

Global warming, Arctic sea-ice melting and our future

Chung-Ho Wang

Research Fellow and Deputy Director, Institute of Earth Sciences, Academia Sinica

E-mail: chwang@earth.sinica.edu.tw

Abstract

The rapid development of global warming from the early 20th century has become the foremost challenge that the world must face and solve in this twenty-first century. The Arctic Ocean has showed the rapid and record-breaking sea-ice dwindling for the summer minima after 2000. This unprecedented phenomenon not only indicates the accelerating rate of global warming, but also implies that there are serious mistakes and underestimates in the scientific communities. Once the Arctic summer ice-free conditions appear in the near future, we will have unparalleled changes in the Earth's ecological environment, which will covers the atmosphere, ocean and shallow crust. Coupled with speedy sea-level jumping, the impacts will be beyond the affordable limits of human society. We must immediately take effective strategies for adaptation and disaster prevention.

Key words: global warming, Arctic Ocean, sea-level rise, strategies for adaptation and disaster prevention