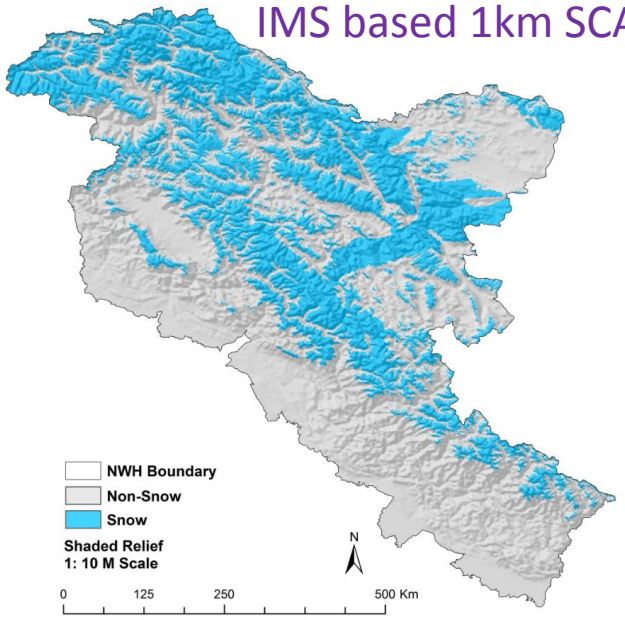
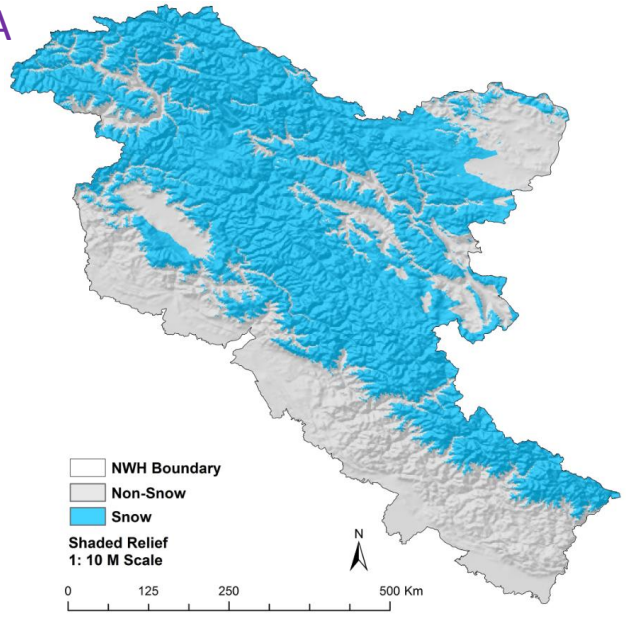
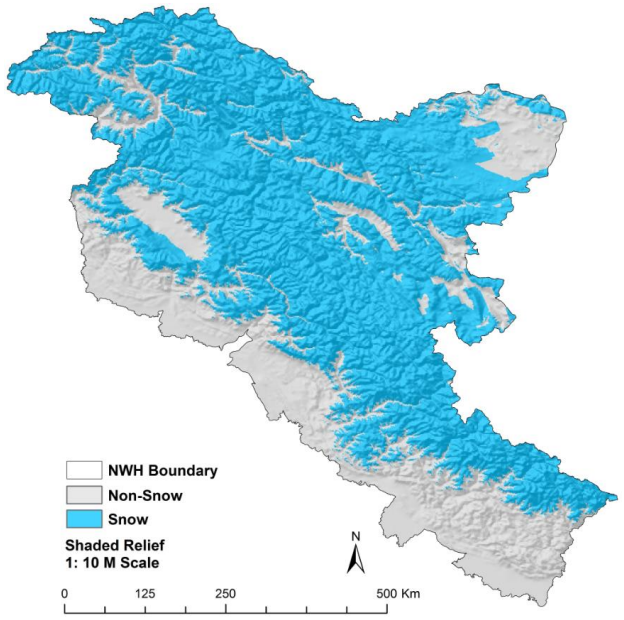
IMS based 1km SCA



06 Nov 2019, 34.82 %

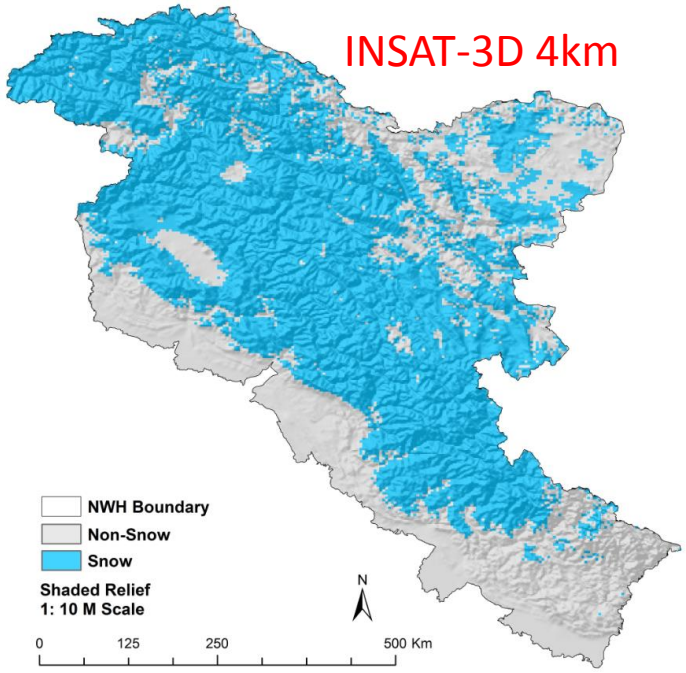


04 Jan 2020, 57.67 %



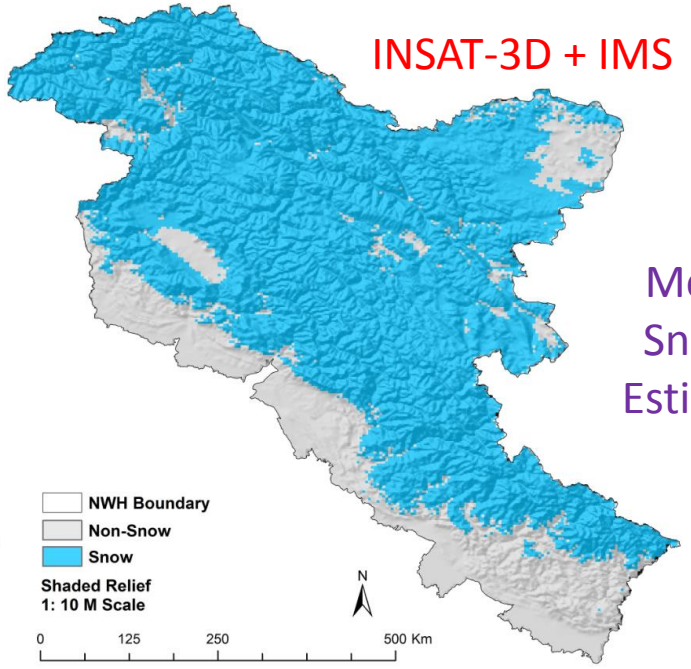
09 Jan 2020, 65.16 %

INSAT-3D 4km



09 Jan 2020, 63.20 %

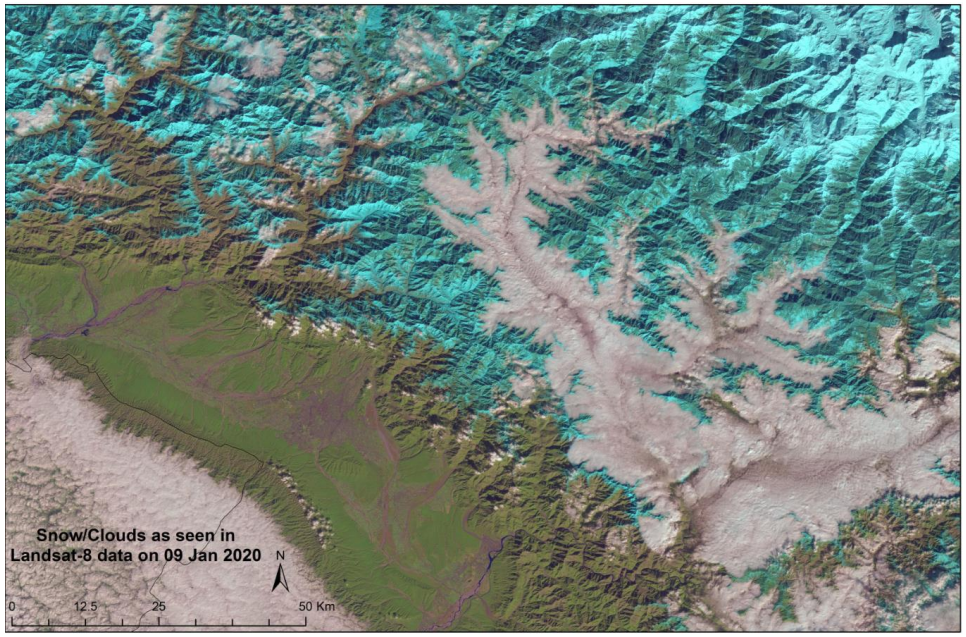
INSAT-3D + IMS



09 Jan 2020, 76.22 %

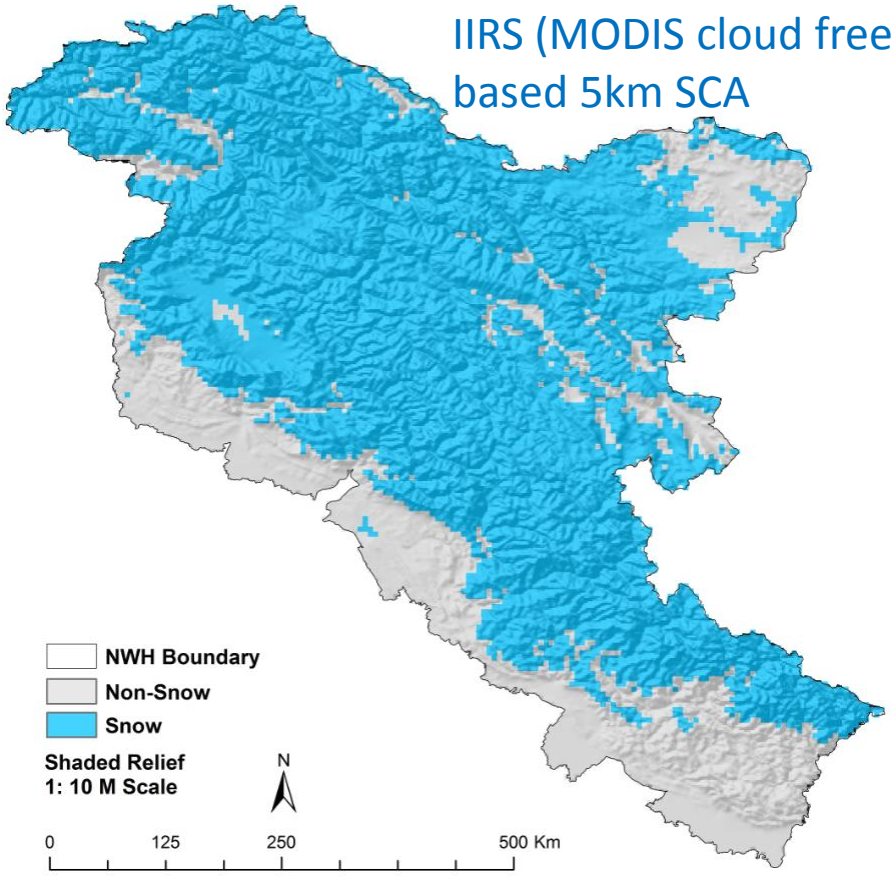
Merged IMS and INSAT-3D Snow Products gives better Estimates of total snow cover

Validation of snow cover from MODIS/IMS/INSAT from Landsat based snow data



Snow cover along with cloud as seen in Landsat-8 of 09 Jan 2020

- Snow in forested area and low elevations (1800-3000 m), is under estimated in IMS-INSAT-3D,
- MODIS cloud free data generated by IIRS (ISRO) showing minimum difference Landsat based reference snow maps



09 Jan 2020, 73.64 %

Modis cloud free data has slightly overestimated the SCA is some low lying Areas of HP and J&K

Field validation of snow fall from IMD & IIRS weather station datasets

Ground data from IMD Shimla reports showed that there was wide spread snowfall and rainfall in many parts of Himachal Pradesh on 08-09 Jan 2020. The IMD sites at Shimla, Solan, Kufri, Kalpa and Dalhousie recorded snowfall (in cm) of 27.2, 3.0, 58.0, 22.7 and 38.0 respectively

IIRS-ISRO has installed 26 numbers of AWS in HP and UK during 2014-2018, and of these 10 sites are having snow depth gauges. The Chakrata, Uttrakhand AWS data including that of snow depth Is shown in figure below. The Chakrata AWS site at FRH recorded maximum snow depth of 34 cm With snowfall starting from evening of 08th January 2020. Many parts of HP & UK such as Shimla, Solan, Mussoorie and Nainital received this much snowfall after many years.

AWS data at 30 min interval for Chakrata AWS site of IIRS