

前言

把脉极端天气气候事件,构建预测方法

极端天气气候事件是造成我国重大自然灾害的主要根源,并且在近年来有加重的趋势。暴雨、台风、持续性强降温、暴雪、高温热浪、重霾污染等都是全社会高度关注的,科学家们需要剖析形成这些极端天气气候事件的原因和科学过程、机理,并研究构建有效的科学预测方法,以达到防灾减灾的目的。

在我国,极端天气气候事件种类多样,成因复杂,预测难度大。因此,《大气科学学报》精心策划组织了这期专刊,涉及极端高温、低温、降雨降雪、滑坡泥石流、霾污染、青藏高原臭氧等方面,受邀撰写专刊论文的学者皆来自科研、教学、业务一线,还包括多位优秀的青年学者。该专刊论文基本反映了我国在该领域的前沿优秀成果,编者希望该专刊的出版能够引发学术研讨和进一步的学术创新,促进预测方法的研制、完善和实际应用,造福人民和社会。

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Investigations on extreme weather and climate events to construct effective prediction methods

Extreme weather and climate events, which are the main cause for severe natural hazards in China, show an aggravating tendency in recent years. Extreme events like rainstorm, typhoon, persistent cold wave, snowstorm, heat wave and haze pollution are of great concern to the whole society. It is very necessary for scientists to study the reasons and mechanisms leading to these events in order to construct scientific and effective prediction methods aiming at hazard prevention and mitigation.

In China, types of and causes for extreme weather and climate events vary a lot and therefore they are very difficult to predict. *Transactions of Atmospheric Sciences* arranges this special issue including investigations on extreme events like extreme high and low temperatures, precipitation and snow, landslide and debris flow, haze pollution and the ozone hole over the Tibetan Plateau. The invited authors are all working in the front line of research, education and weather and climate prediction operation, among whom there are some outstanding young scholars. This special issue demonstrates the frontiers of studies in this aspect in China. I hope that it will prompt academic discussions and innovations, promote the research and application of extreme weather and climate event prediction methods and thus benefit mankind and society.

Prof. Huijun Wang

Chief Editor

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