

**Sea Ice Outlook**  
2021 July Report  
Individual Outlook

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**Name of contributor or name of contributing organization:**

Wu, Tallapragada, and Grumbine

**Is this contribution from a person or group not affiliated with a research organization?**

**Name and organization for all contributors. Indicate primary contact and total number of people who may have contributed to your Outlook, even if not included on the author list.**

Wu, Tallapragada and Grumbine

**Do you want your June contribution to automatically be included in subsequent reports? (If yes, you may still update your contribution via the submission form.)**

Include this submission in this month's report ONLY

**What is the type of your Outlook projection?**

Dynamic Model

**Starting in 2017 we are accepting both pan-Arctic and pan-Antarctic sea ice extent (either one or both) of the September monthly mean. As in 2016, we are also collecting Alaskan regional sea ice extent. To be consistent with the validating sea ice extent index from NSIDC, if possible, please first compute the average sea ice concentration for the month and then compute the extent as the sum of cell areas > 15%.**

**a) Pan-Arctic September extent prediction in million square kilometers.**

3.96

**b) same as in (a) but for pan-Antarctic. If your method differs substantially from that for the Arctic, please enter it as a separate submission.**

19.6

**c) same as in (b) but for the Alaskan region. Please also tell us maximum possible extent if every ocean cell in your region were ice covered.**

**"Executive summary" of your Outlook contribution (using 300 words or less) describe how and why your contribution was formulated. To the extent possible, use non-technical language.**

The projected Arctic minimum sea ice extent from the NCEP CFSv2 model June initial conditions (ICs) using 120-member ensemble forecast (4 cycles each day June 1-30) is 3.96 million square kilometers with a standard deviation of 0.32 million square kilometers. The corresponding number for the Antarctic (maximum) is 19.60 million square kilometers with a standard deviation of 0.54 million square kilometers.

**Brief explanation of Outlook method (using 300 words or less).**

We used the NCEP CFSv2 model with 120-case of June 2021 initial conditions (4 cycles each day June 1-30) and model (bias-corrected).

**Tell us the dataset used for your initial Sea Ice Concentration (SIC).**

NCEP Sea Ice Concentration Analysis for the CFSv2 (June 1-June 30, 2021)

**Tell us the dataset used for your initial Sea Ice Thickness (SIT) used. Include name and date.**

NCEP CFSv2 model guess (June 1-June 30, 2021)

**If you use a dynamic model, please specify the name of the model as a whole and each component including version numbers and how the component is initialized:**

a)	Model Name:	NCEP CFSv2	
b)	Component	Name	Initialization
	Atmosphere	NCEP GFS	NCEP CDAS
	Ocean	GFDL MOM4	NCEP GODAS

ICE

Modified GFDL SIS SIC nudging

c) 120 ensemble members (June 1-June 30 2021, each day from all 4 cycles)

**If available from your method.**

**a) Uncertainty/probability estimates:**

**Median**

**Lower error bound**

**Lower error bound**

**Standard Deviation**

0.32

**b) Brief explanation/assessment of basis for the uncertainty estimate (1-2 sentences).**

**c) Brief description of any post-processing you have done (1-2 sentences).**