ICOADS Status and Perspectives:

for *Early European Ship Logs and CDMP*

(Note: 20 August press release: www.noaa.gov)

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23-24 August 2004, NCDC, Asheville

Topics

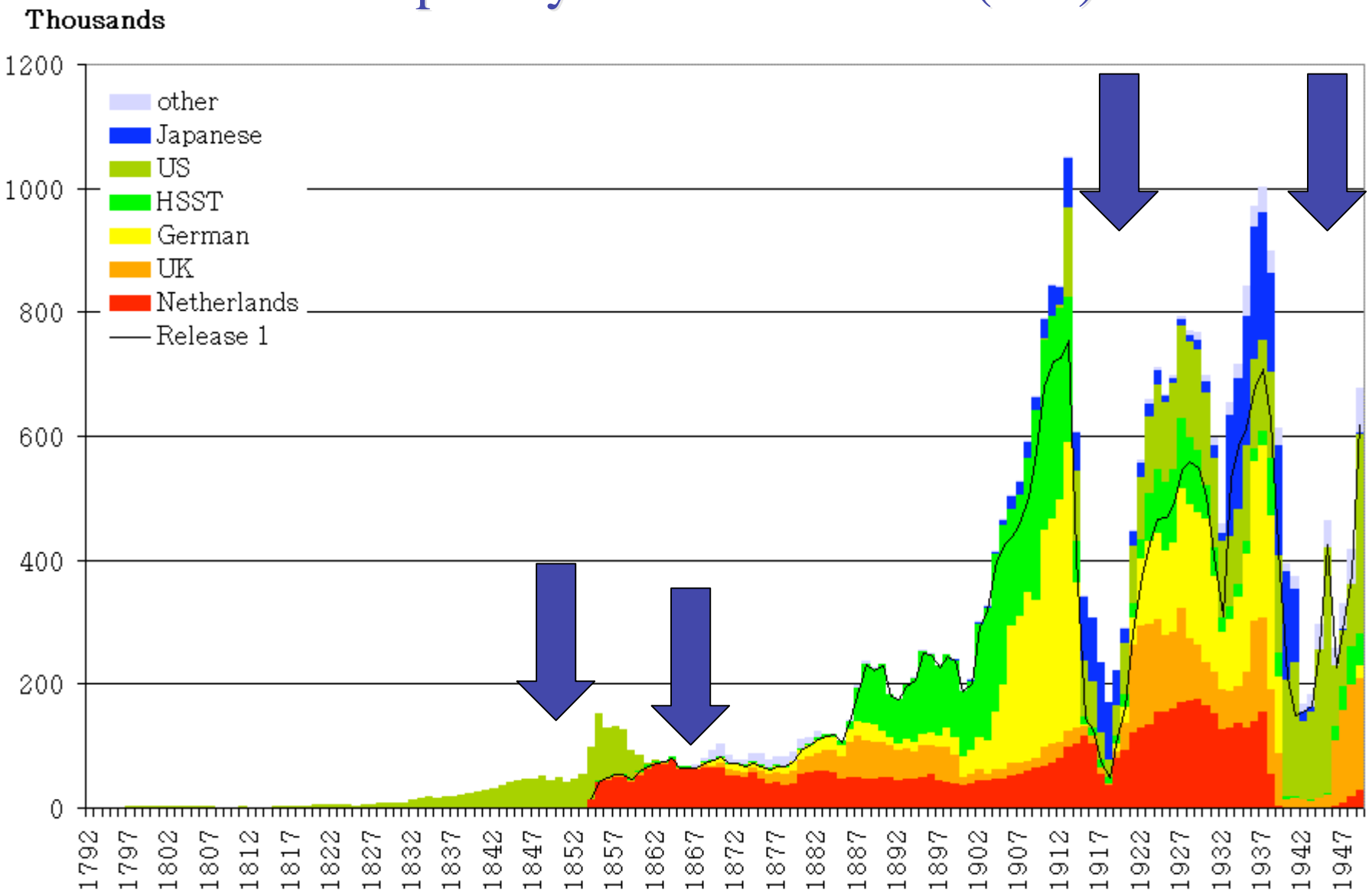
1. ICOADS status
2. US Maury Collection
3. Other + Complimentary Priorities
4. Data Access

1. ICOADS

International Comprehensive Ocean-Atmosphere Data Set

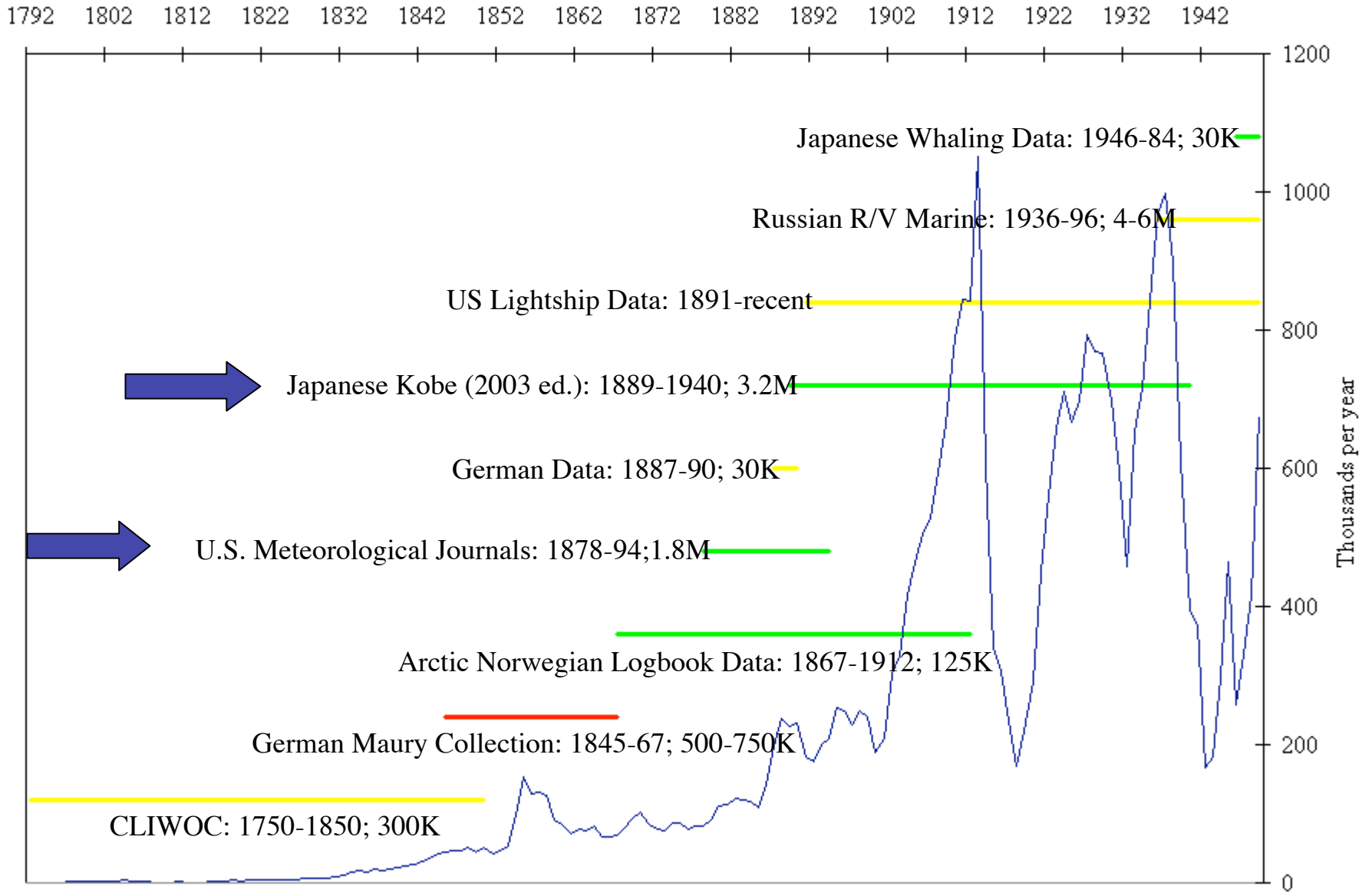
- COADS: NOAA-NCAR cooperation: since 1981
  - Open and unrestricted data access
- Delayed-mode (DM) and real-time (RT) archives
  - 2001: Release 2.0: 1784-1997 (DM)
  - 2003: Release 2.1: 1784-1997 + 1998-2002 (RT)
- Workshop on Advances in the Use of Historical Marine Climate Data (Boulder, 2002)
  - International COADS

Early National Composition:
K reports/year vs. Release 1 (line)



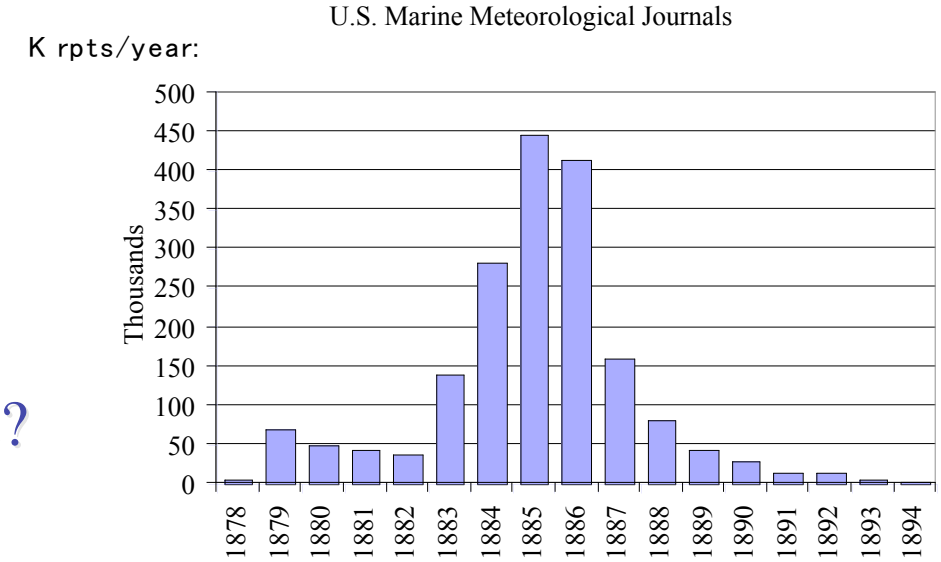
Early blend candidates:

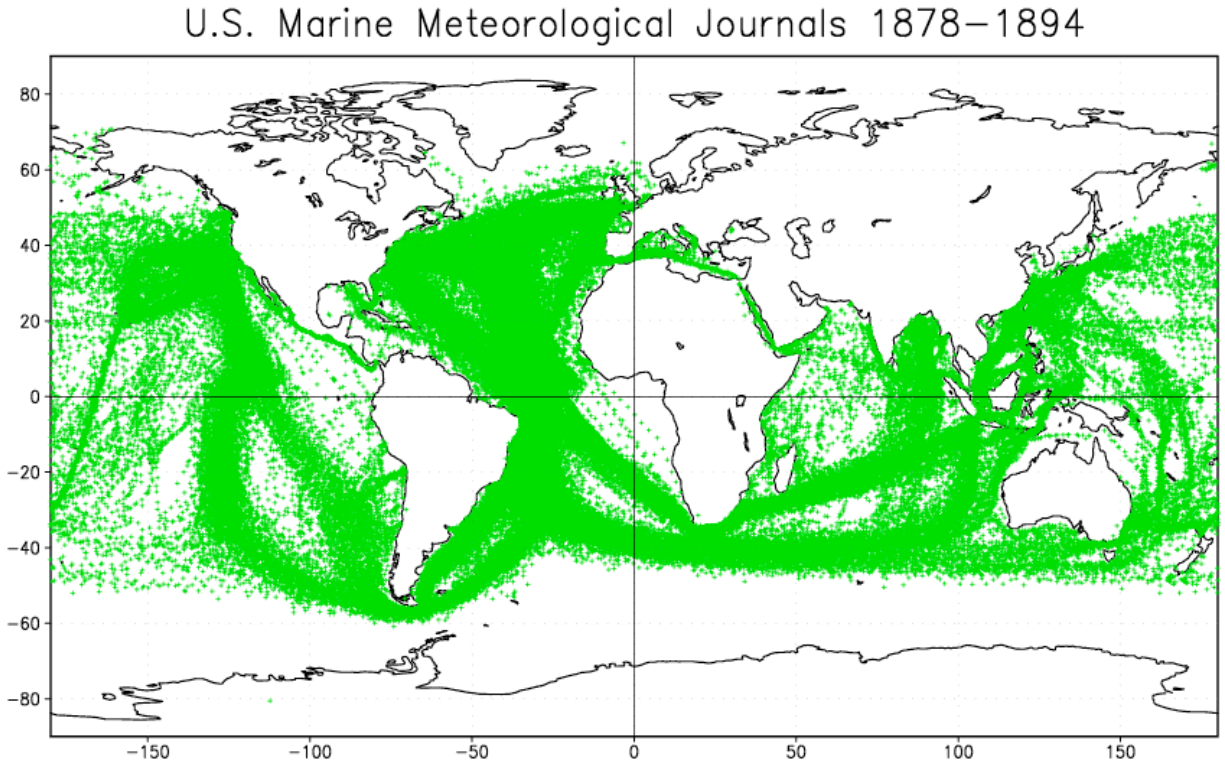
red (undigitized), yellow (partly), green (fully)



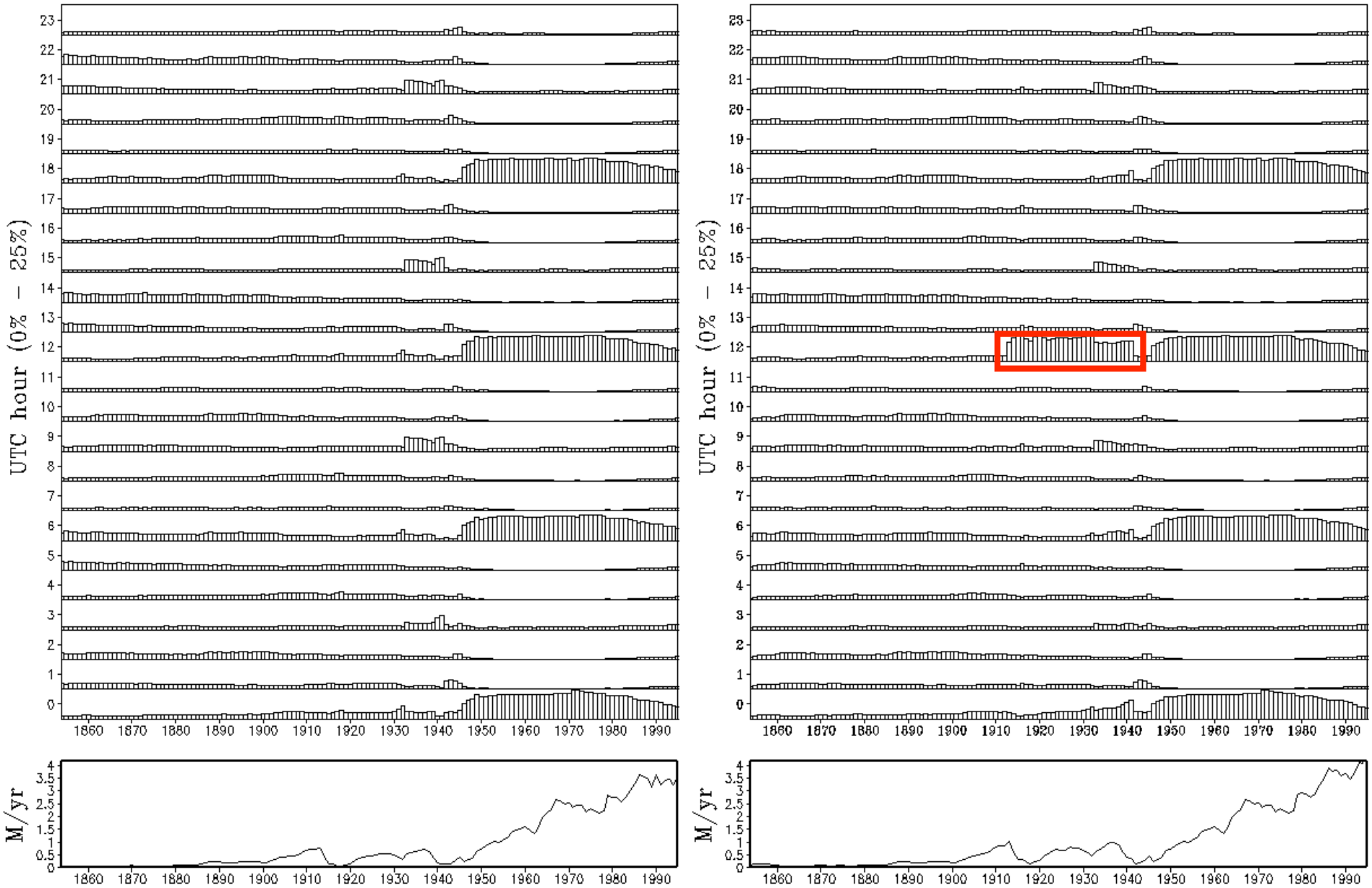
US Marine Met Journals:

Significant conversion effort
Magnetic wind directions, etc.
Others issues similar to CLIWOC?





UTC Hour Comparison Release 1 (left) vs. 2.0 (right)
(NOTE: Issue for keying early data: local noon vs. all obs)

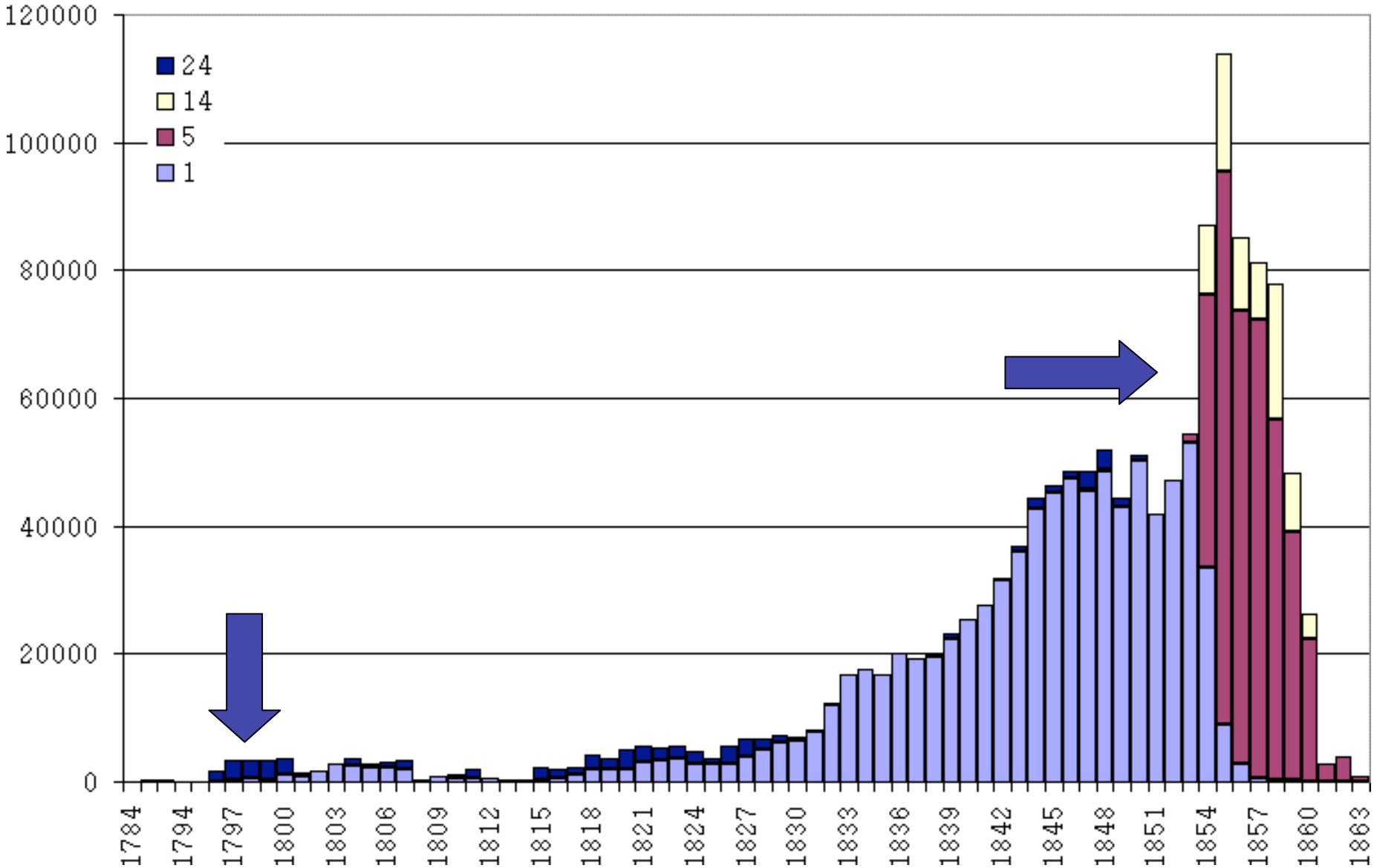


2. US Maury Collection

- Earliest data in ICOADS
  - similar to CLIWOC
- “Abstract Logs”: possible duplication issue
  - versus other (e.g., Euro) logs?
- Data keyed for all hours (vs. CLIWOC)
- Untapped wind data -- data problems
- Note: NMFS project:
  - extract whaling info from microfilm
  - correct some scrambled voyages?

US Maury logbook types (reports/day)

Transition after 1853 Brussels Conference



Form: 5 × day

Similar to 1853 Brussels Conference "Abstract Log"

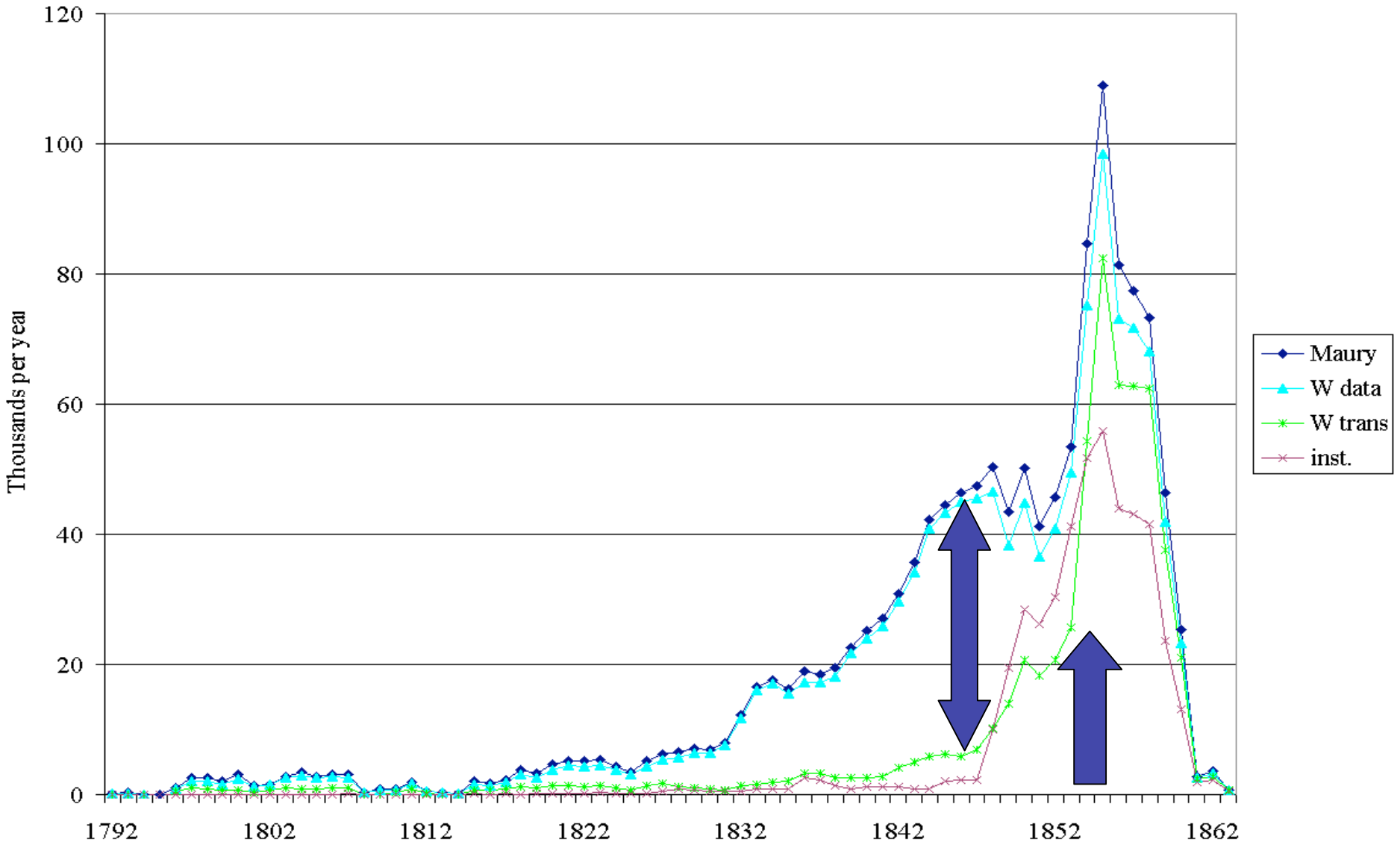
Note: Possibly more reasonable to key sub-local-noon obs > 1853

Abstract Log of Ship Nightingale **Captain** [illegible]

Date. VII	Hour.	LATITUDE.	LONGITUDE.	CURRENTS. Direction.	CURRENTS. Rate.	BAROMETER. Height.	BAROMETER. Ther. Att'd.	THERM'R. Air.	THERM'R. Wat'r	FORM AND DIRECTION OF CLOUDS.	*PROP. OF SKY CLEAR.	HOURS OF FOG A. RAIN B. SNOW C. HAIL D.	MAGNI VARIA OBSER
	4												
	9					29·95	50	79	81	[illegible]			
15th Noon.	12	4°37'	27°00'	N82E	42	29·95	51	79	81	Cir			
	3												
	8					29·97	81	84	80				
	4					29·86	75	76	80		0	B 8-	
	9												
16th Noon.	12	4°19'	26°45'	N80E	26	29·85	75	74	82	Cir			
	3												
	8					29·95	80	80	82				
	4												
	9					29·91	75	78	77				
17th Noon.	12	3°21'	28°10'	N80E	18	29·95	78	78	78	Cir	5		
	3					29·93	80	76	76				
	8					29·98	80	77	78				
	4												
	9			5/4									
18th Noon.	12	1°03'S	29°25'W			29·98	80	78	78		7		
	3									Distance sailed (per Massey's Patent Log) to the Line 3925 miles			
	8					30·00	80	78	78				
	4												
	9					30·05	79						
19th Noon.	12	4°29'	29°16'			30·00	78	72	78				
	3												
	8					30—	78	77	78				
	4										0		
	9					30·02	79				0	B 4-	
20th Noon.	12	7°05'	29°32'			30·01	78	76	78		2		
	3												
	8					30·01	78	76	78				
	4					30·02	77	77	79				
	9					30·02	77	76	79				
21st Noon.	12	10°48'	31°11'			29·98	78	77	79	Cir Cum			
	3					30—	78	77	79				
	8												
	4												

US Maury Collection: winds vs. instrumental

Wind: many untranslated terms -- CLIWOC dictionary?



3. Other + Complementary Priorities

- Other unkeyed holdings (European/US)
- Post-1853: Other national *digital* archives (UK MDB and Russian already blended)
  - E.g., in 2002 Gil Compo (CDC) obtained ~800K obs from DWD archive: Pacific/60N globally: 1893-1914
  - estimated ~300K unique (not in ICOADS)
  - replacement of inferior HSST data?
- Observing instructions and other metadata
  - E.g., national observing instructions

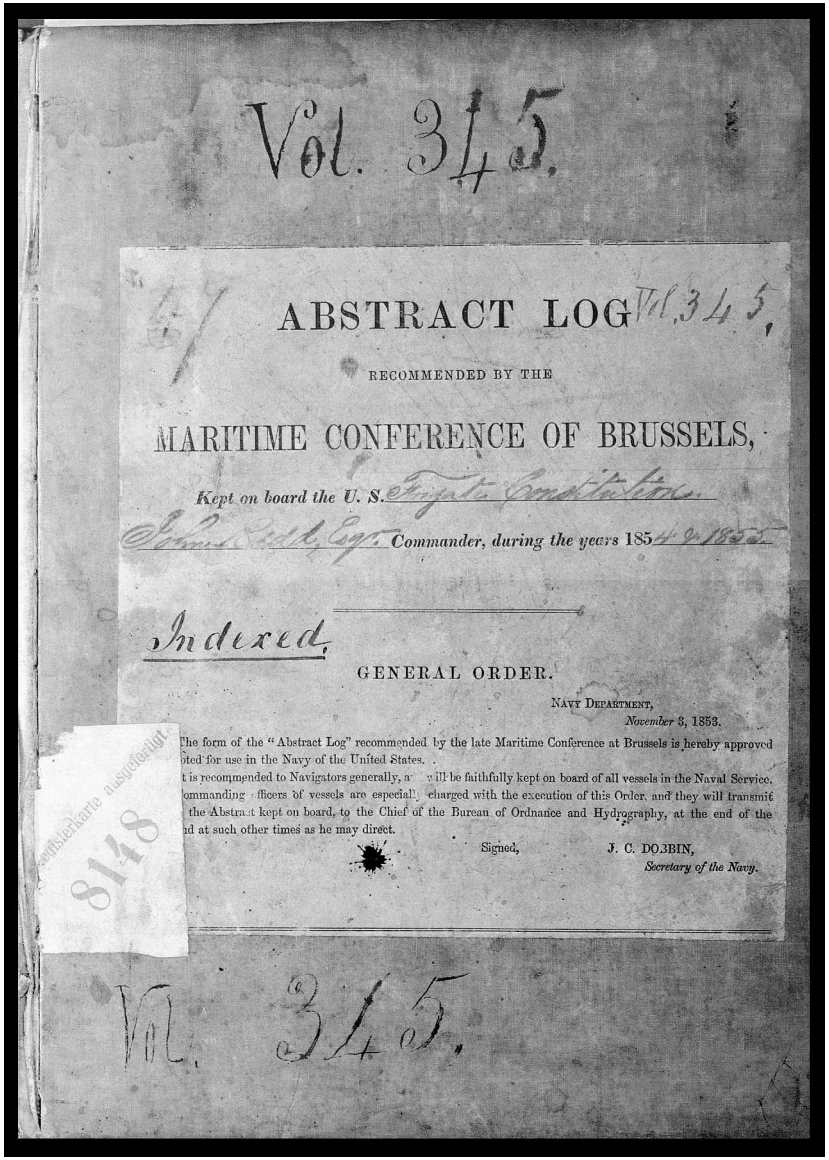
Post-1853: Other European Holdings?

Remarks about Brussels 1853 Recommendations Made for 1874 Maritime Conference (London)

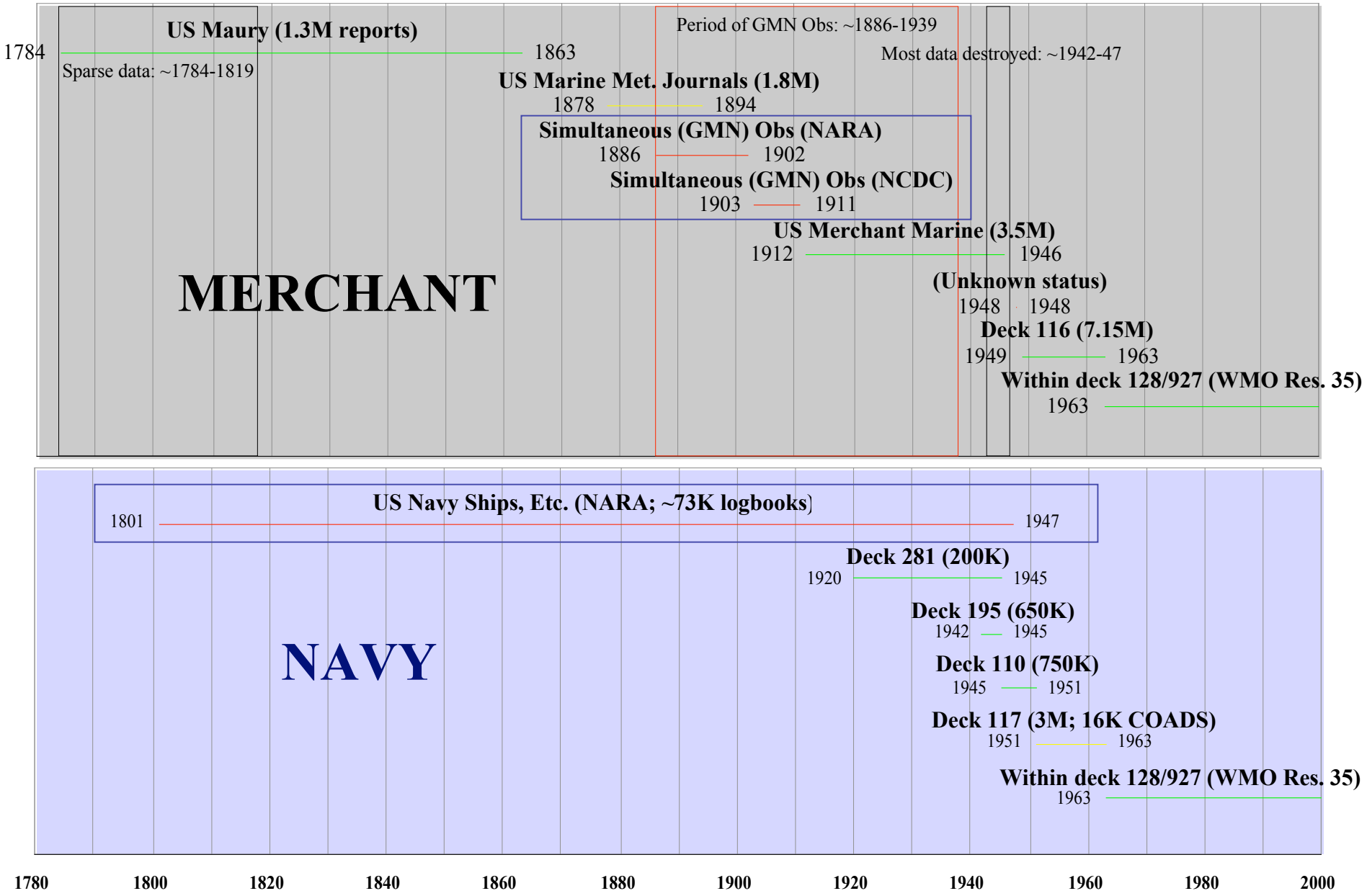
- Netherlands: "aimed at…too much"
- Portugal: mostly followed Brussels
  - Some Abstract Logs ⇒ Maury and UK?
- Denmark: similar to Portugal
- France: "too much was asked"
- Norway: own log/instructions fr 1867
- Russia: "too many obs requested--bad choice of hours"; some ⇒ Maury/UK
- Sweden: some abstract logs ⇒ Maury

German Maury Collection

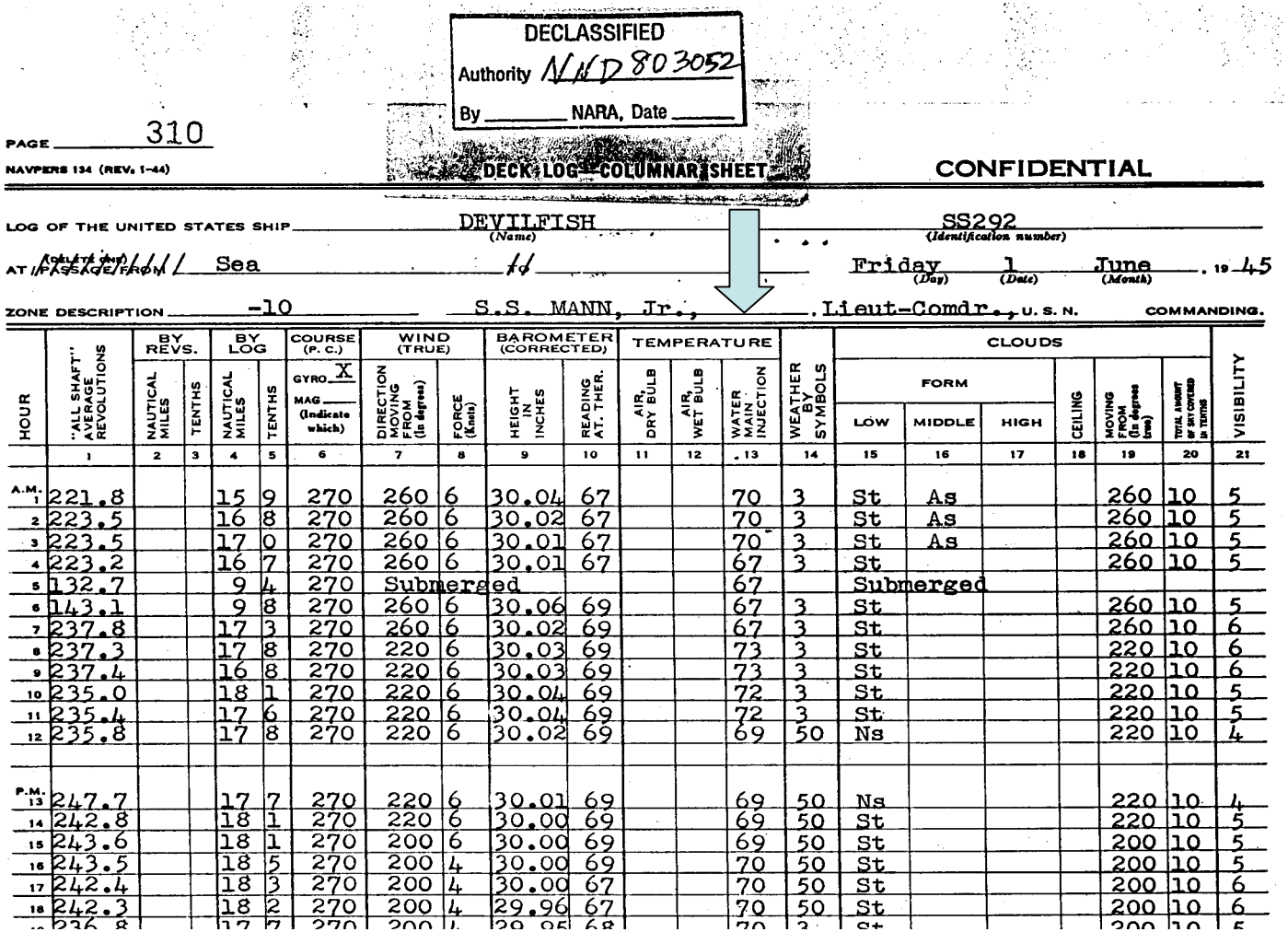
- E.g., US Navy Frigate *Constitution* 1854-55
- proposed US-China project
  - on hold
  - CDMP project?



US Logbook Status



USN Submarine *Devilfish*, 1945



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Authority NND 803052
By _____ NARA, Date _____

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NAVPERS 134 (REV. 1-44)

DECK LOG—COLUMNAR SHEET

CONFIDENTIAL

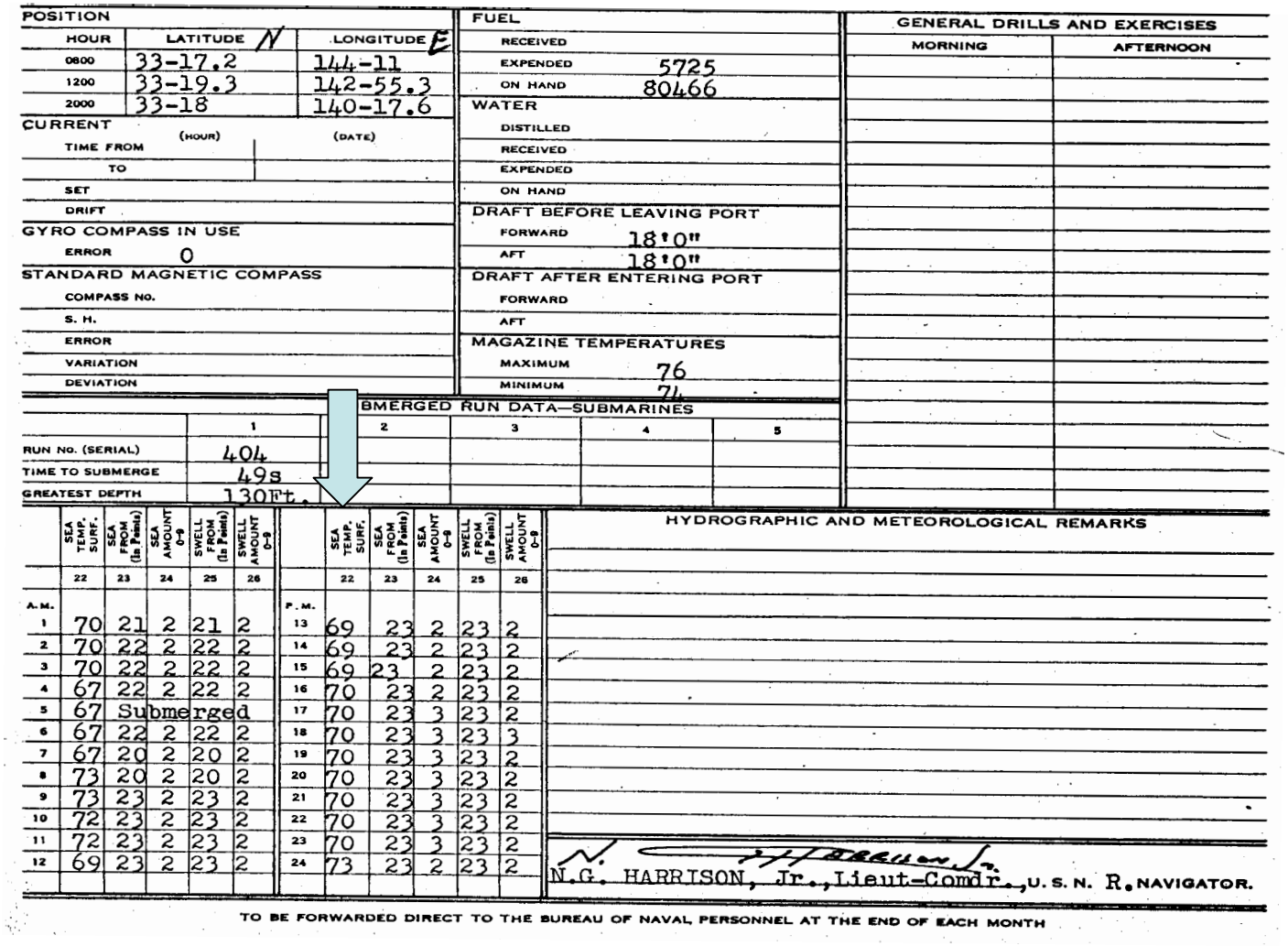
LOG OF THE UNITED STATES SHIP DEVILFISH (Name) SS292 (Identification number)

AT (Collect ship) PASSAGE FROM Sea TO _____ Friday (Day) 1 (Date) June (Month) 1945

ZONE DESCRIPTION -10 S.S. MANN, Jr., Lieut-Comdr., U. S. N. COMMANDING.

HOUR	"ALL SHAFT" AVERAGE REVOLUTIONS	BY REVS. NAUTICAL MILES	BY REVS. TENTHS	BY LOG NAUTICAL MILES	BY LOG TENTHS	COURSE (P. C.) GYRO X MAG ____ (Indicate which)	WIND (TRUE) DIRECTION MOVING FROM (In degrees)	WIND (TRUE) FORCE (Knots)	BAROMETER (CORRECTED) HEIGHT IN INCHES	BAROMETER (CORRECTED) READING AT THER.	TEMPERATURE AIR, DRY BULB	TEMPERATURE AIR, WET BULB	TEMPERATURE WATER MAIN INJECTION	WEATHER BY SYMBOLS	CLOUDS FORM LOW	CLOUDS FORM MIDDLE	CLOUDS FORM HIGH	CLOUDS CEILING	CLOUDS MOVING FROM (In degrees true)	CLOUDS TOTAL AMOUNT OF SKY COVERED (In tenths)	VISIBILITY
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
A.M. 1	221.8			15	9	270	260	6	30.04	67			70	3	St	As			260	10	5
2	223.5			16	8	270	260	6	30.02	67			70	3	St	As			260	10	5
3	223.5			17	0	270	260	6	30.01	67			70	3	St	As			260	10	5
4	223.2			16	7	270	260	6	30.01	67			67	3	St				260	10	5
5	132.7			9	4	270	Submerged						67		Submerged						
6	143.1			9	8	270	260	6	30.06	69			67	3	St				260	10	5
7	237.8			17	3	270	260	6	30.02	69			67	3	St				260	10	6
8	237.3			17	8	270	220	6	30.03	69			73	3	St				220	10	6
9	237.4			16	8	270	220	6	30.03	69			73	3	St				220	10	6
10	235.0			18	1	270	220	6	30.04	69			72	3	St				220	10	5
11	235.4			17	6	270	220	6	30.04	69			72	3	St				220	10	5
12	235.8			17	8	270	220	6	30.02	69			69	50	Ns				220	10	4
P.M. 13	247.7			17	7	270	220	6	30.01	69			69	50	Ns				220	10	4
14	242.8			18	1	270	220	6	30.00	69			69	50	St				220	10	5
15	243.6			18	1	270	200	6	30.00	69			69	50	St				200	10	5
16	243.5			18	5	270	200	4	30.00	69			70	50	St				200	10	5
17	242.4			18	3	270	200	4	30.00	67			70	50	St				200	10	6
18	242.3			18	2	270	200	4	29.96	67			70	50	St				200	10	6

Devilfish (bottom of sheet)



POSITION

HOUR	LATITUDE N	LONGITUDE E
0800	33-17.2	144-11
1200	33-19.3	142-55.3
2000	33-18	140-17.6

CURRENT (HOUR) (DATE)

TIME FROM | TO

SET

DRIFT

GYRO COMPASS IN USE

ERROR 0

STANDARD MAGNETIC COMPASS

COMPASS NO.

S. H.

ERROR

VARIATION

DEVIATION

FUEL

RECEIVED	
EXPENDED	5725
ON HAND	80466

WATER

DISTILLED	
RECEIVED	
EXPENDED	
ON HAND	

DRAFT BEFORE LEAVING PORT

FORWARD 18'0"

AFT 18'0"

DRAFT AFTER ENTERING PORT

FORWARD

AFT

MAGAZINE TEMPERATURES

MAXIMUM 76

MINIMUM 74

GENERAL DRILLS AND EXERCISES

MORNING	AFTERNOON

SUBMERGED RUN DATA—SUBMARINES

	1	2	3	4	5
RUN NO. (SERIAL)	404				
TIME TO SUBMERGE	49s				
GREATEST DEPTH	130Ft.				

	SEA TEMP. SURF. 22	SEA FROM (In Points) 23	SEA AMOUNT 0-9 24	SWELL FROM (In Points) 25	SWELL AMOUNT 0-9 26
A.M. 1	70	21	2	21	2
2	70	22	2	22	2
3	70	22	2	22	2
4	67	22	2	22	2
5	67	Submerged			
6	67	22	2	22	2
7	67	20	2	20	2
8	73	20	2	20	2
9	73	23	2	23	2
10	72	23	2	23	2
11	72	23	2	23	2
12	69	23	2	23	2

	SEA TEMP. SURF. 22	SEA FROM (In Points) 23	SEA AMOUNT 0-9 24	SWELL FROM (In Points) 25	SWELL AMOUNT 0-9 26
P.M. 13	69	23	2	23	2
14	69	23	2	23	2
15	69	23	2	23	2
16	70	23	2	23	2
17	70	23	3	23	2
18	70	23	3	23	3
19	70	23	3	23	2
20	70	23	3	23	2
21	70	23	3	23	2
22	70	23	3	23	2
23	70	23	3	23	2
24	73	23	2	23	2

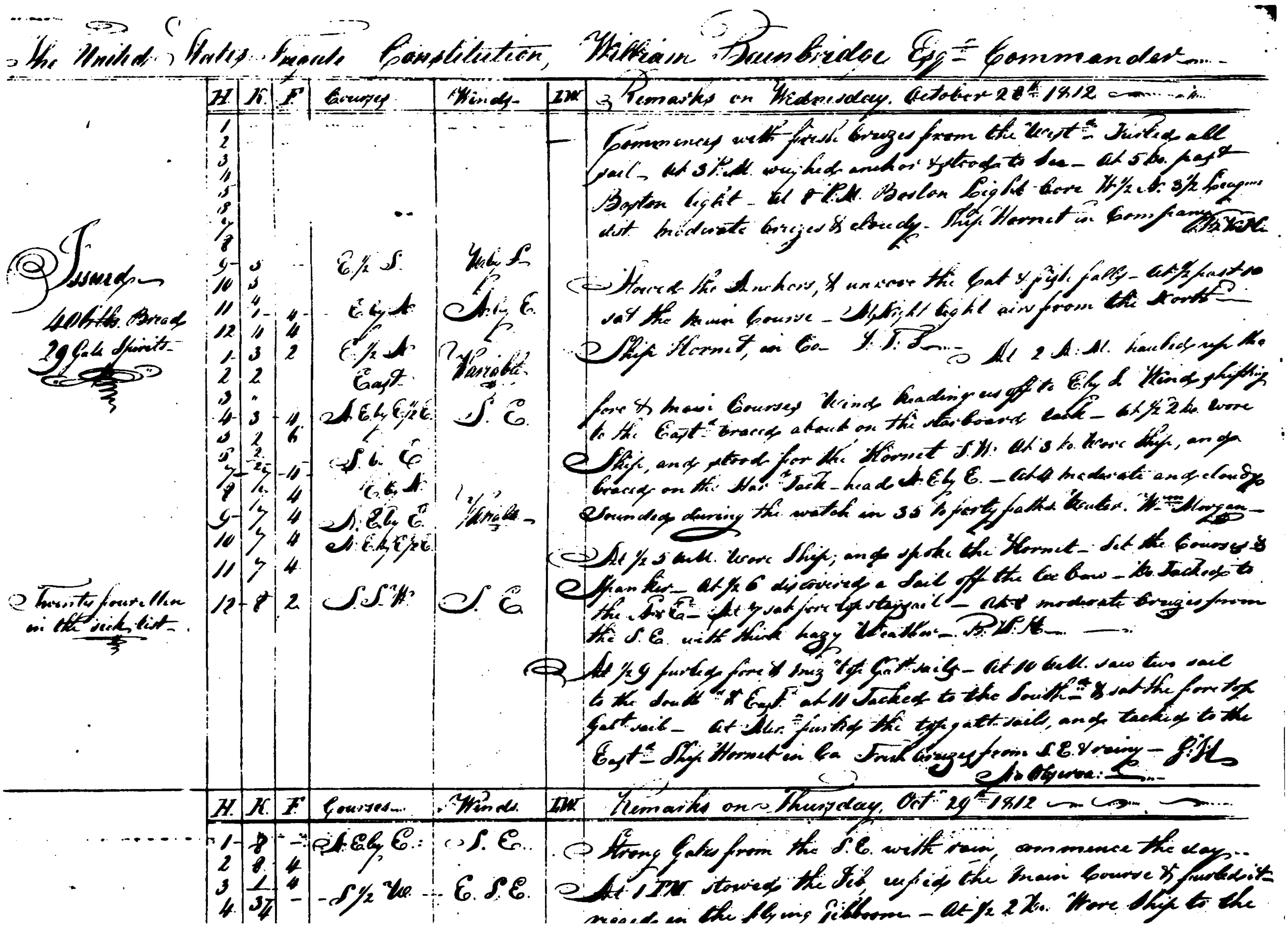
HYDROGRAPHIC AND METEOROLOGICAL REMARKS

N. G. Harrison Jr.

N.G. HARRISON, Jr., Lieut-Comdr., U. S. N. R. NAVIGATOR.

TO BE FORWARDED DIRECT TO THE BUREAU OF NAVAL PERSONNEL AT THE END OF EACH MONTH

USN Frigate *Constitution*, 1812



The United States Frigate Constitution, William Bainbridge Esqr. Commander

Issued 40 bbls. Bread, 29 Gals Spirits

H	K	F	Courses	Winds
1				
2				
3				
4				
5				
6				
7				
8				
9	5		E ½ S	Westerly
10	5			
11	4	4	E by N	N by E
12	4	4		
1	3	2	E ½ N	Variable
2	2		East	
3	"			
4	3	4	S E by E ½ E	S E
5	2	6		
6	2	4	S b E	
7	4	4	E b N	
8	4	4		
9	7	4	S E by E	Variable
10	7	4	S E by E ½ E	
11	7	4		
12	8	2	S S W	S E

Remarks on Wednesday, October 28th 1812

Commences with fresh breezes from the Westd. Furled all sail. At 3 P.M. weighed anchor & stood to Sea. At 5 do. passed Boston light. At 8 P.M. Boston Light bore W ½ N 3½ Leagues dist. Moderate breezes & cloudy. Ship Hornet in Company. [illegible]

Stowed the Anchors, & unrove the Cat & fish falls. At ½ past 10 set the main Course. Midnight light airs from the North. Ship Hornet in Co. [illegible]

At 2 A.M. hauled up the fore & main Courses. Wind heading us off to E by S. Wind shifting to the Eastd. braced about on the starboard tack. At ½ 2 do. wore Ship, and stood for the Hornet S.W. At 3 do. wore Ship, and braced on the Star. Tack, head S E by E. Moderate and cloudy. Soundings during the watch in 35 to forty fathoms water. Wm. Morgan

At ½ 5 A.M. wore Ship, and spoke the Hornet. Set the Courses & Spanker. At ½ 6 discovered a Sail off the Lee bow. Tacked to the S E. At 7 set fore top staysail. At 8 moderate breezes from the S E with thick hazy Weather. [illegible]

At ½ 9 furled fore & mizn. top Gallt. sails. At 10 A.M. saw two sail to the Southd. & Eastd. at 11 Tacked to the Southd. & set the fore top Gallt. sail. At Mer. furled the top gallt. sails, and tacked to the Eastd. Ship Hornet in Co. Fresh breezes from S E & rainy. [illegible]

No Observation

Twenty four Men in the sick list.

H	K	F	Courses	Winds
1	8		S E by E	S E
2	8	4		
3	1	4	S ½ W	E S E
4	3½			

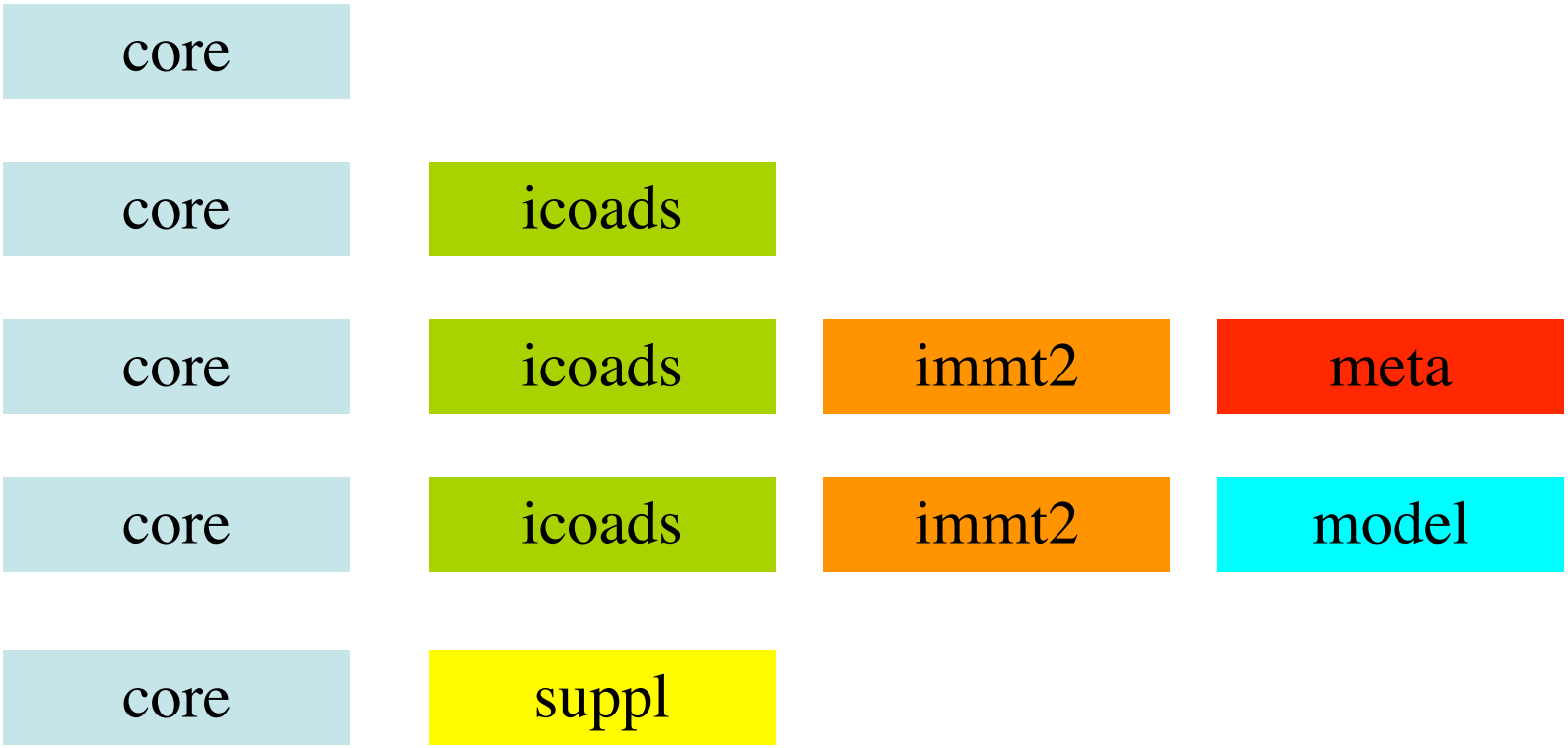
Remarks on Thursday, Octr. 29th 1812

Strong Gales from the S E with rain, commence the day. At 1 P.M. stowed the Jib, clued up the Main Course & furled it. [illegible] in the flying Jibboom. At ½ 2 do. Wore Ship to the [illegible]

4. Data Access

- International Maritime Meteorological Archive format (ASCII):
  - Under development for WMO/JCOMM
  - In use for ICOADS and CLIWOC
- "Add-on" approach
  - converted into uniform ICOADS format
  - data that are largely unique
  - prior to formal archive blend

IMMA record types (core + attms)



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

Need definition of historical attm

- Widely reported elements
  - Beaufort force numbers
  - magnetic wind directions, different compasses
  - unadjusted barometer/attm thermometer
  - tenths of sky clear/cloudy
  - etc. (difficult to predict fields needed)
- Data access benefit:
  - make commonly used data uniformly available