

Editorial

Understanding and predicting climate change on long time scales has focused increasing attention on the ocean-atmosphere system. Recent research on monsoon, mesoscale processes and upwelling connections between the ocean and atmosphere has guided to new insights about the sensitivity of the climate system to ocean-atmosphere process. So, it is clear to fully understand the nature of these feedbacks and to quantify their effects on climate is very important.

This special issue was based on slackly on the different aspects of ocean-atmosphere process problems. It is not intended as either a high-tech review of the literature or a standard textbook. Rather, it is meant as a starting point of researchers interested in ocean-atmosphere process and climate change to obtain a board perspective on the issues driving research in this challenging field. This special issue consists of six papers dealing with six different ocean-atmospheric problems from pole to equator. The papers are written by four different authors from the three different countries, examining aspects of climate change as it affects their field of study.

Indonesian Throughflow is one of the important inter-oceanic exchange region between Pacific and Indian Ocean, understanding its physical and dynamical behavior is a key to the Indian Ocean Ocean-atmosphere process and also Agulhas Current process. In this issue an attempt is made on the physical characteristics of the Indonesian Throughflow region.

Indian summer monsoon is a primary rainy season to Indian, but northeast monsoon season also give rainfall to few places in southern India. Long range prediction of northeast monsoon is essential to southern Indian. One of the author in this issue develop new algorithm for predicting northeast monsoon rainfall using different global parameters and latest statistical techniques. One regional study is also conducted on the effect of climate change on rainfall activity at Agumbe, India.

Indian Ocean is key to global climate, study of ocean-atmosphere process in this region is very essential. An effort is put on the spatial structure of Indian Ocean Dipole variability in Indian Ocean sea surface temperature and their relation to El Nino variability.

In recent years number of researchers concentrated on sea ice changes near polar regions. Study of polar lows over the Arctic has become especially important due to the significant sea ice decrease in the Arctic Ocean in recent years. An empirical method is developed to detect mesoscale processes (polar lows) using multi-satellite products and also conducted few experiments using ocean models on upwelling process near the Peru region.

It is expectation that this group of papers on different ocean-atmospheric problems will offer a good understanding to ocean-atmosphere processes in a global climate change scenario.

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