EMS7/ECAM8 Abstracts,
Vol. 4, EMS2007-A-00104, 2007
7th EMS Annual Meeting / 8th ECAM

Filling the gaps: climatic data recovery for oceanic regions in the pre-instrumental period.

D. Wheeler (1) and R. Garcia-Herrera (2)

1. University of Sunderland, UK
2. Universidad Complutense de Madrid, Spain

(dennis.wheeler@sunderland.ac.uk/ phone +44+191-515-2233)

The volume of reliable instrumental climate data for oceanic areas has grown since Matthew Maury called the Brussels Maritime Conference in 1853. Today's ICOADS (International Ocean Atmosphere Data Set) bears testimony to the coverage that now exists and has been carefully reconstructed to extend back over the twentieth century. It is, however, a truism that the oceans embrace three-quarters of the planet's surface and that that statistic alone requires that as much information as possible is gathered concerning its climate. It has been widely presumed that information for the decades before the mid-nineteenth century are absent. This is not so. The seas are not man's natural home, yet they have been navigated by generations of mariners from Columbus onwards. This presentation considers the hitherto unrecognised volume and scientific value of the written accounts, registers and logbooks that the many generations of ships' officers have bequeathed to us.

Attention will be given to the thousands of ship's logbooks that are stored in archives across Europe and the US, each of which records a careful impression of the day's weather during the voyages of their writers – usually the ship's captain. Logbooks survive from the seventeenth century onwards but until the mid-nineteenth century the observations were largely, but by no means exclusively, non-instrumental. The observations are based on careful estimates of wind force and direction, supplemented with brief, but informative, accounts of the weather of the day. Little escaped the watchful but judgmental and experienced eye of the captain of a sailing vessel whose life depended on a nicely-gauged response to the weather of the time. As such this source

has provoked scepticism in a community more familiar with instrumental data. This presentation will demonstrate that such concerns are groundless. It will describe also the manner in which these observations and information can be abstracted, treated, expressed in modern day numerical terms and used to extend the geographic coverage of attempts to reconstruct past climates. It will be shown also how the information be used to recreate the broad sweep of climatic change or to reproduce a detailed picture for any one day.

Perhaps more importantly, the significant volume of logbooks that have yet to be investigated and great potential of this branch of historical climatology will be emphasised.