

Sea ice

The most reliable record of sea ice coverage comes from satellites, since 1979. In the past decade, we have seen record low Arctic sea ice extent and record high Antarctic sea ice extent. There is no trend in global sea ice extent. How do we reconcile the shrinking arctic sea ice extent with the growing Antarctic sea ice, in the context of global warming?

Here is what the recent IPCC assessment has to say about sea ice.

- “Anthropogenic forcings are very likely to have contributed to Arctic sea ice loss since 1979.” Note the word ‘contributed,’ this is a pretty weak word.
- “There is low confidence in the scientific understanding of the observed increase in Antarctic sea ice extent since 1979, due to the incomplete and competing scientific explanations for the causes of change and low confidence in estimates of internal variability.”
- “Arctic temperature anomalies in the 1930s were apparently as large as those in the 1990s and 2000s. There is still considerable discussion of the ultimate causes of the warm temperature anomalies that occurred in the Arctic in the 1920s and 1930s.”

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The bottom line is this. The amplitude of multidecadal natural variability is very large in the polar regions, and we don’t know to what extent the recent melting of Arctic sea ice is natural or caused by humans.