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The Severe Drought in the Yangtze River Basin in the spring of 2011

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In the spring of 2011, a severe drought struck the Yangtze River Basin due to the lack of rainfall over a sustained period. In terms of precipitation and the number of days without rainfall, the drought in the Yangtze River Basin in the spring of 2011 is the most severe one since record started in 1951.The drought is the consequence of persistent anomalous circulation over the Eurasia. There was a deep trough sustained over Japan. In the Caspian Sea and Arabian Sea there was a stationary ridge. Due to its persistence, the perturbations from West Asia could hardly reach East Asia. Meanwhile, an eastward displacement of the subtropical high lead to the eastward shift of the water vapor channel, away from the eastern Asian continent. Also the summer monsoon of South China Sea was weak in May, resulting very poor supply of water vapor and very dry weather in the Yangtze River Basin. The feedback from the surface of the drought region is perhaps one of the contributing factors affecting the anomalous summer monsoon in the South Sea and East Asia. The formation mechanism of such anomalous atmospheric circulation which lasted three months stably over Eurasia continent has yet to be further studied.