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**COASTAL PHOTOGRAPH BY MICHAEL G. HUGHES**

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**PHOTO 34.** Hydraulic jump on Goolwa Beach, South Australia. Goolwa is a highly dissipative beach where waves higher than 3 m often occur at the break point and several bores propagate across the wide (~500 m), flat surf zone at one time. Run-up, associated with a water surface, set up oscillation against the shoreline at infragravity frequency ( $>100$  s) and dominates over the swash oscillations at higher frequencies. The infragravity generated run-up is responsible for the large volume of water which runs down the beach and forms a hydraulic jump, where the flow encounters an abrupt change in water depth. The jump in this case is 0.8 m. High sediment concentrations and a shallow scoured trench are associated with the jump. On steeper beaches similar jumps occur at higher frequencies where sufficiently large backwash volumes are related to the incident waves. Their location is more consistent than their counterpart on flat beaches and usually occur at the base of the beach face. Resulting scour may provide the initial boundary perturbation to create vortex shedding and the development of a beach step. (Michael G. Hughes, Coastal Studies Unit, Department of Geography, University of Sydney, Sydney 2006, Australia. Photography: August 1983).