phase) the deep atmospheric convection over the central and eastern equatorial Pacific Ocean caused increased upper atmosphere divergence over the region. Upper atmosphere anticyclones strengthened poleward of the convection region in both hemispheres and increased the speed of the subtropical jetstreams. Across the eastern North Pacific the subtropical jetstream extended further east than normal and influenced weather systems over the Pacific Ocean–North America regions.

The mean upper atmosphere (200 hPa — approximately 12 km altitude) wind flow and anomaly pattern for January to March 1998 are shown in Figure II.21. The strengthened anticyclonic circulations straddling the equator in the eastern Pacific Ocean and the abnormally strong subtropical jetstreams of each hemisphere are clearly seen in the anomalous flow.

In the following sections a more detailed description will be given of weather extremes and significant seasonal climate anomalies attributed to the El Niño event that occurred in some regions of the globe during the 1997–98 El Niño event, and the associated socio-economic impacts that were experienced. Neither the regional climate anomalies, nor the impacts, should be taken as a complete documentation. The examples do, however, provide a picture of the geographical extent and intensity of weather and climate extremes that occurred and had direct or indirect linkage with the 1997–98 El Niño event.

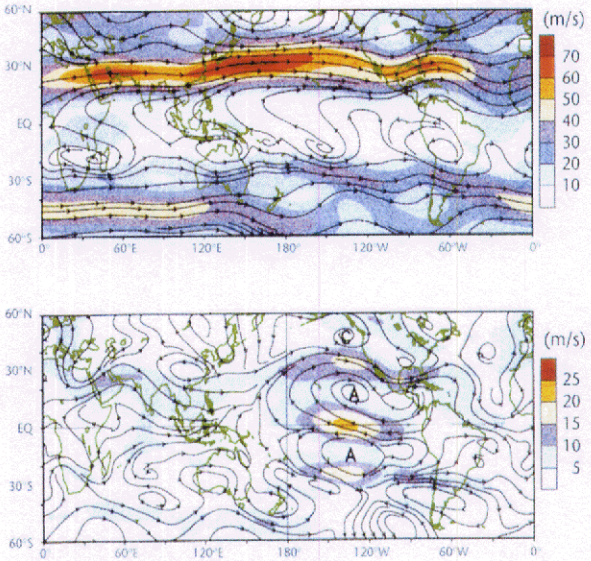

Figure II.21
Mean and anomaly maps of high atmosphere wind flow (200 hPa is approximately 12 km altitude) during January–March 1998. There was a well-developed anticyclone pair straddling the equator over the eastern Pacific Ocean. Strengthened subtropical westerly jetstreams poleward of these systems extend across the southern United States in the Northern Hemisphere and across South America in the Southern Hemisphere.
(NOAA/NCEP, USA)

South and Central America

When there is anomalous sea surface temperatures and deep atmospheric convection over the central and eastern Pacific Ocean the continent of South America can be expected to be affected in two ways. Firstly, the tropical parts will be affected by the changes to the zonal circulations, including a contraction of the Walker Circulation. Secondly, the active convection and atmospheric heating will lead to a more active subtropical jetstream

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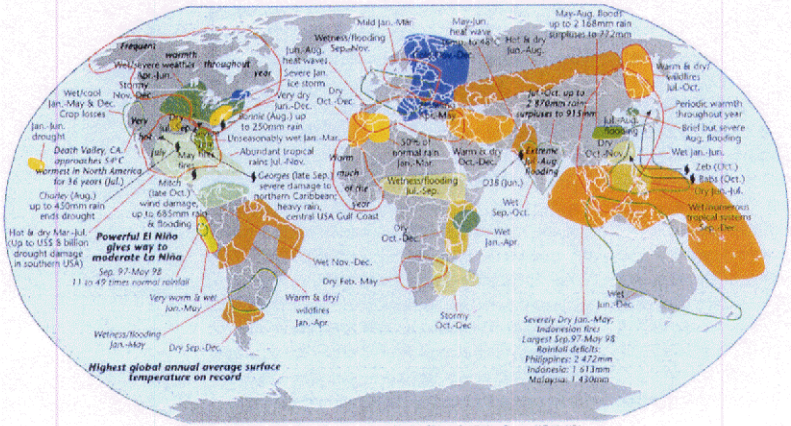

Source: Climate Prediction Center, NOAA, USA