(1) We are just finishing our 1st year on the new grant, and we have continued most of our long-term experiments and monitoring.

(2) As I presented last year, the objectives of the new grant are to understand responses of Arctic Tundra to disturbance and global change using the concepts of **"Openness"** and **"Connectivity"**

(a) **Biogeochemical openness:** degree to which an ecosystem relies on external sources of nutrients and organic matter v. internal recycling and local primary production.

(b) **Community openness:** replacement of species in response to disturbance or climate change v. the ability of the community to resist these changes.

(c) **Biogeochemical connectivity:** propagation of responses across the landscape through the movement of nutrients, organic matter, and water across the landscape

(d) **Community connectivity:** role of species and individual-organism movement in the response to disturbance

(3) New activities last year:

(a) tested our new, larger greenhouses and surveyed locations for their placement,

(b) did our first post-fertilization year of monitoring in the Kuparuk,

(c) expanded fish monitoring in the I lakes,

(d) began a lake warming experiment in conjunction with a new grant to Phaedra Budy