

Anomalous atmospheric events leading to Kyushu's flash floods, 2012

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During 11-14 July 2012, deadly floods and landslides triggered by a series of unprecedented heavy rains hit Kyushu, causing about 30 people died and around 400,000 people were ordered to evacuate. Some locations recorded over 100 mm of rain in just one hour at the peak of the rain's intensity and it is the heaviest rain that the region has ever experienced. Anomalous atmospheric events are the main reasons that caused Kyushu's flash floods, 2012. In this study, we therefore documented the conditions associated with this tragic event by focusing on standardized anomalies. Standardized anomalies of daily composite 500-hPa heights and precipitable water (PW) were calculated from the National Centers for Environmental Prediction/National Center for Atmospheric Research (NCEP/NCAR) Reanalysis Data using 21-day centered means from a 30-yr base period of 1981–2010. In addition, the U.S.-Japanese Tropical Rainfall Measuring Mission (TRMM) satellite data was also used to analysis the anomalous character of this flooding. The results obtained from the study indicate that significant atmospheric anomalous caused a series of heavy rains and brought devastating floods in Kyushu.