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Queensland Drought Enters Its Fifth Year

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The worst ENSO drought event to affect the state of Queensland this century has entered its fifth year. The drought, which commenced in March 1991, reached its maximum coverage in December 1993, when 51% of the state's 1.7 million square kilometers were officially drought-declared. Currently, 41 full shires (local authority areas) and five part shires comprising more than 20,000 individual rural properties and covering 37% of the state are drought-declared.

An appreciation of the severity of the Queensland drought, particularly in comparison with other Australian states, can be gained by examining rainfall relative to historical records (Figures 1 and 2). The eastern portion of Queensland has recorded extremely low relative rainfalls (in the 0–10 percentile range) over the March 1991–April 1995 period. More than 40 long-term Bureau of Meteorology recording stations have received their lowest rainfall ever. Many areas are carrying accumulated rainfall deficits equal to about two years of average rainfall. The example shown in Figure 3 is for Toowoomba, one of the state's prime cereal-growing centers.

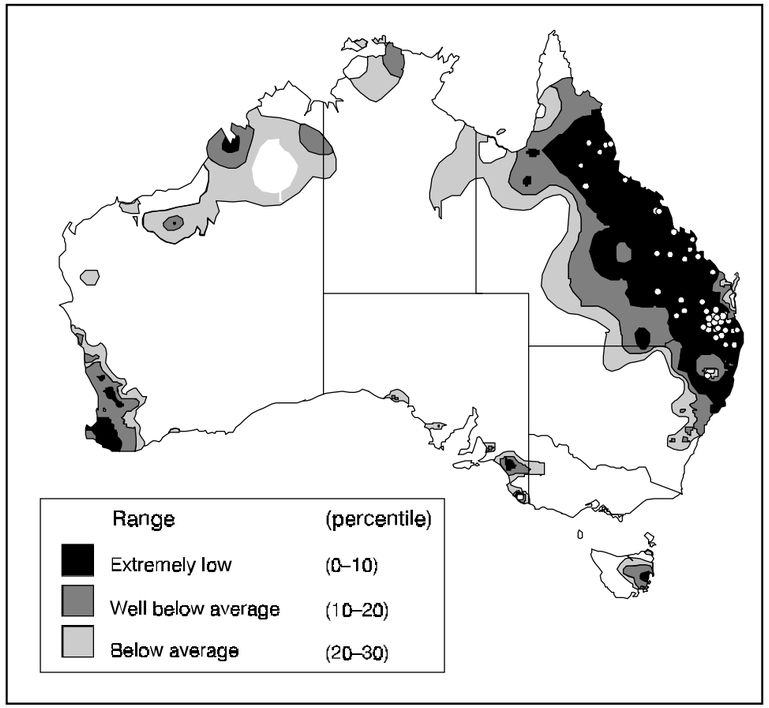

Figure 1. Below-average rainfall relative to historical records, March 1991–April 1995. Stations recording their lowest rainfall ever are denoted by white circles.

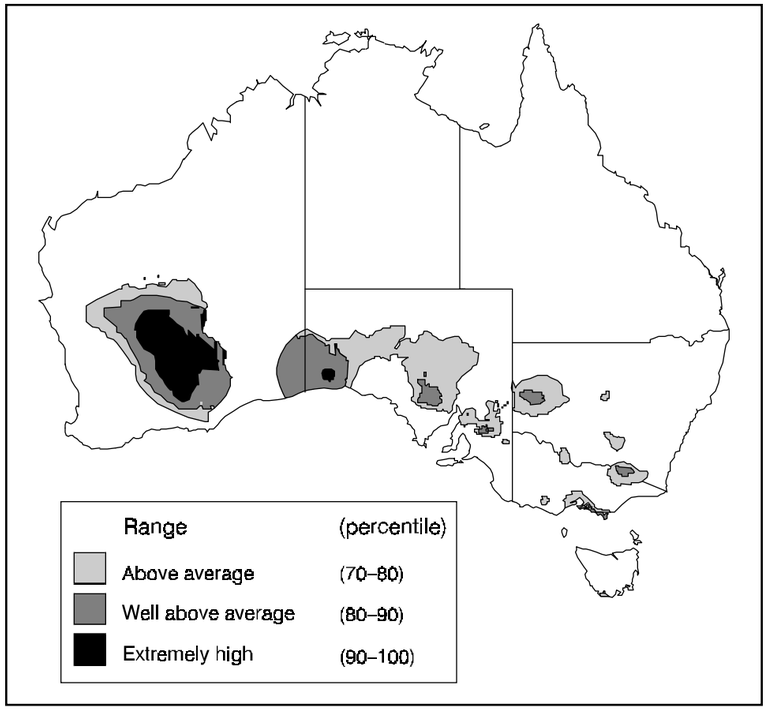

Figure 2. Above-average rainfall relative to historical records, March 1991–April 1995.

Reduced runoff is manifest in low surface water storages and depleted aquifers. Twelve major irrigation dams are at critical levels, and coastal ground water systems are at their lowest levels on record, presenting problems with sea water intrusion.

All rural industry sectors have been adversely affected by this extended drought. Cropping and pastoral sectors have been hardest hit; horticultural and sugar sectors have been least affected. The total loss to Queensland's economy is estimated at about $A5 billion.

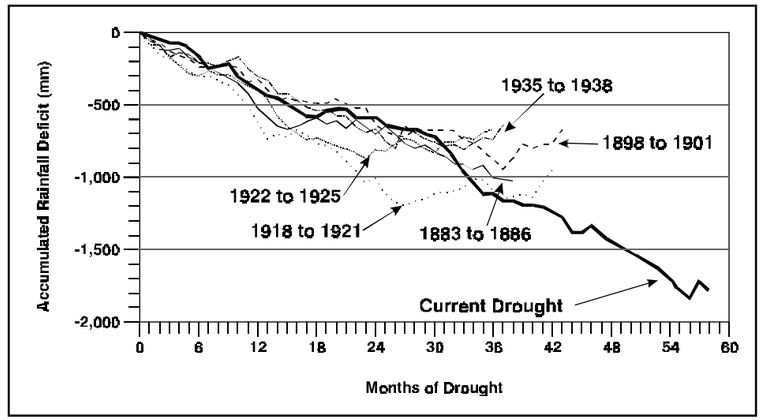

Figure 3. Rainfall deficits for Toowoomba, June 1990–March 1995, compared to other droughts. Annual mean = 960.5 (mm).

Drought management in Queensland is undertaken within a defined policy and implementation framework. National and state policies are aimed at encouraging primary producers to adopt self-reliant approaches to managing for climatic variability and to maintain and protect the agricultural and environmental resource base. The Queensland Department of Primary Industries (QDPI) is the lead agency for the implementation of drought policy on a whole government basis and processes drought management and coordination of assistance and advice activities through a separate risk management and drought program.

An important feature of Queensland's drought management is the joint participation of industry organizations, community, and assisting government agencies. This approach has ensured an integrated response targeted to the needs of rural producers. Many support and assistance measures are provided to drought-affected producers under both national and state schemes, including subsidies on debt interest and freight, concessional loans, welfare relief, employee support, counseling (social and financial), and extension services.

The prognosis for exiting the current event is problematical. With a return to negative Southern Oscillation Index (SOI) values and positive sea surface temperature anomalies remaining in the equatorial Pacific Ocean, agroclimatologists forecast only a 30%-50% chance of above-median rainfall over the coming winter period.

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