Snow/ice monthly statistics for Northern Hemisphere

The product includes monthly snow/ice statistics (frequency of occurrence) for Northern Hemisphere at 1 degree spatial resolution. The dataset covers the time period starting January 2000. The dataset is updated routinely on 10th day of every month.

Monthly snow and ice maps are derived from daily snow and cover charts produced at NOAA/NESDIS within Interactive Multisensor Snow and Ice Mapping System (IMS). Original IMS snow/ice charts are generated on a 1024x1024 grid in polar projection at a nominal resolution of about 24 km (see http://www.ssd.noaa.gov/PS/SNOW/index.html)

The monthly snow and ice frequency of occurrence for 1 degree grid cells is calculated as an average of all daily fractions of snow and ice for a given month.

Snow and Ice cover statistics (frequency of occurrence) are calculated if the grid cell has at least some land and some water, respectively. Otherwise the pixel is label "undetermined"

Data files are in HDF format, which were converted from original flat binary files. The projection is latitude-longitude with the upper left corner of the first pixel of the first line positioned at (90N, 180W). The dimension of the data is 360 in longitude and 90 in latitude.

The naming convention:

ims_snow_stat_mm_yyyy.hdf is the monthly snow cover statistics. "mm" is a two digit month number, and "yyyy" is a four-digit year
ims_ice__stat_mm_yyyy.hdf is the monthly ice cover statistics. "mm" is a two digit month number, and "yyyy" is a four-digit year

The meaning of values:

Snow Cover

0   :   snow free land surface
1-100 :   snow frequency of occurrence (from 1 to 100%)
-9999 :   undetermined (ocean or area outside the domain of IMS)

Ice Cover

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0     :  ice free sea surface
1-100 :  sea ice frequency of occurrence (from 1 to 100%)
-9999 :  undetermined (land or area outside the domain of IMS)
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References:

Helfrich S.R., D. McNamara, B. H. Ramsay, T. Baldwin and
T.Kasheta (2007)
Enhancements to, and forthcoming developments in the Interactive
Multisensor Snow and Ice Mapping System (IMS), Hydrological
Processes,021, 1576-1586.