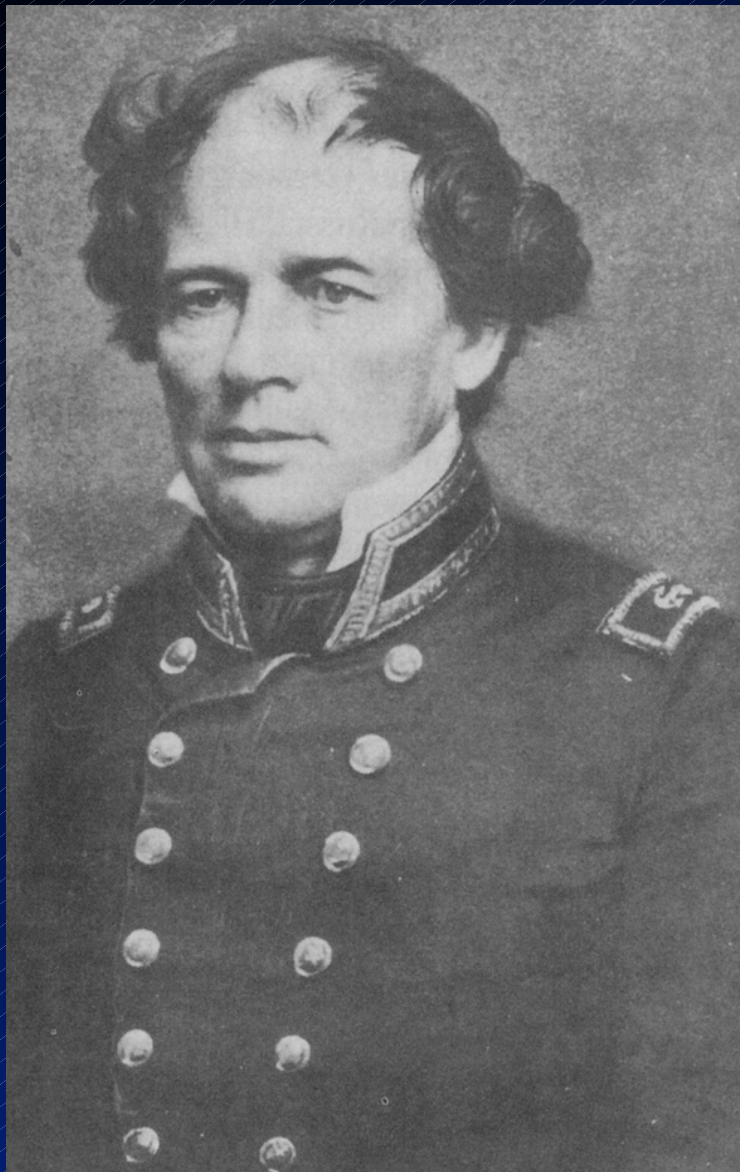


Workshop on Advances in the Use of Historical Marine Climate Data

Boulder, CO, USA, Jan 29-Feb1 2002



Workshop Goals



Matthew F. Maury about 1853

MARITIME CONFERENCE HELD AT BRUSSELS,

FOR

DEVISING A UNIFORM SYSTEM OF METEOROLOGICAL OBSERVATIONS AT SEA;

AUGUST AND SEPTEMBER, 1853.

THE GOVERNMENTS REPRESENTED AT THE CONFERENCE, AND THE NAMES OF THE OFFICERS WHO ATTENDED, WERE:--

BELGIUM—by A. QUETELET, directeur de l'Observatoire royal, secrétaire perpétuel de l'Académie royale des sciences, des lettres, et des beaux-arts de Belgique; and VICTOR LARURE, capitaine de vaisseau, directeur général de la marine;

DENMARK—by P. ROTHE, Captain-Lieutenant Royal Navy, Director of the Depot of Marine Charts;

FRANCE—by A. DELAMARCHÉ, Ingénieur hydrographe de la marine impériale;

GREAT BRITAIN—by F. W. BEECHER, Captain Royal Navy, F.R.S., &c., Member of the Naval Department of the Board of Trade; and HENRY JAMES, Captain Royal Engineers, F.R.S., M.R.L.A., F.G.S., &c.;

NETHERLANDS—by M. H. JANSSEN, Lieutenant Royal Navy;

NORWAY—by NILS LILLEN, Lieutenant Royal Navy;

PORTUGAL—by J. DE MATIOS COBRÊA, Captain-Lieutenant Royal Navy;

RUSSIA—by ALEXIS GORKOVENKO, Captain-Lieutenant Imperial Navy;

SWEDEN—by CARL ANTON PETERSSON, First Lieutenant Royal Navy;

UNITED STATES—by M. F. MAURY, LL.D., Lieutenant United States Navy.

Main goals:-

a. Create timetable to further enhance *in situ* marine datasets

- What data?
- Staged process - when?
- Later, take account of next IPCC

b. Develop strategy to create alternative SST, sea ice extent & marine air temperature analyses, including satellite data

- To provide estimates of uncertainty in analyses of climate variability & change
- For the latter, identify key diagnostics like global SST series
- For testing models against legitimate uncertainties in alternative analyses

c. Take account of recommendations from CLIVAR Climate of the Twentieth Century (C20C) modelling project

- Second workshop held January 22-25 2002
- Project now includes coupled & atmospheric models
- Key component remains AGCMs forced with HadISST or its successors
- About 9 groups

C20C Workshop Recommendations

- SST
 - as model resolutions increase, data for inland seas (including historical information) needed
 - archive quality controlled SST measurements & their uncertainties for assimilation into/nudging CGCMs
 - assemble sets of tropical skin SSTs to test model sensitivity to these, particularly the diurnal cycle

C20C Workshop Recommendations

- document modes of variability (EOFs) included in analyses, their relative contributions and goodness of fit (uncertainties).
- provide analyses with estimates of error associated with each grid box (no methods should be used that are not capable of delivering these). Include SST bias corrections.

C20C Workshop Recommendations

- **SST.**

- tests of sensitivity of AGCM simulations to alternative SSTs required, either by perturbing analyses using their error estimates or using other analyses. New Reynolds et al analysis back to 1871 needed.
- Create sub-monthly historical analyses from 1950

- **Sea Ice.**

- thickness information required for model heat fluxes
- historical Russian (AARI) data should be investigated & incorporated into Arctic time series if possible

d. Via new WMO/GCOS Atmospheric and Ocean Observation Panel sub-groups, further develop marine surface pressure & wind analyses

- Take account of temporal and spatial biases
- Make marine pressure & wind consistent
- Identify where analyses are not possible

e. Develop recommendations for blending marine & land-based data to achieve globally complete surface data sets

- Surface temperature - SST with land surface air temperature
- Surface temperature - night marine air temperature with land surface air temperature
- Marine surface pressure & land pressure at mean sea level

• Others?
Hadley Centre for Climate Prediction and Research



Reporting on the Workshop

- Suggest new name for this new multinational multiple variable marine data set: **International Marine CLimate Data set (IMCLID1)?**
- Article for CLIVAR Exchanges first
- Then paper for WMO Bulletin, preferably submitted by April 2002