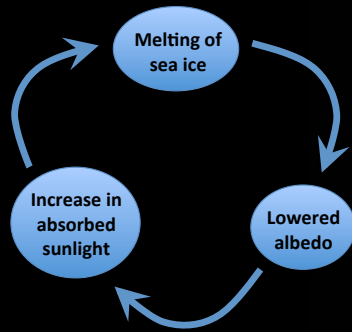


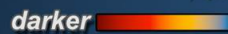
Summary of Pistone, Eisenman, & Ramanathan (PNAS 2014)

- *Background:* Difference in albedo between ice and ocean causes a **positive feedback**.



- *Result:* Using satellite measurements, we find that sea ice retreat during 1979-2011 caused the solar energy input into the Arctic to increase by $6.4 \pm 0.9 \text{ Wm}^{-2}$. The contribution of this to the global energy budget during 1979-2011 is **25% as large as the direct radiative forcing from rising CO_2** .

- *Image:* Map of additional energy absorbed in the climate system due to Arctic sea ice retreat during 1979-2011. This image is at <http://svs.gsfc.nasa.gov/4138>

darker  no change

Sept 1979
Sea Ice Cover

Sept 2012
Sea Ice Cover
and Change in Albedo