

B05-P02

VALIDATION OF SNOW DEPTH BY MICROWAVE REMOTE SENSING WITH IN-SITU FIELD DATA

Yongwon Kim (*University of Alaska Fairbanks, United States*)

Hiroyuki Enomoto (*National Institute of Polar Research, Japan*)

kimyw@iarc.uaf.edu

AMSR-E/AMSR2 is provided the brightness temperature data with more channels, higher spatial resolution and frequent coverage. New snow algorithm techniques of remote sensing for snow depth and snow-melting area can be carried out using these in-situ data. We have conducted snow survey from 2006 to now, which is mainly on March and occasionally on January and April/May when seasonal snow melts. The sites are located at an interval of ca. 32-km along the Dalton Highway (Fig. 1). Snow density, snow depth and temperature were measured in snow-pit wall observation at each site. Snow water equivalent (SWE) was calculated by multiplying snow-column snow density by snow depth. As the results, the response of SWE to snow depth showed a positively linear relationship ($R^2 > 0.90$). Without any algorithm, *in-situ* snow depth will compare to the data retrieved by AMSR-E/AMSR2 through this symposium.

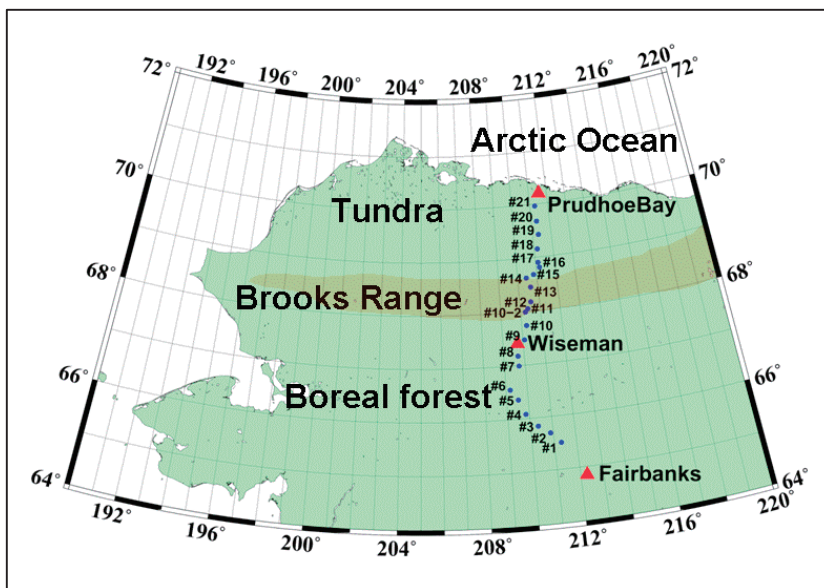


Figure 1. Snow survey sites along Dalton Highway.