



# BUREAU OF METEOROLOGY

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70/714

18 June 1999

In reply please quote

Detective Senior Constable Stewart Gray  
NSW Water Police  
Wharf 25, Harris St.  
PYRMONT NSW 2009

RECEIVED  
POLICE SECTION  
150 HARRIS ST.  
PYRMONT NSW 2009  
21.6.99

Dear Detective Senior Constable Gray,

I am writing to inform you of our progress since the meeting held on 21 April 1999 between yourself, Senior Constable David Upston and the Bureau of Meteorology group comprising Mr Pat Sullivan, the Bureau's Regional Director for NSW, Mr Stephen Lucas (Australian Government Solicitor's Melbourne office), Mr Phil Parker and Ms Clare Richards from the Bureau's Marine Weather Services Program Office, in which you discussed aspects of the meteorology and oceanography of the 1998 Sydney-Hobart Yacht Race and the Bureau's Preliminary Report on that event.

I am pleased to advise you that the following projects are being undertaken in response to the interest or concerns you expressed at the meeting, and in line with the general thrust of work in progress towards preparing the Bureau's final report on the race:

- 1 A study of wind observations from Wilsons Promontory lighthouse, including:
  - (a) a discussion of how a topographic-feature like Wilsons Promontory perturbs the air stream in its vicinity;
  - (b) the effect of the Promontory on atmospheric air-flows in nearby areas of Bass strait;
  - (c) how wind observations from the Bureau's observing site at the Promontory lighthouse compare with wind observations from other sites in and around Bass strait; and
  - (d) overall assessment of the role of Promontory wind observations in observing and forecasting weather in Bass Strait.
- 2 An evaluation of anemometers used to measure winds from yachts, including:
  - (a) evaluation of the design and structure of the anemometers typically used by the competing yachts to measure wind speed;
  - (b) determination of the operating characteristics of the anemometers, especially in severe wind and wave conditions;
  - (c) calibration of these anemometers over the range of wind speeds reported during the race.
- 3 Estimates of wave heights from the police helicopter.

This has not proceeded far as yet, but will be followed up shortly with the pilot of the Polair helicopter who reported 90 ft waves. Your assistance in getting in touch with him would be very much appreciated. In particular, insight into the nature of the altimeter

device and how it was used, will be sought.

- 4 An explanation of numerical prediction and the numerical models used by the Bureau, including:
  - (a) an explanation of numerical prediction including general principles about how models are constructed and operated;
  - (b) explanations of the various models and their outputs, either operated or accessed by the Bureau for preparing forecasts;
  - (c) an intercomparison of the models, highlighting any major scientific or operational differences;
  - (d) sample outputs from the models available to forecasters at the time of the race.

It is intended to have Projects 1-3 finished and included in the Bureau's updated report by the end of July 1999. The output from the fourth project will be provided to you directly.

Please let me know if there are any other items related to your investigations for which you would like the Bureau to provide more information/details.

Yours sincerely,



(Bruce Neal)  
Assistant Director (Services)