NOAA Climate Science & Services
Monthly Climate Update

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March 2019 Global Temperature

Global: +1.91°F (+1.06°C) vs. 20th century average
Land: +3.46°F (+1.92°C) | Ocean: +1.31°F (+0.73°C)

- Spain: warmest March afternoon temperatures of the 21st century
- Surface-to-25K feet: 3rd or 5th warmest (since 1979), depending on dataset.

- Oceania “continent” 2nd warmest March on record
  - Australia: warmest March on Record / New Zealand 2nd warmest
- Cyclone Idai, Mozambique, major humanitarian disaster
Contiguous U.S. March 2019

Temperature: 40.7°F, 0.8°F below 20th century average, “near average”
Precipitation: 2.20”, 0.31” below 20th century average, “drier than average”

- Cool to near normal conditions across much of the CONUS; significant to record cold within Columbia River valley
- Cold records outpaced warm records by ~2.5 to 1.
- Alaska: record warm by a very large margin

- Major-to-historic flood/storm event over the central and northern plains and into the Upper Midwest
- Four states (CO, NE, UT, NV) had a March among their 10 wettest; two states (MT, WA) among their 10 driest
- Quite dry in NW; relatively dry east of Appalachians

Temperature Percentiles March 2019
Period: 1895-2019 (125 years)

Precipitation Percentiles March 2019
Period: 1895-2019 (125 years)
Alaska: March 2019

Temperature: 26.7°F, +15.9°F, warmest March on record by 3.7°F

- Previous statewide record: 23.0°F, March 1965
- All-time March Records: Kotzebue (41°F), Sitka (67°F), and Yakutat (60°F)
- Earliest 70°F recorded: March 19 at Klawock. (Previous record: March 31, 2016, Klawock)

Thanks to: Alaska Center for Climate Assessment and Policy
3.7% of Contiguous U.S. in Drought

- 8.2 percentage points since late Feb
- Smallest drought footprint of Drought Monitor era (2000-)
- Improvement or Eradication: West Texas → Four Corners → Great Basin → Oregon
- Degradation: Gulf and southern Atlantic Coast regions

Recently implemented:
USDM assessment of US-Affiliated Pacific Islands
Setting the stage for flooding

- Soils at or near saturation and frozen
- Rivers and streams frozen
- Substantial snowpack

https://www.ncdc.noaa.gov/sotc
Along comes a late winter storm

- Mid-latitude cyclone rapidly intensified
- Sustained high winds
- Blizzard in the west, heavy rain in the east

March 13, 2019

https://earthobservatory.nasa.gov
Along comes a late winter storm

Watches, Warnings, Advisories Map from NOAA

Extent of flooding

• Ice jams, snowmelt, heavy rain are contributors
• Above flood stage for weeks
• Record flooding at many locations
• Damages estimated > $1B

Posted on Twitter by Omaha/Valley National Weather Service
Impacts are wide ranging

- State of Emergency declaration
- Failure of Spencer Dam due to ice damage
- 4 deaths; cattle losses; towns temporarily cut off; damage to homes, businesses, roads and fields; loss of stored grain; water quality concerns
- Full impact yet to be realized
• Sea surface temperatures
  – Above normal SSTs are present across most of the equatorial Pacific
  – SSTs are more than 1°C above normal from the central to the eastern equatorial Pacific
  – Away from the equator, above normal SSTs are near Alaska and in the Gulf of Mexico and North Atlantic

• ENSO forecast
  – El Niño is likely to persist through summer into autumn of 2019 with a probability of 60%
  – The chances of El Niño persisting into next winter are about 50%
  – A second El Niño winter into the beginning of 2020 is possible, following the winter of 2018-2019
Monthly Forecast (May)

May Average Temperature Probability

May Total Precipitation Probability
Seasonal Forecast (May-June-July)

May-Jun-Jul Average Temperature Probability

May-Jun-Jul Total Precipitation Probability
TODAY’S PRESENTATION:

• [http://www.ncdc.noaa.gov/sotc/briefings](http://www.ncdc.noaa.gov/sotc/briefings)

NOAA’s National Centers for Environmental Information:
[www.ncdc.noaa.gov](http://www.ncdc.noaa.gov)


NOAA’s Climate Prediction Center: [www.cpc.ncep.noaa.gov](http://www.cpc.ncep.noaa.gov)


Climate Portal: [www.climate.gov](http://www.climate.gov)

Nebraska State Climate Office: [https://nsco.unl.edu](https://nsco.unl.edu)

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