

1125-AC-1521      **William Dean Stone\*** ([william.stone@nmt.edu](mailto:william.stone@nmt.edu)). *A hysteresis effect in a simple sea-ice model.* Preliminary report.

A simple, phenomenological model of planetary ice-coverage, insolation, and albedo is considered. Changes in heat-loss, due to atmospheric changes, can lead to rapid changes in ice cover, and a hysteresis effect. The melting of ice decreases the albedo leading to a sharp fall-off, with a hysteresis effect so that just returning to the previous atmospheric CO<sub>2</sub> does not return to the previous climate - an example of non-linearity leading to a collapse. (Received September 17, 2016)