Technical Note of Snow Cover Products

Data source: U.S. National Ice Center's Interactive Multisensor Snow and Ice Mapping System (IMS) daily analysis of snow and ice, released by the NSIDC (https://nsidc.org/home)

Spatial and temporal resolutions of products: 4-km at daily, monthly, seasonally , and annually. Winter season of the year covers the months of the current December and the following January and February. For example, winter 2020 covers the months of Dec. 2020 and Jan. and Feb. of 2021. A snow-year means the period from previous September 1st to the following August 31st.

Method of producing snow products: the number of snow cover days within a specific period was determined by counting the days with recorded snow cover. To calculate the SCE for each grid cell in a certain period, the following two-step methodology was employed: (1) calculate the snow cover fraction for each grid cell by dividing the number of days with snow cover by the total number of days in the period, and (2) multiply the snow cover fraction by grid cell area (16 km²) to obtain SCE for individual grid cells. The regional SCE for the period was determined by summing the SCEs of all grid cells within the service domain.