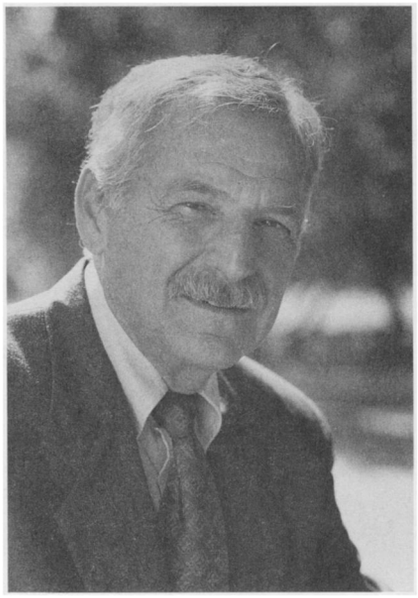
SOCIETY ACTIONS

Awards

EMINENT ECOLOGIST AWARD



Harold A. Mooney

The Eminent Ecologist Award is given annually by the Ecological Society of America to recognize a senior ecologist who has produced an outstanding body of ecological work or has made sustained contributions of extraordinary merit. Both of these criteria are met by the 1996 awardee, Harold A. Mooney.

In fact, for several decades the originality of his research and the perspective he has developed toward ecological problems have shaped the way ecology is done both in North America and abroad. His expertise spans topics ranging all the way from experimental field work and modeling the mechanistic basis of the adaptations of plants to measuring ecosystem- and global-level processes. Largely because of his work, we now appreciate how important it is to span this broad scale in forecasting the effects of global change. To quote one of his supporters, "No one has had a greater influence on ecology in the last quarter century than Hal." Harold Mooney's talents as an ecologist were recognized early in his career. His ecological monograph, coauthored with his major professor, Dwight Billings, comparing the physiological adaptations of arctic and alpine plants, was recognized with a Mercer Award in 1961. After starting his career at UCLA, he moved to Stanford University in the late 1960s and became codirector of the International Biological Program's project on the origin and structure of Mediterranean-climate scrub ecosystems. Here again he addressed the parallels, contrasts, and convergences in the physiological basis of resource use by plants occurring in places that were geographically distant but that shared similar aspects of their climate. This approach was later adopted and applied to savannas and forests. Since 1976 Hal has been the Paul S. Achilles Professor of Environmental Biology at Stanford.

In the 1970s Hal and his colleagues focused on the mechanistic basis of the adaptation of organisms to arid regions. This was among the first efforts distinguishing drought from temperature effects on plant performance. As is typical of Hal's research approaches, this program was a strong melding of both field and laboratory components, including pioneering the use of sophisticated equipment to the field using mobile laboratories. As a logical extension of these efforts, Hal and his students in the 1980s studied rates of photosynthesis in relation to leaf nitrogen concentration and the ecophysiology of carbon acquisition and allocation.

During the 1980s Hal also developed new insights into how human-induced ecological disturbances were increasingly modifying the functioning of the earth as a whole. I am sure that many of you will recall his Past President's Address to the ESA in 1990 (the famous "green scum" lecture), in which he pointed out that while it is now possible to measure the health of the earth, the physical models about global change still needed to include the feedback processes of what was going on in the biosphere.

This appreciation of biological responses to global change and of biosphere–atmosphere interactions has led Hal to work increasingly at the national and international levels. As President of the Ecological Society of America in 1988–1989, he promoted the formulation of the Sustainable Biosphere Initiative and the establishment of the new journal *Ecological Applications*. He has been actively promoting interagency collaborations on ecological issues in Washington, and in 1994 he served as President of the American Institute of Biological Sciences. Hal is a member of the National Academy of Sciences and the American Academy of Arts and Sciences. Among his international ef-

forts, he has served as Secretary General of the International Council of Scientific Unions' (ICSU) Scientific Committee on Problems of the Environment (SCOPE). Currently, he is Vice President of the International Council.

Hal has been tireless in organizing symposia, conducting special international meetings on key ecological topics, editing those proceedings, and writing original articles on topics such as photosynthetic adaptation, fire ecology, the effects of trace gases in the atmosphere, the effects of invading organisms, community responses to elevated carbon dioxide, and the consequences of loss of biological diversity for ecosystem function. Three series of books must be mentioned, because Hal has been the force behind their success: Tasks for Vegetation Science, published by Kluwer, Ecological Studies, published by Springer, and the Physiological Ecology series published by Academic Press. As an editor, as elsewhere, he has been an unselfish and effective leader promoting cooperation among formerly isolated workers. Such efforts are somewhat contagious. As one colleague said, "he drags you into all kinds of activities for the good of the community." Another added, "he keeps coaxing legions of scientists (including me) to apply their knowledge to save the planet."

One of the supporting letters that addressed his teaching abilities referred to Hal's teaching and student training as "beyond brilliant." He sees to it that his students get a wide range of experiences, that they know how to get help, to share equipment, and to collaborate, and then he gives them the latitude to do original work. The impressive caliber of what has become a whole family tree of former graduate students and postdocs attests to the effectiveness of his teaching style.

Harold Mooney's many services to ecology as a tireless researcher, editor, teacher, and administrator are too numerous to summarize adequately here. Primarily, building on his own research on carbon balance in plants and photosynthetic acclimation, he has developed new conceptual models about the physiological basis of resource use by whole plants and has led a generation of ecologists to organize research on terrestrial ecosystems in new ways. Now, realizing the importance of improving the scientific understanding of the earth's environment, he is working with the national and international communities to promote wise decision-making in the echelons of governments. The consistently high quality and continuity of his contributions far exceed the ESA's criteria for its Eminent Ecologist Award.

Francis C. James, Chair
Eminent Ecologist Award Committee

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