

# ENSO, NAO, and Laura Ingalls Wilder Wilder: The Story of the Hard Winter of 1880-81

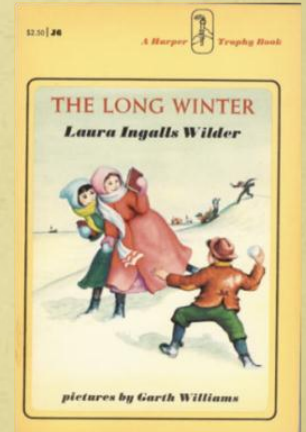
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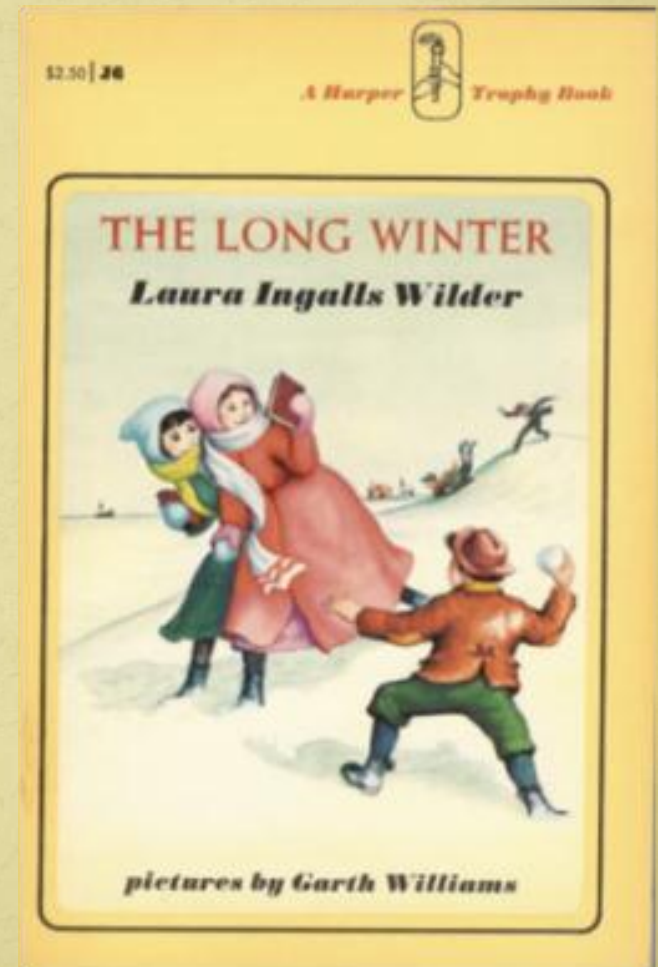
October 23, 2012

Climate Diagnostics and Prediction Workshop  
Fort Collins, CO



# ENSO, NAO... and Laura?

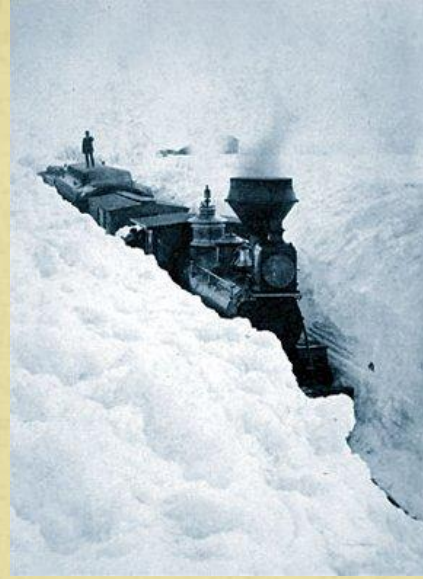
- Connected to familiar story
  - Historical context
  - Public interest in Laura Ingalls Wilder: communication opportunity
- Here, will cover:
  - Attributing winter of 1880-81
  - Creating a narrative to generate interest





# What Happened in 1880-81?

- Snow began in mid-October, ended in mid-April
- Among the coldest and wettest winters on record
- Likely the snowiest in (white settler) history
- Caused train blockades, food and fuel shortages
- Followed by historic spring flooding

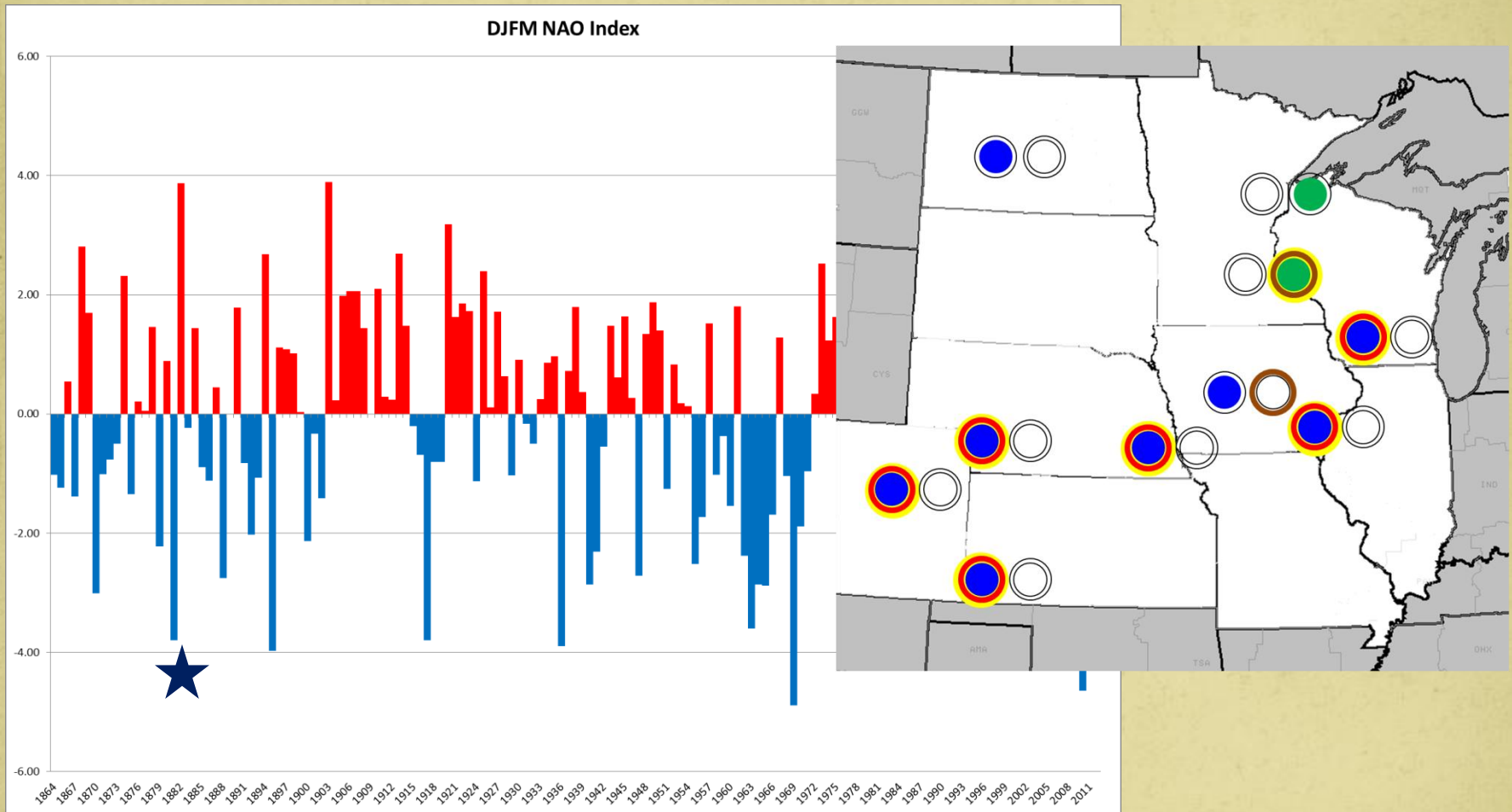


**Kelly's Cut, 0.5 mi west of Sleepy Eye, MN – March 1881**

**Whitewater, WI – March 1881**

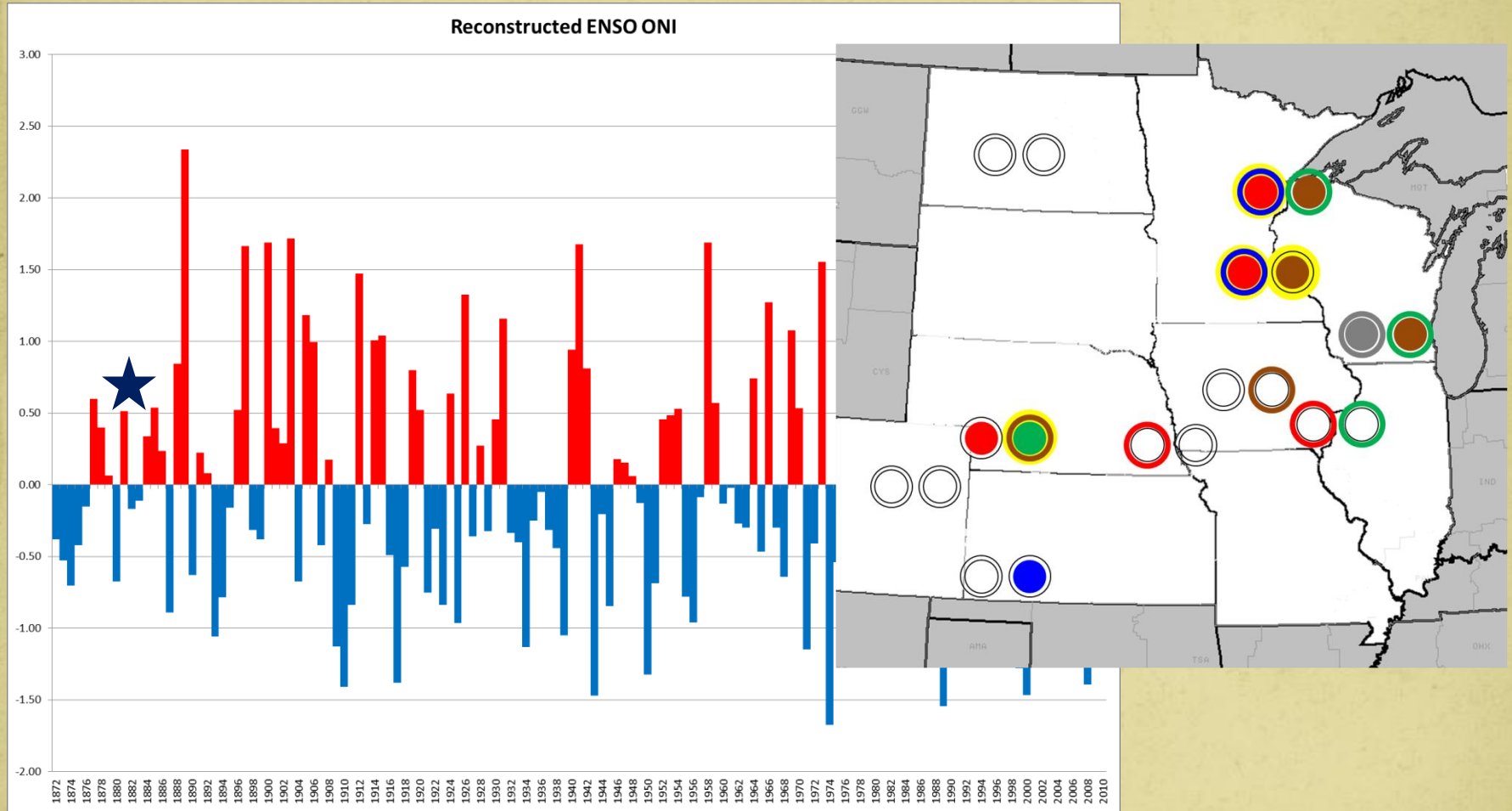


# Attribution Factor 1: Negative NAO



- 5<sup>th</sup> strongest negative NAO on record since 1864 (-3.80)
- 3<sup>rd</sup> strongest when associated with El Niño, behind 1969 and 2010

# Attribution Factor 1: El Niño

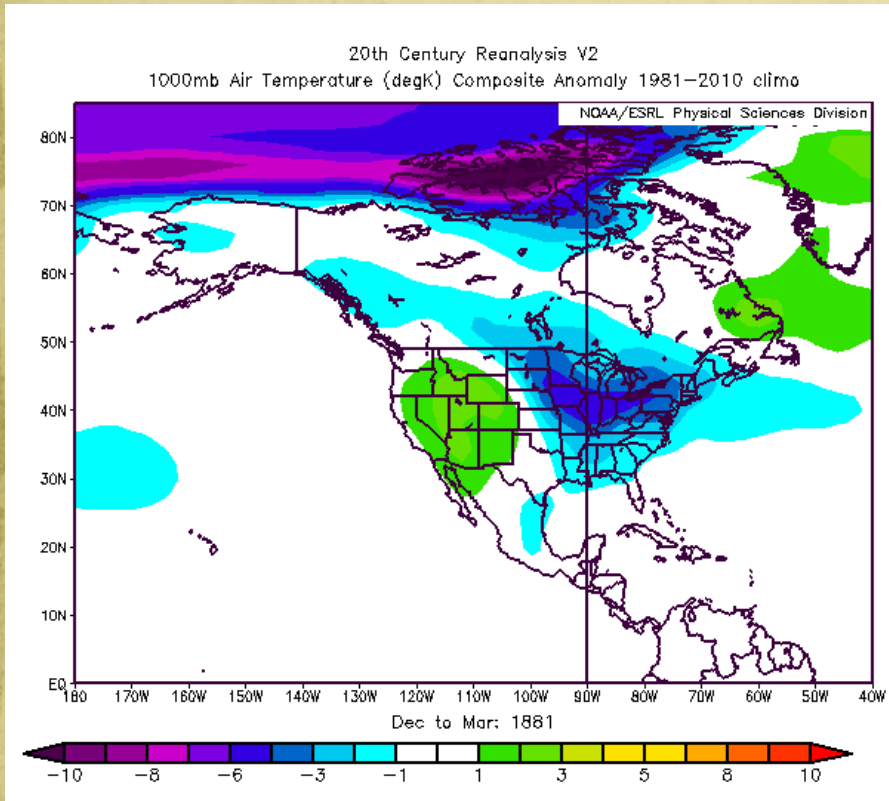


- Weak El Niño ( $\sim 0.5$ )

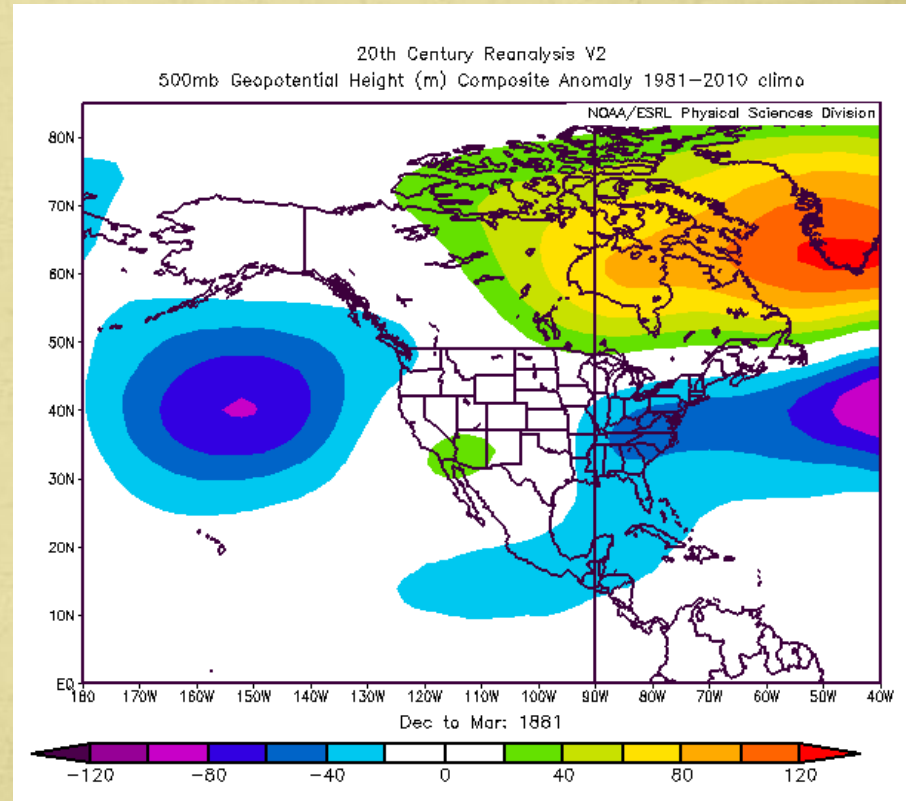


# Dec-Mar Reanalysis: Cold!

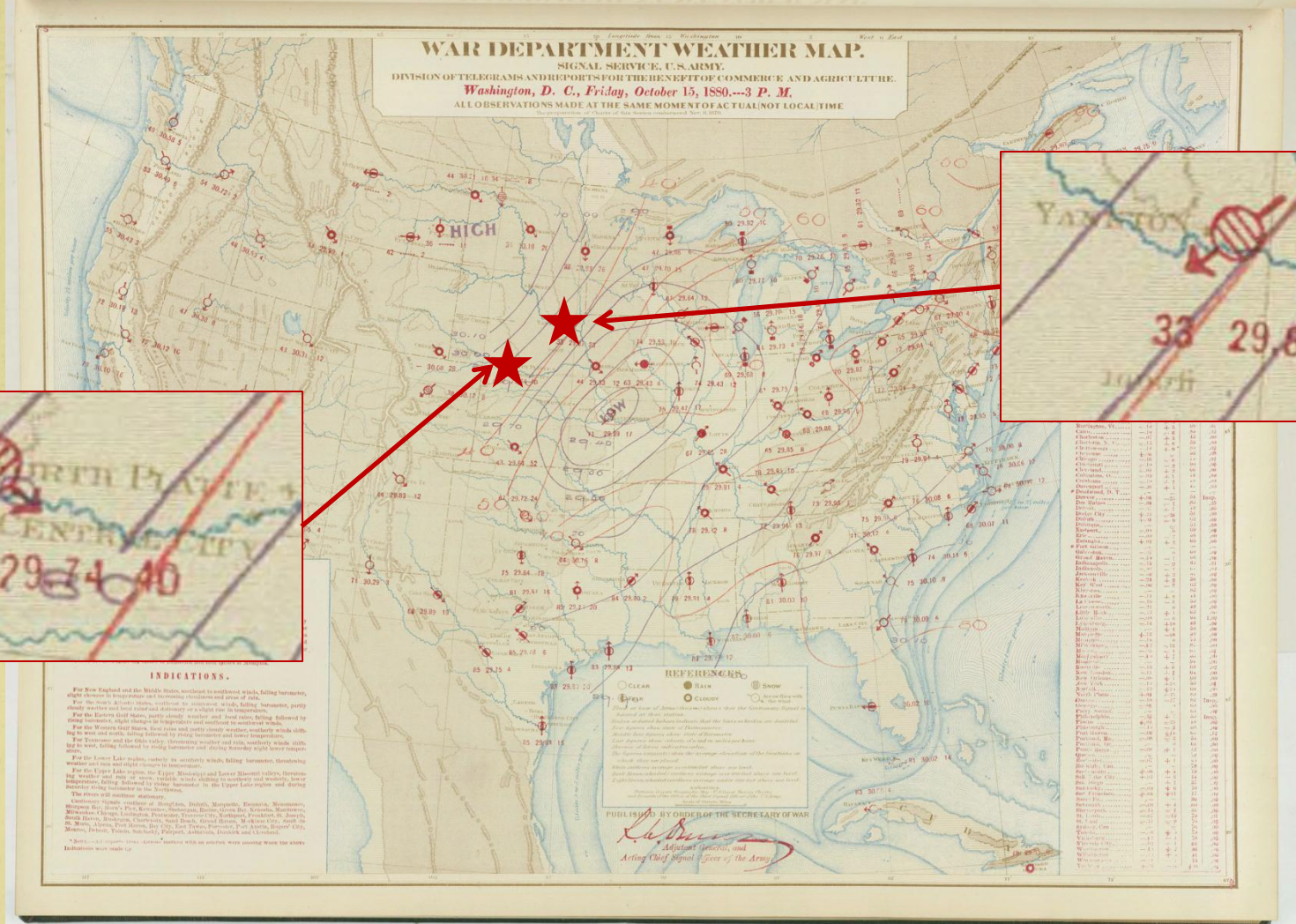
## 1000 hPa Temperature



## 500 hPa Geopotential Height



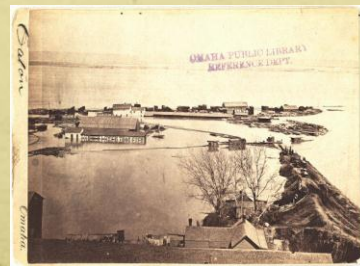
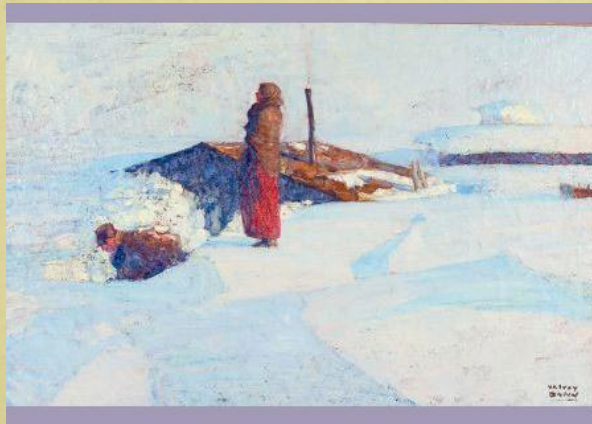
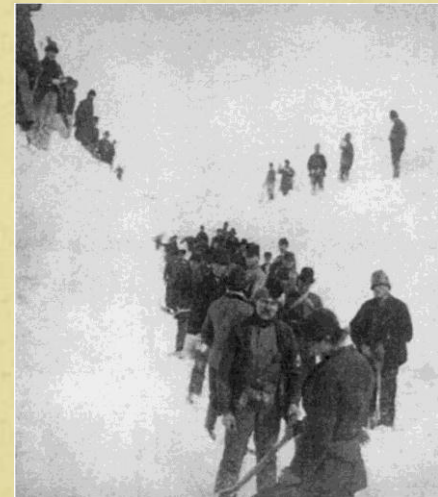
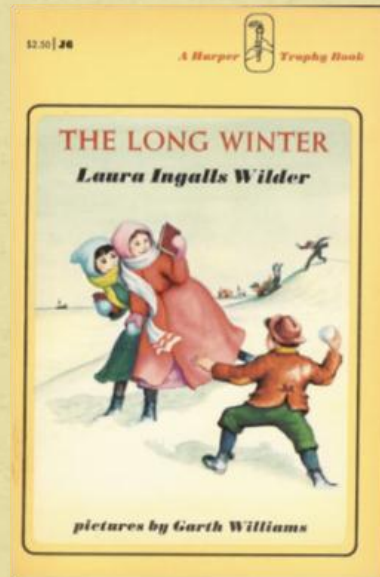
# Highlight Event: The October Blizzard



- October 15-18, 1880
- Southeast SD, southwest MN, northwest IA, northeast NE



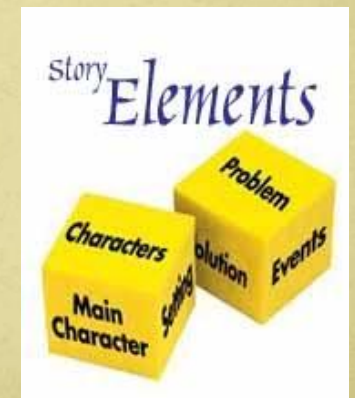
# The Narrative of the Long Winter





# Ongoing and Future Work

- Develop Accumulated Winter Season Severity Index
  - Point-specific
  - Scale winter indicators to impacts
  - See poster at AMS Applied Climatology conference
- Conduct model-based attribution
  - Seeking collaboration!
- Explore Laura Ingalls Wilder as narrative
  - Education tool
  - Conduit for information
  - Broaden audience



# Thank You!

Comments, questions, ideas, and feedback are welcome! [barbara.mayes@noaa.gov](mailto:barbara.mayes@noaa.gov)

Wilder Weather blog:

[http://www.bousteadhill.net/wilder\\_weather/](http://www.bousteadhill.net/wilder_weather/)

Wilder Weather on Facebook:

<http://www.facebook.com/wilderweather>

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