ClimateWise®

Helping communities prepare for a changing climate.

Rogue Basin Climate Change Primer

Why prepare for climate change?

Climate change presents an uncertain future for the Rogue Basin. Our economy and the quality of life that keep people here could be at risk due to changes in temperature, stream flows, and precipitation. Preparing for these changes is similar to preparing for many other uncertain events, like drought or earthquakes. Preparation will save lives, reduce costs, and lead to local communities that are more vibrant and resilient.

At risk are many highly valued assets in the Rogue Basin, including abundant water, healthy forests, amazing fish and wildlife, locally-grown food, and endless recreational opportunities.

Changes are already being seen. Average temperatures are rising and snowpack is declining. Spring thaw now occurs earlier while late summer flows are lower and hotter than they used to be.

In 2008, the Rogue Basin became one of the first U.S. communities to explore the potential impacts of climate change and begin to develop solutions. We held a series of workshops with experts from across the community to assess model outputs, identify vulnerabilities, and develop recommendations. The results of this effort can be found at the link below.

http://www.geosinstitute.org/completed-climatewise-projects/

Expected climate change trends

Temperatures are expected to:

- increase by 1-3° F by 2040
- increase by 4-8° F by 2080
- increase more in summer (7-15° F) than in winter (3-8° F by 2080)

Precipitation is expected to:

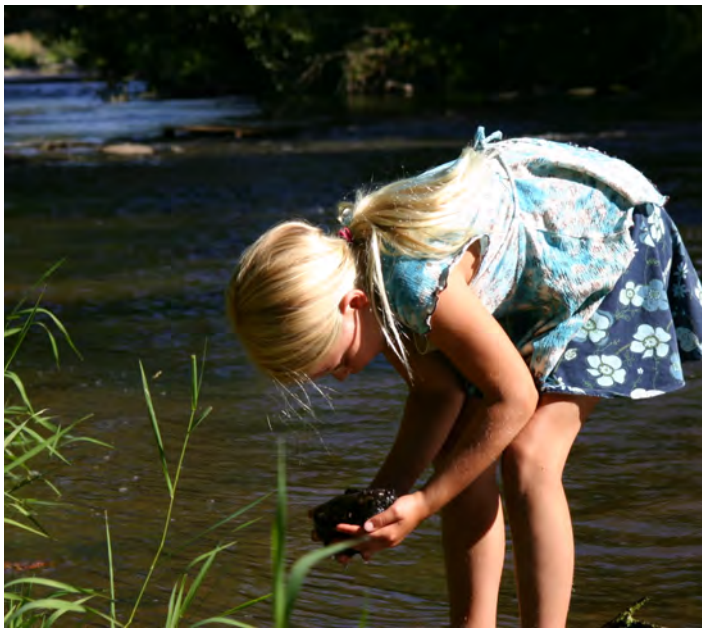
- remain similar on average, but with higher evaporation (drier conditions)
- shift to more extreme downpours
- shift from snow to rain

Streamflow is expected to:

- experience higher temperatures
- experience lower low flows

Wildfire seasons are expected to:

- become longer and more severe



Some examples of climate change risks and potential solutions include:

1. Stress to local crops from increased drought, heat stress, loss of cool nights, and increased pests and disease. Experts recommended researching new varieties of crops and sustainable practices for farming under more variable conditions. They also recommended new water conservation measures.

2. Increased demand for health and emergency services due to increases in wildfire, flooding, and disease. Recommended strategies included moving people away from high risk areas like floodplains, having people take more financial responsibility for emergency services in remote or high risk areas, reducing fuels near existing homes, and upgrading vector control programs to better respond to emerging disease.

3. Disruptions to transportation and energy distribution are expected from flooding and wildfire. Local participants identified potential solutions, including the expansion and linkage of public transportation systems, upgrading of culverts to accommodate higher flows, and increasing on-site energy production such as solar, biomass, and microhydro.

4. Severe declines in native species and habitats. Strategies to maintain fish, wildlife, and plants in the Rogue Basin include restoring stream connectivity to allow fish access to higher, cooler water; restoring degraded key habitats and landscapes; increasing habitat linkages so species can move to new (cooler) areas; and reducing a variety of stressors, such as over grazing and development.

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Historic (top), future mid-century (middle) and late-century (bottom) August temperature in the Rogue Basin, based on the HadCM model output.