Accessing NOAA Daily Temperature and Precipitation Extremes Based on Combined/Threaded Station Records

Tim Owen[1]

Keith Eggleston and Arthur DeGaetano[2]

Robert Leffler[3]

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1: NOAA National Climatic Data Center, Asheville, North Carolina
2: Northeast Regional Climate Center, Cornell University, Ithaca, New York
3: NOAA National Weather Service, Climate Services Division, Silver Spring, Maryland

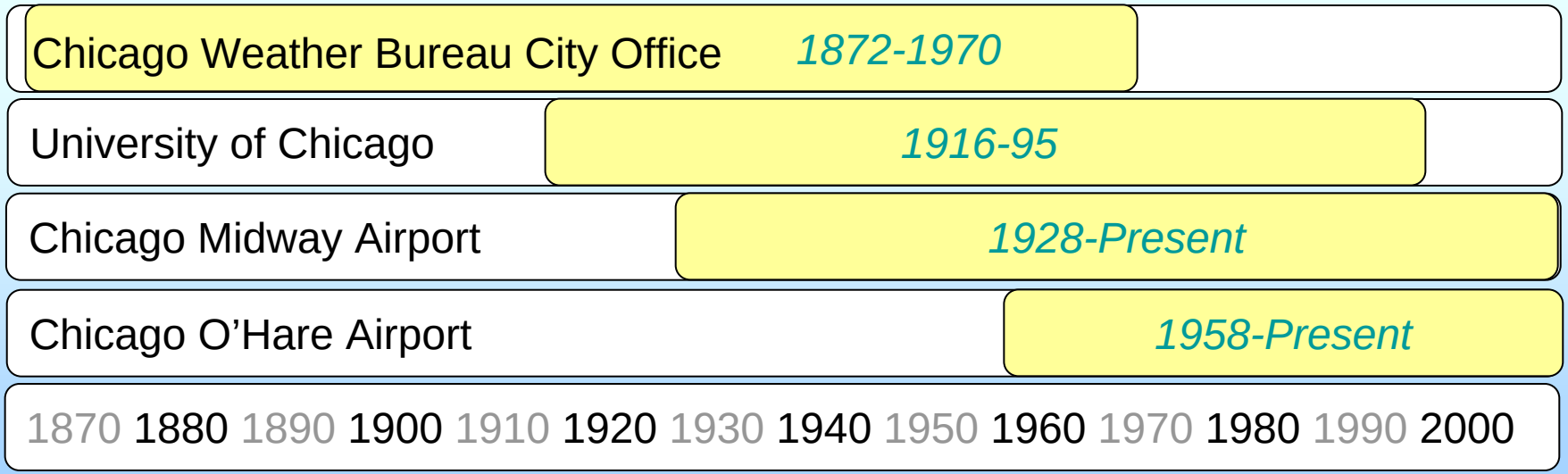
The Issue

- What climatological records should be used as the basis for U.S. daily climate extremes that are reported by the media, NWS, and others?

- Current extreme records reporting are inconsistent, based on varying combinations of multiple observing sites.

For Example, In Chicago…

- Which is the **Official** Record?
- What is available in **Digital** Form?



Digitized Data

- NOAA's Climate Database Modernization Program (CDMP) has keyed a large amount of pre-1948 data in the past 5 years – data that has not been consistently used before.

ThreadEx Priorities

- Published Local Climatological Stations (~260; Mostly ASOS Sites)
  - Temperature
  - Precipitation

Threading Process

- Starting Point: Current ASOS Site
- Consideration of Historical Precedent
  - 1.) NWS/WB
  - 2.) COOP
- Overlaps: Yield to the More Recent Site
- No Adjustments for Inhomogeneities
  - This data set is informational; NOT meant for research purposes!
- Station Threads Vetted by Partners:
  - Northeast Regional Climate Center (Developer)
  - NWS Field, State Climatologists, Others (Reviewers)

Back to Chicago

Threaded Record

Unused Portion of Record

2.

1871-95

1. Chicago CRB

1896-1925

2. Chicago WB Office

3. University of Chicago

1926-41

4. Chicago Midway Airport

1942-58

5. Chicago O'Hare Airport

1958-Present

1870 1880 1890 1900 1910 1920 1930 1940 1950 1960 1970 1980 1990 2000

The Benefit of Threaded Records:

Weather Bureau, Washington, DC, 1926

ThreadEx

Long-Term Station Extremes for America

WASHINGTON REAGAN NATIONAL AP (KDCA)
Extremes
Highest Daily Maximum Temperature
Day: January 20; Length of period: 1 day

i.) Years: **1948-2005**

Rank	Value	Date
1	70	1/20/1951
2	60	1/20/1954
2	60	1/20/1952
4	59	1/20/1963

ii.) Years: **1873-2005**

Rank	Value	Date
1	70	1/20/1951
2	64	1/20/1907
2	64	1/20/1890
2	64	1/20/1880

ThreadEx Roll-Out

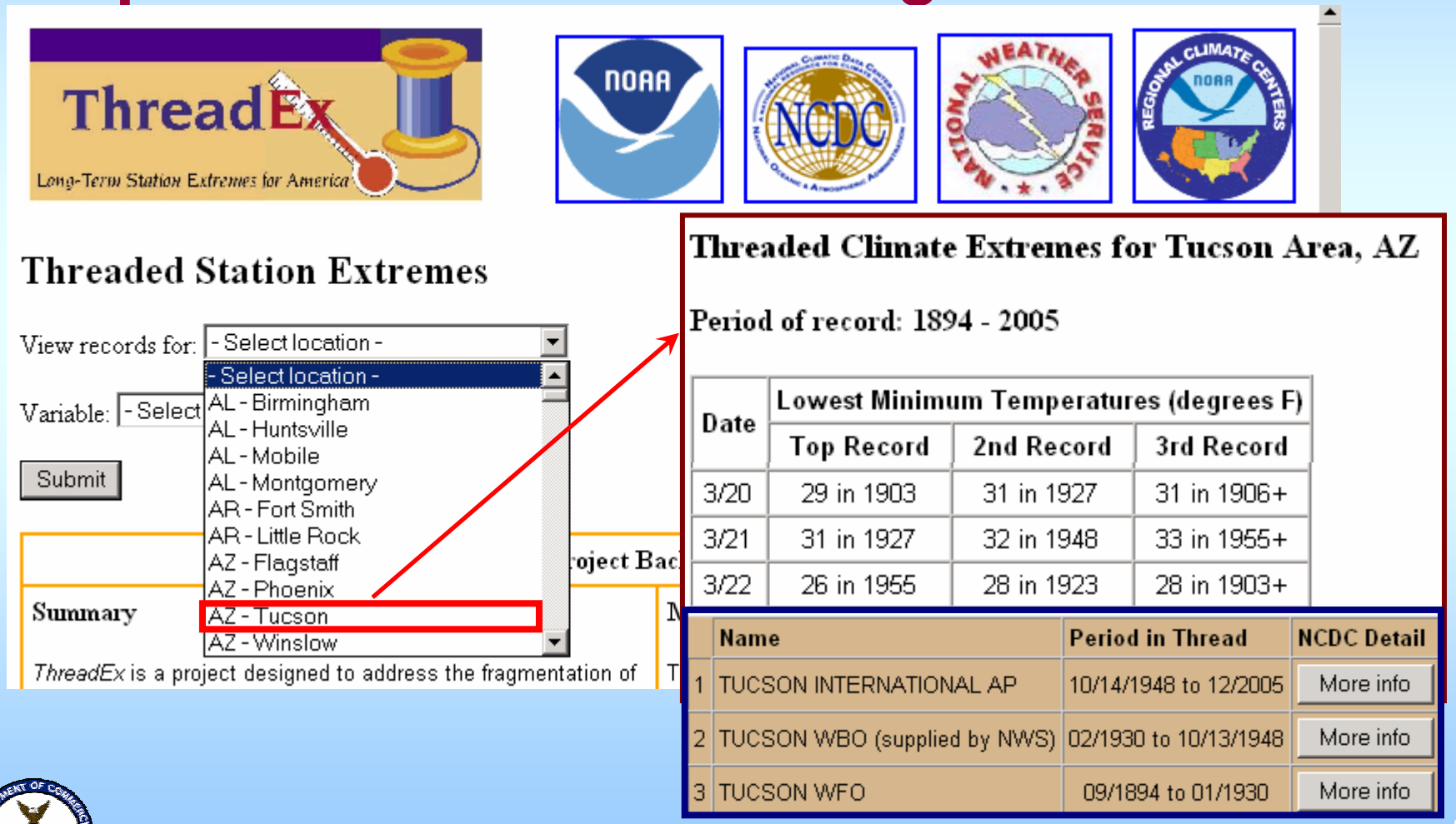
- Daily Threaded Data: Completed 3/2006
- Data Tables: **Available** at:
  http://threadex.rcc-acis.org/
- Data Tables Updates: Annually to Include:
  - Immediate Past Year (e.g., 2006)
  - Addition of Early Data (e.g., Keyed Forts Data)
  - Adjustments to Threads

Data Table Contents

- Daily Top Three Records and Years for:
  - Highest Maximum Temperature
  - Lowest Maximum Temperature
  - Highest Minimum Temperature
  - Lowest Minimum Temperature
  - Greatest Precipitation

ThreadEx on the Web

http://threadex.rcc-acis.org/



Future Plans

- Expanded Locations:
  - Principal COOP Network Sites
  - Key Locations for NWS and Partners
  - Stakeholder Feedback
- Expanded Elements:
  - Snowfall
  - Snow Depth
- Other Statistics (e.g., Consecutive Days, etc.) will be available through NOAA-Sponsered Data Query Tools (xmACIS, CDO, NOWData)

Conclusion

ThreadEx provides…

- Maximized
- Consistent
- Routinely Updated
- Freely Available

ThreadEx
Long-Term Station Extremes for America

Daily Climate Records for Principal Observing Stations in the United States

ThreadEx is for general public use, NOT for research (no homogeneity adjustments)

For More Information Contact: **Tim.Owen@noaa.gov**