

# JMA's Advisory Panel on Extreme Climate Events

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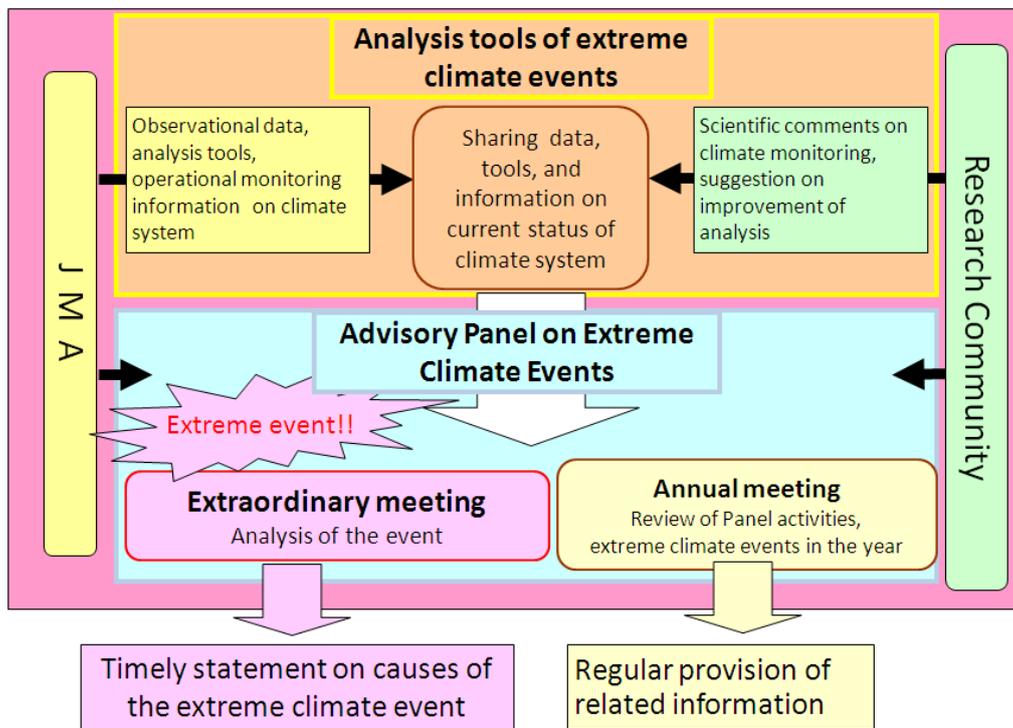
In order to investigate factors of extreme climate events based on the latest knowledge and findings and then provide information based on the investigation to the public as soon as possible when such events occur, the Japan Meteorological Agency (JMA) established an "Advisory Panel on Extreme Climate Events" in June 2007. The Panel consists of prominent climate scientists from universities and research institutes in Japan, and is chaired by Prof. Kimoto of the University of Tokyo.

Basically, when a nationwide-scale extreme climate event having a large impact on socio-economic activities has occurred, the Panel initiates investigation and discussion on related factors with JMA's experts. Following the preliminary discussions, it holds a meeting at the JMA headquarters or an on-line web meeting. After the meeting, JMA issues a statement including outlooks for the event based on Panel's investigation and advice. The statement is provided to the general public as well as decision makers in socio-economic sectors to help them avoid or minimize adverse effects from extreme climate events. Since the panel established in 2007, JMA has issued a number of such statements as those for heat waves in summer 2008, record breaking hot summer in 2010 and cold winter in 2011/2012.

On a routine basis, JMA shares current conditions of the climate system and discuss climatic anomalies with the Panel using a dedicated website and e-mail. JMA developed the *Interactive Tools for Analysis of the Climate System (ITACS)* for the Panel to analyze causes of extreme climate events. The ITACS is also provided to National Meteorological and Hydrological Services (NMHSs) to assist their relevant activities.

The Panel and its Working Group also advise JMA in terms of improvement of climate diagnosis tools. JMA introduced new tools based on Panel's advisories, for example, a linearized baroclinic model (LBM) to investigate linear stationary response to convective heating anomalies and a diagnosis method of meridional-mean circulation using mass-weighted isentropic zonal mean (MIM) meridional velocity.

Figure 1 illustrates the framework of the Panel between JMA and climate research community. It can be appreciated that the framework is a good practice in collaboration and cooperation between academic and operational services sectors related to climate science. Through Panel-related activities including discussion in diagnostic analysis and gain of the latest achievements of climate science, JMA has enhanced its ability for climate diagnosis and improved its climate services.



**Fig. 1 Framework between JMA and climate research community related to the Advisory Panel on Extreme Climate Events**