Extending the quality and quantity of pre-1854 data in a joint US/Europe effort

by

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Three topics:

1. To digitize the 1750-1850 data that remain after completion of CLIWOC (UK/US-Chile option?)

2. Post-analyzing Maury in the same way that was done in CLIWOC ("rationalizing" Maury);

3. ICOADS/Maury/CLIWOC standardization including the subdaily issue (Release with noon-obs only)
CLIWOC data

Graph showing the number of observations over time from 1750 to 1850, with data grouped by British, Dutch, Spanish, and French.
Global coverage CLIWOC
N-Atlantic Ocean

Indian Ocean
**POST CLIWOC**

Number of data in the US Maury collection and in the CLIWOC database at the completion of the EU CLIWOC project (Dec 2003)

<table>
<thead>
<tr>
<th></th>
<th>country</th>
<th>main period</th>
<th>keyed data</th>
<th>data/yr</th>
<th>available</th>
<th>exhaustion</th>
<th>data/yr if exhausted</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maury</td>
<td>US</td>
<td>1830-1860</td>
<td>1.5 M</td>
<td>50 k</td>
<td>1.5 M</td>
<td>100%</td>
<td>50 k</td>
</tr>
<tr>
<td>CLIWOC</td>
<td>Es</td>
<td>1750-1800</td>
<td>0.1 M</td>
<td>2 k</td>
<td>0.1 M</td>
<td>100%</td>
<td>2 k</td>
</tr>
<tr>
<td></td>
<td>NL</td>
<td>1750-1853</td>
<td>0.1 M</td>
<td>1 k</td>
<td>0.2 M</td>
<td>50%</td>
<td>2 k</td>
</tr>
<tr>
<td></td>
<td>UK</td>
<td>1750-1850</td>
<td>0.1 M</td>
<td>1 k</td>
<td>1.4 M</td>
<td>7%</td>
<td>14 k</td>
</tr>
<tr>
<td></td>
<td>F</td>
<td>1750-1850</td>
<td>0.007 M</td>
<td>0.07k</td>
<td>0.5M</td>
<td>1%</td>
<td>5 k</td>
</tr>
<tr>
<td>TOTAL CLIWOC</td>
<td>Es/NL/UK/F</td>
<td>1750-1850</td>
<td>0.3 M</td>
<td>3 k</td>
<td>2.2 M</td>
<td>14%</td>
<td>22 k</td>
</tr>
</tbody>
</table>
How to get it digitized?
NOT as EU project (Too few countries involved)

PROPOSAL:

1. US-funded imaging of all available UK logbooks 1690-1854
2. US-funded digitalizing of these UK data (emphasis on 1750-1854)
3. NL-funded reprocessing of all Maury data by KNMI

Boundary Conditions in this option:

- At this time no efforts in the direction of logbooks elsewhere in Europe (F, NL, or perhaps DK)
- Digitizing post-1750 only (1690-1750 foreseen in a next stage)
# Rationalizing Maury by NL

<table>
<thead>
<tr>
<th>priority</th>
<th>correction</th>
<th>magnitude</th>
<th>depending on</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wind conversion to speed</td>
<td>1</td>
<td>&quot;dictionary&quot;</td>
<td>~95% of reports</td>
</tr>
<tr>
<td>Pressure</td>
<td>2</td>
<td>temp</td>
<td>0 to -4 mb</td>
</tr>
<tr>
<td></td>
<td></td>
<td>gravity</td>
<td>-4 to +4 mb</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ship heeling</td>
<td>0 to -4 mb</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ship rolling</td>
<td>0 to -4 mb</td>
</tr>
<tr>
<td>Longitude, UTC</td>
<td>p.m.</td>
<td>checks</td>
<td>n.a.</td>
</tr>
</tbody>
</table>
Miscellaneous:

- Daily or subdaily extension (see Maury plot)?
- Release of a noon-only version of ICOADS/CLIWOC/Maury
- Inner seas?
- Do we want to redo CLIWOC on sub daily basis

Alternative/parallel efforts

- Filling relative gaps in 1854-1950 ICOADS:
  - WWII (from UK; perhaps Ger, Rus?)
  - 1854-1890 (also from UK)
- Digitizing 1690-1750
CLIWOC Extension

Asheville 26-8-04

OV 1/ aankondiging

Follow up from Brussels/Nice discussion

OV 2/ Topics

Pre CLIWOC situation

OV3/ ICOADS grafiek

We found it unacceptable that nothing was digitized before 1853 EU project

OV4/ CLIWOC aantal obs

3.5 European countries (F only marginal); virtually all great Naval countries of the time Portugal; Except Danmark

For practical reasons: NOON ONLY

OV5/ Global Coverage

- Little or no observations from the Pacific Ocean, but good coverage of the Atlantic and Indian Ocean
- Nearly 300,000 observations are available in the database
OV6/ coverage per ocean

- Two times more data for reconstructing NAO than for SOI
- Spanish contributed particularly in 18th century and Atlantic

where are we now(compared with the other databases):

OV 7/ CLIWOC/MAURY/ICOADS

ONCE A DAY

1. Extension of ICOADS by a full century,
2. But with (so far) four times less data density
3. Special place: Maury collection – not well meteorologically
   available; NB Maury is MUCH more than it looks from the usual
   subday ICOADS plots

EXHAUSTION

OV8/ TABEL MET UUTPUTTING

Proposal: to complete 1750-1854 from the UK sources, brings pre-
1854 up to the level of post-1854

OV 9/ CLIWOC/MAURY/ICOADS na aanvulling

But know, that Maury wind need postprocessing to bring their quality
up to the CLIWOC level

OV 10/ DEAL