Development of the International Maritime Meteorological Archive (IMMA) Format

Presentation for ETMC-I/Doc. 4.1

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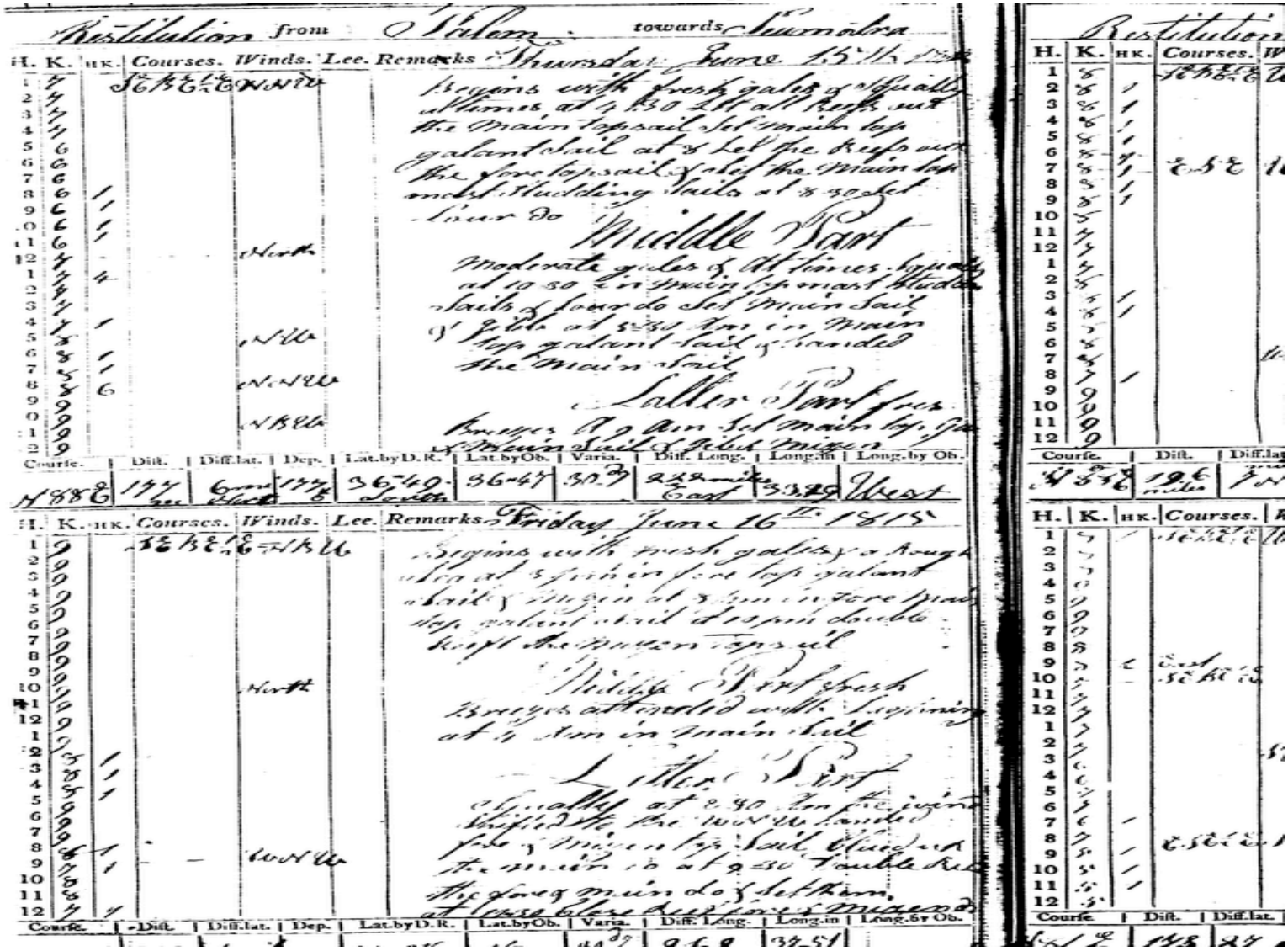
Format goals

- Facilitate data entry—exchange—archival
- Flexible and extensible
  - historical
  - contemporary
- Practical to implement and manipulate
- Useful for end users
- Storage efficiency and documentation

Early log from US Maury Collection (1815)

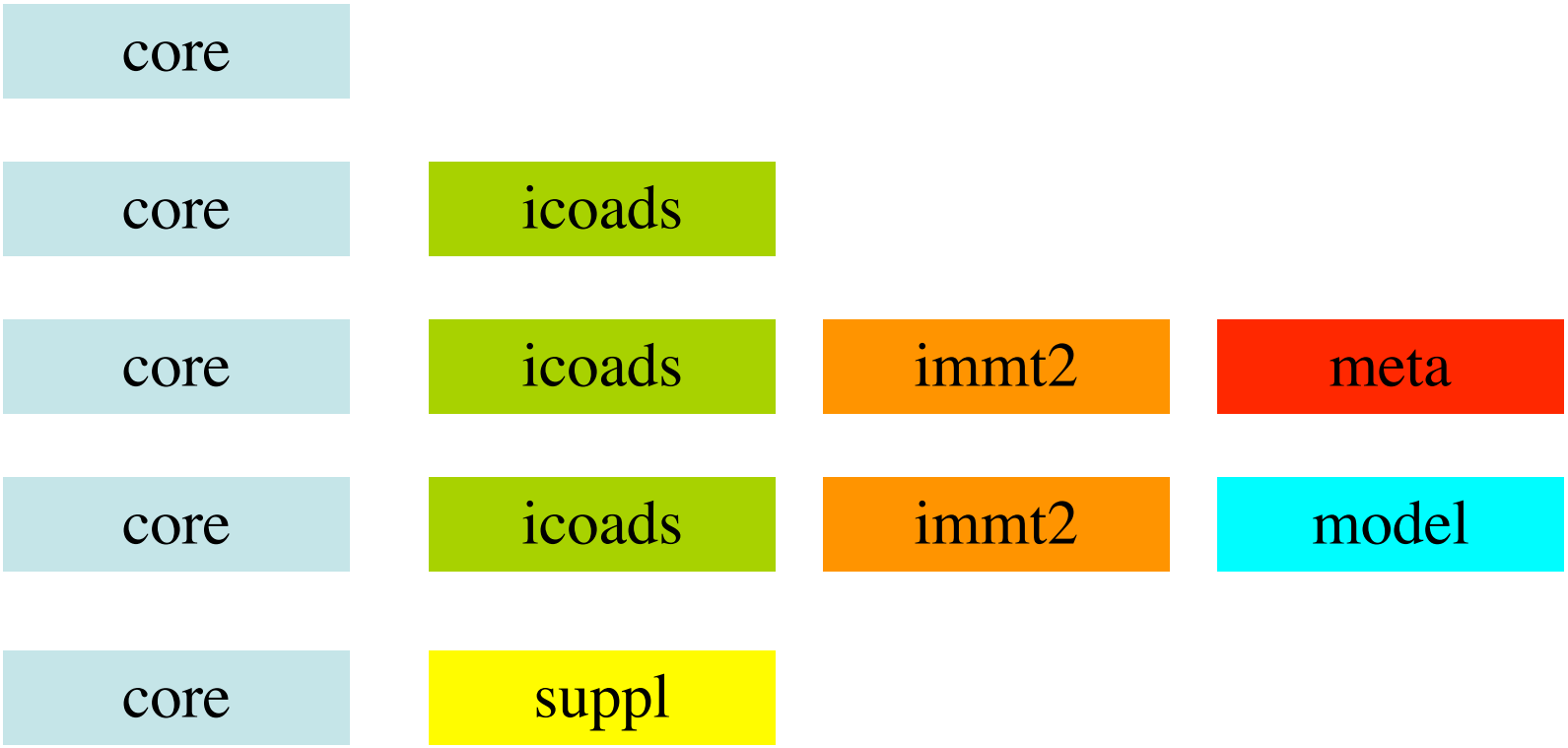
textual wind/weather, magnetic wind dir., etc.



Format implementation

- Fixed-field Ascii format (like IMMT)
- Missing data = all blanks in any field
- Core:
  - most universal and commonly used variables
  - fixed-length: 108 characters
  - sufficient alone for many users
- Plus attachments (attm)
  - specialized fields not in core
  - may be used to improve, repair, and recreate core

Record types (core + attms)



Machine-transportable Fortran read software available:
www.cdc.noaa.gov/coads/software/

Current/pending format elements

(new attms to be defined as needed)

Element	Application
• Core	all marine data
• ICOADS attm	ICOADS (QC flags, etc.)
• IMMT-2/FM 13 attm	contemporary ships
• Model QC attm	VOSClim ships
• Ship metadata attm	WMO–No. 47 metadata
• Historical attm	(under development)
• Supplemental attm	free-form original data

Usage status

Operational:

- Climatological Database for the World's Oceans 1750-1854 (CLIWOC)
- VOSClim project (at NOAA/NCDC)
- ICOADS "real-time" (RT) 1998-2002
  - GTS message string → suppl attm

Pending:

- ICOADS "delayed-mode" (DM) 1784-1997

Future development areas

- Finalize historical attm
  - Beaufort force numbers
  - magnetic wind directions, different compasses
  - unadjusted barometer/attm thermometer
  - tenths of sky clear/cloudy
  - etc. (difficult to predict fields needed)
- Attms for buoy data (FM 13)/metadata
- Submission to JCOMM