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**Bonni J Kealy\*** (bkealy@math.wsu.edu), Department of Mathematics, Washington State University, Pullman, WA 99164-3113, and **David J Wollkind** (dwollkind@wsu.edu), Department of Mathematics, Washington State University, Pullman, WA 99164-3113. *A Vegetative Pattern Formation Aridity Classification Scheme Along a Rainfall Gradient: An Example of Desertification Control.*

A classification scheme for stationary vegetative patterned states along a rainfall gradient in an arid flat environment is developed by applying a weakly nonlinear diffusive instability analysis to an interaction-diffusion plant-surface water model system. The main results of this analysis can be represented by closed-form plots in the rate of precipitation versus the specific rate of plant loss parameter space. From these plots regions corresponding to bare ground and vegetative patterns consisting of tiger bush, labyrinth-like mazes, pearled bush, irregular mosaics, and homogeneous distributions of vegetation, respectively, may be identified in this parameter space. Then that predicted sequence of stable states along a rainfall gradient is both compared with observational evidence and used to motivate an aridity classification scheme which sheds new light on desertification phenomena, while suggesting potential recovery operations by human intervention due to its intrinsic hysteric behavior where bistability occurs. (Received August 01, 2011)