Development of snow cover climate data records over land and ice

David Robinson[†]; Gina Henderson; Mark Anderson; Dorothy Hall; Thomas Mote; Chuck Fowler; James Maslanik; Sheldon Drobot [†]Rutgers University, USA Leading author: <u>david.robinson@rutgers.edu</u>

Climate data records (CDR) of snow cover over Northern Hemisphere continents, sea ice and the Greenland ice sheet are being developed and integrated by our multi-institutional team of cryospheric scientists. CDRs include individual as well as aggregated, blended or merged products. Continental CDRs are generated from upgraded NOAA weekly visible-based snow extent maps, NASA MODIS Cloud Gap Filled snow extent maps from visible imagery, microwave-derived snow extent, depth and melt onset maps, and snow extent and gridded snow extent and depth maps derived from station observations. Sea ice CDRs include microwave-derived snow melt onset and ice age maps. Greenland CDR maps of snow melt extent and ice surface temperature are generated from microwave and thermal imagery, respectively. Merged land/ocean/ice sheet products include snow extent and snow melt onset maps. Data and products are posted on the project website (http://snowcover.org) and provided to the National Snow and Ice Data Center for distribution to user communities. File formats are in netCDF and follow Climatological Forecasting (CF) convention. Where possible, individual and blended products are produced in EASE grid version 2 format. This is a new grid definition that facilitates GIS implementation, a feature important to potential users. This presentation will provide overviews of individual and aggregated product generation. Examples of spatial and timeseries analyses based on these CDRs will also be discussed.