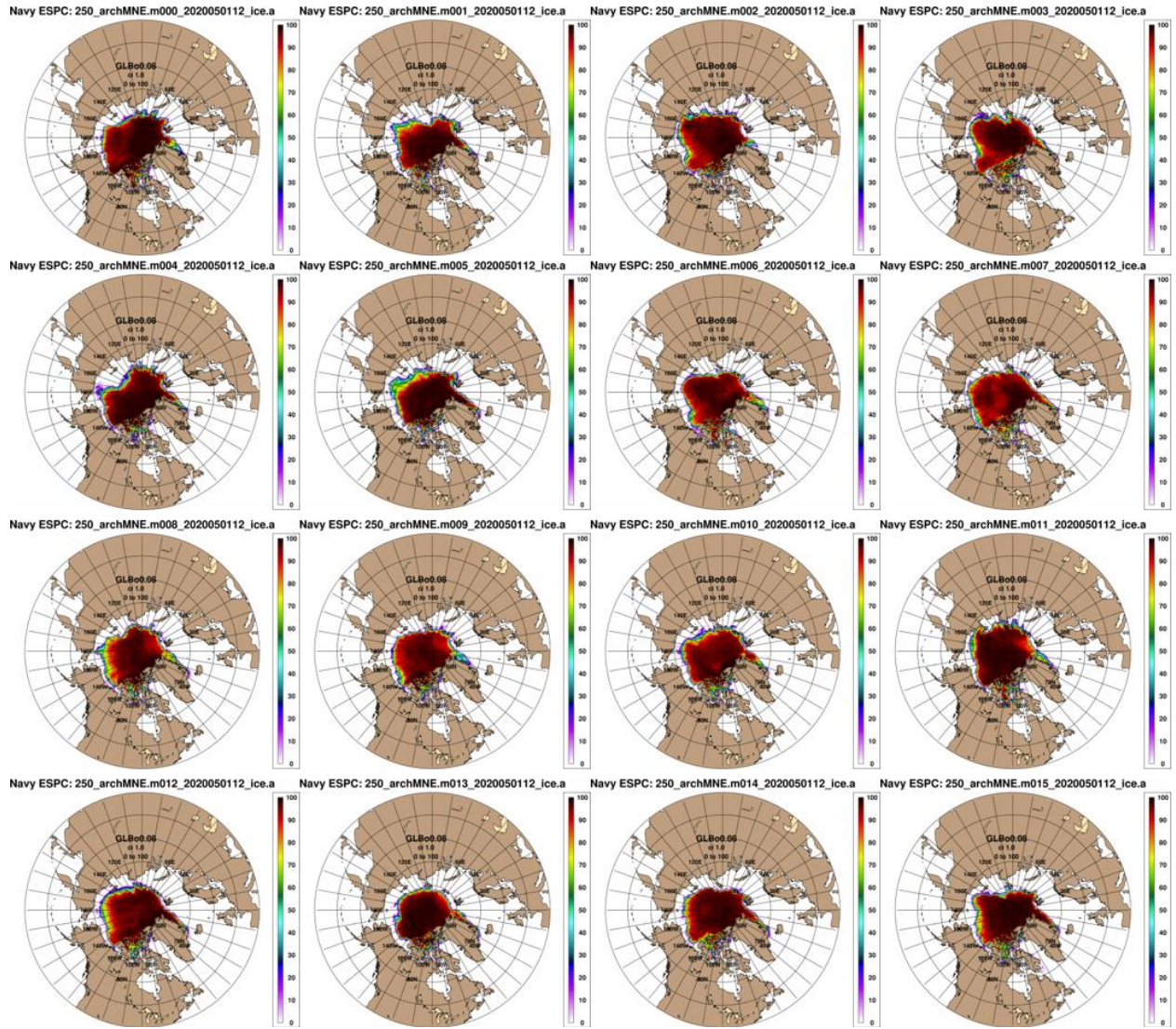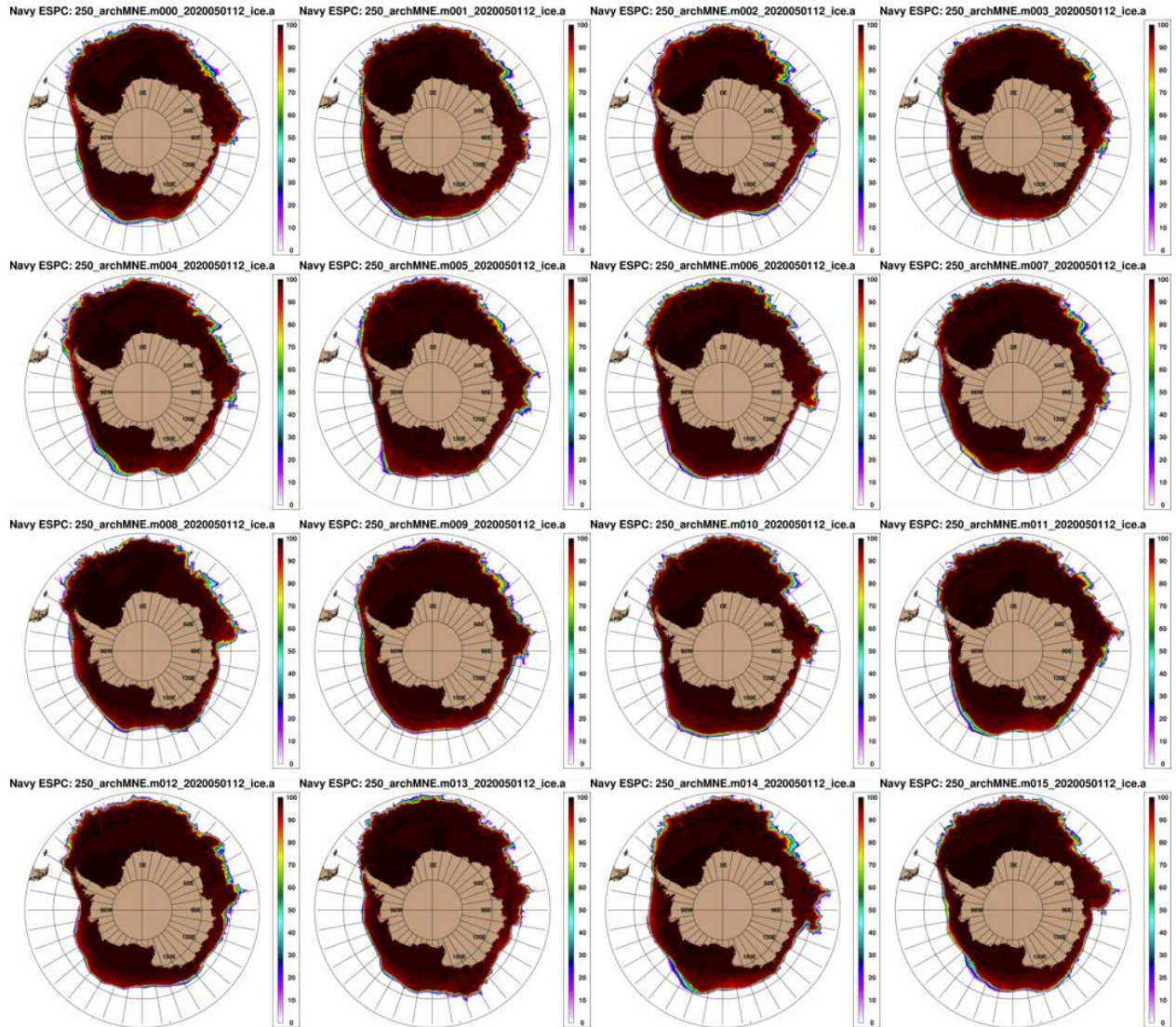Navy ESPC | Ice Extent | May SIO

Figure 1: September 2020 mean 80% (blue) and 15% (red) sea ice concentration contours for Fram Strait from the Navy Earth System Prediction Capability 16 member ensemble using 1 May 2020 initial conditions

Navy ESPC: 250_archMNE.m000_2020050112_ice.a   Navy ESPC: 250_archMNE.m001_2020050112_ice.a   Navy ESPC: 250_archMNE.m002_2020050112_ice.a   Navy ESPC: 250_archMNE.m003_2020050112_ice.a

Navy ESPC: 250_archMNE.m004_2020050112_ice.a   Navy ESPC: 250_archMNE.m005_2020050112_ice.a   Navy ESPC: 250_archMNE.m006_2020050112_ice.a   Navy ESPC: 250_archMNE.m007_2020050112_ice.a

Navy ESPC: 250_archMNE.m008_2020050112_ice.a   Navy ESPC: 250_archMNE.m009_2020050112_ice.a   Navy ESPC: 250_archMNE.m010_2020050112_ice.a   Navy ESPC: 250_archMNE.m011_2020050112_ice.a

Navy ESPC: 250_archMNE.m012_2020050112_ice.a   Navy ESPC: 250_archMNE.m013_2020050112_ice.a   Navy ESPC: 250_archMNE.m014_2020050112_ice.a   Navy ESPC: 250_archMNE.m015_2020050112_ice.a
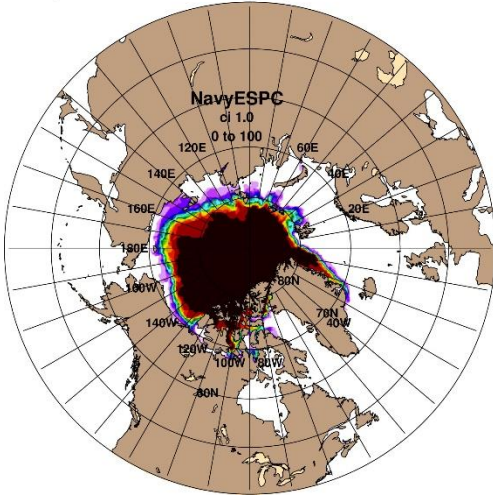
Figure 2: September 2020 mean ice extent from the Navy Earth System Prediction Capability individual 16 members using 1 May 2020 initial conditions for the Arctic.

Navy ESPC: 250_archMNE.m000_2020050112_ice.a Navy ESPC: 250_archMNE.m001_2020050112_ice.a Navy ESPC: 250_archMNE.m002_2020050112_ice.a Navy ESPC: 250_archMNE.m003_2020050112_ice.a

Navy ESPC: 250_archMNE.m004_2020050112_ice.a Navy ESPC: 250_archMNE.m005_2020050112_ice.a Navy ESPC: 250_archMNE.m006_2020050112_ice.a Navy ESPC: 250_archMNE.m007_2020050112_ice.a

Navy ESPC: 250_archMNE.m008_2020050112_ice.a Navy ESPC: 250_archMNE.m009_2020050112_ice.a Navy ESPC: 250_archMNE.m010_2020050112_ice.a Navy ESPC: 250_archMNE.m011_2020050112_ice.a

Navy ESPC: 250_archMNE.m012_2020050112_ice.a Navy ESPC: 250_archMNE.m013_2020050112_ice.a Navy ESPC: 250_archMNE.m014_2020050112_ice.a Navy ESPC: 250_archMNE.m015_2020050112_ice.a

Figure 3: September 2020 mean ice extent from the Navy Earth System Prediction Capability individual 16 members using 1 May 2020 initial conditions for the Antarctic.

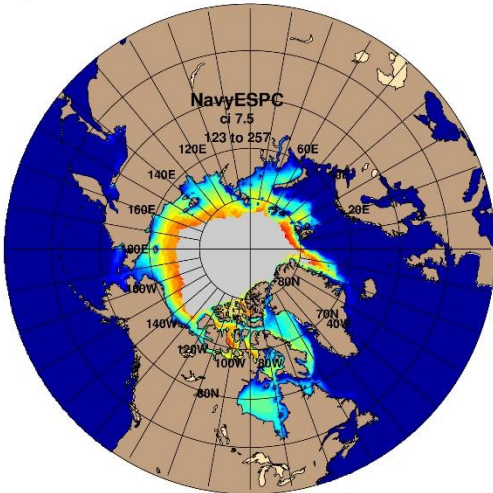**NavyESPC SIP from 1 May 2020 IC forecasts**   **NavyESPC SIP from 1 May 2020 IC forecasts**
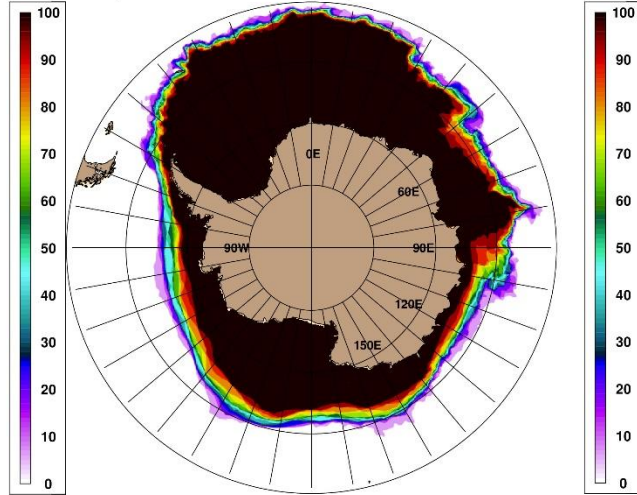
Figure 4: Sea Ice Probability (%) of the projected September 2020 mean ice extent from the Navy Earth System Prediction Capability 16 member ensemble using 1 May 2020 initial conditions.

NavyESPC 2020 May SIO: Mean First Ice Free Day   **NavyESPC 2020 May SIO: Mean First Ice Free Day**
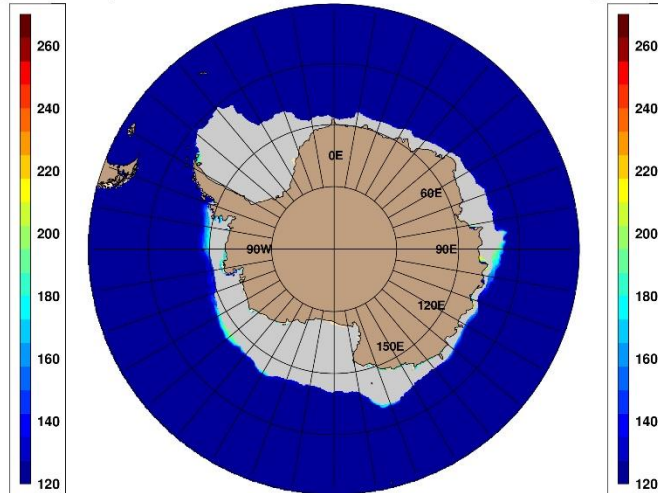
Figure 5: First ice-free ordinal date, with gray indicating a data void (i.e., no ice free days as the most likely outcome) from the Navy Earth System Prediction Capability 16 member ensemble using 1 May 2020 initial conditions.

NavyESPC 2020 May SIO: Std Dev First Ice Free Day   **NavyESPC 2020 May SIO: Std Dev First Ice Free Day**
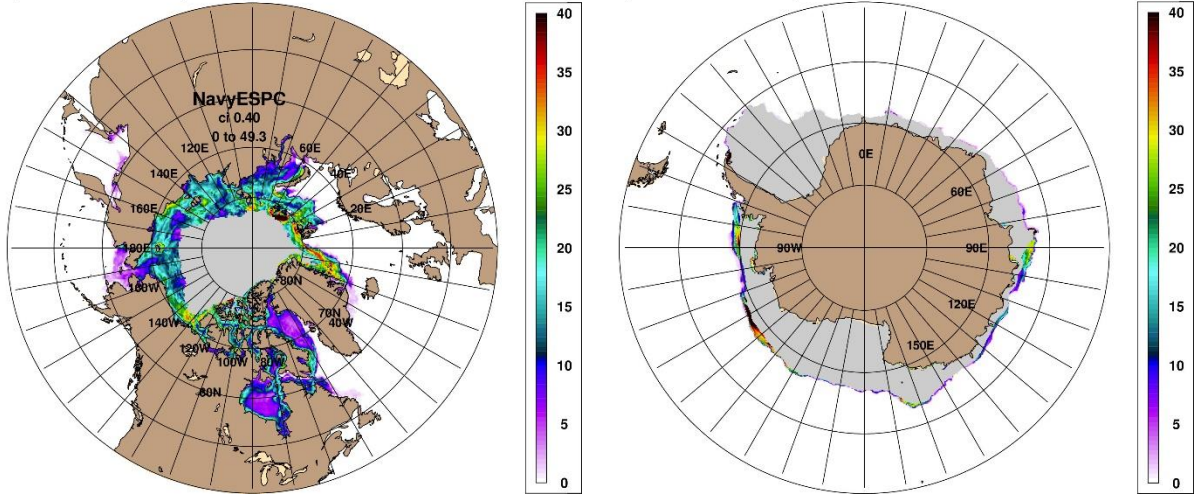

Figure 6: Standard deviation of first ice-free ordinal date, with gray indication a data void (i.e., no ice free days as the most likely outcome) from the Navy Earth System Prediction Capability 16 member ensemble using 1 May 2020 initial conditions.
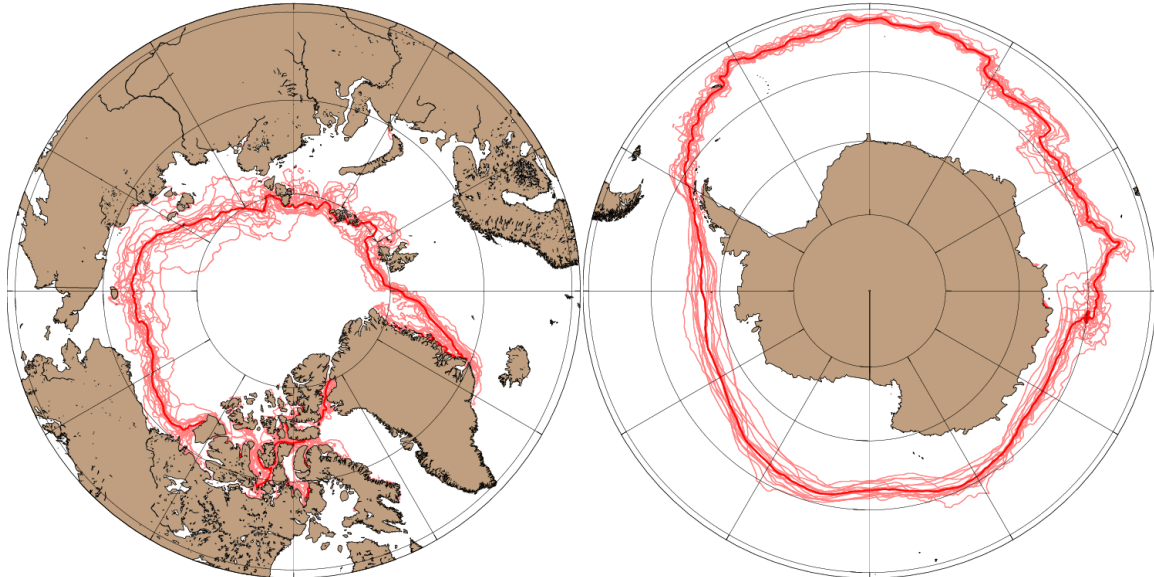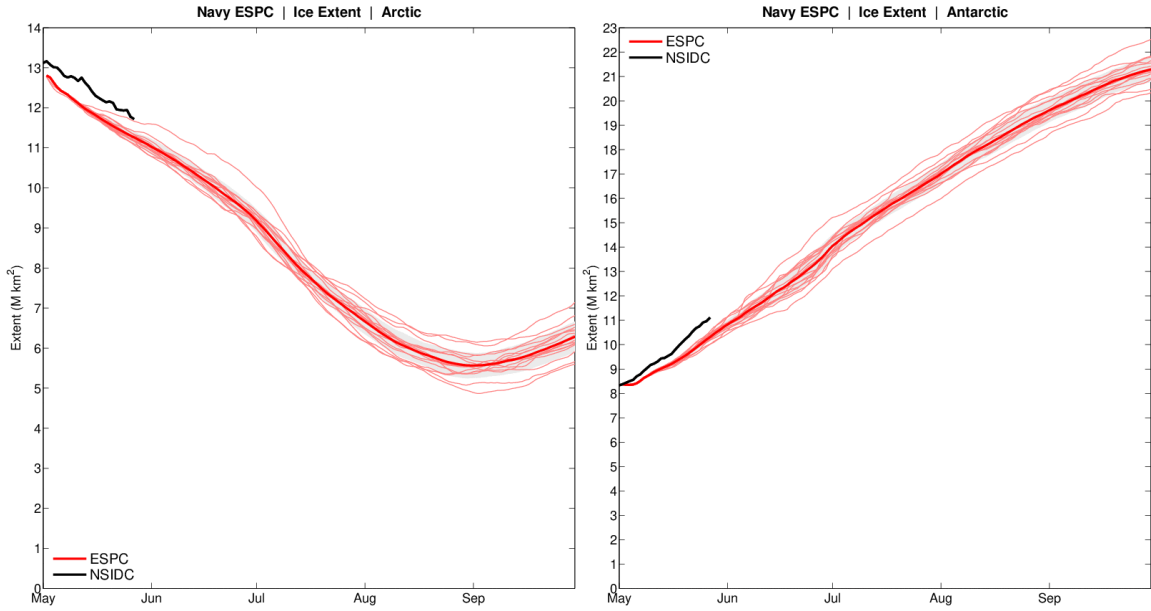

Figure 7: Sea ice concentration (15%) contours of the September median from the Navy Earth System Prediction Capability 16 member ensemble using 1 May 2020 initial conditions. The lighter contours show the individual ensemble members while the dark contour shows the ensemble median.

Figure 8: Areal sea ice extent (Mkm^2) versus time from the Navy Earth System Prediction Capability 16 member ensemble using 1 May 2020 initial conditions (left – Arctic, right – Antarctic). The thin red curves show the individual members while the thick red curve shows the ensemble mean. The gray shading represents ± 1 standard deviation. For reference, the thick black curve indicates actual sea ice extent (to date) from the National Snow and Ice Data Center (NSIDC).