



National Snow and Ice Data Center



Oral presentation highlights at AGU Fall Meeting 2006

Seasons of Change in the Arctic Climate System • Mark Serreze

0800 Tuesday December 12

U21D-01, [Invited](#), MCW 3018

A better understanding of the Arctic system and its future state requires a closer focus on aspects of seasonality. Consider the ice-albedo feedback. We will address key aspects of Arctic climate system seasonality, drawing strongly on recent analyses of the Arctic heat budget and atmospheric circulation.

The Summer Cyclone Maximum over the Central Arctic Ocean • Mark Serreze

1600 Tuesday December 12

A24A-01, [Invited](#), MCS 300

A prominent feature of the atmospheric circulation over the Arctic Ocean is a sharp summer maximum in cyclone activity, in the mean centered slightly off the North Pole. This pattern contributes to a late summer peak in precipitation and net precipitation over the region and can have pronounced impacts on the circulation of the underlying sea ice cover.

Observed Evidence of Permafrost Degradation and Potential Environmental Impacts in Siberia • Tingjun Zhang

0915 Wednesday December 13

U31B-06, MCW 3018

The study of permafrost has received recent worldwide attention because changes in permafrost conditions influence the hydrological cycle, plant growth and ecosystem productivity, carbon exchange between the atmosphere and the land surface, and engineering in cold regions. From the 1950s to 2000, we found that mean annual temperature at the top of permafrost has increased by more than one degree Celsius and the thickness of the active layer has increased by more than 20 centimeters. More importantly, for the first time we found that talik, a thawed layer between the maximum depth of seasonal freeze and the top of permafrost, might have formed at various sites over Siberia in the past few decades.