

threat, recommended experiments to determine how they can be controlled, and reiterated that the draft plan underestimated the importance of protecting habitat.

In a major departure from both previous reviews and the draft plan, the SEI panel called for much more aggressive thinning to reduce the risk of massive forest fires, especially in the dry, eastern part of the spotted owl's range. "We think the threat of wildfire is so great that we need to do thinning," says

lead author Steven Courtney of SEI. Ecological restoration is also necessary, Franklin adds. In contrast, DellaSala and reviewers for the Wildlife Society say that more needs to be learned about possible detrimental effects of thinning on spotted owls.

The recovery plan is now being finalized to meet the June deadline for revising critical habitat, says FWS spokesperson Joan Jewett. She expects that thinning will be addressed. The timber industry agrees that thinning, and

barred owls, are a serious threat, says AFRC President Thomas Partin. But he dismisses the impact of logging large trees, because he says that has been relatively minimal in recent years. DellaSala counters that the science says every hectare of owl habitat matters. Given the pressure from BLM and the Forest Service, he's pessimistic about how much protection the final plan will afford old-growth forests. "It might get decided in the courts," he notes.

—ERIK STOKSTAD

GLOBAL WARMING

Mother Nature Cools the Greenhouse, But Hotter Times Still Lie Ahead

As climate-change skeptics like to point out, worldwide temperatures haven't risen much in the past decade. If global warming is such hot stuff, they ask, why hasn't it soared beyond the El Niño-driven global warmth of 1998? Mainstream climate researchers reply that greenhouse warming isn't the only factor at work. And in a new paper, they put some numbers on that rebuttal. They show that regional and even global temperatures are being held down by a natural jostling of the climate system, driven in large part by vacillating ocean currents. The study "shows how natural climate variability can mask the global warming effect of greenhouse gases," says climate researcher Adam Scaife of the Hadley Centre for Cli-

mate Prediction and Research in Exeter, U.K., "but only for a few years."

The latest reminder of climate's confounding subtleties comes in climate forecasts that Noel Keenlyside of the Leibniz Institute of Marine Sciences in Kiel, Germany, and colleagues published this week in *Nature*. Rather than simply predicting temperatures at the end of the century, as most modelers do, they ran their simulations only 10 and 20 years into the future. At such a time range, short-term effects can override the contributions of rising greenhouse gases (*Science*, 10 August 2007, p. 746). For example, great, heat-carrying currents like the Gulf Stream can slow down and speed up, cooling and warming surrounding conti-

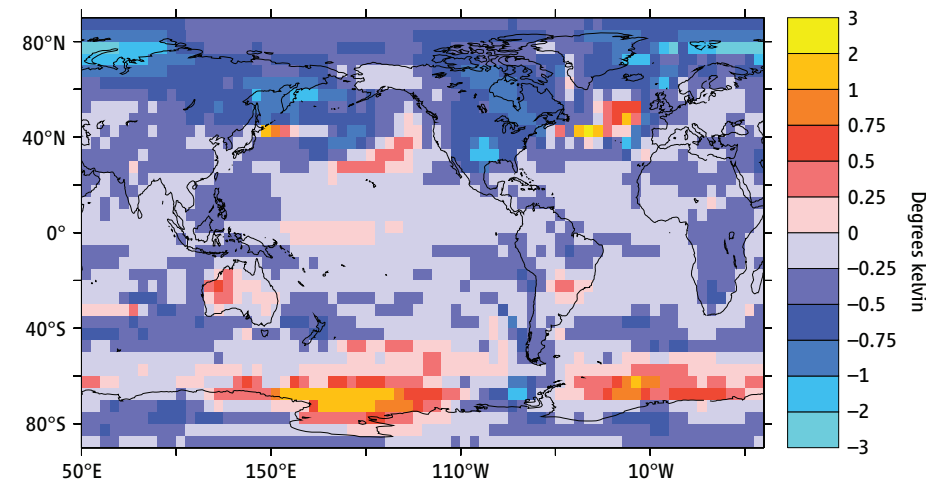
nents. As a result, temperatures rise and fall from decade to decade even in the absence of human interference.

To take account of such ocean-driven natural variability, Keenlyside and his colleagues began their model's forecasting runs by giving the model's oceans the actual sea surface temperatures measured in the starting year of a simulation. Providing the initial state of the ocean doesn't make much difference when forecasting out a century, so long-range forecasters don't usually bother. But an initial state gives the model a starting point from which to calculate what the oceans will be doing a decade hence and therefore what future natural variability might be like.

The added observations did in fact improve simulations of past climate variations. Looking into the future, the model forecasts a slowing of heat-carrying Atlantic currents and thus a cooling over the North Atlantic, North America, and western Europe in the next decade. It even predicts a slight cooling of the globe. But by 2030, forecast global temperatures bounce back up to the warming predicted with greenhouse gases alone.

The forecast is not the first to herald a slowing or even a temporary cessation of global warming. A study involving even more ocean observations inserted at the beginning of model runs reached similar conclusions last year. "The different approaches give slightly different results," says climate modeler Douglas Smith of the Hadley Centre, who headed the earlier study, but "we do agree there's a temporary offset of global warming due to natural variability." So if you're a climate-change activist pointing to year after year of mounting climate crises, you might want to rethink your approach.

—RICHARD A. KERR



Not so hot. In a model's simulation of climate out to 2015, much of the world is cooler (blues) than it would have been without natural climate variations driven by vacillating ocean flows.