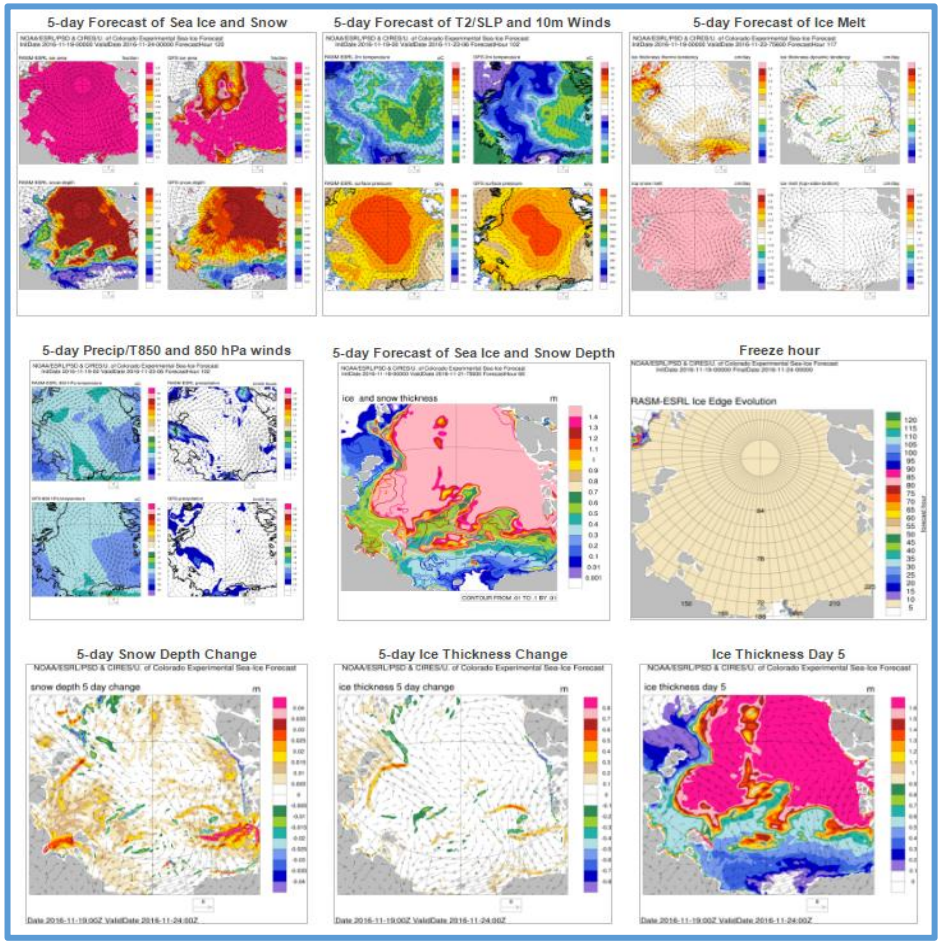
Observational Needs for RASM-ESRL Sea Ice Forecasting

RASM-ESRL produces 5-14 day forecasts of 3-hourly sea ice & 6-hourly atmospheric products. The model is initialized with the 0 Z GFS analysis, AMSR2 sea ice concentration, & an ocean reanalysis product. Lateral boundaries are forced by 3-hourly GFS forecasts (temp, winds, & water vapor) & model-derived monthly means in the ocean. Forecasts are posted daily at ~6 Z.

RASM-ESRL Forecast Products

- *Sea Ice Area*
- *Snow Depth*
- *2 m Temps*
- *Surface & 850 mb Pressure*
- *10 m Wind Speed & Direction*
- *Precipitation*
- *850 mb Temps & Winds*
- *Ice Thickness Thermodynamic Tendency*
- *Ice Thickness Dynamic Tendency*
- *Snow Melt & Ice Melt*
- *Freeze Hour*
- *Snow Depth Change*
- *Ice Thickness Change*
- *Ice Thickness*
- *Etc.*



https://www.esrl.noaa.gov/psd/forecasts/seaice/

Observational Needs for RASM-ESRL Sea Ice Forecasting

Fields for RASM-ESRL Model Initial & Boundary Conditions

Atmosphere

- *T, P, wv, wind profiles*
- *Surface Winds*
- *Clouds*

Ice

- *Sea Ice Thickness*
- *Skin Temperature*
- *Sea Ice Concentration*
- *Motion vectors*

Ocean

- *Sea Surface Temperature*
- *Surface salinity*
- *Currents*

Questions

Are any JPSS obs currently being uploaded to GTS and assimilated by GFS?
How long does it take to get full pan-Arctic coverage?
What would be the resolution of coverage over a 3 day period?