

PAMIP Webinar Series

Insights from PAMIP on the impact of Arctic sea-ice loss on the extratropical storm tracks

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Time: 3:00 pm (GMT)

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Abstract

Taking advantage of the Polar Amplification Model Intercomparison Project simulations, we examine Northern Hemisphere extratropical cyclone tracks under present day sea-ice extent and future Arctic sea-ice extent. Using a Lagrangian objective feature tracking algorithm, we determine the response of extratropical cyclone tracks to sea-ice loss. The wintertime storm tracks are found to shift equatorward in the North Atlantic and over Europe, and eastward in the North Pacific. In both regions the cyclone tracks are weaker and slower, particularly on the poleward flank. On average, individual cyclones last longer, and are both weaker and slower-moving. The largest changes are found over the Arctic, although all responses are small. Little change in summertime cyclones are found and the results are not particularly sensitive to the tracking variable.



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