EcoBeaker 2: Teaching ecology and conservation through computer experiments

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EcoBeaker is an ecological simulation program designed primarily for use in the classroom but also useful for research models. EcoBeaker makes a two-dimensional computer world into which you can place creatures whose behaviors you design. You can then watch as the creatures eat, reproduce, move around, die, and so on, producing patterns that you can compare against the real world and against theoretical predictions. To get more quantitative you can also make graphs of many different statistical measurements from the EcoBeaker world and sample the populations using a variety of common sampling techniques. There is also a full programming language included that can be used to supplement the built-in behavior rules. Included with the program are over 20 different classroom tested laboratories covering a wide variety of topics in the fields of conservation biology, ecology, and evolutionary biology. I’ll demonstrate some of these at the poster session. More details are also available online at www.ecobeaker.com.