

Climate Change in Antarctica

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Antarctica is a continent of extremes. It is the coldest, driest and windiest continent, and has the highest average elevation of all the continents. Ninety eight percent of Antarctica is covered by thick ice sheets that contains about 90% of the world's 'permanent' ice and 70% of its fresh water. Additionally, the sea ice surrounding the Antarctic continent has a maximum winter extent of some 20 million km², the seasonal waxing and waning of which is one of the largest seasonal signal on planet Earth. The cryosphere, hydrosphere and atmosphere in and around Antarctica are the closely interactive components of a complex climate system, with global, and regional influences. The role of Antarctic cryosphere within the global climate system and the spatial and temporal complexity of its climate are still poorly understood because of the limited and very short periods of observational data on the environmental variables collected over the last few decades. One of the most accurate methods to study the Antarctic climate change beyond the instrumental limits is to examine and interpret the ice core proxy records that offer continuous, highly resolved long-term records of not only temperature and precipitation, but also on atmospheric composition and transport. The focus of the talk would be on the recent climate warming and its possible manifestations in Antarctica.