

Temporal and Regional Climate Mean and Variability of Arctic Sea Ice Coverage from Satellite Data

Ge Peng

Cooperative Institute for Climate and Satellites - North Carolina (CICS-NC), NC State University and NOAA's National Centers for Environmental Information, Asheville, NC, USA

Abstract

Arctic sea ice has been undergoing rapid and accelerated loss since satellite-based measurements became available in late 1970s, especially the summer ice coverage. For the Arctic as a whole, the long-term trend for the annual sea ice extent (SIE) minimum is about -13.5 ± 2.93 % per decade change relative to the 1979–2015 climate average, while the trends of the annual SIE minimum for the local regions can range from 0 to up to -42 % per decade.

This presentation aims to examine and baseline temporal and regional means and variability of Arctic sea ice climate indicators, such as the annual SIE minimum and maximum, from a consistent, inter-calibrated, long-term time series of remote sensing sea ice data for understanding regional vulnerability and monitoring ice state for climate adaptation and risk mitigation.