SEA ICE OUTLOOK

2024 July Report

By Hachiyama JHS

Contributor

Label: Hachiyama JHS

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36 students in the third grade at Hachiyama Junior High School in Tokyo

Organizer

Noriaki Kimura (The University of Tokyo, Japan)

kimura_n@aori.u-tokyo.ac.jp

Executive summary

The Arctic ice extent in this September is expected to be 4.01 million square kilometers. Predictions were made by 36 students in 10 groups. Students made their predictions using sea ice extent in September since 2003, sea ice extent and sea ice age distribution in July, including this year, and other weather and climate data. The maximum and minimum predicted values were 4.73 and 3.64, respectively, with 8 of the 10 groups predicting a decrease from last year.

Type of Outlook method:

Heuristic

Dataset

Ice concentration: 25km grid data from SSM/I, and 10km grid data from AMSR-E and AMSR2, distributed by Arctic Data Archive System (https://ads.nipr.ac.jp)

Prediction of September pan-Arctic extent as monthly average in million square kilometers.

4.01 million square kilometer

Short explanation of Outlook method.

Students made their predictions using sea ice extent in September since 2003, sea ice extent and sea ice age distribution in July, including this year, and other weather and climate data. Many groups of students noted a trend toward continued declines in the years following small declines, such as 2022-2023. One group noticed a similarity in the September sea ice distribution every four years, and another group noticed a strong relationship between June wind speeds and September sea ice extent. In addition, several groups also used snow cover in Siberia, solar activity, and fish catches in Alaska in their considerations.

Pan-Arctic sea ice extent anomaly

-0.12 (4.01-4.13) million square kilometers

Predicted value of each (million square kilometers)

Grope 1: 3.90
Grope 2: 3.80
Grope 3: 3.80
Grope 4: 4.73
Grope 5: 4.41
Grope 6: 4.00
Grope 7: 4.00
Grope 8: 4.00
Grope 9: 3.64
Grope 10: 3.84

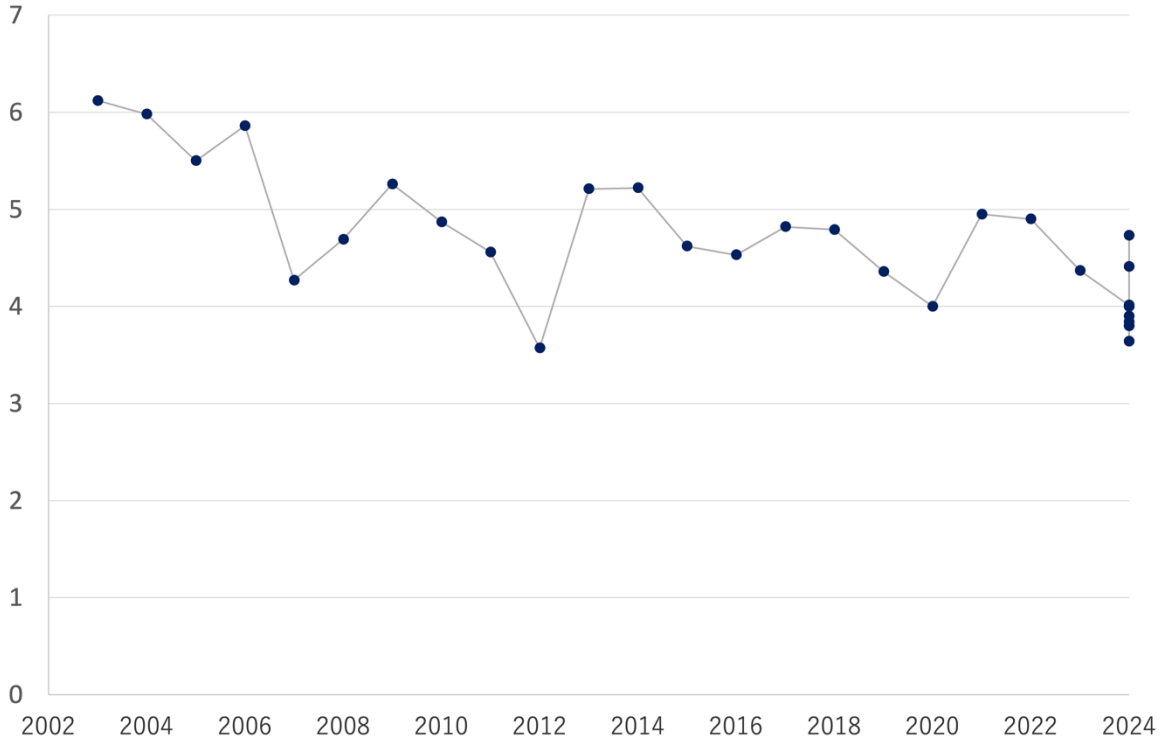

Fig: Interannual change in sea ice extent in September since 2003. Dots in 2024 are predicted values