

AMSR-E Snow Depth Validation

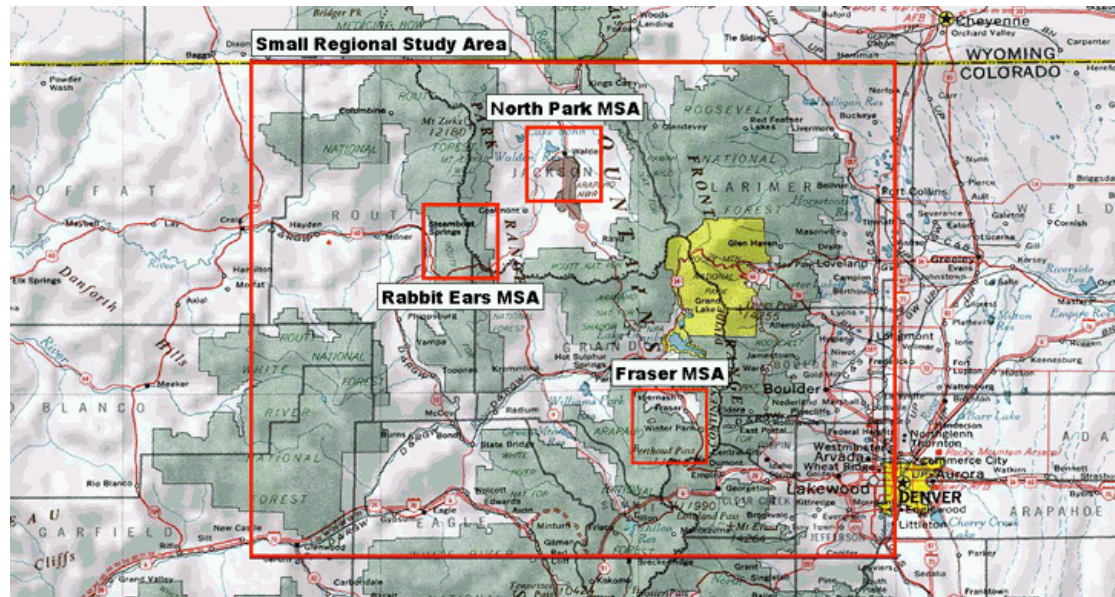


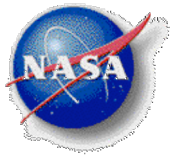
Jointly with Cold Land Processes Field Experiment (CLPX)

Coordinated airborne radiometer and radar and Gamma flights in 3 Colorado test sites (North Park, Rabbit Ears, and Fraser) for in-situ snowpack study

- North Park: a broad high-elevation parkland
- Rabbit Ears: forested and heavy snowfall
- Fraser: high-elevation alpine site

Four Intensive Operation Periods (IOP), IOP1 – Feb. 2002; IOP2 – Mar. 2002; IOP3 – Feb. 2003 and IOP4 – Mar. 2003





AMSR-E Snow Depth Validation: Field Observation Components



Each IOP will collect over 1000 samples of snow data; by far this is the most extensive of snow field experiment

- snowpack depth, density, temperature and grain size
- underlying soil moisture, freeze/thaw information
- forest cover, roughness and microphysical properties

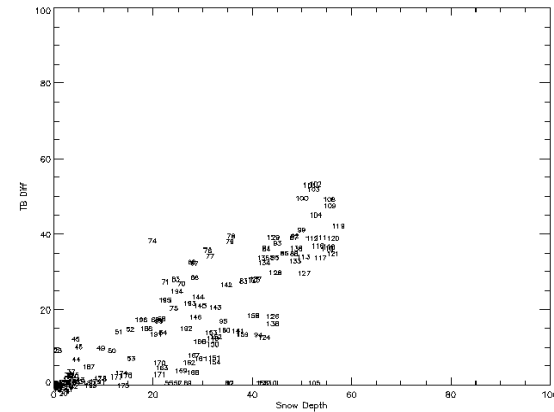
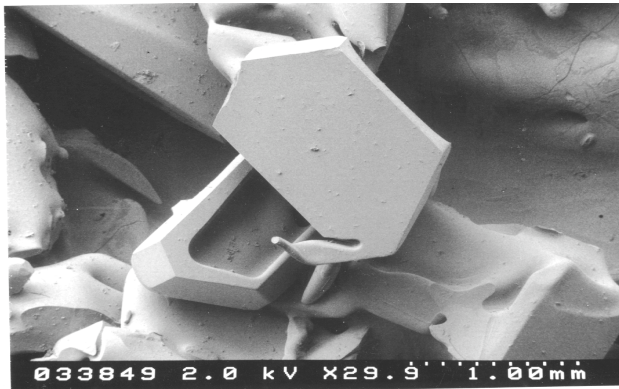




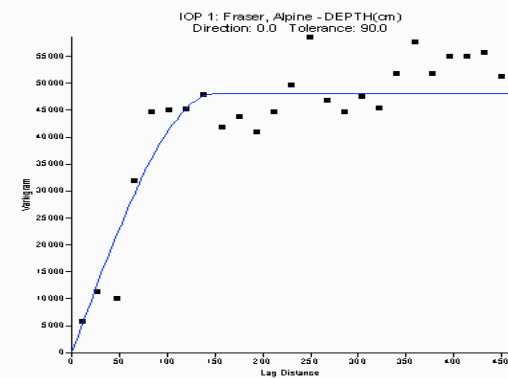
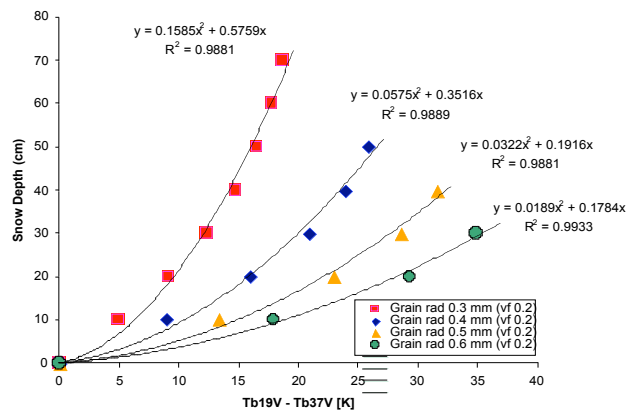
AMSR-E Snow Depth Validation: Modeling Components

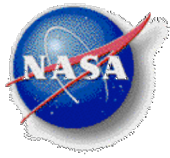


- Modeling of the snow density and grain size distribution
- error analysis of algorithm under a range of snow conditions;
- Pre-launch and post-launch validation via SSM/I and AMSR data.



DMRT model simulation





AMSR-E Snow Depth Validation: Satellite and Aircraft Component



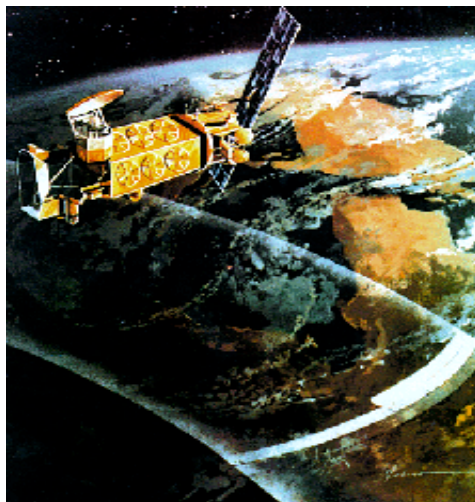
NOAA Aero Commander

Coordinated gamma data, ground observation, microwave data, SSM/I and AMSR validation of Snow products during February & March 2002 and 2003

- Snow Depth
- Snow Water Equivalent



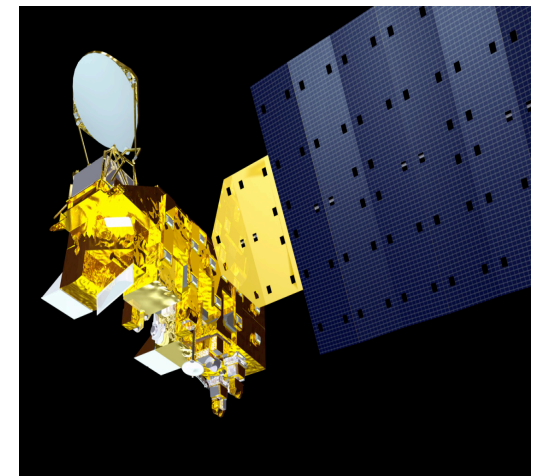
NASA P-3B



DMSR SSM/I



NASA DC-8



Aqua AMSR-E