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Daily maps of Arctic total sea ice concentration

Maps of total sea ice concentration (SIC) are produced daily in the Northern hemisphere at 6.25 km resolution throughout the year.

Total sea ice concentration has been produced regularly from satellite passive microwave data for more than four decades and is one of the most important climate data records in the polar regions.

Total sea ice concentration (SIC) controls the exchange of heat, gases and momentum between ocean and atmosphere and has large impach on Arctic ecosystmes and human activities like navigation in the polar seas. SIC is retrieved from microwave emission around 89 GHz at different polarisations where open water and sea ice behave very differently. Data are providede in near realtime by satellite-borne radiometers from AMSR-E or AMSR2 (since 2002, UB), and in lower resollution from SSM/I or SSMIS (since 1991, Ifremer).

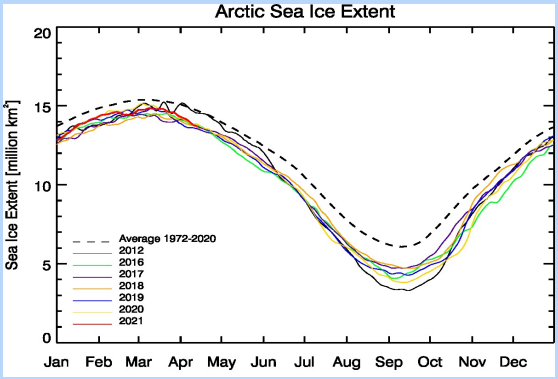

Figure 1. Seasonal Arctic sea ice extent for recent years and the mean for the periof 1972 - 2020

Daily SIC data are used for (1) initialisation of and assimilation into global climate models (GCM) and numerical weather prediction (NWP); (3) for shipping in polar seas, and (3) various climate and environment studies. Daily maps of SIC produced as images (PNG) and gridded data (NetCDF, HDF4). Data are available at:

https://seaice.uni-bremen.de/sea-ice-concentration/amsre-amsr2/ and

ftp://ftp.ifremer.fr/ifremer/cersat/products/gridded/psi-concentration/

Reference:
Spreen, G., L. Kaleschke, and G.Heygster (2008), Sea ice remote sensing using AMSR-E 89 GHz channels J. Geophys. Res., vol. 113, C02S03, doi:10.1029/2005JC003384

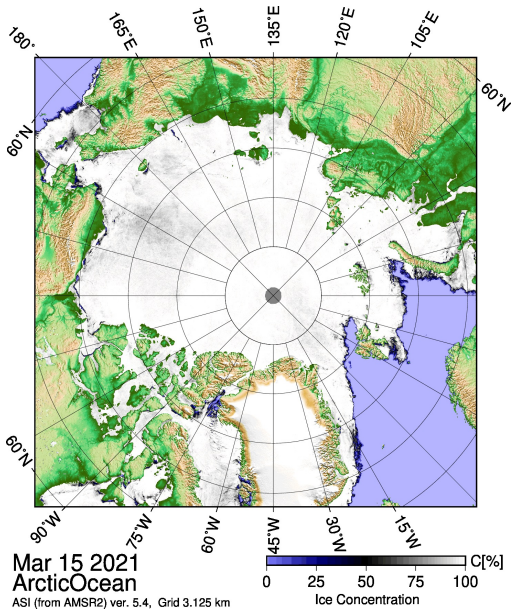

Figure 2. Map of total SIC on 15 March 2021

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