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It All Adds Up: Contributing Climate Data to the Community.

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It All Adds Up: Contributing Climate Data to the Community.

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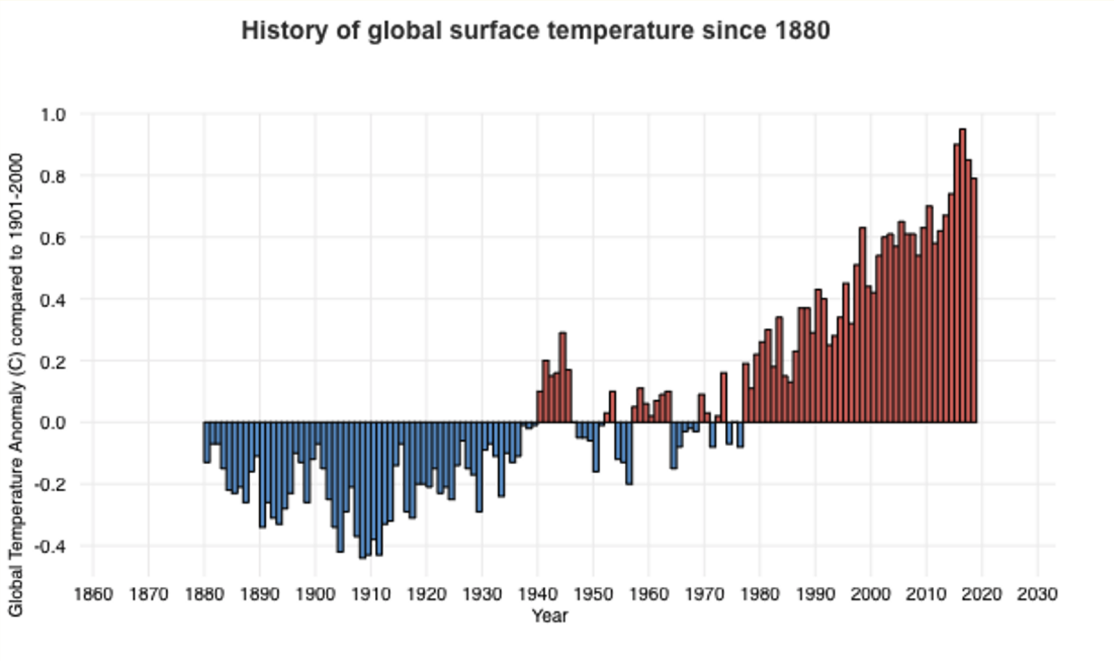
RBMS
June 19, 2019
Baltimore, MD

Where's the Data?



Why 1880?

- There is not enough data in order to formulate global temperature averages prior to 1880
  - NASA's Goddard Institute for Space Studies
  - National Oceanic and Atmospheric Administration's National Centers for Environmental Information
  - UK Meteorological Office's Hadley Centre
- How do scientists supplement the data set?
- Get creative

Past and Current Projects

- Climate Database Modernization Program (CDMP)
- Climatological Database for the World's Oceans (CLIWOC)
- Recovery of Logbooks and International Marine Data (RECLAIM)
- Old Weather Project
- *Seas of Knowledge: Digitization and Retrospective Analysis of the Historical Logbooks of the United States Navy*

Why Logbooks?

- **Record**
  - Events
  - Transactions
  - Navigational observations
- **Entries include**
  - Day-to-day operations
  - Provisions and supplies
  - Ship and biological sightings
  - Crew lists
  - **LOCATION**
  - **WEATHER**

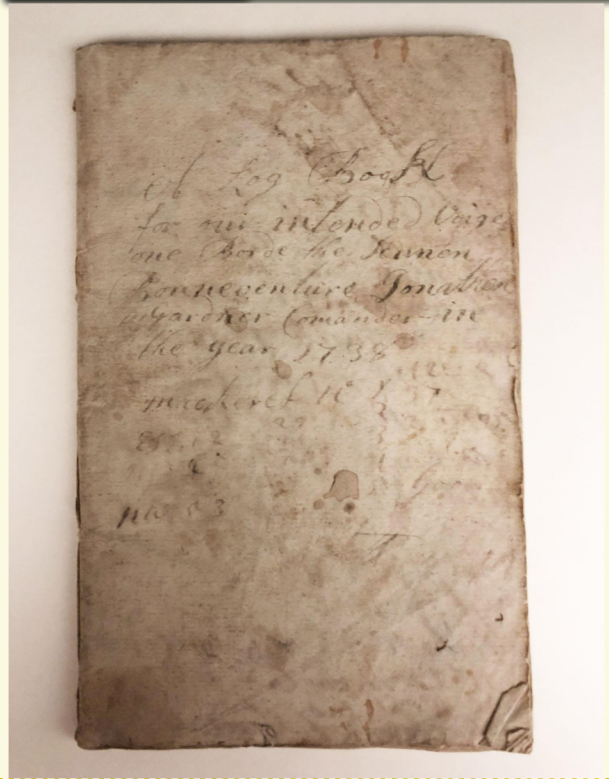
Why Logbooks?

- **Observational Weather Data**
  - Fog
  - Precipitation
  - State of the sea “heavy” or “calm”
  - Ice
- **Instrumental Weather Data**
  - Wind speed
  - Wind direction
  - Temperature

Collections at The University of Notre Dame

- **Strengths include:**
  - Catholic Studies
  - Irish Studies
  - Italian Literature
  - Latin American Studies
  - American Studies
  - Sports

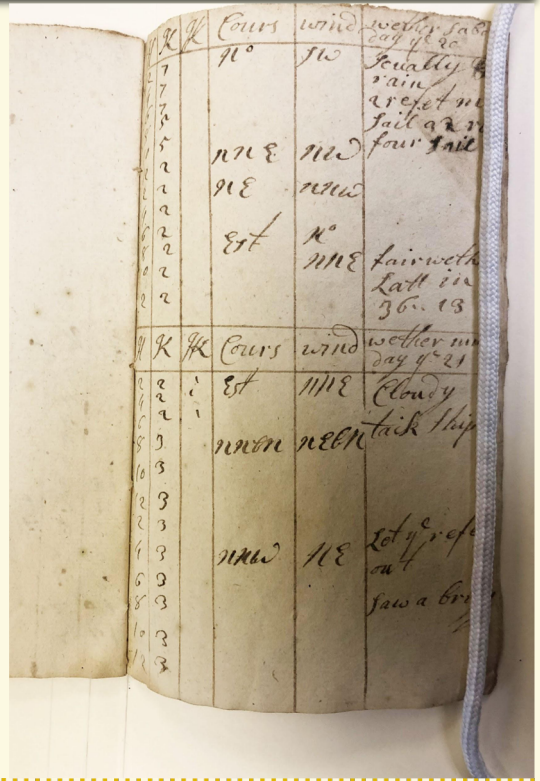
Bonaventure Logbook



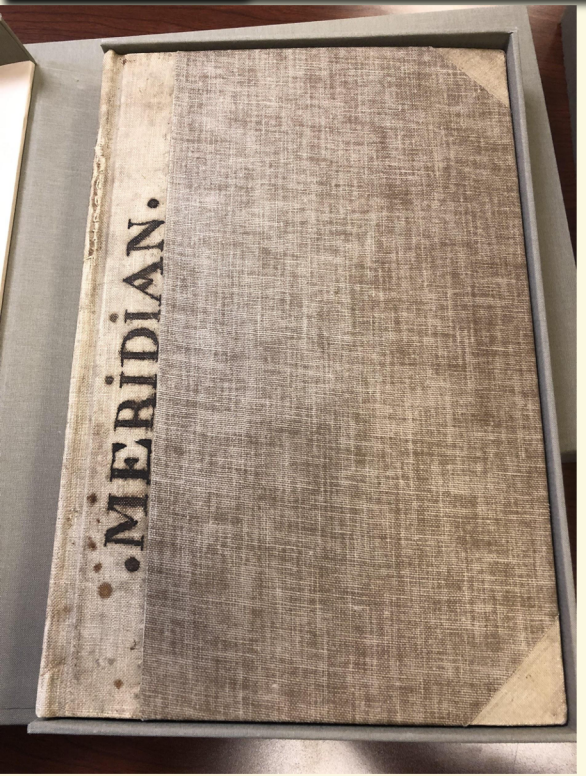
Recounts the 1739-1740 voyage of the *Bonaventure* from New England to the Leeward Islands (Antigua, Nevis, etc.).

"Wether Sabath Day"
"Squally and rainy"

"Fairwether"
"Latt in 36.13"



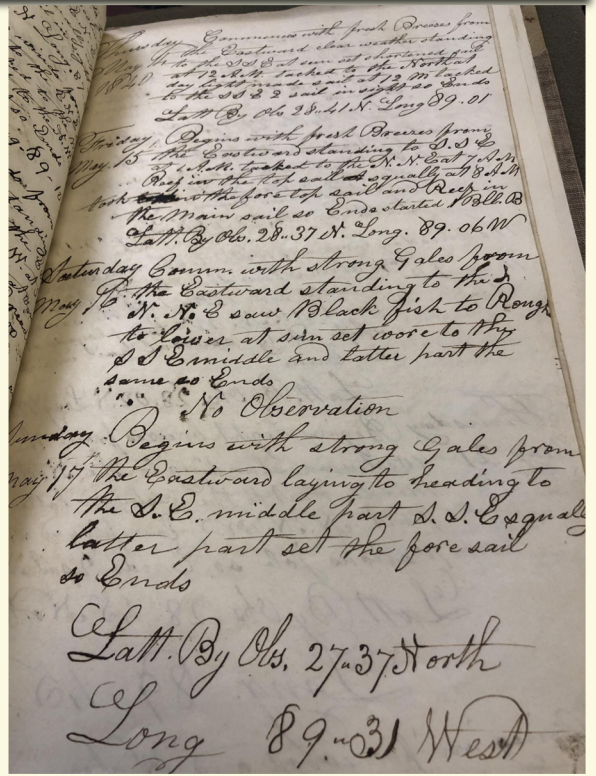
Meridian Logbook



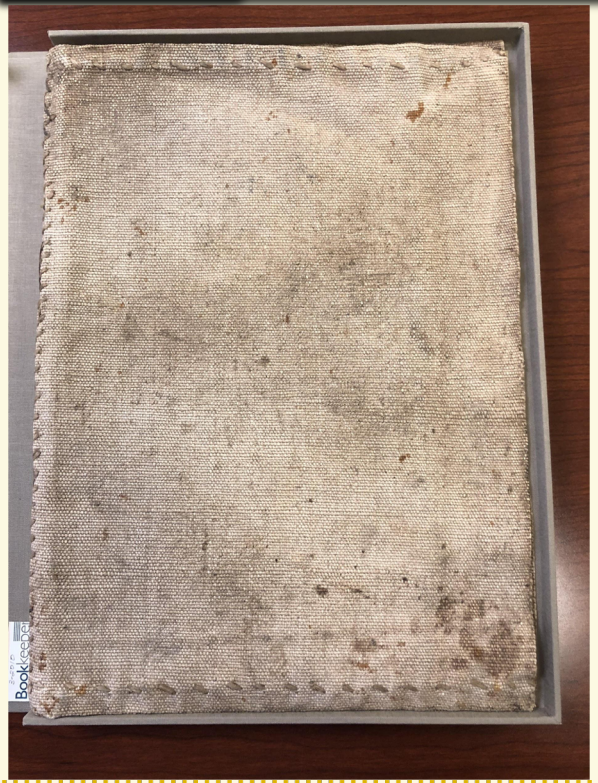
Recounts the 1839-40 voyage of the *Meridian* to the Canaries, South to Brazil, through the Caribbean and Gulf of Mexico.

"Sunday, May 17, 1840, Begins with strong gales from the eastward laying to heading to the S.E. Middle part S.S.E. squally latter part set the foresail Ends."

"Latt. By. Obs. 27.37 North"
"Long 89.31 West"

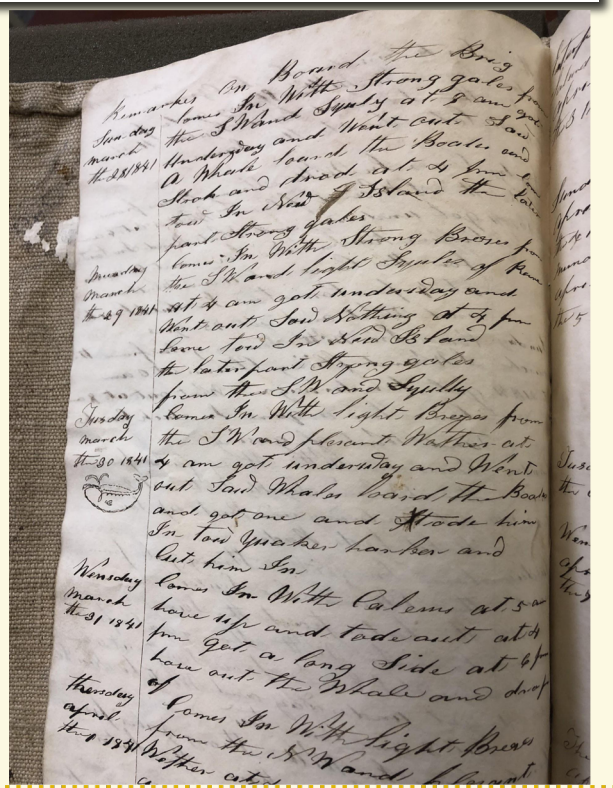


Corvo/Enterprise Logbook



Recounts the voyages of the ship *Corvo* and the brig *Enterprise* in waters off Chile and the Falkland Islands, between 6 October 1840 and 17 May 1841.

"*Monday March 29, 1841. Comes in with strong breezes from the S.W. and light squales of rane at 4pm went out and saw nothing the later part strong gales from the SW and squally.*"



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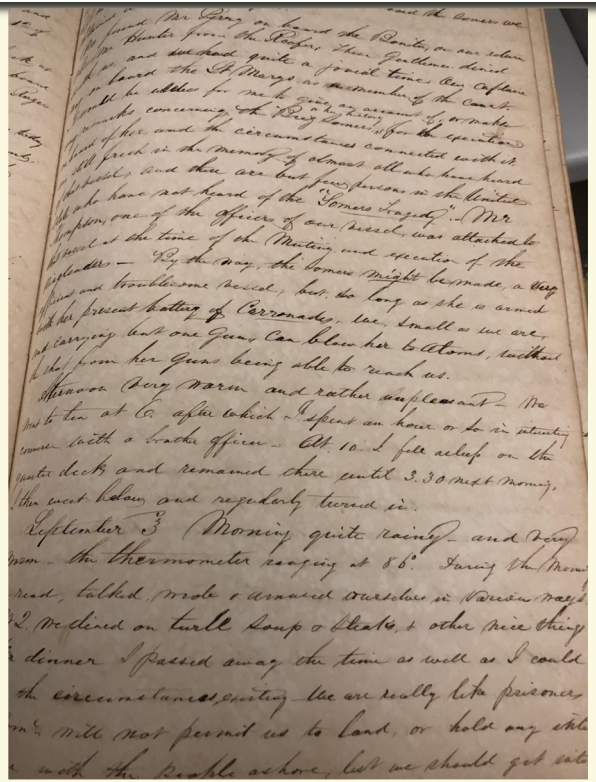
USS Bonita Logbook

A personal journal kept by the purser of the U.S.S. *Bonita* during the U.S.-Mexican War. The journal contains daily entries running from 25 June 1846 to 25 July 1847 and remarks on locations throughout the Gulf coast of Mexico.

"September 3 - The morning quite rainy - and very warm - the thermometer reading at 86 [degrees]."



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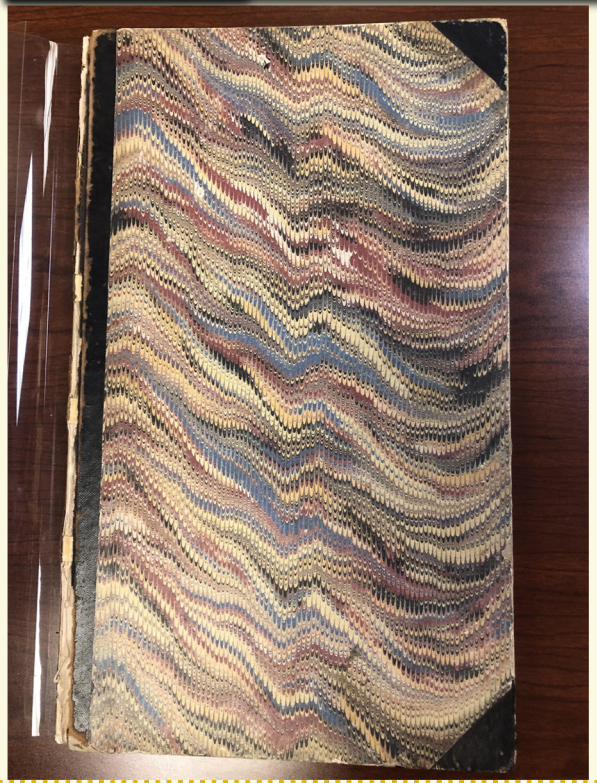
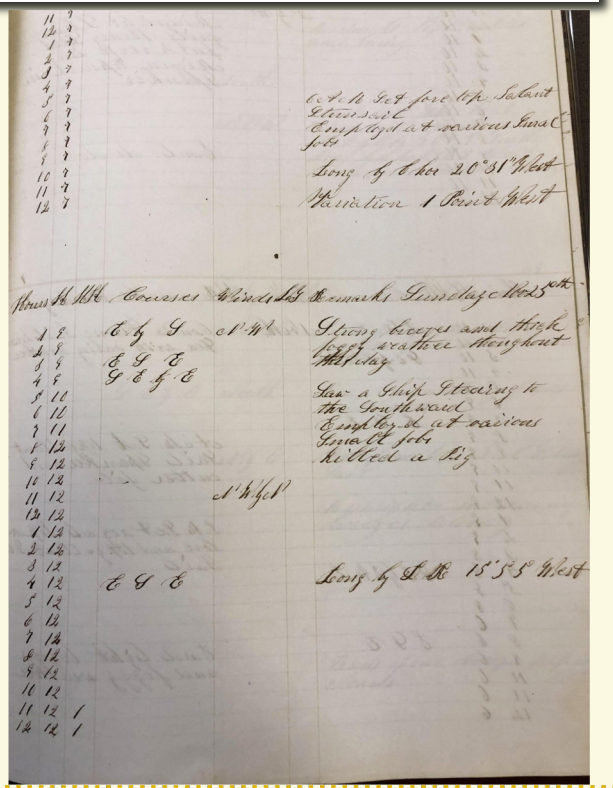
Raven Logbook



Logbook of a voyage of the *Raven*, with daily entries spanning 1855-1856. *Raven* sailed east from Richmond, Virginia to Sydney, Australia, to Sumara and back to New York.

November 25, 1855

"Strong breezes and thick foggy weather throughout the day"



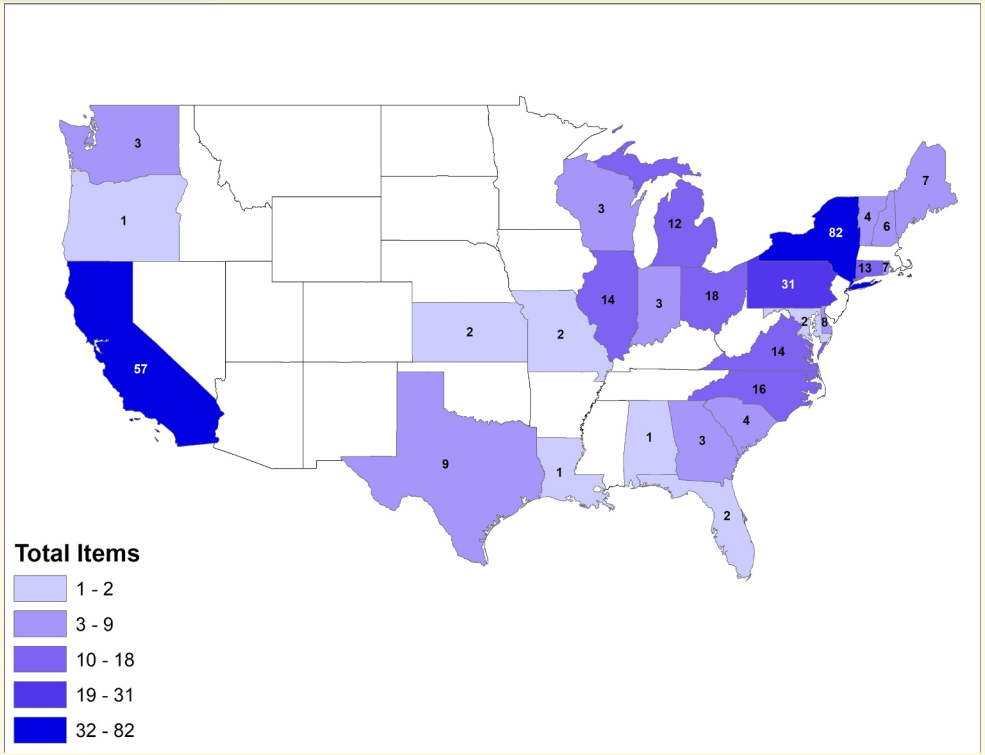
Three Questions

1. If Notre Dame has marine logbooks, what other repositories not traditionally associated with the maritime industry have them?
2. How do those repositories describe their materials?
3. How do we leverage and describe the data contained within the logbooks to ensure their discoverability.

The Research

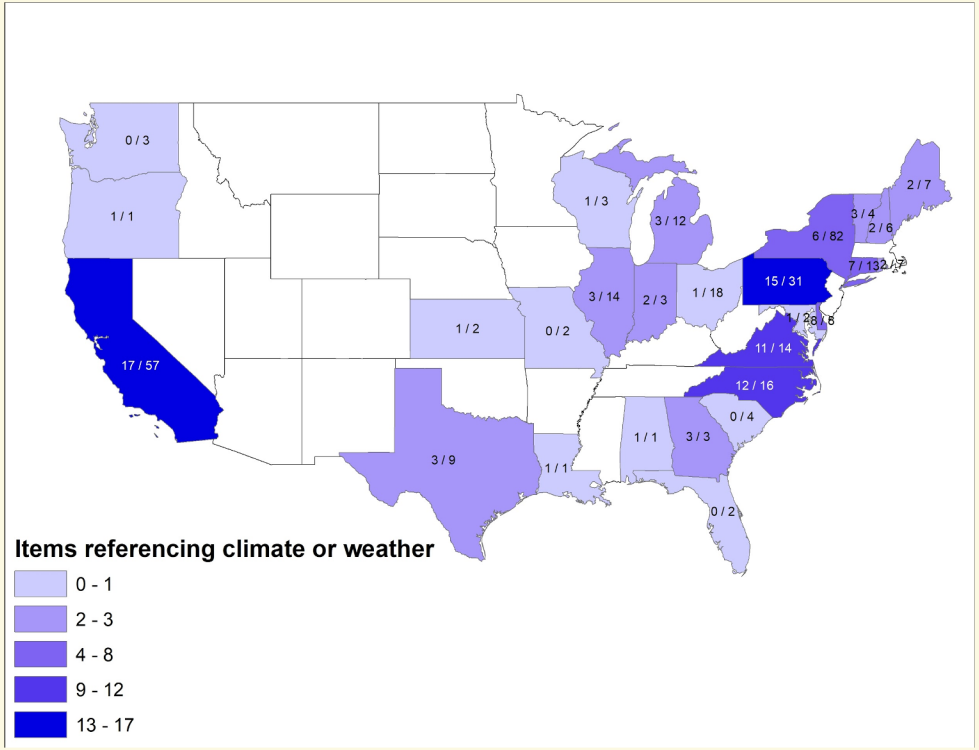
- Scope
  - Logbooks contained in the United States
  - Logbooks most likely not to have been used in a previous large-scale project
  - Utilized ArchiveGrid for collections search - “logbook”
  - Omitted search results from repositories that have a collecting focus on the maritime or sailing industry
    - Peabody Essex Museum
    - New Bedford Whaling Museum
  - Logbooks created prior to 1880

Total Number of Logbooks



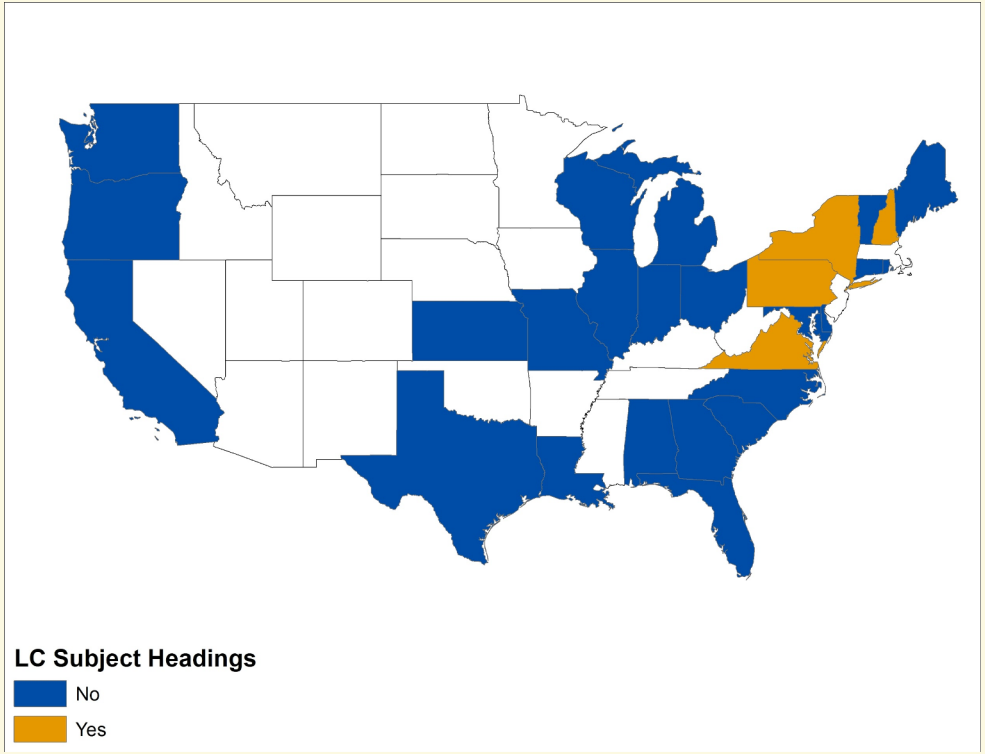
- Logbooks on ArchiveGrid that fit within the parameters: 325
- 27 different states

Logbooks Referencing Weather/Climate



- 106 records include weather or climate within the description
- 32.6%

Logbooks Containing LCSH



- Only four records (.012%) include LCSH.
  - Weather
  - Climatology
  - Meteorology

Conclusion

1. Weather data prior to 1880 was insufficient to calculate global weather averages
2. Logbook data is being used to supplement the historical weather data set prior to 1880
3. Logbooks do exist in repositories not necessarily associated with the maritime industry
4. Descriptive metadata is lacking and as information professionals we can and should do more to ensure the discoverability of these items
    - Descriptive records should be updated to fully reflect the entire contents of a logbook
    - Library of Congress Subject Headings should be applied systematically as access points

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Logbook images courtesy of the presenter

Logbook Maps courtesy of Mat Sisk, The Navarre Family Center for Digital Scholarship, Hesburgh Libraries, University of Notre Dame