MEMORANDUM FOR: Derek S. Arndt  
Chief, Climate Monitoring Section, Center for Weather and Climate  
National Centers for Environmental Information

FROM: Karin Gleason  
Meteorologist, Monitoring Section, Center for Weather and Climate

SUBJECT: SCEC Report for Texas Minimum Temperature Record in 1899

Summary:
On 24 February 2016, a State Climate Extremes Committee (SCEC) convened to verify / validate a tie for the record minimum temperature (-23°F) observed in Tulia, TX reported on 12 February 1899. The currently recognized record minimum temperature for Texas occurred on 8 February 1933 and is located in Seminole, TX.

After reviewing the observational evidence, the SCEC unanimously agreed that the Tulia, TX minimum temperature is valid and would tie with Seminole, TX as the record minimum observed temperature for the State of Texas. In particular, the committee found that the following were true and valid:

- LOCATION: Tulia 6NE, TX (GHCN ID: USC00419176)
- DATE: 12 February 1899
- MINIMUM TEMPERATURE: -23°F

Sequence of Events, Examination & Decision:
The current recognized minimum temperature record of -23°F for the state of Texas occurred on 8 February 1933 in Seminole, TX. This record was verified and validated by the State Climate Extreme Committee (SCEC) when NCEI began keeping track of official records in 2006. At the time of this verification, metadata records maintained by NCEI did not include 1899 in the Tulia station history even though the data were included in the archive and were considered valid by the quality control procedures. As a result, the record value was not considered as a tie with Seminole because it was not eligible for consideration.

After review of the data maintained in the NCEI archive, it was determined that the Tulia station history should be extended to include the months for which data are available and archived. Once the station history records were updated, the Tulia minimum temperature value reported on 12 February 1899 became eligible for consideration by the SCEC.
It was the unanimous decision of the SCEC that this -23°F minimum temperature value is indeed valid and ties with the SCEC recognized minimum temperature record for Texas. Supporting documentation follows:

1) Existing Texas minimum temperature record from SCEC website identifies Seminole, TX at -23°F on 8 February 1933 (Figure 1).
2) The Office of the Texas State Climatologist and the National Weather Service (NWS) in Lubbock have always considered the Tulia record to be the original record and tied years later by Seminole (Figure 2).
3) A map provided by the Office of the Texas State Climatologist depicting record low temperatures for February 1899 by county (Figure 3). There is no superficial reason to question the record as it was observed by an official weather observer during the coldest day in Texas history. The only questionable aspect to this reported value is the large departure from surrounding stations. Table 1 illustrates the wide variation in temperature across the Texas Panhandle (High Plains Climate Division 1) on 8 February 1933, when the Seminole record occurred. The 1899 record has fewer observations than in 1933, but similar variations in temperature are noted.
4) A review of the Tulia station indicated that the site was operational from 1 July 1896 to 31 August 1919, even though some records during this period do not exist in the NCEI archive (Figure 4).
5) The original observer form indicating a minimum temperature of -23°F on 12 February 1899 was submitted as evidence (Figure 5).
6) Per the recommendation from NCEI’s metadata scientists, the station history for Tulia was extended to include the 1899 record period allowing this station to be considered for the record. See Datzilla Ticket #6025 for more details.

Finding of Committee:
The SCEC convened via Webinar on 24 February 2016 to discuss the proposed new record. Four (4) representatives participated in this call. This included Kevin Robbins, Director of the Southern Region Climate Center; John Nielsen-Gammon, Texas State Climatologist; Justin Weaver, Meteorologist-in-Charge at the NWS Weather Forecast Office (WFO) - Lubbock; and Victor Murphy, Climate Service Program Manager for NWS Southern Region. In addition, Bryant Korzeniewski, Meteorologist with ERT/STG and metadata specialist at NCEI as well as John Lipe with the WFO in Lubbock participated in the webinar.

Based upon the documented evidence, the SCEC agreed unanimously (by a vote of 4-0) that the all-time minimum temperature record for Texas, which occurred in Tulia, TX on 12 February 1899 is valid and ties with the previous record set in 1933 in Seminole, TX. The SCEC recommends the NCEI Climate Monitoring Chief approve the SCEC action to acknowledge the -23°F temperature in both Tulia, TX and in Seminole, TX as a tie for the state record minimum temperature record for Texas.
NCEI Climate Monitoring Chief Decision:

Approved (as recommended in boldface above):

Digitally signed by

ARNDT.DEREK.SHANE.1384496519
DN: c=US, o=U.S. Government,
ou=DoD, ou=PKI, ou=OTHER,
cn=ARNDT.DEREK.SHANE.1384496519
Date: 2017.12.12 10:25:38 -05'00'

Not approved (will be returned to SCEC with no action taken):

Figure 1. Existing state records for Texas from the NCEI SCEC website:
https://www.ncdc.noaa.gov/extremes/scec/records
Figure 2. Lubbock, TX National Weather Service Forecast Office website recognition of coldest known temperatures across Texas: http://www.srh.noaa.gov/lub/?n=wwad-coldestintexas
Figure 3. Office of the Texas State Climatologist hand annotation of record low temperatures for February 1899 by county. Small numbers are the actual, or estimated, departures from the record value.
Review of Tulia 6NE COOP Site

- Site in existence from July 1, 1896 to August 31, 1919.
- As per NCEI, GHCN-D is treating this as a valid value.

Figure 4. Review of Tulia station record in GHCN database.
Figure 5. Tulia, TX observer form for February 1899.
### Daily Data for February 8, 1933 for TX HIGH PLAINS Climate Division

Click column heading to sort ascending, click again to sort descending.

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<th>Max Temperature</th>
<th>Min Temperature</th>
<th>Precipitation</th>
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Table 1. Illustration of variation and spread in observed minimum temperatures in the High Plains Climate Division reported on 8 February 1933.