

Distinguished Service Citation is particularly timely, as Lou Pitelka retires this year from his highly successful tenure as Editor.

Distinguished Service Citation Subcommittee: Deborah E. Goldberg (Chair), Robert Holt, Pamela Matson, Bruce Menge, Judy Meyer, Steven Pacala, C. Richard Tracy

WILLIAM S. COOPER AWARD

The William Skinner Cooper Award is given to honor an outstanding recent contribution in geobotany, physiographic ecology, plant succession, or the distribution of organisms along environmental gradients. The 2001 Award goes to Thomas Swetnam and Julio Betancourt for their paper “Mesoscale disturbance and ecological response to decadal climate variability in the American Southwest,” published in 1998 in *Journal of Climate*. Both Swetnam, who is currently Director of the Laboratory of Tree-Ring Research at the University of Arizona, and Betancourt, who is a scientist with the USGS at the Desert Laboratory in Tucson, have worked extensively on questions of long-term variability in climate and disturbance in the western United States. This paper represents a synthesis of considerable material, both original and from other sources, combined with new data and analyses.



Thomas Swetnam and Julio Betancourt

Swetnam and Betancourt present data on fire history, insect outbreaks, and climate variation over the last 400 years in the Southwest. They have demonstrated the relationship of regional wildfire patterns to the Southern Oscillation Index (SOI), and how relative strength or weakness of the SOI can govern the degree of regional synchronicity and intensity of fire disturbances. They have moved beyond presenting simple correlations of climate and fire, instead showing that the relationship between regional climate and fire dynamics is complex and temporally variable. They have demonstrated, for example, the importance of oscillating wet and dry, El Niño–La Niña regimes for building fuel, then drying and igniting it over large areas of the West.

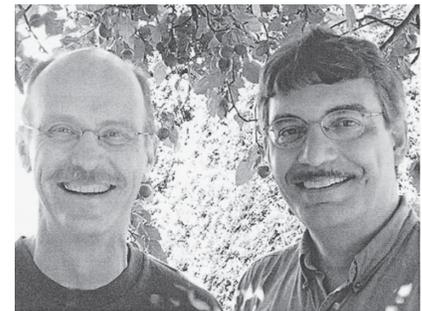
They also document the large-scale role of interannual and interdecadal climate variability in regional drought episodes and insect outbreaks. Previous work has emphasized the role of drought as a trigger for insect outbreaks (the “stress hypothesis”). Swetnam and Betancourt conclude that although the drought-stress hypothesis is supported for bark-feeding insects, large-scale outbreaks of foliage-feeding insects in the western U.S. are triggered by wet conditions, and the corresponding increase in plant growth (and thus food availability for insect herbivores). Finally, they present evidence that, in addition to its role in disturbance regimes, climate can also have persistent, large-scale, direct impacts on

ecosystem structure and function. The paper ends with a “call to arms” for other ecologists to begin considering how ecological processes play out on large (regional) spatial scales and long (decadal or greater) temporal scales. Lamenting the lack of research that has accompanied well-documented climate shifts in the last few decades, Swetnam and Betancourt say these “missed opportunities suggest that ecologists should pay more attention to mesoscale responses of ecosystems to climate variability, and specific climatic events, such as drought.”

There may be no other work that captures the overriding climatic controls on ecosystem dynamics over both short and long time scales as well as this paper does; for this quality it has earned the 2001 W. S. Cooper Award.

Cooper Award Subcommittee: Andrea Lloyd (Chair), Mark Bush, Roger Del Moral, Marie Josée-Fortin, Ronald Neilson, Ricardo Villalba, Susan Will-Wolf

CORPORATE AWARD



Glen Dunsworth (left) and William J. Beese (right), Weyerhaeuser Corporation British Columbia Coastal Group

The Corporate Award of the ESA is made to recognize and honor a company for accomplishments incorporating sound ecological concepts, knowledge, and practices. It is given in one of six categories. The award in 2001 is for stewardship of land resources. The winner of the 2001 Corporate Award is Weyerhaeuser