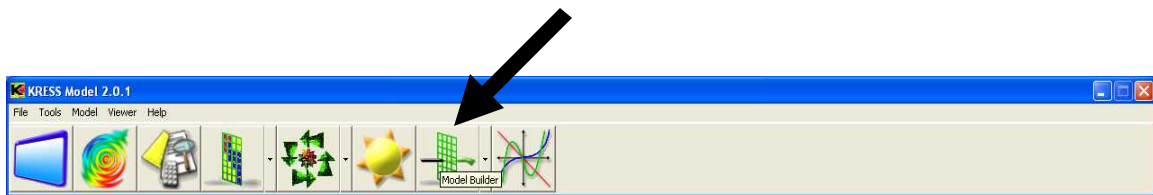


# Building Multi-Criteria Decision Models

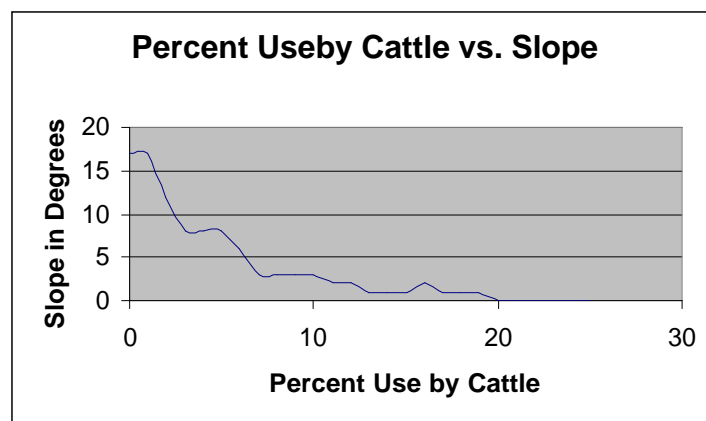
## Modeling

KRESS allows the user four types of modeling: single-pass linear, time-step linear, single-pass non-linear and time-step non-linear. The differences in these four models revolve around two sets of user-choices: single vs. time-step and linear vs. non-linear factor weighting.



The difference in the single vs. time-step modeling is in the output. Single-pass models will output one map which corresponds to a specific moment in time whereas the time-step modeling allows the user to output multiple maps, each of which corresponds to a specific point in time. In short, the time-step modeling allows the user to perform multiple analyses over a period of time on a landscape.

The linear vs. nonlinear factor weighting is an important distinction as well. The linear weighting means that the relative importance of a factor to another factor is a linear relationship continuous over the scaled values from 0 to 255. Nonlinear modeling allows the user to account for nonlinear relationships. For example an animal's use of land with varying slope may look like the graph below.



Nonlinear modeling can provide a more accurate model, but it is also more difficult to use and will require more sampling to determine accurate factor weighting.