds.
- Consider expanding spring, winter and fall recreational activity opportunities to accommodate for likely increases in tourism during the milder seasons as changing conditions unfold.

Agriculture:

- Introduce more heat- and drought-tolerant crops.
- Create policies that expand sustainable agricultural practices, especially those that reduce pesticide and water use, erosion and stream sedimentation (e.g., no-till farming).