

The objective of this project is to improve the understanding of the scientific role that soil moisture and surface temperature play in affecting the surface energy balance, sub-surface thermal dynamics and vegetation distribution. Soil moisture storage in the active layer seems to be the key variable in understanding most ecological process interactions and atmospheric/terrestrial linkages in arctic regions. As such, we will focus our field measurement program and modeling efforts on understanding the interdependent controls on and responses to soil moisture. *Field instrumentation at each site will include continuously recording soil moisture and temperature sensors, precipitation gauges, air temperature, relative humidity, and wind speed sensors. These data will be transmitted to the GOES satellite and retrieved in order to determine if significant hydrologic or meteorologic events are occurring. At the present time the data is logged and downloaded every few months. The need exists for near real time data in order to predict the timing and magnitude of hydrologic events. Currently no communications facilities exist at this site.*