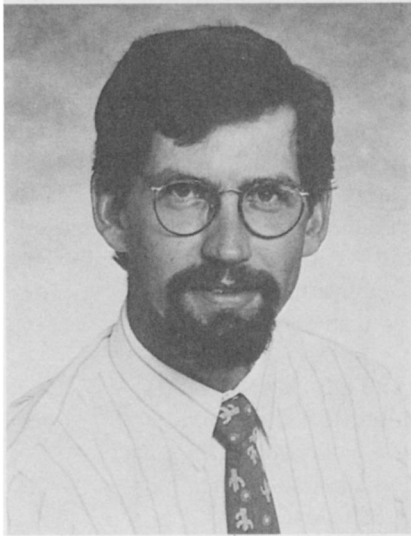


## WILLIAM S. COOPER AWARD



**Joseph R. McAuliffe**

The William S. Cooper Award is given by the Society for recent contributions in geobotany, physiographic ecology, plant succession, or the distribution of organisms along environmental gradients. The 1993 recipient is Dr. Joseph R. McAuliffe for his 1994 paper “Land-

scape evolution, soil formation, and ecological patterns and processes in Sonoran desert bajadas,” which appeared in *Ecological Monographs* 64:111-148.

Ecologists have long sought to unravel the role of geologic factors in controlling landscape distribution of vegetation. Among the vanguards of modern geobotany, W. S. Cooper showed how geological processes control plant succession at Glacier Bay in Alaska. Joe McAuliffe exemplifies Cooper’s approach in his study of the importance of Pleistocene and present-day geomorphic and soil-forming processes to the distribution of vegetation in the arid Southwest. His paper shows that the distribution of creosotebush (*Larrea tridentata*)—arguably the symbol of North American hot deserts—is related to soil development. When erosion removes clay-rich soils of Pleistocene age, creosotebush invades the desert piedmonts of Sonora. In the spirit of Cooper, McAuliffe links past studies of the physiological ecology of the rooting habits of creosotebush to its success in coarse, carbonate-rich soils. His observa-

tions help explain abrupt spatial discontinuities long observed in southwestern vegetation and the response of these communities to the loss of soil from human disturbances, including overgrazing.

Dr. McAuliffe is a scientist at the Desert Botanical Garden in Phoenix. The work we honor was performed while he was a member of the staff of the Desert Laboratory on Tumamoc Hill outside Tucson—the former home of eminent early desert ecologists, including Shreve, Whittaker, and others. Were these early ecologists alive today, they would be fascinated by Dr. McAuliffe’s story, which enriches our knowledge of southwestern natural history and ecology.

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