

## **B07-P02**

### **THE ARCTIC SEA ICE SEASONALITY INDEX**

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It is well-known that Arctic sea ice is in decline over the last 20 years. Sea-ice extent (especially in summer), thickness, and age are all decreasing. Coupled climate model projections for the 21<sup>st</sup> century imply anthropogenic effects cause this sea ice decline. They predict loss of summer sea ice by mid century, although they under-estimate the speed of the observed decline. The projected year of summer sea-ice loss is not a good diagnostic of the transition to seasonal ice cover, however. For this reason, we propose the Seasonality Index, which is a non-dimensional number measuring the degree of seasonal change. By this metric the Arctic sea ice system has already left the regime of perennial cover. Indeed, it currently exhibits similar seasonality to the Antarctic sea ice system. This paper defines, discusses, and applies the Seasonality Index to several sea ice datasets and climate model projections.