# Observing the Impact of Climate Variability on Hervey Bay

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## Abstract

In this presentation, observations from five hydrographic surveys are discussed that document the physical state of Hervey Bay, a subtropical bay off the south Queensland coast. The local freshwater balance favours the maintenance of hypersalinity which is aided by a slow renewal of water within the bay. Utilising simple models and historical data it is demonstrated that hypersalinity is likely to dominate throughout the year and are a climatological feature of this estuary. It is not limited to the dry season of the year, although significant rainfall events associated with storms can rapidly erode inverse conditions for short periods. Persistent drought conditions are likely to have prolonged periods of hypersalinity during recent decades. Hypersalinity leads to a density-driven outflow of Hervey Bay Water that joins the southward flow of the East Australia Current.