

Climate change inevitable, so let's be prepared for it

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Greenhouse gas emissions must be cut significantly to avoid the worst of global warming. Two new reports, however, point out that we also had better prepare rapidly for the harmful effects of rising temperatures.

With little fanfare, under pressure from a federal court order, the White House released in late May a long-awaited report acknowledging that the Earth is warming, that higher temperatures are already hurting the United States, and that humans are the primary cause.

The document reads like a litany of impending tragedies due to extreme weather, droughts, heat waves, rising sea levels, pathogens and disease.

A week after the White House's forced confessional, the U.S. Climate Change Science Program reported on climate change research efforts at 13 federal agencies.

Written by 38 authors and extensively peer-reviewed, "The Effects of Climate Change on Agriculture, Land Resources, Water Resources and Biodiversity in the United States" reaffirms that climate change already is affecting our environment and that those effects will worsen the warmer it gets.

The report says ominous changes are in store for agriculture. Some crops, such as grains and oilseeds, will mature more rapidly and have longer growing seasons. However, rising temperatures will increase the risk of crop failures, and more drought and greater variability in precipitation will increase those losses. Crops such as tomatoes, onions and fruits likely will see greater damage, because they are more sensitive to climate change than grains and oilseed crops.

Forests will experience major distress. Some younger forests will grow faster due to elevated carbon dioxide levels. However, expect productivity gains to be offset by increases in the size and frequency of insect outbreaks, tree mortality and forest fires.

The report said mountain snowpack will, on average, continue to decline in the West, and runoff will occur earlier in the spring. Lower summer flows and declining water quality will harm aquatic life. The collapse of this year's salmon runs could be an example of things to come.

It's important to aggressively begin reducing emissions today. The longer we delay, the longer the problem will persist and the worse it will get.

However, because the effects of warming will be with us for decades no matter how fast emissions are reduced, it also is essential to ramp up efforts to prepare for those consequences.

Preparation starts with a vulnerability assessment: examining an organization or

region's exposure to the risks of global warming.

The next step is to identify strategies that can increase resiliency and enable the organization or locality to withstand and adapt to the risks identified in the vulnerability assessment.

A plan should then be implemented, and the policies, funding, data gathering and monitoring systems needed to continually learn and improve on climate preparation should be pursued.

My program at the University of Oregon recently launched a project to help public agencies and the private sector develop preparation strategies.

Working with the U.S. Forest Service Research Station in Corvallis, three climate models used by the Intergovernmental Panel on Climate Change were, for the first time, downscaled to the Rogue River basin. Teams of scientists then identified the likely impacts to the Rogue's fisheries, forests and natural environment. Strategies also were proposed for preparing those systems for the impacts.

The findings, which will be available soon, are closely consistent with the conclusions of the federal reports. The Rogue basin likely will experience major reductions in water availability, increased forest fires and changes in forest vegetation, plant productivity and biodiversity.

Significantly increasing water conservation and efficiency, protecting remaining intact habitats and floodplains, and many other steps were identified to help buffer the basin from the changes to come.

In the next phase of the project, organizations involved with water, energy, development, health care, agriculture and other resources will examine the scientists' findings and identify strategies to prepare their sectors for climate change. This fall, we will launch a similar process for the lower Willamette River basin, including the Eugene-Springfield area.

Climate preparation should also occur at the organizational level. Last year, for example, Nike used a scenario-building process to examine the risks to its operations and brand name posed by global warming. A number of important changes resulted.

Emissions reductions are absolutely essential. Just as importantly, efforts should begin in earnest to prepare for global warming.

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