

The latest issue of the journal *Science* includes another reminder that our current approach to conservation is ill-suited to a world where the climate is changing rapidly. A study led by Phillip van Mantgem of the U.S. Geological Survey (323 *Science* 521 (Jan. 23, 2009), subscription required) finds that trees are dying more rapidly in old-growth forests across the west, even in areas unaffected by wildfires or insect infestations. The rate at which new trees become established has not changed. The net result is that old-growth forests are gradually disappearing, or at least their structure and composition are drastically changing. The researchers conclude that temperature increases and associated changes in water availability are probably the primary causes of the increased mortality.

The forest changes documented in this study are slow (the team tracked mortality rates over the last fifty years), but they highlight the key conceptual challenge for future conservation policy. At the very end of a [story about the study](#), Peter N. Potts of *The Christian Science Monitor* points to that challenge:

Often, conservationists set a target by learning what an area was like in the distant past, then they try to re-create that, says Nathan Stephenson [of the USGS, a co-author of the study]. “As climate changes and other environmental changes happen, the past may no longer be the best model for the future. We may switch from trying to keep a snapshot of the past to efforts to help guide things into the future while sustaining old forests.”

For [Jerry] Franklin [of the University of Washington, another co-author], even that may be too gentle. “So much of conservation is focused on going back or keeping it as it is,” he says. Faced with a warming climate, “you can’t go home.”

It has been widely noted that our historic conservation *strategies*, which have focused on preserving relatively small plots of land, will need to change in the face of climate change. See, for example, [this recent story](#) by Juliet Eilperin in the Washington Post.

Far less attention has been paid to the challenge to our historic conservation *goals*, which have been closely tied to restoring ecosystems to some (supposed) historic condition, preventing further (undesirable) change, and maintaining the current

suite of species. If we can't restore the world to some earlier condition, or even maintain it in its current state, what exactly should our conservation goals be? That's a very difficult question, and one we need to be wrestling with now.