



Navajo Nation Drought Impacts

NAVAJO NATION

Division of Natural Resources

Department of Water Resources

Nov 10, 2020

NAVAJO NATION – WATER MONITORING INVENTORY (WMI) SECTION

OBJECTIVES

- Provide technical support for litigation and negotiation of Navajo Nation water rights
- Monitor, analyze and document water resources on the Navajo Nation
- Provide historical and current available data to interested individuals and entities
- Maintains water resources database

Active precipitation cans by Routine Routes

- Central: 5 precipitation cans
- Eastern: 13 precipitation cans
- Mountain: 21 precipitation cans
- Northern: 7 precipitation cans
- South: 25 precipitation cans
- Western: 14 precipitation cans

- 85 Total precipitation cans



NAVAJO NATION – 6 month SPI (gridMET)

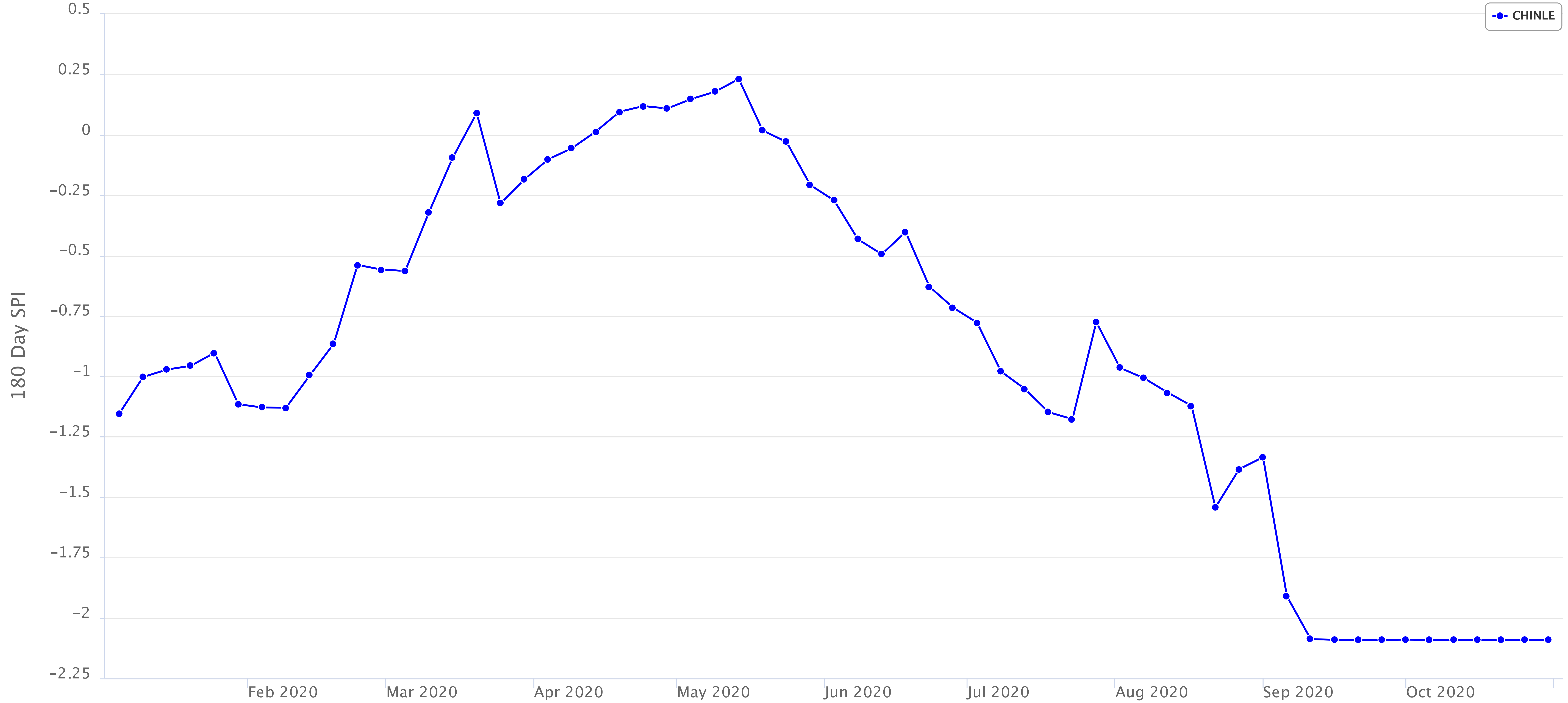
by Agencies

FROM Jan 1, 2020 – Oct 31, 2020



180 Day SPI (gridMET Drought)

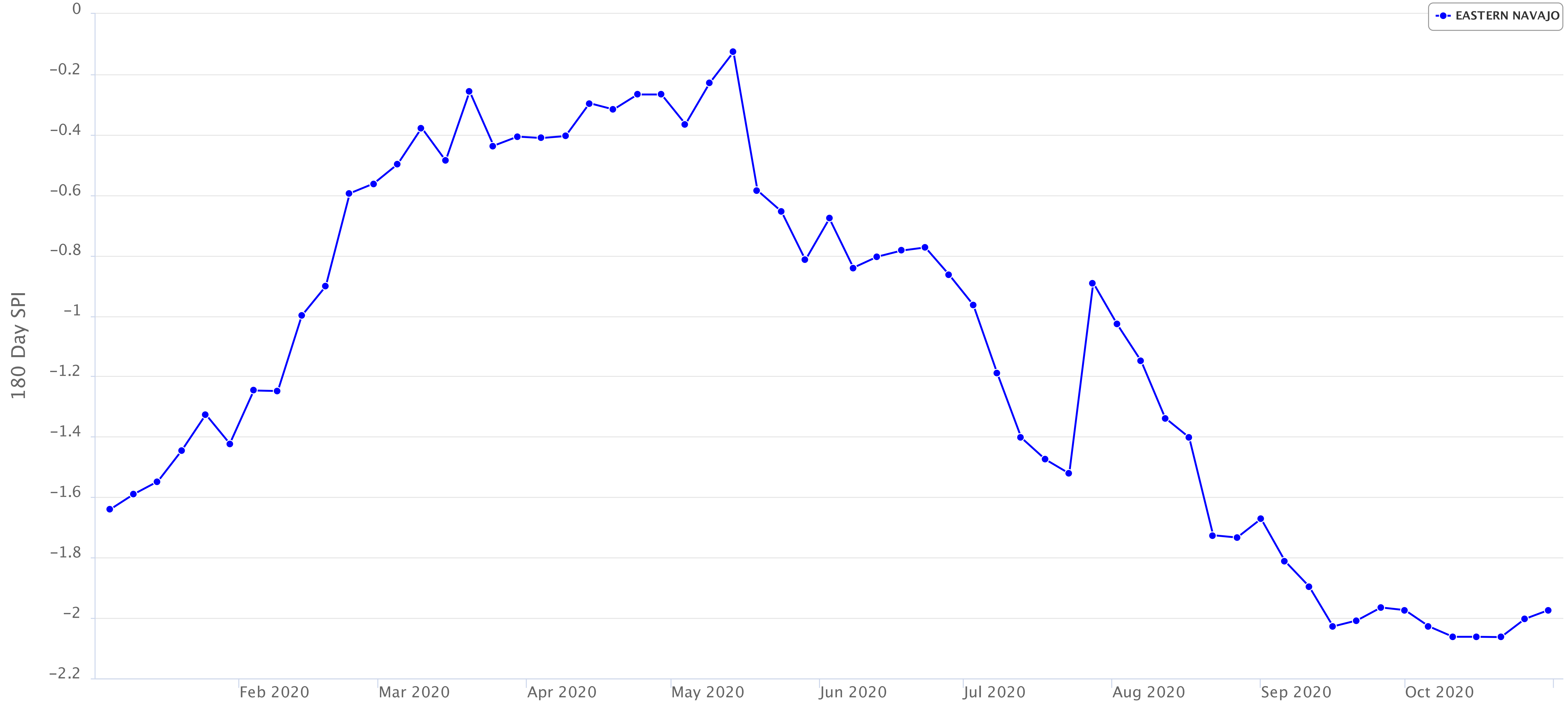
Available Data from 2020-01-01 to 2020-10-31





180 Day SPI (gridMET Drought)

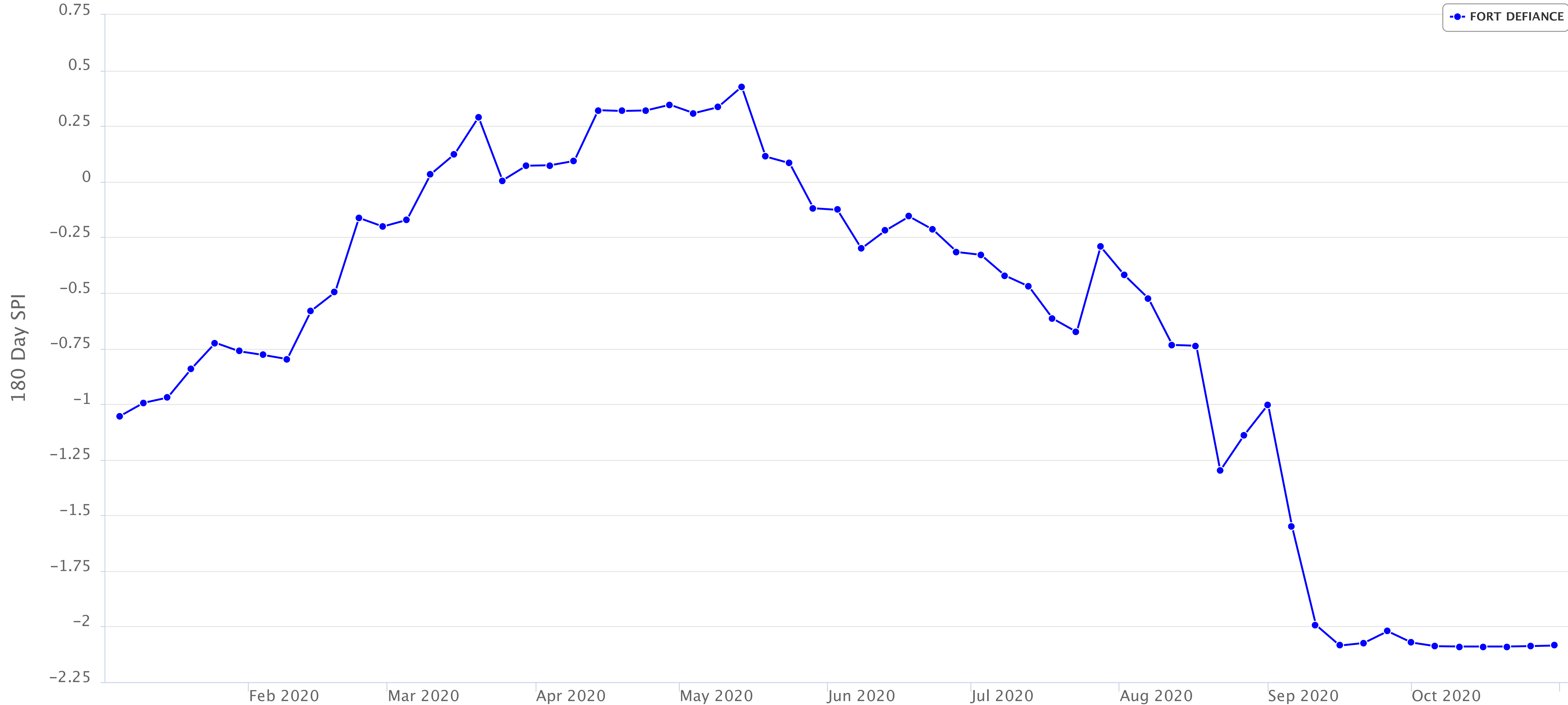
Available Data from 2020-01-01 to 2020-10-31





180 Day SPI (gridMET Drought)

Available Data from 2020-01-01 to 2020-10-31



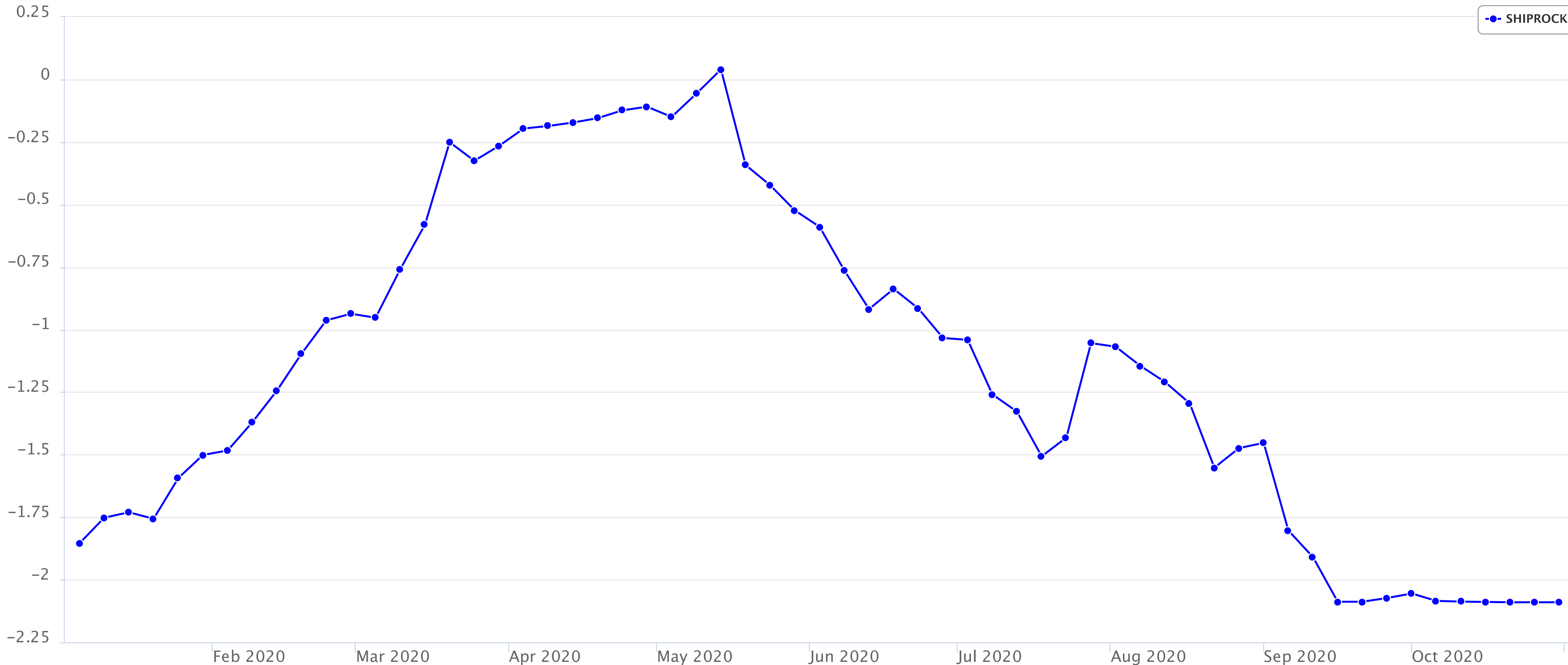


180 Day SPI (gridMET Drought)

Available Data from 2020-01-01 to 2020-10-31

SHIPROCK

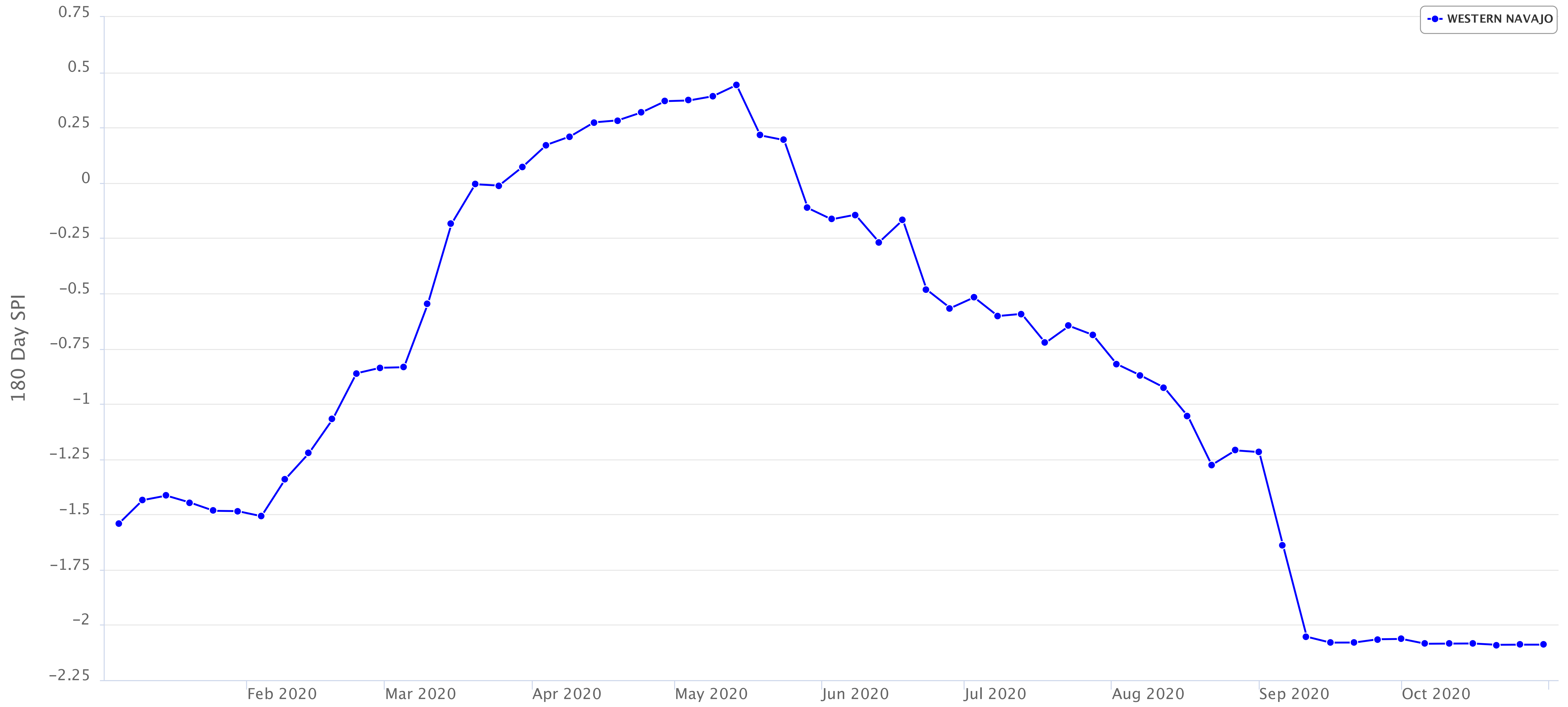
180 Day SPI





180 Day SPI (gridMET Drought)

Available Data from 2020-01-01 to 2020-10-31





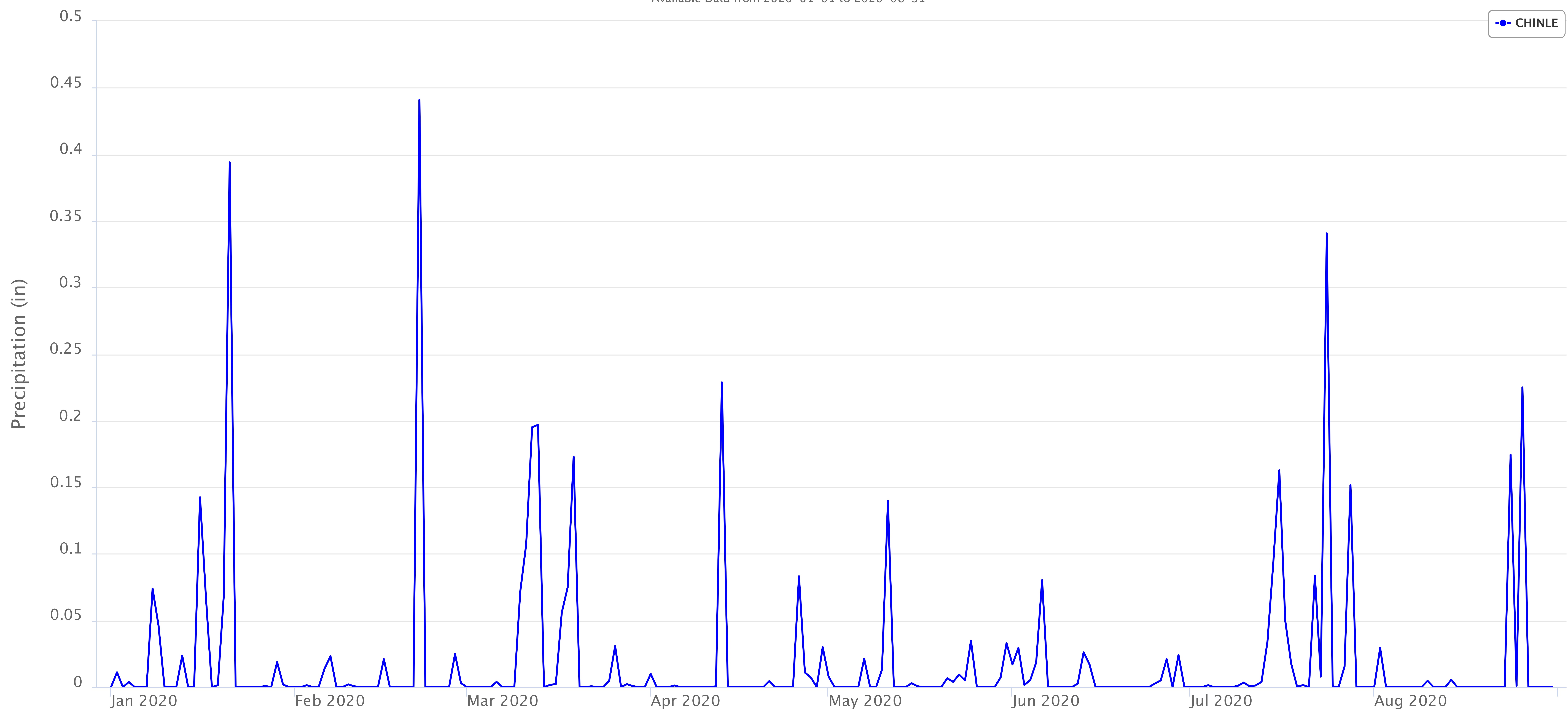
NAVAJO NATION – Precipitation
(CHIRPs) by Agencies
FROM Jan 1, 2020 - Oct 31, 2020



Precipitation (CHIRPS)

Available Data from 2020-01-01 to 2020-08-31

CHINLE

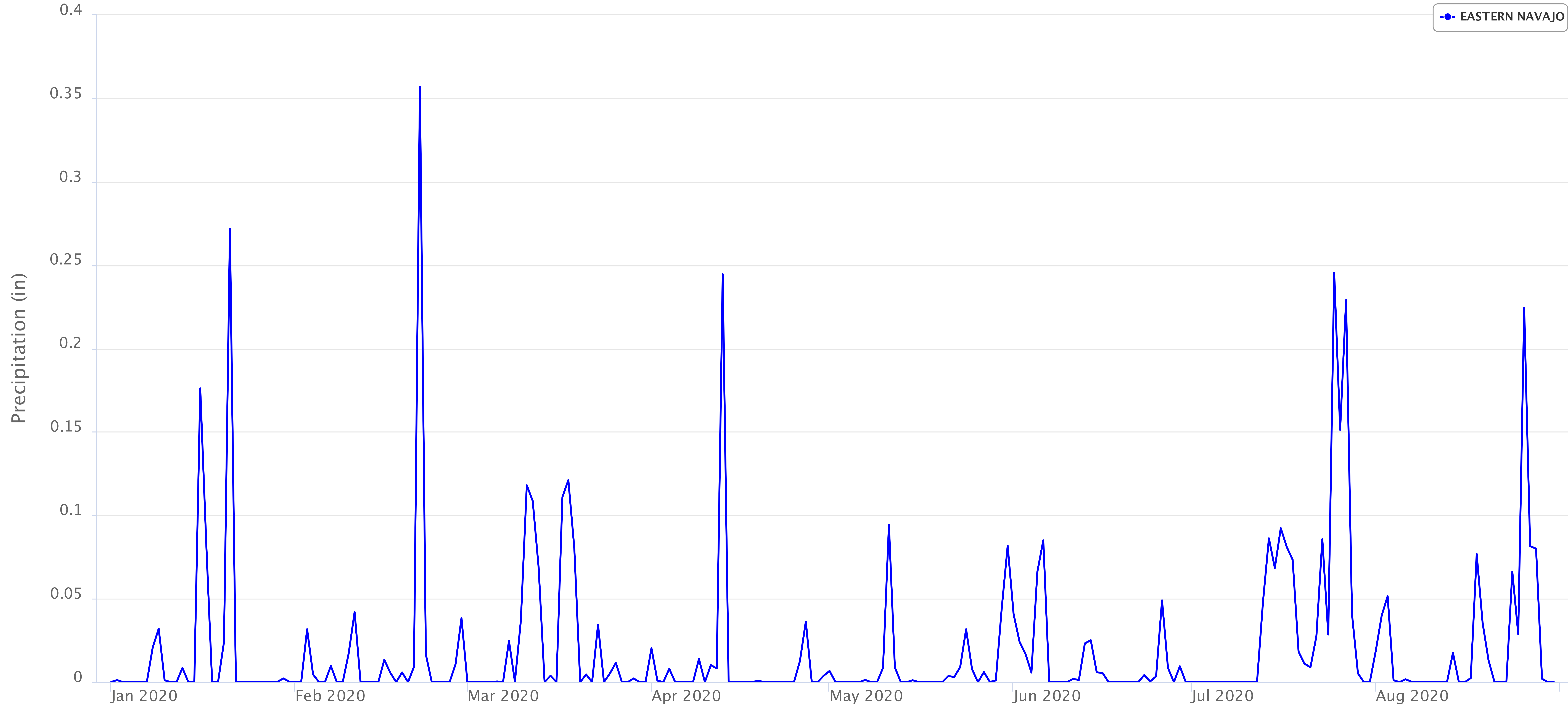




Precipitation (CHIRPS)

Available Data from 2020-01-01 to 2020-08-31

● EASTERN NAVAJO

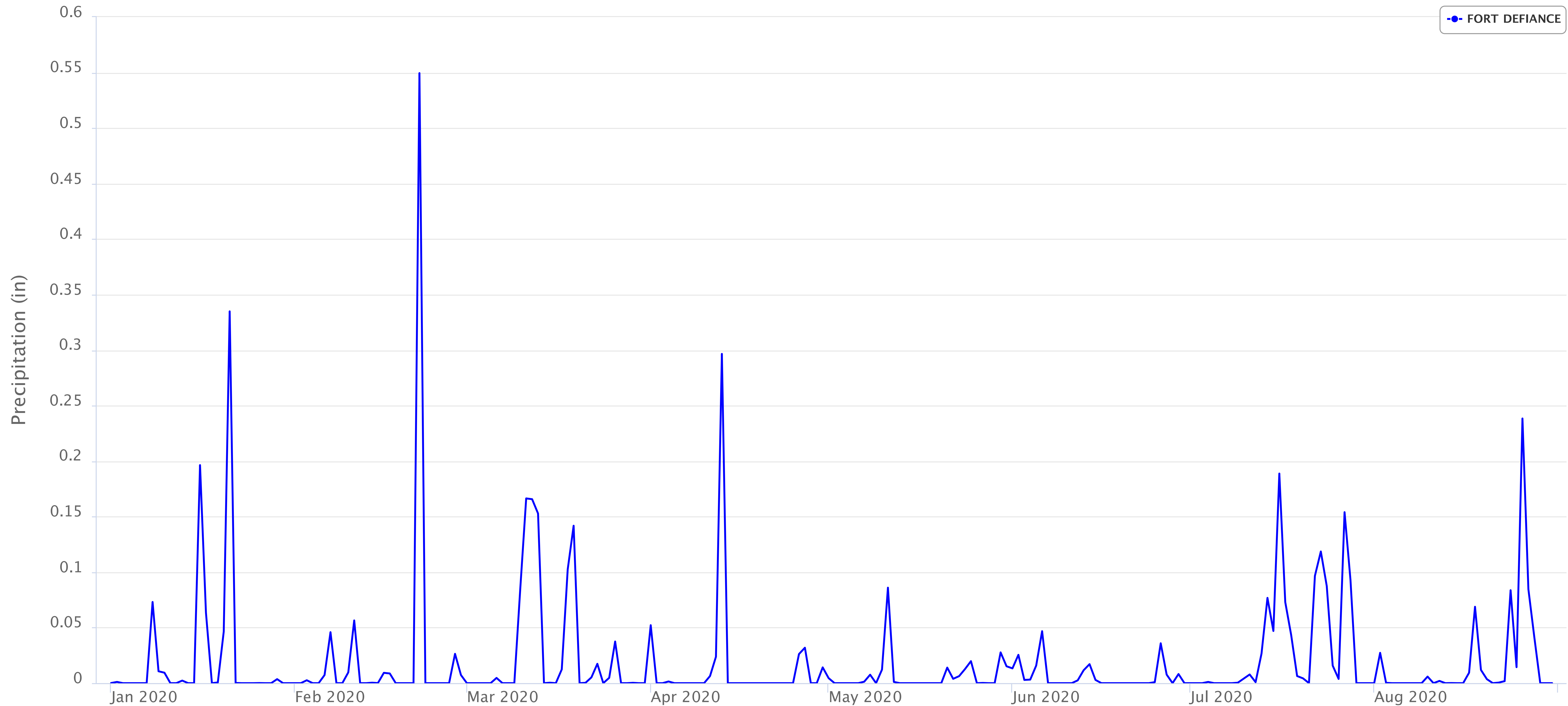




Precipitation (CHIRPS)

Available Data from 2020-01-01 to 2020-08-31

● FORT DEFIANCE

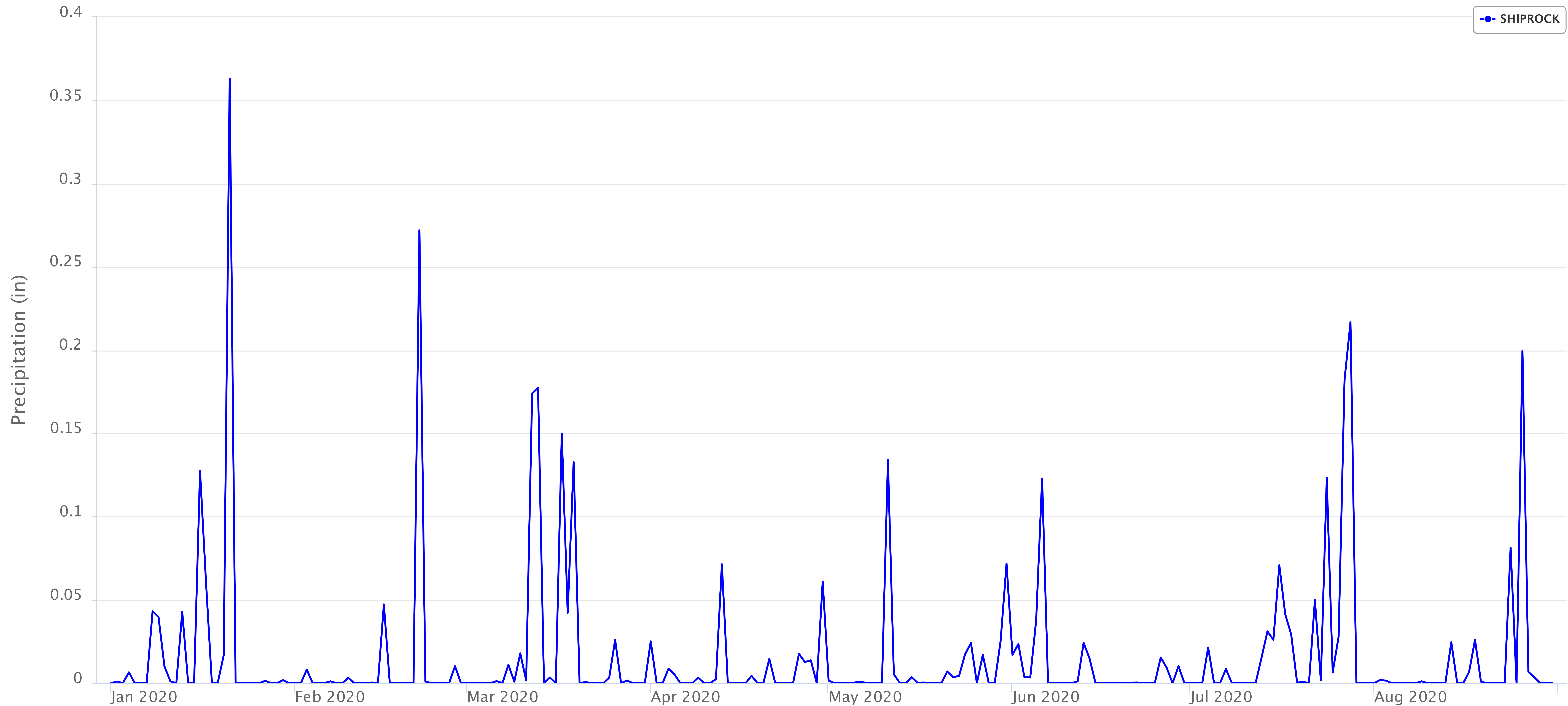




Precipitation (CHIRPS)

Available Data from 2020-01-01 to 2020-08-31

SHIPROCK

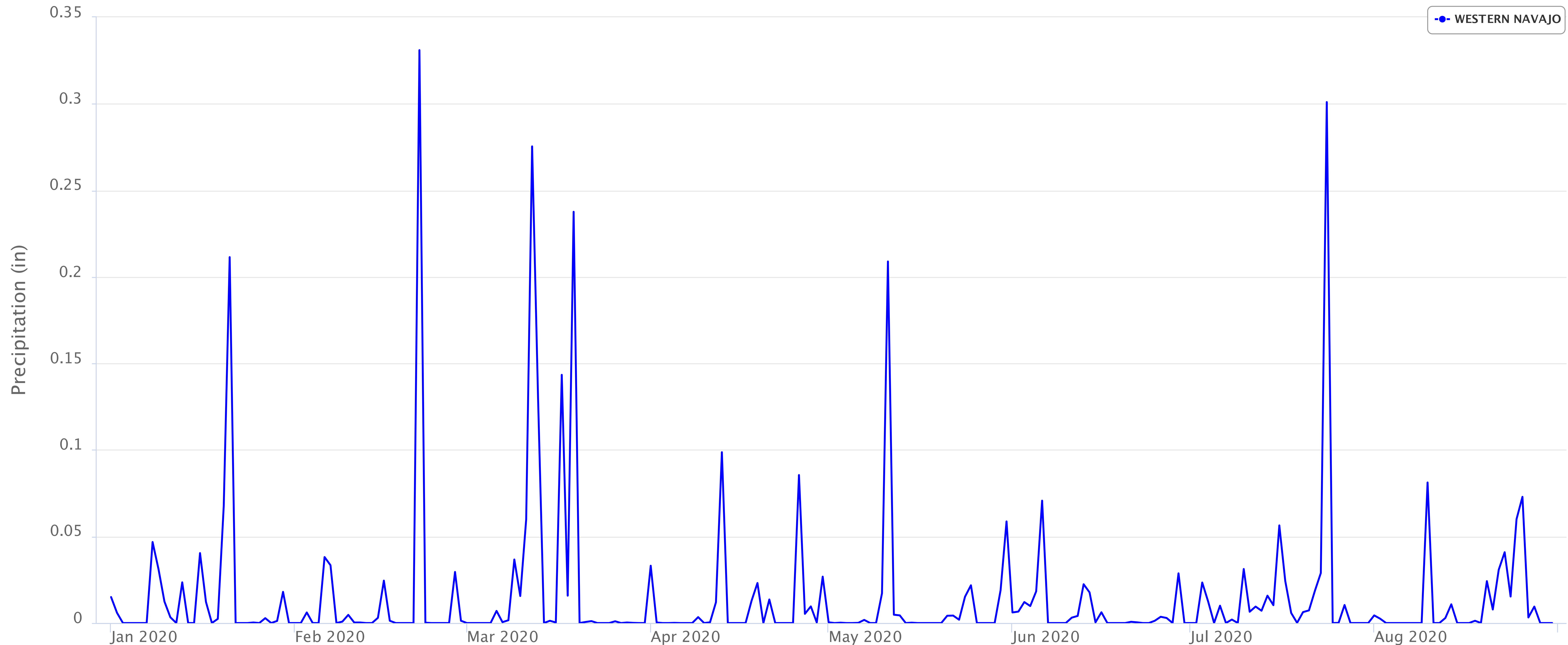




Precipitation(CHIRPS)

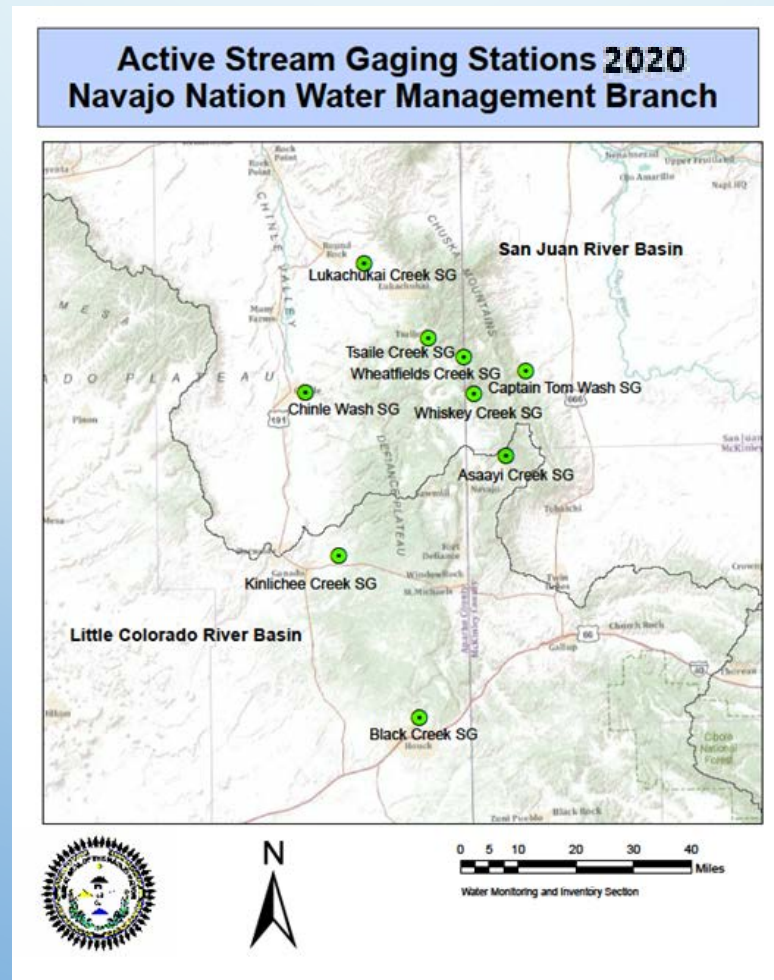
Available Data from 2020-01-01 to 2020-08-31

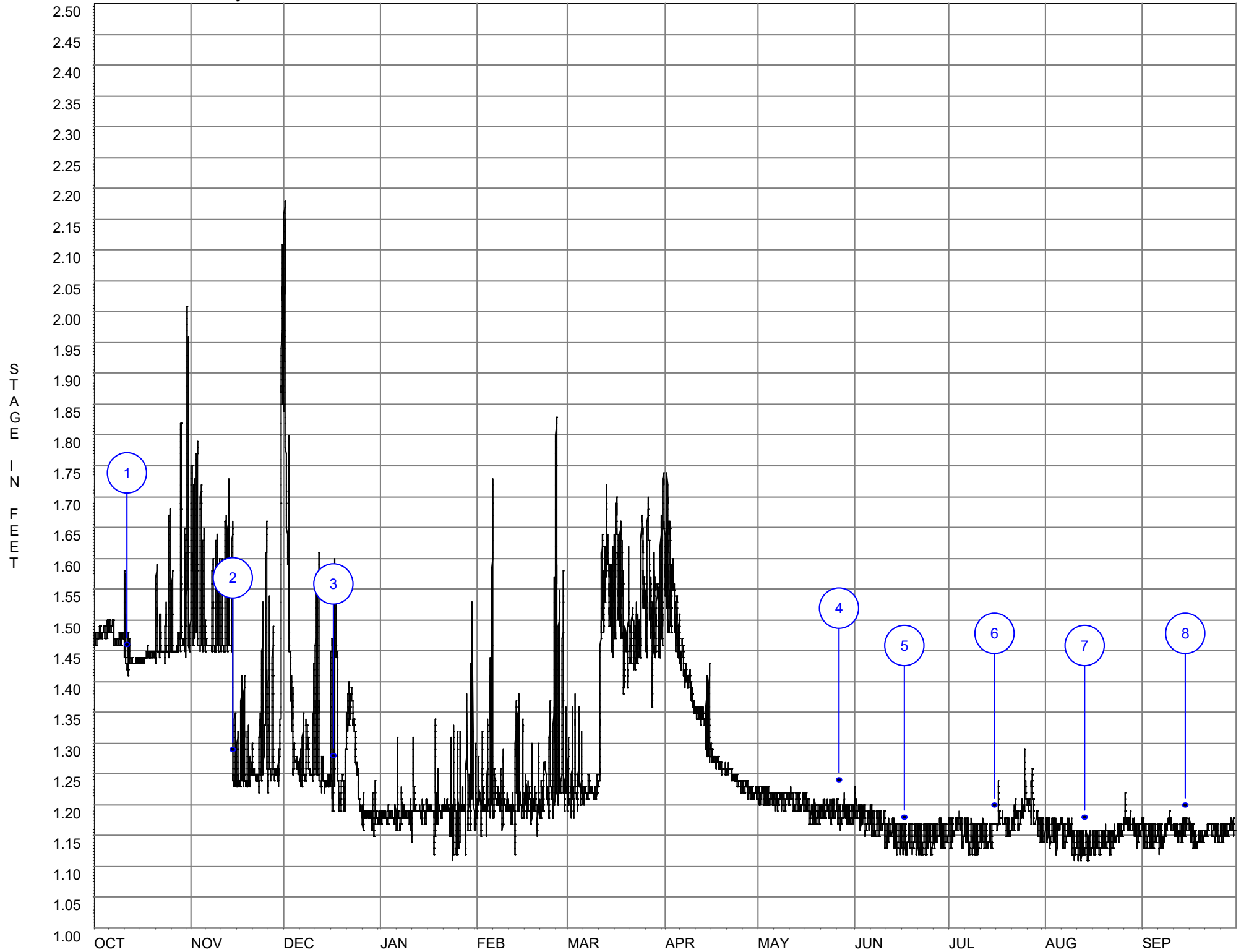
WESTERN NAVAJO





NAVAJO NATION – STREAM GAGES (WY2020 - Provisional Data)

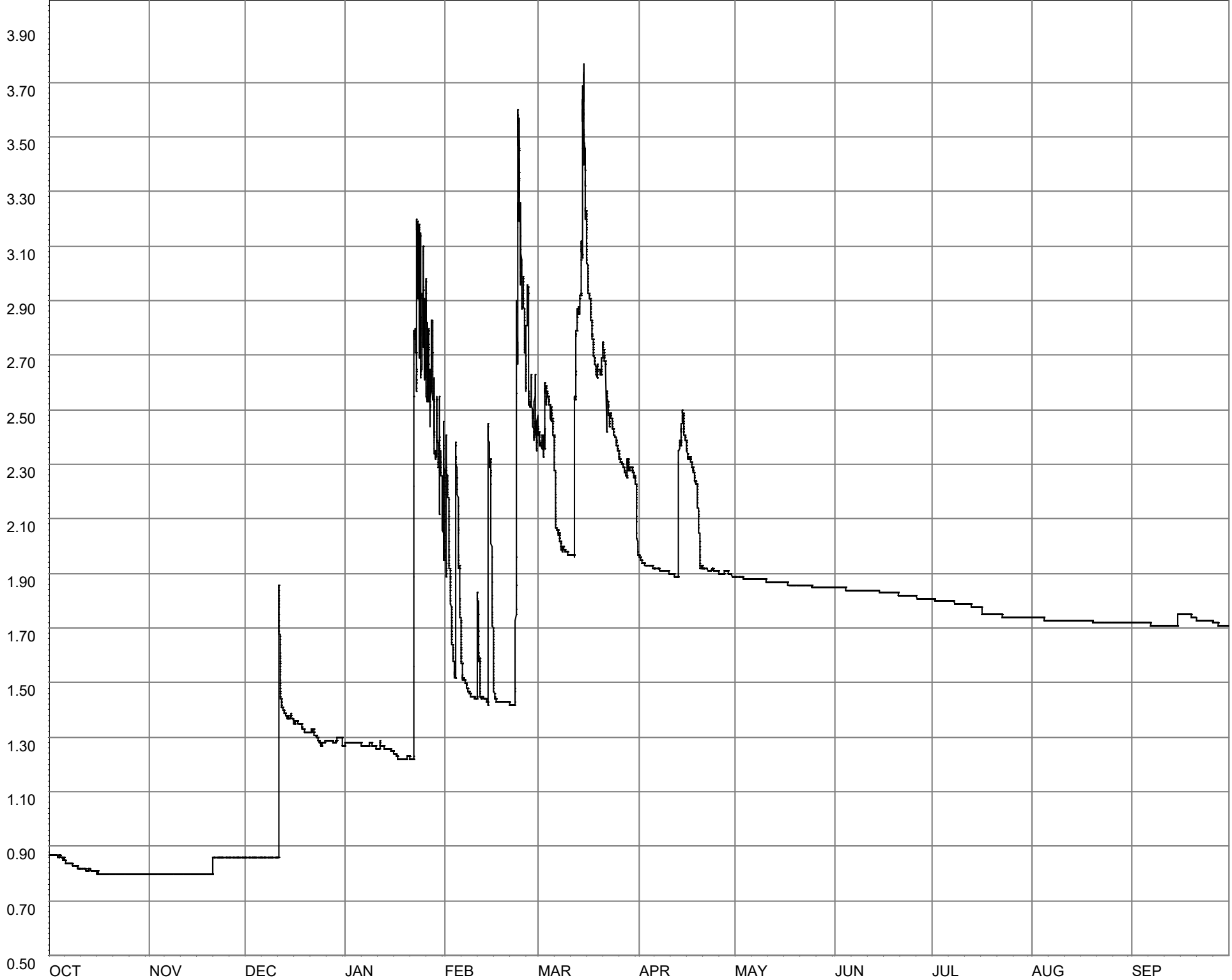




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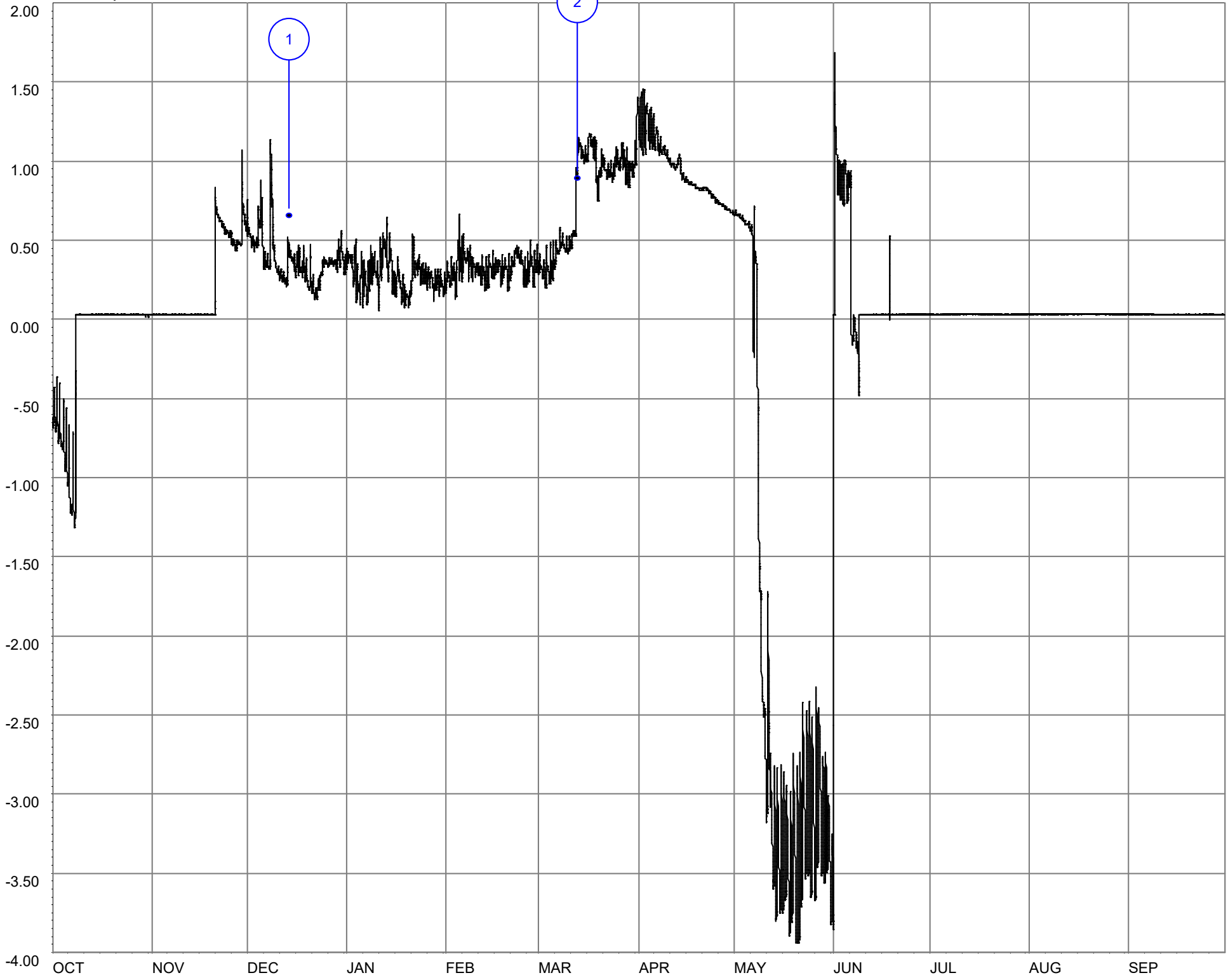
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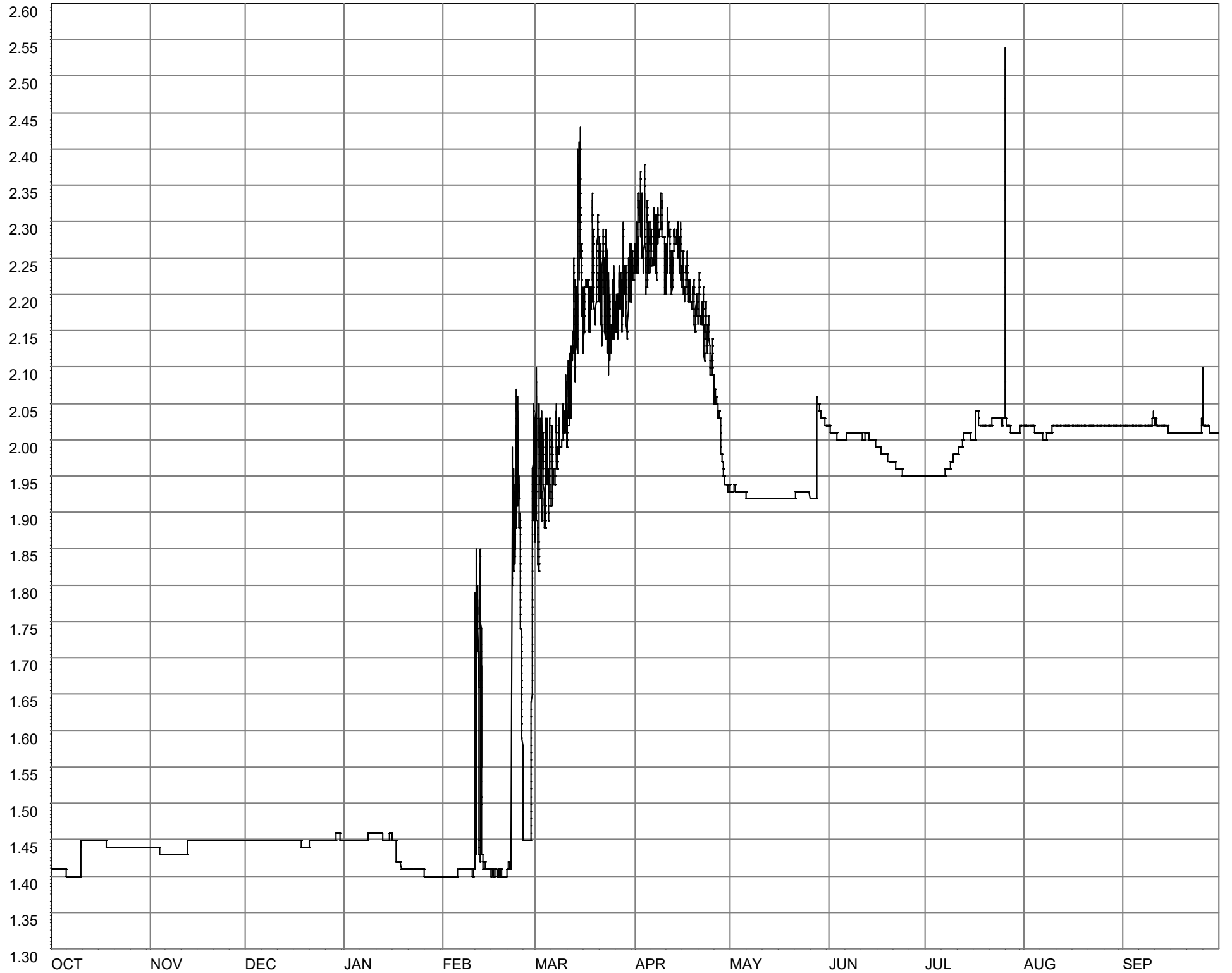
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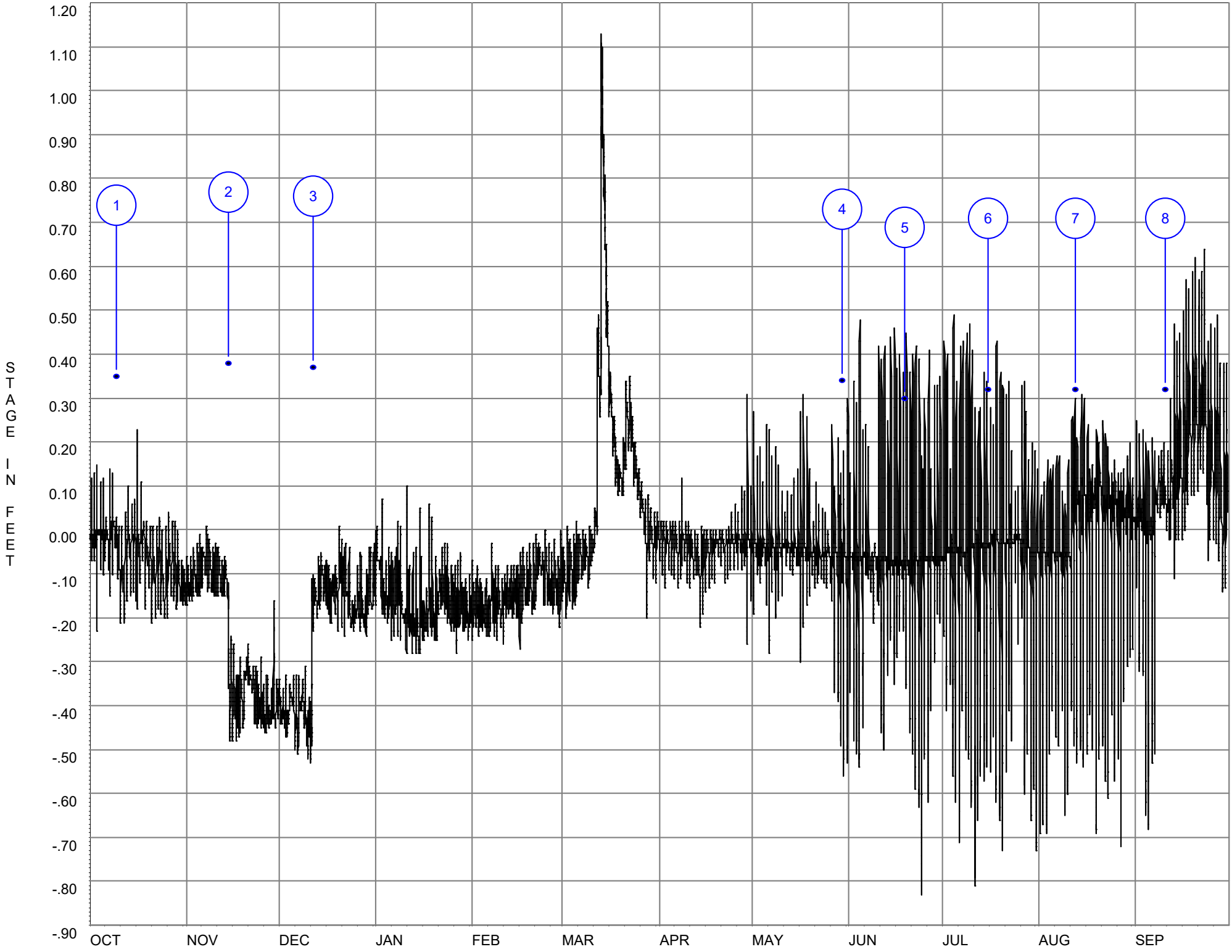


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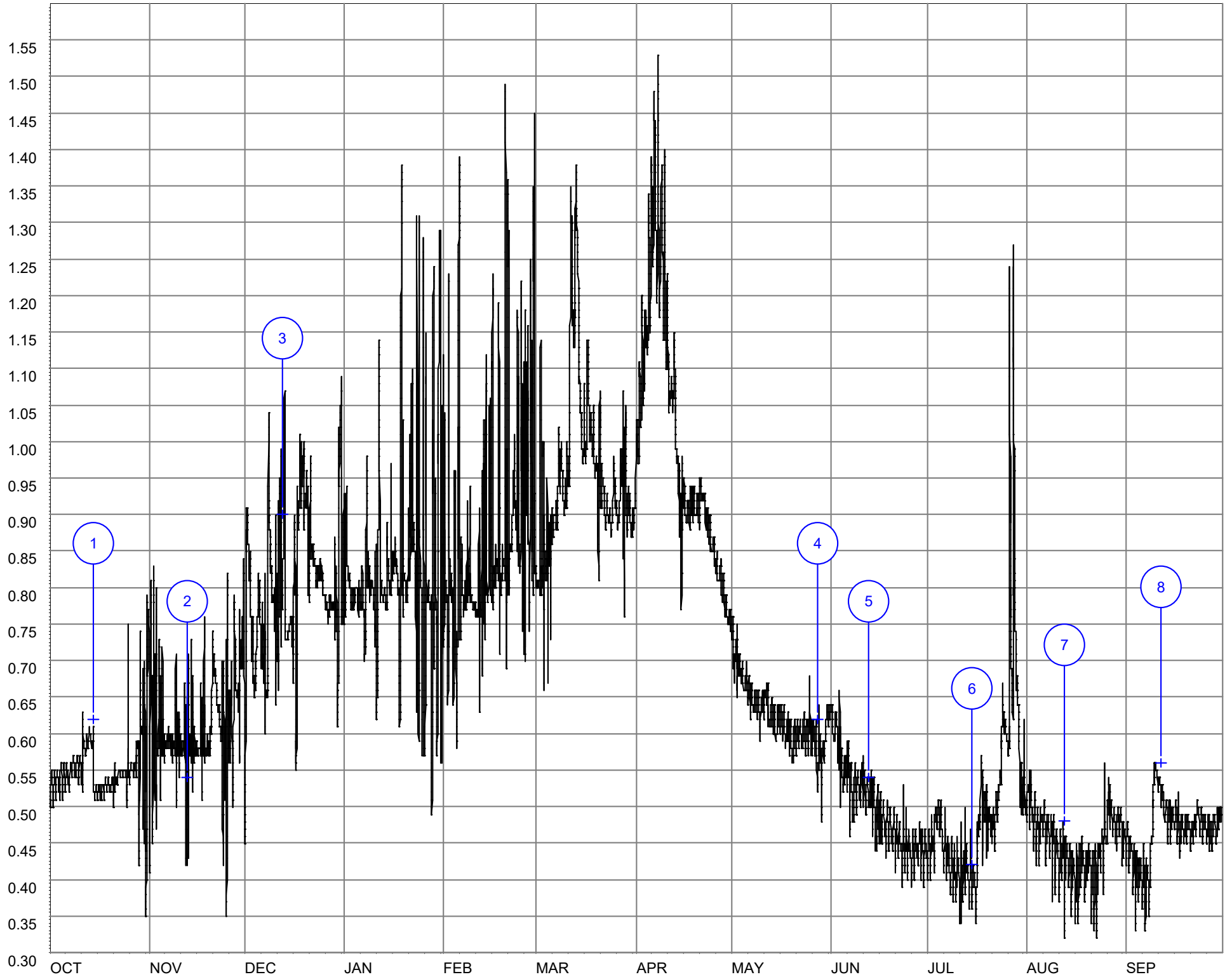
02 Lukachukai Creek 2020



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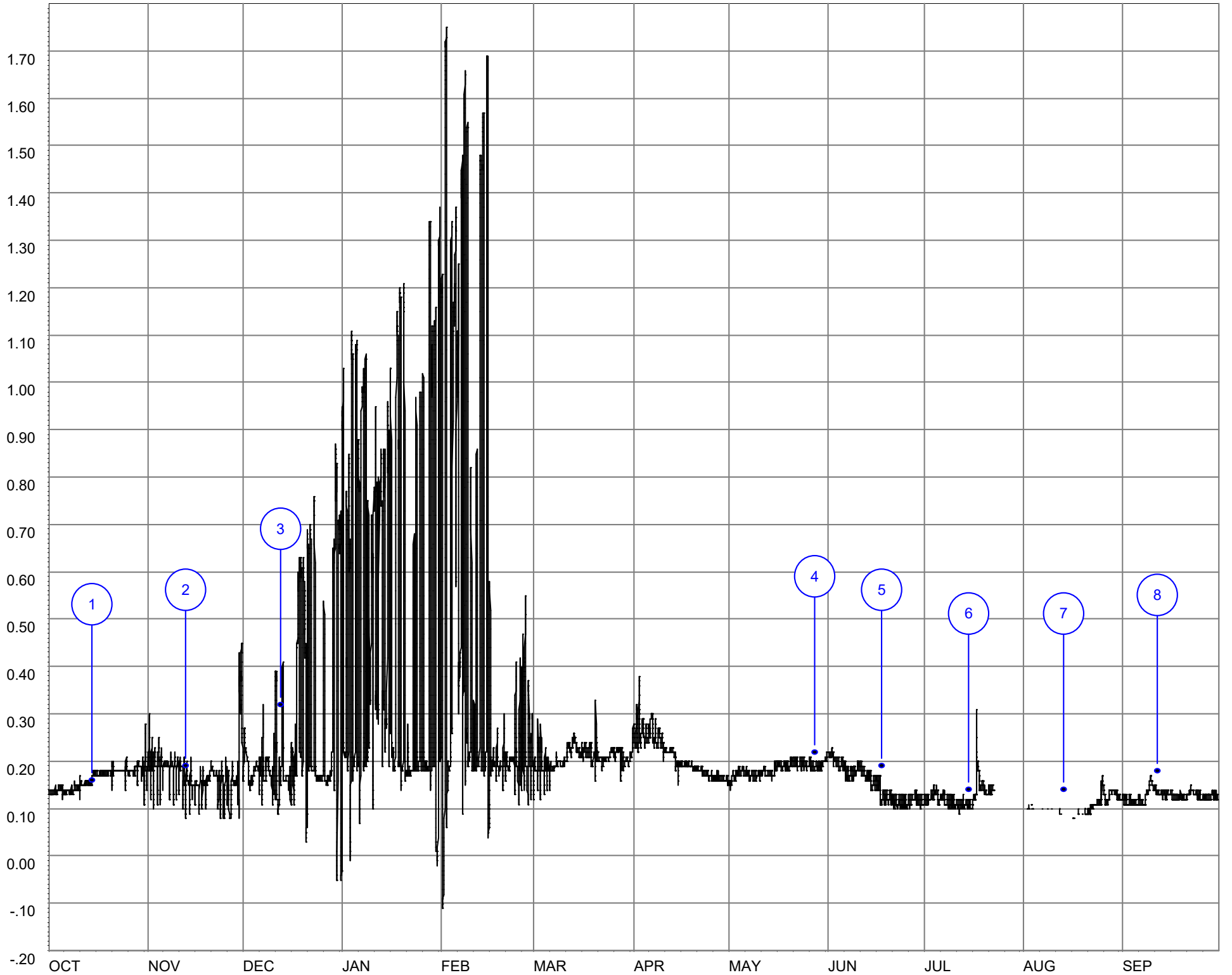


WHEAT8 WHEATFIELDS CREEK 2020

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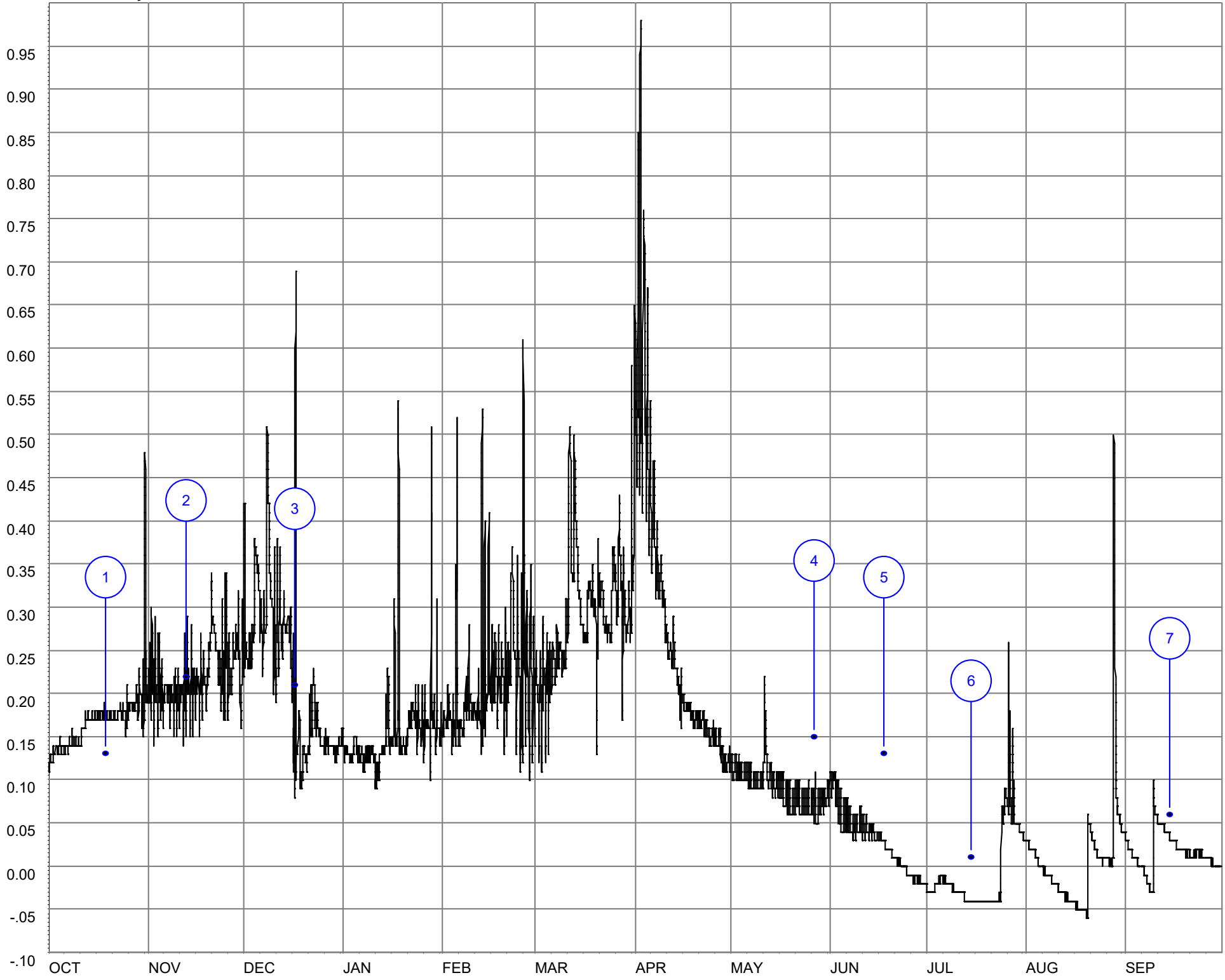
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DROUGHT VULNERABILITY

NAVAJO WATER USERS VULNERABLE TO DROUGHT:

- COVID-19 PANDEMIC
- DOMESTIC WATER HAULERS
- PUBLIC DRINKING SYSTEMS-NTUA, BIA, PRIVATE
- IRRIGATORS AND DRYLAND FARMERS
- LIVESTOCK OWNERS, RANCHERS
- WILDLIFE, FORESTRY (FORESTLANDS), AND RECREATION



NAVAJO NATION
DROUGHT CONTINGENCY PLAN
2003



PREPARED BY:

NAVAJO NATION
DEPARTMENT OF WATER RESOURCES

IN COOPERATION WITH:
U.S. Bureau of Reclamation
U.S. Bureau of Indian Affairs
Navajo Nation Department of Emergency Management

The objectives of the Navajo Nation Drought Contingency Plan 2003 are to:

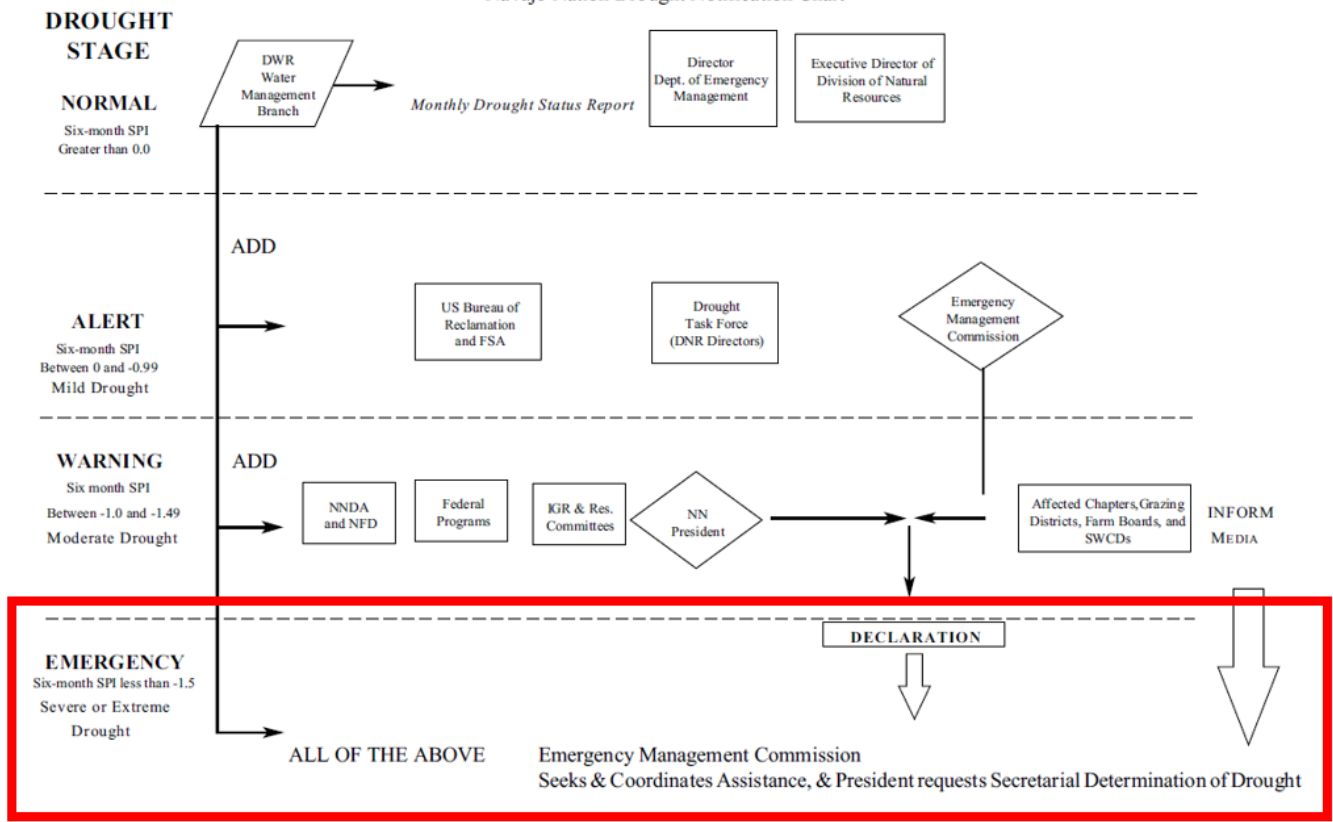
- Provide an effective and systematic means of assessing drought conditions
- Develop mitigation actions and programs to reduce risk in advance of drought
- Develop response options that minimize hardships during drought

Specific objectives of the drought plan are to:

- Collect, analyze and disseminate drought related information in a timely manner
- Establish criteria for declaring drought and triggering mitigation and response activities
- Describe the organization structure and the responsibilities of programs with respect to drought
- Prepare and inventory of state and federal programs and provide action recommendations
- Identify drought prone areas and vulnerable sectors
- Identify mitigation actions
- Provide a mechanism to ensure a timely and accurate assessment of drought impacts



Figure 6.1
Navajo Nation Drought Notification Chart



Source: Navajo Nation, Drought Contingency Plan, 2003, Navajo Nation Department of Water Resources, Page 67.



Recommended Responses During **Drought Emergency** (Severe or Extreme Drought SPI less than -1.50)

Source: Navajo Nation, Drought Contingency Plan, 2003, Navajo Nation Department of Water Resources, Drought Response, Table 6.4.

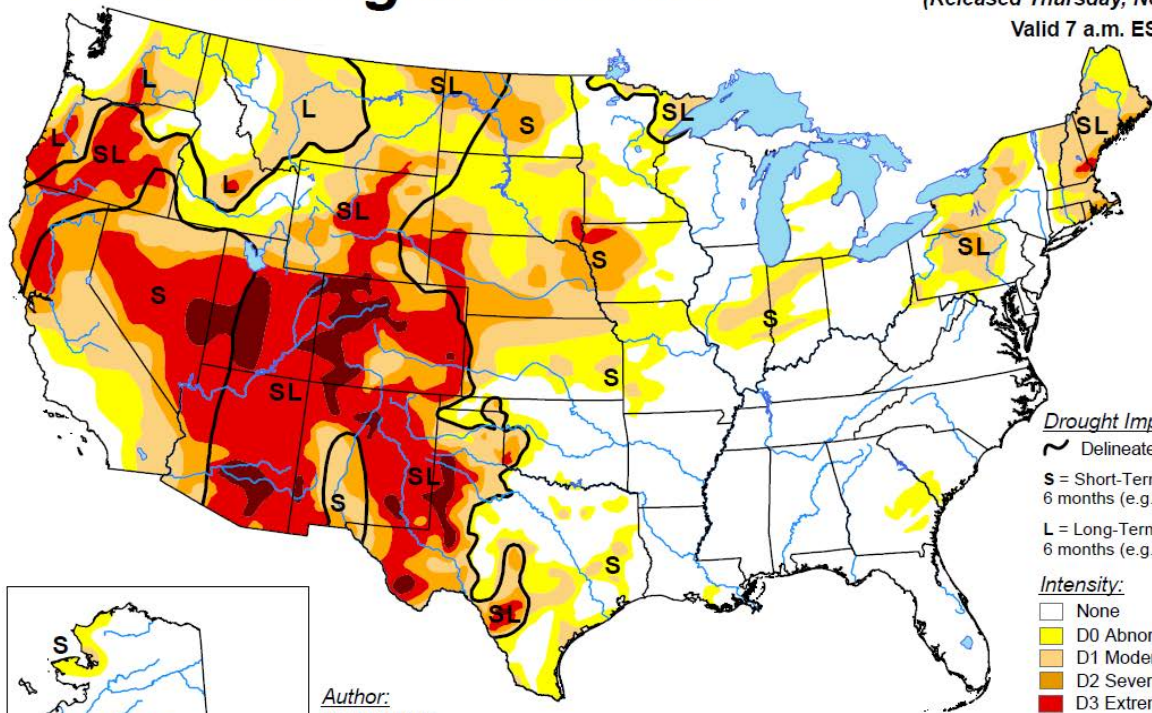
(Severe or Extreme Drought, SPI less than -1.50)

Agency	Recommended Responses
Navajo Nation President	<ul style="list-style-type: none"> Based on recommendation of NDEM and EMC, declare a drought emergency Send letters to Secretaries for drought determination and assistance Support resolutions for supplemental drought assistance funding Direct the Drought Task Force to address impacts with programmatic funds
Drought Task Force (Division Directors)	Divisions may use programmatic funds if available to mitigate drought impacts
Emergency Management Commission (EMC)	<ul style="list-style-type: none"> Meet every other week or as need to review recently completed and planned work, and evaluate current monitoring data Recommend to, and concur with, the President on a Drought Emergency Declaration Seek and Coordinate assistance
Chapters	<ul style="list-style-type: none"> Implement Emergency Drought Contingency Plans Affected Chapters submit drought assistance resolutions to NDEM or amend previous resolutions recognizing emergency conditions Affected Chapters update NDWR, NNDA, and NDEM initial incident assessment drought forms and submit to appropriate departments Coordinate and administer local drought assistance (hauling, feed etc.) Respond to specific local needs if resources are available Assist with public service announcements
Navajo Tribal Utility Authority	Initiate Emergency Water Plans and possible rationing on affected systems
Grazing Districts	<ul style="list-style-type: none"> Affected Grazing Districts evaluate their rangeland Assist with livestock reduction Assist NNDA and FSA with USDA applications and assistance
Farm Boards	<ul style="list-style-type: none"> Affected Farm Boards evaluate their soil moisture and water supply Assist NNDA and FSA with USDA applications and assistance
Soil and Water Conservation Districts	Affected SWCDs coordinate with the Grazing District and Farm Boards



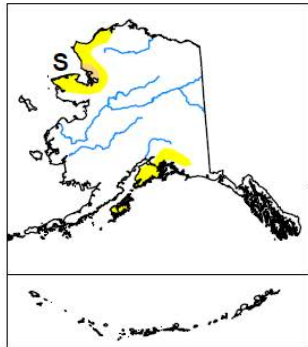
U.S. Drought Monitor

November 3, 2020
 (Released Thursday, Nov. 5, 2020)
 Valid 7 a.m. EST

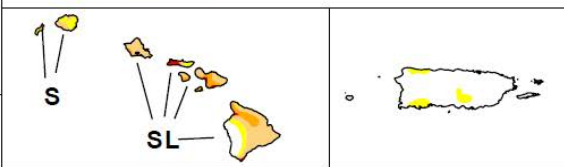


Drought Impact Types:
 ~ Delineates dominant impacts
 S = Short-Term, typically less than 6 months (e.g. agriculture, grasslands)
 L = Long-Term, typically greater than 6 months (e.g. hydrology, ecology)

Intensity:
 None
 D0 Abnormally Dry
 D1 Moderate Drought
 D2 Severe Drought
 D3 Extreme Drought
 D4 Exceptional Drought



Author:
 David Miskus
 NOAA/NWS/NCEP/CPC



The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. For more information on the Drought Monitor, go to <https://droughtmonitor.unl.edu/About.aspx>



droughtmonitor.unl.edu



QUESTIONS

DWR-WMB monthly Drought Reports

DWR-WMB monthly Precipitation Maps

Navajo Nation Drought Contingency Plan, 2003

www.frontiernet.net/~nndwr_wmb/

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