Long Range Forecast 2018:
Drought, Deluge, or “Normal”?
Drought Worst in “Four Corners” States

U.S. Drought Monitor

West

April 10, 2018
(Released Thursday, Apr. 12, 2018)
Valid 8 a.m. EDT

Intensity:
- Yellow: D0 Abnormally Dry
- D1 Moderate Drought
- D2 Severe Drought
- Red: D3 Extreme Drought
- Dark Red: D4 Exceptional Drought

The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.

Author:
David Miskus
NOAA/NWS/NCEP/CPC

http://droughtmonitor.unl.edu/
Precipitation % of "Normal" Past 30 Days

30-day Accumulated Prop % of Normal 17MAR2018–15APR2018

Data Source: CPC Unified (gauge-based & 0.5x0.5 deg resolution) Precipitation Analysis Climatology (1981–2010)
A Look at The Oceans
Pacific continues to warm... “Warm” water southwest of California causing problems aiding in keeping storm track north. PDO & AMO remain positive...for now.
<table>
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Pacific Decadal Oscillation Phases

- Causes Drought for Parts of Western High Plains & Southward...
- Relaxes Drought for Parts of Western High Plains & Southward
Atlantic Multi-decadal Oscillation  
Negative = Cold  Positive = Warm

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Pertaining to Drought Frequency (McCabe 2004)

Blue = Lower Frequency  Red = Higher Frequency

25% = normal drought frequency
ENSO Forecast Update!
La Niña Prevailed Fall 2017 – Winter 2018
La Niña Continues to Dissipate as Pacific Warms
Something to watch...
Warmer than average water beneath the surface...
ENSO Plumes Ensemble
Favors Neutral to Weak El Niño Development

Mid-Mar 2018 Plume of Model ENSO Predictions
Long Range Forecast:
NMME Computer Model Forecast
NMME Model Precipitation Forecast
Green = Wetter Brown = Drier White = “Average”

NMME Total Accumulated Precipitation Anomaly (inches)
Init: 00z Apr 08 2018 Valid for: May 2018
NMME Model Precipitation Forecast

Green = Wetter
Brown = Drier
White = “Average”

NMME Total Accumulated Precipitation Anomaly (inches)
Init: 00z Apr 08 2018  Valid for: Jun 2018
NMME Model Precipitation Forecast

Green = Wetter Brown = Drier  White = “Average”

NMME Total Accumulated Precipitation Anomaly (inches)
Init: 00z Apr 08 2018  Valid for: Jul 2018
NMME Model Precipitation Forecast
Green = Wetter Brown = Drier White = “Average”

NMME Total Accumulated Precipitation Anomaly (inches)
Init: 00z Apr 08 2018 Valid for: Aug 2018

TROPICALTIDBITS.COM
NMME Model Precipitation Forecast
Green = Wetter Brown = Drier  White = “Average”

NMME Total Accumulated Precipitation Anomaly (inches)
Init: 00z Apr 08 2018  Valid for: Sep 2018
NMME Model Precipitation Forecast
Green = Wetter Brown = Drier White = “Average”

NMME Total Accumulated Precipitation Anomaly (inches)
Init: 00z Apr 08 2018 Valid for: Oct 2018

TROPICALTIDBITS.COM
NMME Model Precipitation Forecast

Green = Wetter  Brown = Drier  White = “Average”

NMME Total Accumulated Precipitation Anomaly (inches)
Init: 00z Apr 08 2018  Valid for: Nov 2018

TROPICALTIDBITS.COM
Long Range Forecast:
JAMSTEC Computer Model Forecast
JAMSTEC Model Precipitation Forecast

Green = Wetter Brown = Drier White = “Average”

Predicted MAM2018 tprep anom. from 1mar2018 (9-member)

[Map showing precipitation anomalies with color scale ranging from -1.5 to 1.5 mm/day]
JAMSTEC Model Precipitation Forecast

Green = Wetter  Brown = Drier  White = “Average”

Predicted JJA2018 tprep anom. from 1mar2018 (9-member)

mm/day
JAMSTEC Model Precipitation Forecast

Green = Wetter  Brown = Drier  White = “Average”

Predicted SON2018 tprep anom. from 1mar2018 (9-member)
Long Range Forecast:
CFSv2 Computer Model Forecast
CFSv2 Model Precipitation Forecast

Green = Wetter Brown = Drier  White = “Average”

NCEP CFSv2 Precipitation [inches] Monthly Mean Forecast Departure
4 Daily Ensemble Runs Averaged from: 00Z06APR2018 --> 00Z16APR2018 10–day Chunk
Target Month: MAY 2018
CFSv2 Model Precipitation Forecast

Green = Wetter Brown = Drier White = “Average”

NCEP CFSv2 Precipitation [inches] Monthly Mean Forecast Departure
4 Daily Ensemble Runs Averaged from: 00Z06APR2018 --> 00Z16APR2018 10-day Chunk
Target Month: MAY 2018
CFSv2 Model Precipitation Forecast

Green = Wetter Brown = Drier  White = “Average”

NCEP CFSv2 Precipitation [inches] Monthly Mean Forecast Departure
4 Daily Ensemble Runs Averaged from: 00Z06APR2018 --> 00Z16APR2018 10-day Chunk
Target Month: JULY 2018
CFSv2 Model Precipitation Forecast

Green = Wetter Brown = Drier White = “Average”

NCEP CFSv2 Precipitation [inches] Monthly Mean Forecast Departure
4 Daily Ensemble Runs Averaged from: 00Z06APR2018 --> 00Z16APR2018 10-day Chunk
Target Month: AUGUST 2018

Precipitation (shaded) -- Monthly Average
NCEP CFSv2 384x190 Surface Flux Thinned Gaussian Forecast Grid
CFSv2 Model Precipitation Forecast

Green = Wetter Brown = Drier White = “Average”

NCEP CFSv2 Precipitation [inches] Monthly Mean Forecast Departure
4 Daily Ensemble Runs Averaged from: 00Z06APR2018 -- 00Z16APR2018 10-day Chunk
Target Month: OCTOBER 2018
CFSv2 Model Precipitation Forecast

Green = Wetter  Brown = Drier  White = “Average”

NCEP CFSv2 Precipitation [inches] Monthly Mean Forecast Departure
4 Daily Ensemble Runs Averaged from: 00Z06APR2018 --> 00Z16APR2018 10–day Chunk
Target Month: NOVEMBER 2018
My Thoughts...

La Niña continues to die as Pacific warms. No immediate transition to El Niño, but gradual transition could occur later this year.

That would dry out the Pacific Northwest, Northern Rockies, and Northern Plains.

Until that happens, moisture should continue to be at least average if not above average.

Drought relief in The Southwest, Southern Rockies, and Southern Plains will take time.
Weather 5280

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