

Arctic sea ice is declining and ice free summer conditions are a possibility by the end of the 21st century

1. Map: September sea ice extend

- 1979
- 2012
- 2019
- Mean 1981 - 2010

■ Shipping routes



2. Predictions

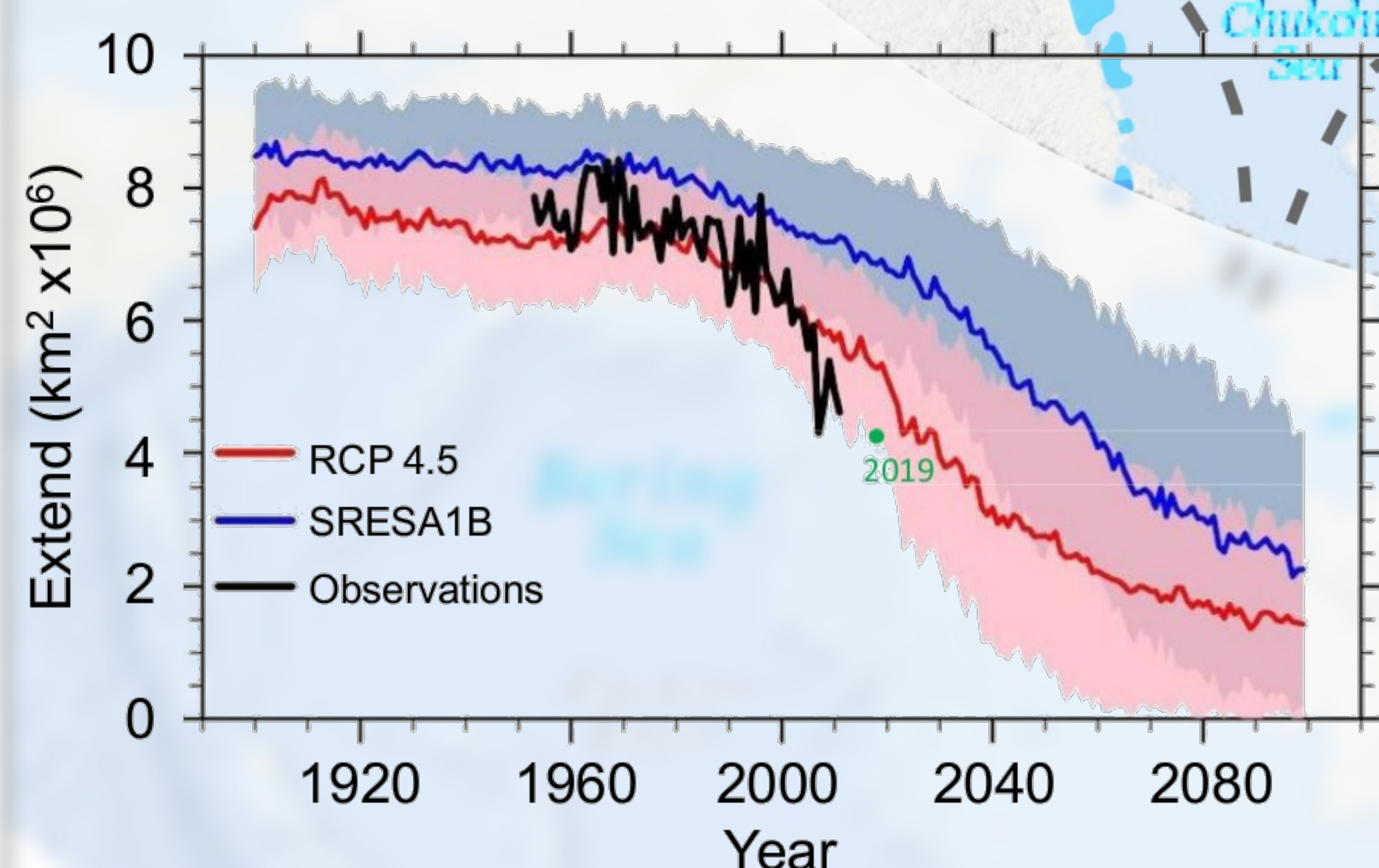


Fig. 1. Model projections of september Arctic sea ice extend from 1900 - 2100, and observations from 1953 - 2011, based on multi model ensemble mean of CIMP3 and CIMP5, +/- 1 standard deviation. Additionally the value for 2019 (green dot) is eyeballed (compare with Arctic see ice index, NSIDC). Adapted from Stroeve et al. 2012.

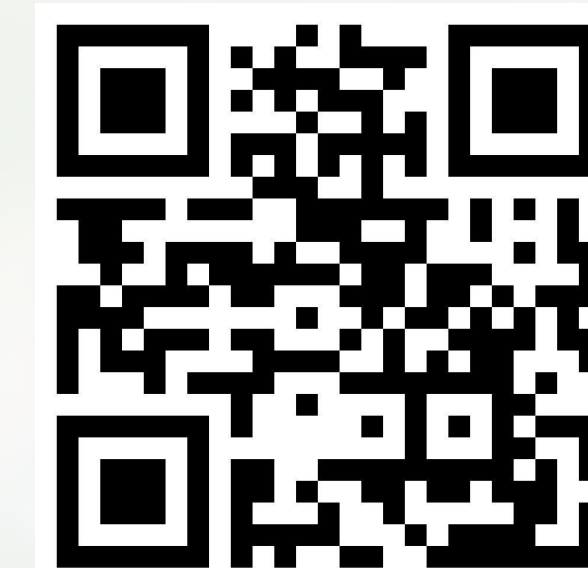
3. Summary

Declining sea ice and ice free summer conditions open up the Arctic for economic exploitation. The divergence between current model predictions and observational data indicate an underestimation of the decline. Therefore ice free conditions might occur earlier than expected.

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Video abstract



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