



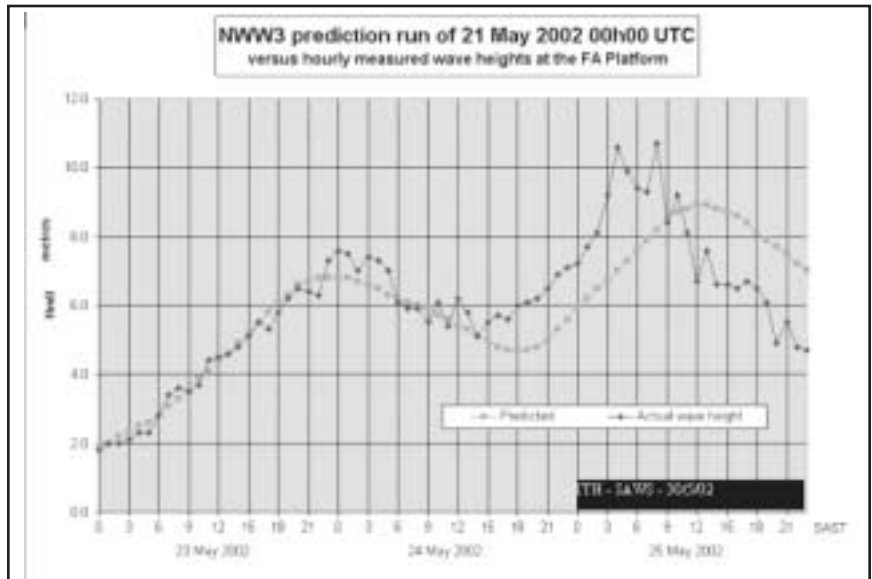
# Wind/Wave Damage Along the SW Cape Coast May 24-25, 2002

Ian T. Hunter

Deputy Director: Marine Meteorological Services  
South African Weather Service

The attached time series of air pressure comes from a drifting weather buoy which was deployed by the SA Agulhas on 20 September 2001 during her annual relief voyage to Gough Island. Note that the air pressure at the present location of the buoy (41S 08E) plummeted almost 50 hPa from Thursday afternoon to early Friday morning - a very good example of explosive cyclogenesis.

The cold front associated with this low pressure system passed over Cape Town late on Friday afternoon, with northwesterly winds at the SAWS automatic weather station at Cape Point, gusting up to 120 km/hr ahead of the front. Places such as Betty's Bay and Hermanus, with their mountainous terrain upwind, experienced very turbulent conditions, and there was much damage to homes in the region.



It was, however, the waves generated by this storm that caused most of the damage to coastal structures around the SW Cape coast. The swell waves generated southwest of Cape Town the

previous day arrived in the early hours of Saturday morning and unfortunately, this coincided with a spring high tide. Three, Anchor Bay, Bakhoven, Hermanus, and several other coastal sites again suffered wave damage on the scale of such legendary storms as 17 May 1984 and 5 September 2001. At Bakhoven, the National Sea Rescue Institute, NSRI's rescue craft had to be airlifted off the beach to prevent it being destroyed by the heavy surf.

On the western Agulhas Bank south of Mossel Bay, average wave heights reached almost 11m - not that far off the estimated 1-in-100 year wave height of approximately 12m for this ocean region. The various numerical models available to SA Weather Service forecasters gave very good guidance of what to expect. In fact, the global wave models run by NOAA (US National Weather Service) and the UK Met Office were predicting the extreme waves 4 days ahead of the event! 📌

