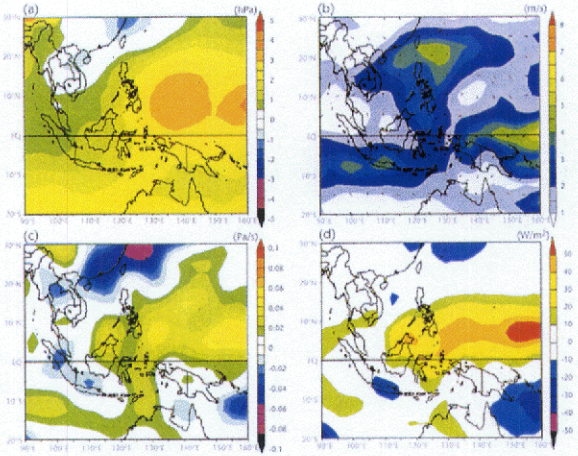

Figure II.49
Montage of selected climate indicators over the equatorial Asia-Pacific region from January to March 1998 showing composite anomalies of a) sea level pressure; b) low level (approximately 750 metres) wind flow; c) vertical motion at 3 km; and d) outgoing longwave radiation.
(NOAA/CDC, USA)

Impacts

The major impacts of the 1997–98 El Niño event across the equatorial Asia-Pacific region resulted from the significantly reduced rainfall over an extended period in many areas. Agriculture, water supply, energy production, the environment and human health were all affected by regional drought.

As a consequence of drought there was decreased agricultural production over many parts of the region. In addition, frosts were more frequent in some of the higher areas, particularly over Papua New Guinea, because of the drier air and reduced cloudiness; food crops were destroyed in some of the highlands. In the Philippines rice and corn production declined by more than 40 per cent and 25 per cent respectively. Indonesia moved from a net exporter to a net importer of food grain during the period. International food aid averted starvation in the highlands of Papua New Guinea and all governments of the region had to increase spending on food support measures. Decreased agricultural activity meant that many agricultural workers lost jobs and moved to urban areas seeking employment, often without success.

Drought reduced the amount of stored water available for drinking, industry, irrigation and energy production. Reduced hydroelectric generation in the Philippines and Papua New Guinea meant a shift to thermal power and a need to spend foreign reserves on imported fuel oil. Water restrictions were necessary in many places, including metropolitan Manila and many water districts across the Philippines.

Extreme heat and water shortages contributed to health-related problems in many parts of the region. In the most severely drought affected parts people suffered malnutrition and their natural capacity to fight diseases was reduced. Lack of potable water and a deterioration in sanitation and hygiene increased the incidence of water-related communicable diseases. Malaria, cholera, typhoid fever and dengue were reported to be more prevalent across the region and are direct impacts of the anomalous climate conditions associated with the El Niño event.

The most widely reported impact of the 1997–98 El Niño event over the region was the problem of smoke haze from out-of-control fires. Virgin forests, parks, reserves and agricultural lands were caught up in the conflagrations. The extent of out-of-control fires, especially those over Kalimantan, was closely monitored using satellite imagery but often the necessary equipment and trained personnel were not in place to control the fires. Many fires burning in inaccessible forests were impossible to control. Not only were fires out of control but also burning continued to be used as a method for clearing the forests for future agriculture. The thick smoke and haze was a direct threat to human health through respiratory problems and skin disorders. In addition to the immediate health problems and the loss of forest resources from the fires there was significant environmental damage to flora and fauna. The land surface, often in hilly terrain, was left exposed to future erosion when monsoon rains returned.

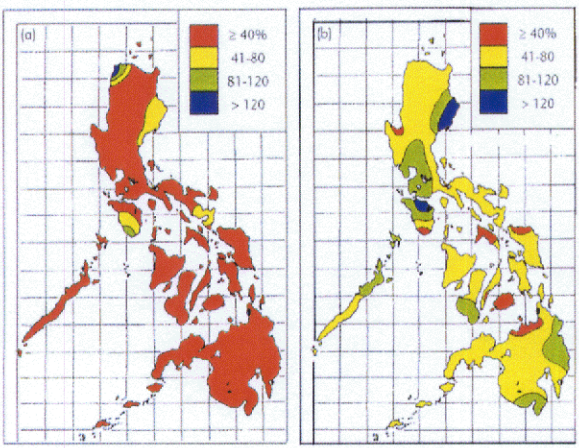

Figure II.50
Cumulative rainfall over the Philippines for (a) January to March 1998 and (b) April to June 1998 as a percentage of normal for each season.
(PAGASA, Philippines)