



Climate Key Messages at CPC in the Context of Events Within the Past Year

Jon Gottschalck, Johnna Infanti, Cory Baggett, Adam Hartman, Melissa Ou, Scott Handel and Brad Pugh

Operational Prediction Branch
NOAA / NWS / Climate Prediction Center

48th Annual CDPW and 21st Annual CPASW Joint Meeting
March 26-29, 2024
Tallahassee, FL



Background



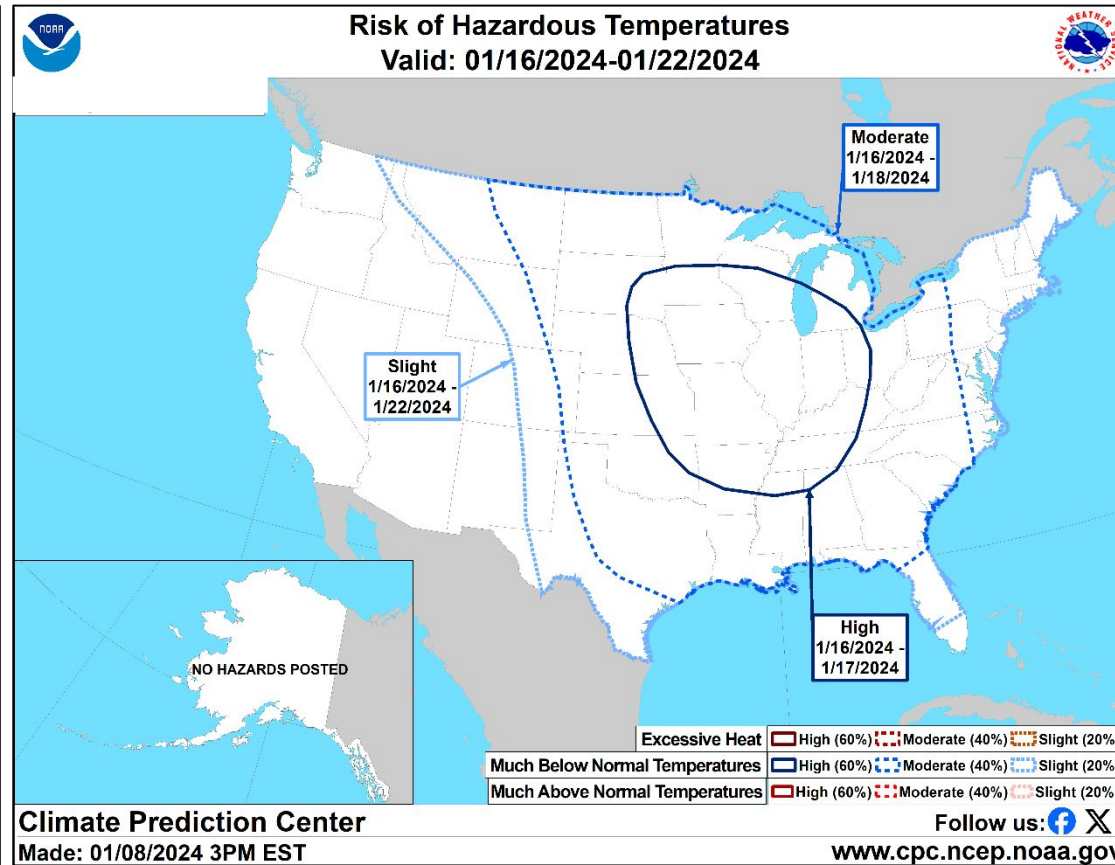
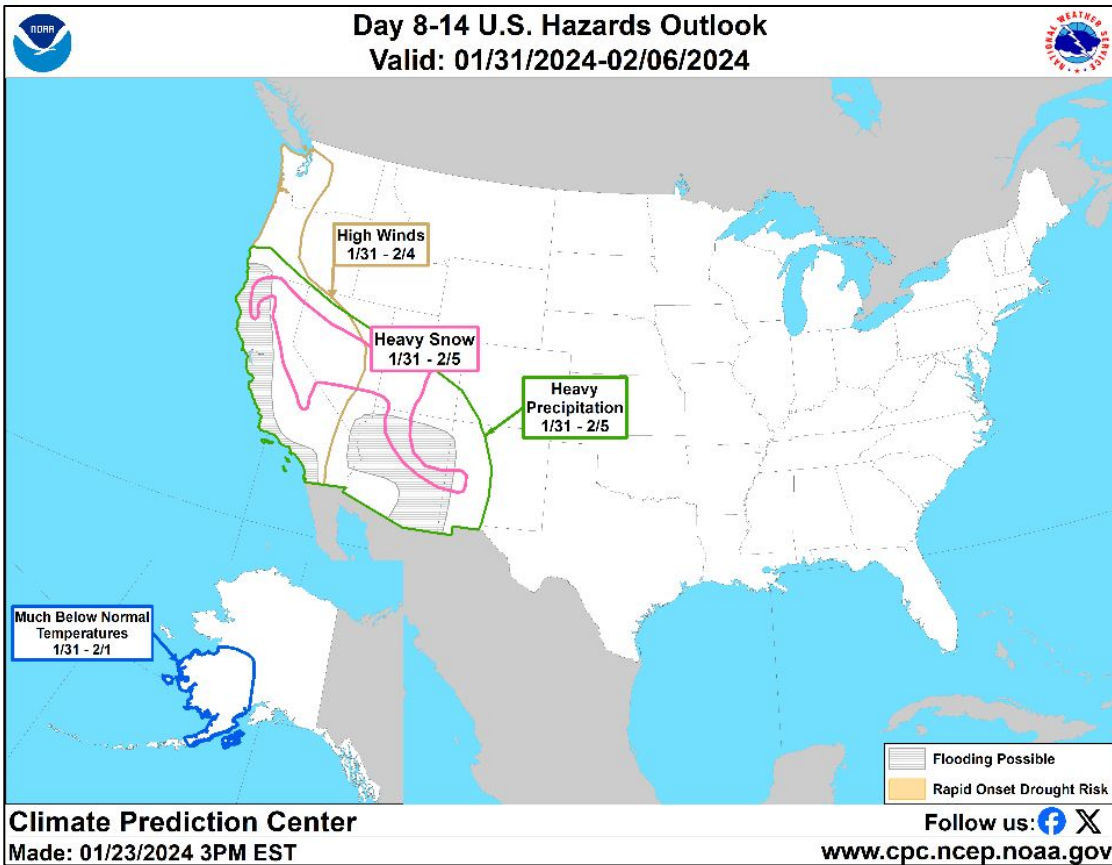
- ✓ NCEP centers such as NHC and WPC have for a few years prepared “Key Messages” (KM) value-added products informed from official outlooks and information
- ✓ CPC outlined how the KM concept could be utilized with respect to climate prediction events during 2022-2023
- ✓ The objective of the activity is to provide impact-focused, concise, key information for potential upcoming events in a simple, easy to understand format
- ✓ CPC coordinates and collaborates closely with the NWS regions (*i.e.*, ROCs, regional CSPMs, WFO focal points), WPC, NWC and other NWS core partners before releasing any KM or social media (SM) information



Climate Key Messages – Two Types



(1) Week-2 U.S. Hazards Outlook (HAF)



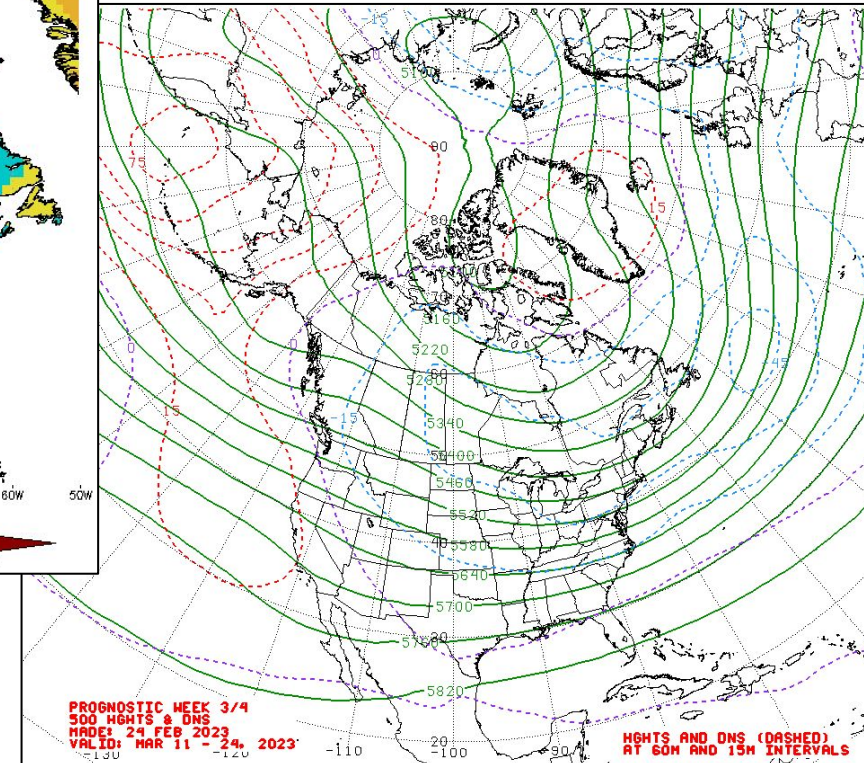
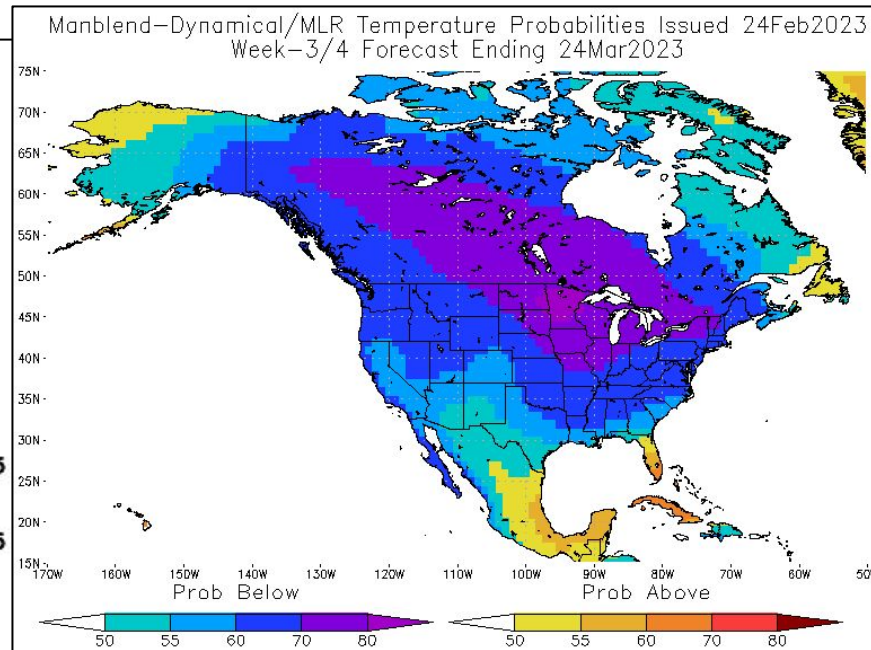
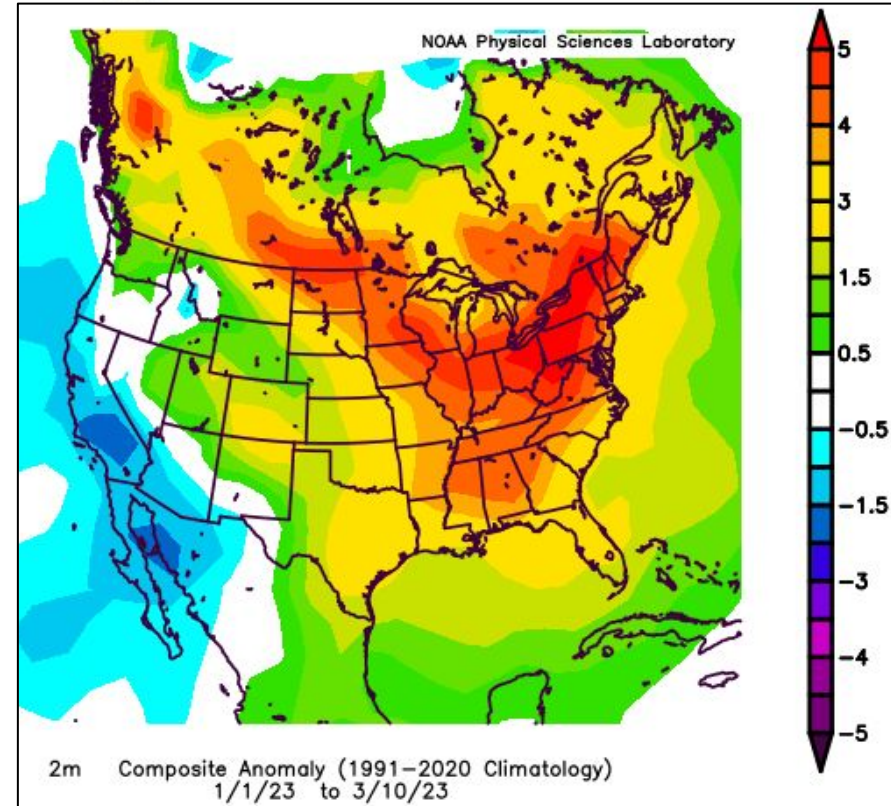
(a) A **high risk** of hazardous conditions depicted in the HAF and so substantial impacts are likely

(b) A **moderate risk** of hazardous conditions depicted in the HAF with the potential for substantial impacts depending on regional factors such as antecedent conditions, time of year, etc.



Climate Key Messages – Two Types

(2) Week 2-4 Pattern Change (PATC)



- (c) A pattern change is forecast with high confidence during the Week 2-4 target period
 - ✓ That can either result in significant impacts or a change in regional operations
 - ✓ Such pattern changes may be indicated by the Week-2 or Week 3-4 T/P outlooks, 500-hPa heights outlooks and/or teleconnection indices



CPC Key Message – January 11, 2024



Bitter Cold and Potential Heavy Snow in the Great Lakes and Northeast Mid-Late January

Issued January 4, 2024
Updated January 11, 2024

January 19 - 22 2024*

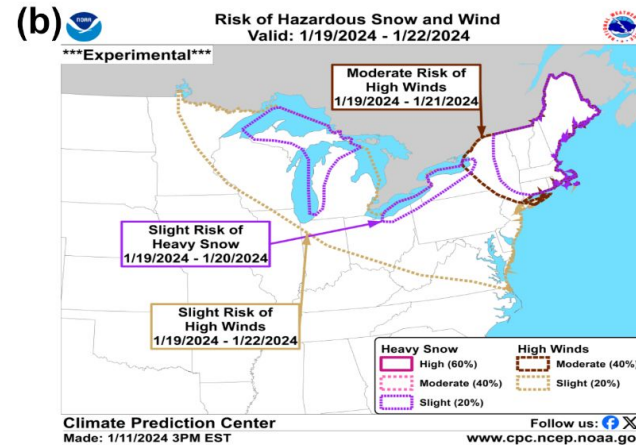
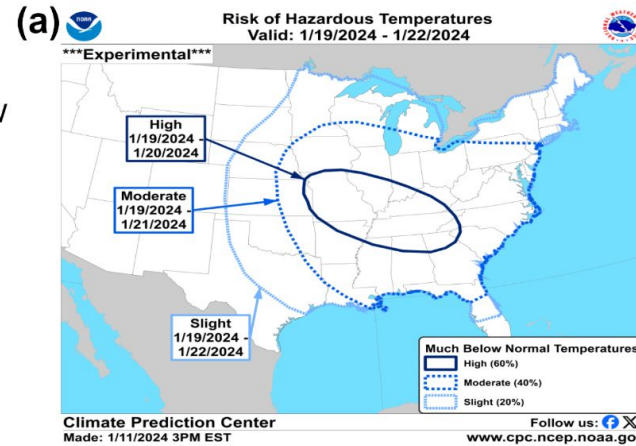
A widespread Arctic air outbreak is likely to affect areas east of the Rockies during mid-late January. Many locations could experience near record, dangerously low subzero temperatures and wind chills, especially across the Midwest, and subfreezing temperatures across the Deep South.

(a) There is at least a 60% chance of hazardous cold temperatures across parts of the Middle Mississippi, Ohio, and Tennessee Valleys, Jan 19-20.

(b) Enhanced wind speeds and cold temperatures may support periods of heavy lake effect snow downwind of the Great Lakes Jan 19-20.

(b) A potential coastal storm may impact the Northeast with high winds and heavy snow Jan 19-20.

* For short-term forecasts (prior to January 19), visit www.wpc.ncep.noaa.gov and weather.gov.



- ✓ Automated and configured processing to create customized graphics as needed
- ✓ Utilizing CPC operational products for regional and hazard type / impacts specifics



“1 NWS” Key Messaging – June - July 2023



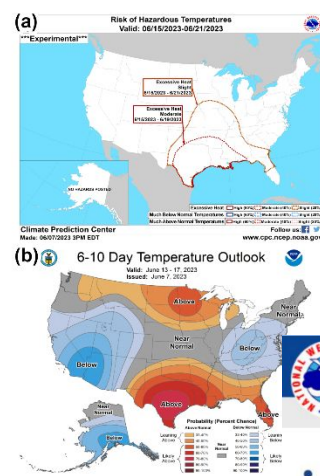
Increasing Chances of Excessive Heat over parts of the Southern Plains and Mississippi Valley Next Week
 Issued June 7, 2023
 Above normal temperatures and excessive heat expected next week into the following weekend

A heat wave is anticipated for parts of the south-central and southeastern U.S. following a period of relatively mild temperatures.

(a) There is a moderate risk of excessive heat for portions of the Southern Plains and Mississippi Valley, June 15-19, and a slight risk of excessive heat for parts of the south-central and southeastern U.S. June 15-21.

Near record-breaking temperatures are possible in some areas. Temperatures are expected to exceed 100 degrees F in the area of highest confidence. Heat index values have the potential to reach over 105 degrees F.

(b) Chances of above normal temperatures are increased over the south-central and southeast U.S. for the period of June 13-17, 2023, and excessive heat is expected to begin by at least June 14*.



Daily coordination with WPC

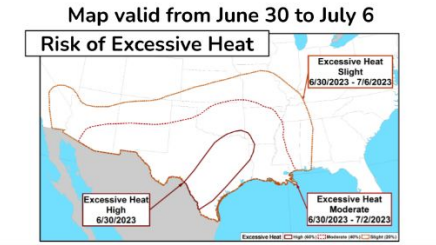
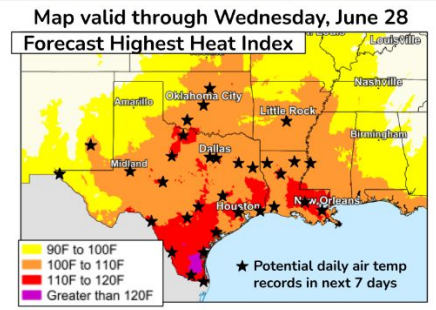
Hand off: June 15, 2023 CPC □ WPC

Key Messages for June Southern U.S. Heat Wave Updated Jun 15, 2023 2:00 PM CDT
 Hazardous heat will build across Texas and Louisiana with some record temperatures possible

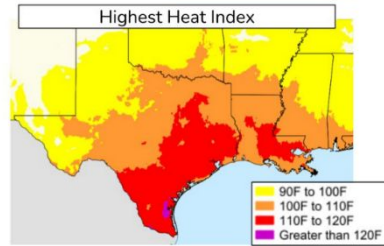
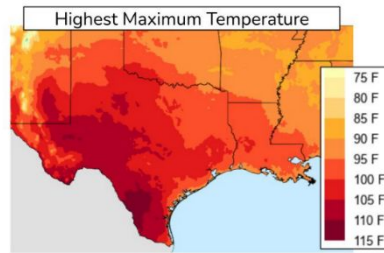
- Widespread record to near-record daytime heat with temperatures into the 100s will build across the south-central U.S. Heat indices may soar as high as 120F in some places. A few monthly (June) heat records may be broken.
- Heat Advisories and Warnings are currently in effect for a large portion of Texas into Louisiana. See weather.gov for more advisory and warning information.
- Repeated and lengthy exposure to heat can increase the risk of health impacts. The heat is expected to persist for a week or more in this region and there will also be a lack of overnight cooling and recovery, with daily record warm minimum temperatures possible.
- The heat wave will likely continue through at least June 24 with the core of the heat possibly shifting into western Texas over time.

Key Messages for June Southern U.S. Heat Wave Updated Jun 22, 2023 3:00 PM CDT
 Dangerous heat in much of the southern U.S.; with increased concern in south and south-central Texas

- Oppressive and persistent heat will become increasingly dangerous and potentially deadly in south and south-central Texas, especially to people repeatedly exposed for long durations. Many locations in those parts of Texas have already experienced a yearly record number of hours of dangerously high heat index readings, and the heat will continue at least into next week.
- Other parts of the southern U.S. are likely to experience dangerous heat in the next week, with potential for additional record temperatures and heat index values well in excess of 100 degrees.
- There is increasing confidence that this dangerous heat wave will continue through the beginning of the July 4th holiday week, with periods of excessive heat expanding from Texas into surrounding states.



Maps valid through Wednesday, June 21



National Oceanic and Atmospheric Administration
 For more information go to: www.wpc.ncep.noaa.gov, www.cpc.ncep.noaa.gov and www.weather.gov
 Weather Prediction Center & Climate Prediction Center

First release: June 7, 2023 CPC

Next event: June 22, 2023 WPC □ CPC



“1 NWS” Key Messaging – July - August 2023

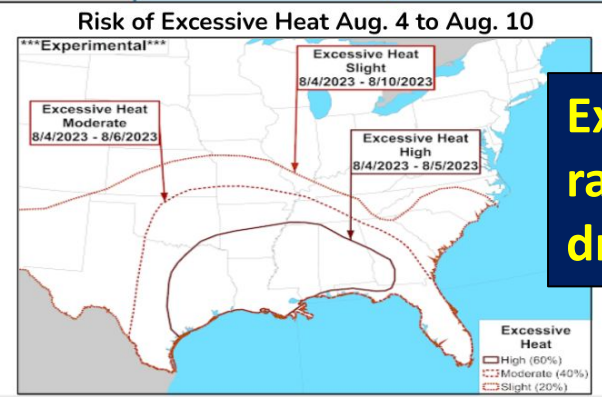
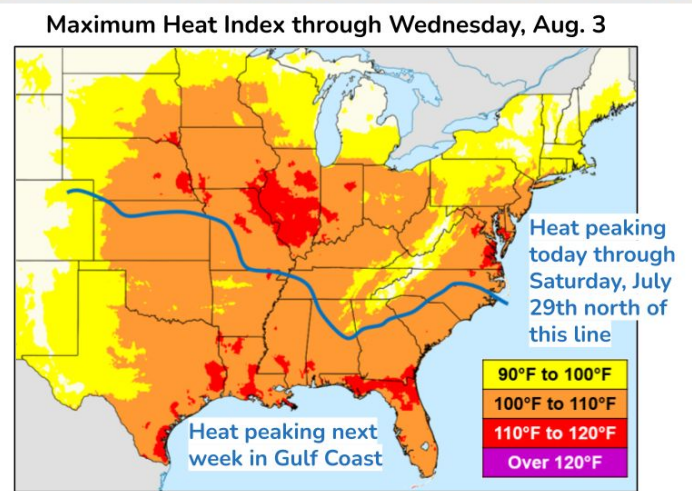


Key Messages for Late July Heat Wave

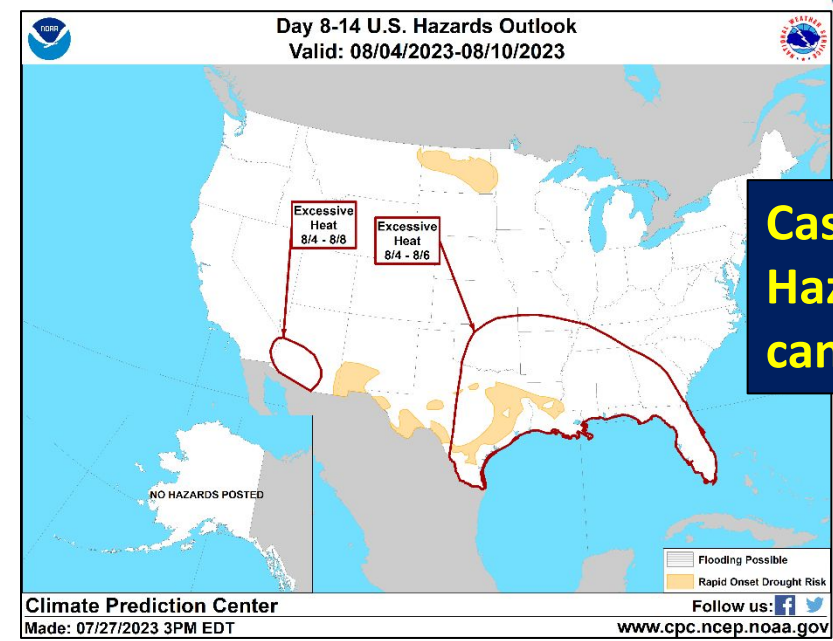
Updated Jul 27, 2023 2:30 PM EDT

Over 125 million people may experience dangerous heat index readings over 105 in the next week

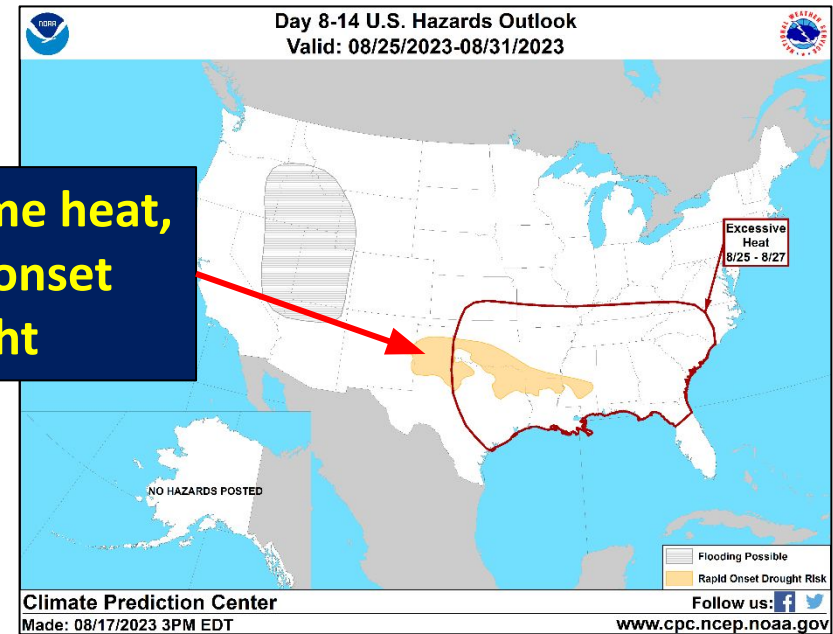
- Dangerous heat will engulf much of the eastern half of the U.S. Some locations in the Northeast and Mid-Atlantic can expect their hottest temperatures so far in 2023.
- Portions of northeast Kansas, northern and central Missouri, and southern Illinois, including St. Louis and Kansas City, may see overnight temperatures remain above 80 degrees Friday and Saturday.
- Dangerous heat peaks in the Northeast, Mid-Atlantic, and Midwest Friday and Saturday before a cold front provides these regions with a welcomed return of cooler and more comfortable temperatures Sunday and into early next week.
- Meanwhile, the heat wave will build early next week, and persist at least through next week, across the South and Gulf Coast. Areas at most risk include Coastal and East Texas, Louisiana, Mississippi, southern Alabama, and the Florida Panhandle. Expect numerous record warm nighttime lows and sultry heat index values during the day. It is essential to have ways to cool down and limit your heat exposure.



Extreme heat, rapid onset drought



Cascading Hazards can occur



Key Message Availability

KMs are released on X and Facebook as well as on the CPC website

Key Messages are also released on X and Facebook for greater uptake

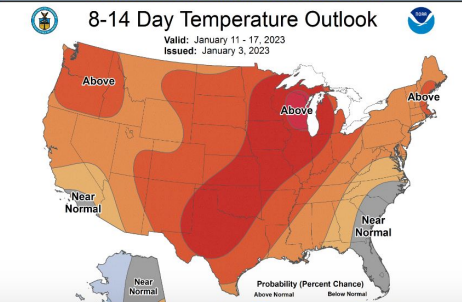
Climate News

- **Hazardous Winds, Snow, and Rain Forecast to Continue over the West Coast, Possibly Exacerbating Flooding Risk**
- **La Niña is expected to continue into the winter, with equal chances of La Niña and ENSO-neutral during January-March 2023. In February-April 2023, there is a 71% chance of ENSO-neutral (08 Dec 2022)**
- **NOAA Issues Winter Outlook (20 Oct 2022)**
- **47th Climate Diagnostics and Prediction Workshop Announcement (15 Apr 2022)**

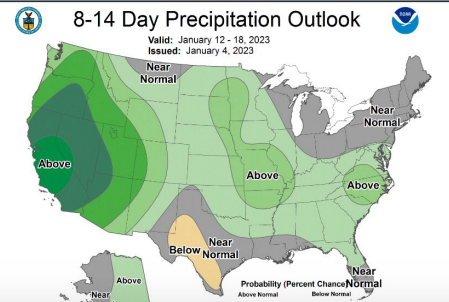
Click on product title to go to product page. Move cursor over product parameter name to display the graphic -- click to enlarge. Links to these same products are also available below.

6-10 Day Outlook (Interactive) Temperature Precipitation	One Month Outlook (Interactive) Temperature Precipitation
8-14 Day Outlook (Interactive) Temperature Precipitation	Three Month Outlook (Interactive) Temperature Precipitation
Week 3-4 Outlooks Temperature Exp. Precipitation	8-14 Day U.S. Hazards Outlook Composite Probabilistic: Temp Precip Snow Wind
U.S. Drought Information Monitor Monthly Outlook Seasonal Outlook	Global Tropics Hazards Outlook Weeks 2 and 3

8-14 Day Temperature Outlook
Valid: January 11 - 17, 2023
Issued: January 3, 2023




8-14 Day Precipitation Outlook
Valid: January 12 - 18, 2023
Issued: January 4, 2023



Key Messages are provided on the CPC Home Page under "Climate News" (when active) Any updates and the date of the update are also noted under "Climate News"

NWS Climate Prediction Center
5,873 Tweets



NWS Climate Prediction Center
@NWSCPC

Official Twitter account for the details: weather.gov/twitter

College Park, MD

382 Following 30.8K Followers

Not followed by anyone you're following

NOAA NWS Climate Prediction Center
31K followers • 3 following

Posts About Photos Videos

Intro

Official Facebook Page for the National Weather Service Climate Prediction Center. Details: weather.gov/wrn/winter_safety #WeatherReady #ClimateSmart

NOAA NWS Climate Prediction Center
5d

Are you #WeatherReady for the Winter? Check out our latest weather safety graphics, videos, social media posts, and more at: weather.gov/wrn/winter_safety #WeatherReady #ClimateSmart

cpc.ncep.noaa.gov
@NWSCPC
facebook.com/NWSCPC/



Feedback, Coordination, Process and Audience



- ✓ CPC KMs have received positive feedback overall for clear and helpful messaging
- ✓ KM related products have been used and shared by other federal, state and local level government, WFOs, local meteorologists and have appeared in major media outlet platforms (TV, social media, web, print)
- ✓ Improved coordination and collaboration with NWS regions, national centers (WPC, NWC, SPC, *etc.*)

Challenges Remain:

1. How best to optimize resources and maximize efficiency of the KM product desk and other IDSS related tasks that are steadily increasing
2. KM release timing for maximized usage by the NWS field at required times
3. Additional objective criteria could aid process, but not as easy as it would first appear
4. Continued difficulties in matching content/language of product that reaches many types of audiences



Thank you for your time and attention
Jon.Gottschalck@noaa.gov