VOLUME XI
ISSUE 2, SPRING 2018

Sage Winds

NATIONAL WEATHER SERVICE BOISE

SUMMER Spotter Checklist

When should you call us?

HAIL: Pea size or larger.

REDUCED VISIBILITY: from fog, blowing dust, rain.

WIND: Greater than 40 mph or damage.

HEAVY RAIN: ½"+ in 1 hour

FLOODING: Any water where it shouldn't be, or overflowing river/creek.

TORNADO or **FUNNEL CLOUD.**

ANY WEATHER RELATED DAMAGE, DEATH, OR INJURY.

How to contact us:

1-800-882-1428

@NWSBoise

facebook.com/NWSBoise

boise.weather@noaa.gov

Spotter Field Guide

Season in Review

Joel Tannenholz

Spring was slightly warmer than normal across most of our area. Precipitation anomalies were mixed. Portions of the Snake River Valley east of Boise, and the central Idaho mountains, had up to twice their normal precipitation, as did southern Harney and Malheur Counties in Oregon. These areas contrasted with the northern two-thirds of Malheur County and adjacent lower elevations of southwest Idaho, where precipitation totaled around 70 percent of normal for the season.

March

March brought changeable weather typical of late winter and early spring. The progression of low pressure troughs and high pressure ridges brought alternating cold and mild periods.

The troughs were also responsible for brief episodes of strong wind, and heavy precipitation in the mountains.

Early in the morning the 2nd, a gust of 53 mph was measured at the Magic Valley Regional Airport. A gust of 62 mph was observed at Trail Gulch, 8 miles north of Magic Mountain .

That same morning heavy snow fell in the central Idaho mountains, including 8 inches at McCall airport, 12 inches near Idaho City and at Garden Valley, and 16 inches near Featherville. A spotter east of Fairfield measured an incredible 21 inches.

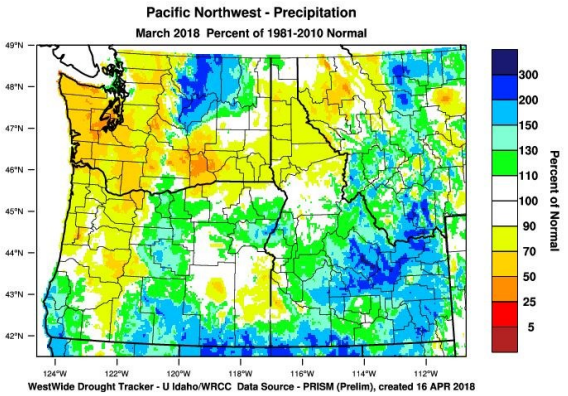
Temperatures rose above normal on the 8th as an upper-level ridge began to build, reaching its maximum amplitude on the 12th. As it began to exit, southerly flow ahead of an approaching trough pushed temperatures even higher.

The trough drifted slowly inland from the 16th to the 18th, keeping temperatures well below normal, and bringing more snow to the mountains. Nearly a foot fell at McCall on the night of the 17th.

The last weather maker of the month was another cold upper level trough which stalled off the coast of British Columbia on the 22nd. It extended far enough south to tap subtropical moisture, resulting in moderate amounts of precipitation from thunderstorms as the associated cold front crossed our region on the 22nd.

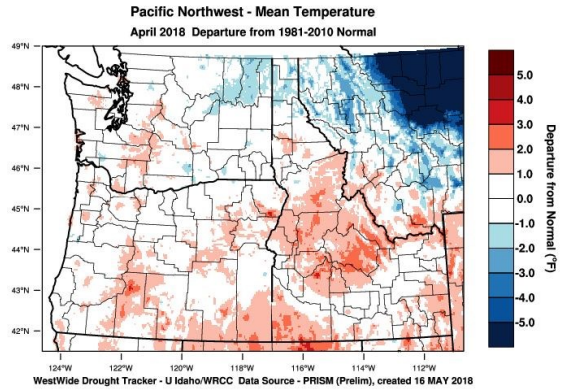
As the trough moved inland and weakened on the 25th, it brought unseasonably chilly temperatures and more snow, including 2 inches at the Boise Airport.

From the 28th through the 31st, milder west-northwest flow aloft returned temperatures to near normal.



April

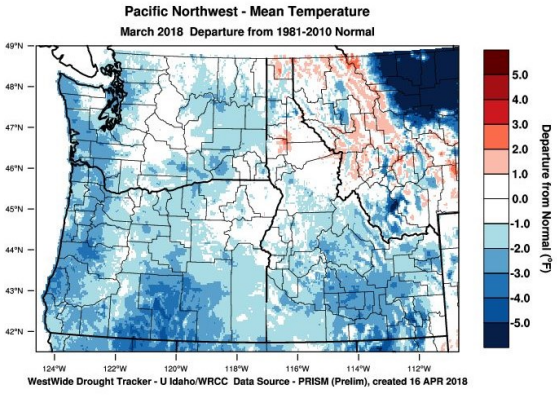
Temperatures averaged near normal in the valleys and above normal at higher elevations.



Most of our area was drier than normal, especially the Magic Valley, the southwest Idaho highlands, and northern Malheur County Oregon. But Baker County and the west central Idaho mountains had slightly above normal precipitation.

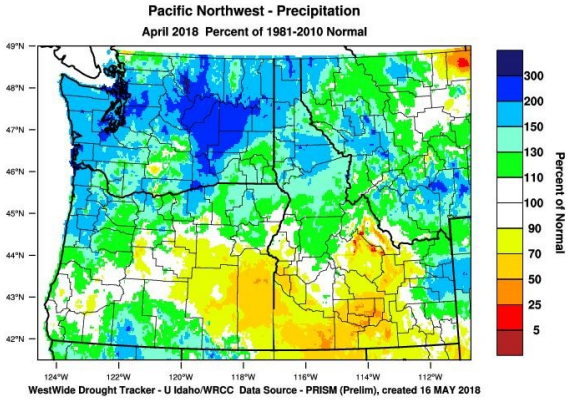
On the 2nd a rapidly moving upper level trough from the Gulf of Alaska crossed our area, preceded by a strong cold front. During the early evening, many locations reported sustained winds of 30 to 40 mph after frontal passage, with gusts as strong as 60 mph at Jerome and 63 mph near Hazelton.

On the 7th another cold front crossed the region, well ahead



of a strong upper level trough approaching the northwest coast. Thunderstorms triggered by the front generated strong outflow winds, including a gust of 55 mph at the Boise Airport. Winds were even stronger farther north, causing damage in Baker County Oregon. Downed trees and power lines were reported at Baker City. A gust of 66 mph was measured at Flagstaff Hill at 12:45PM PDT.

On the 11th and 12th the next Pacific cold front swept inland, followed by gusts of 45 to 50 mph at some locations in southeast Oregon and southwest Idaho.



A more settled, warmer period ensued after the 16th, as an upper level high pressure ridge dominated the region. By the 27th highs at lower elevations were in the upper 80s. Boise reached 90 degrees, two degrees shy of the record for the date.

The early taste of summer was ended by a cold front on the 28th, followed by a slow-moving upper level trough on the 29th. The combination of cold air aloft and surface heating created instability which triggered convective showers.

May

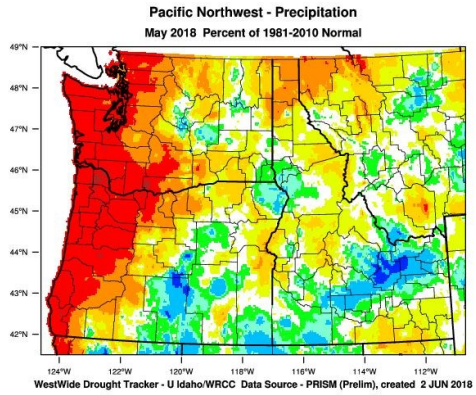
May was warmer or much warmer than normal across all of southeast Oregon and southwest Idaho. The central Idaho and Boise Mountains had the largest positive anomalies.

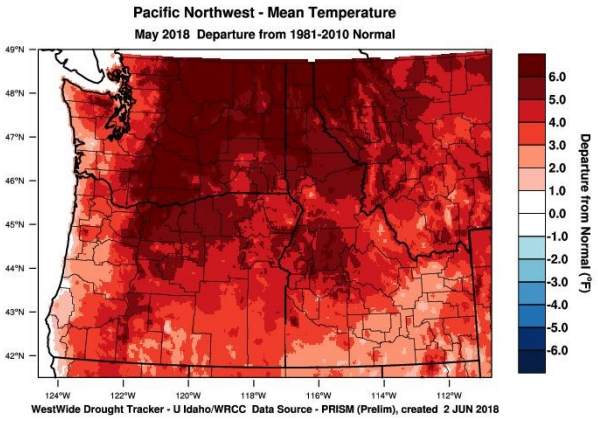
May's precipitation distribution was the opposite of April's, with northern areas drier than normal, and southern areas generally wetter than normal.

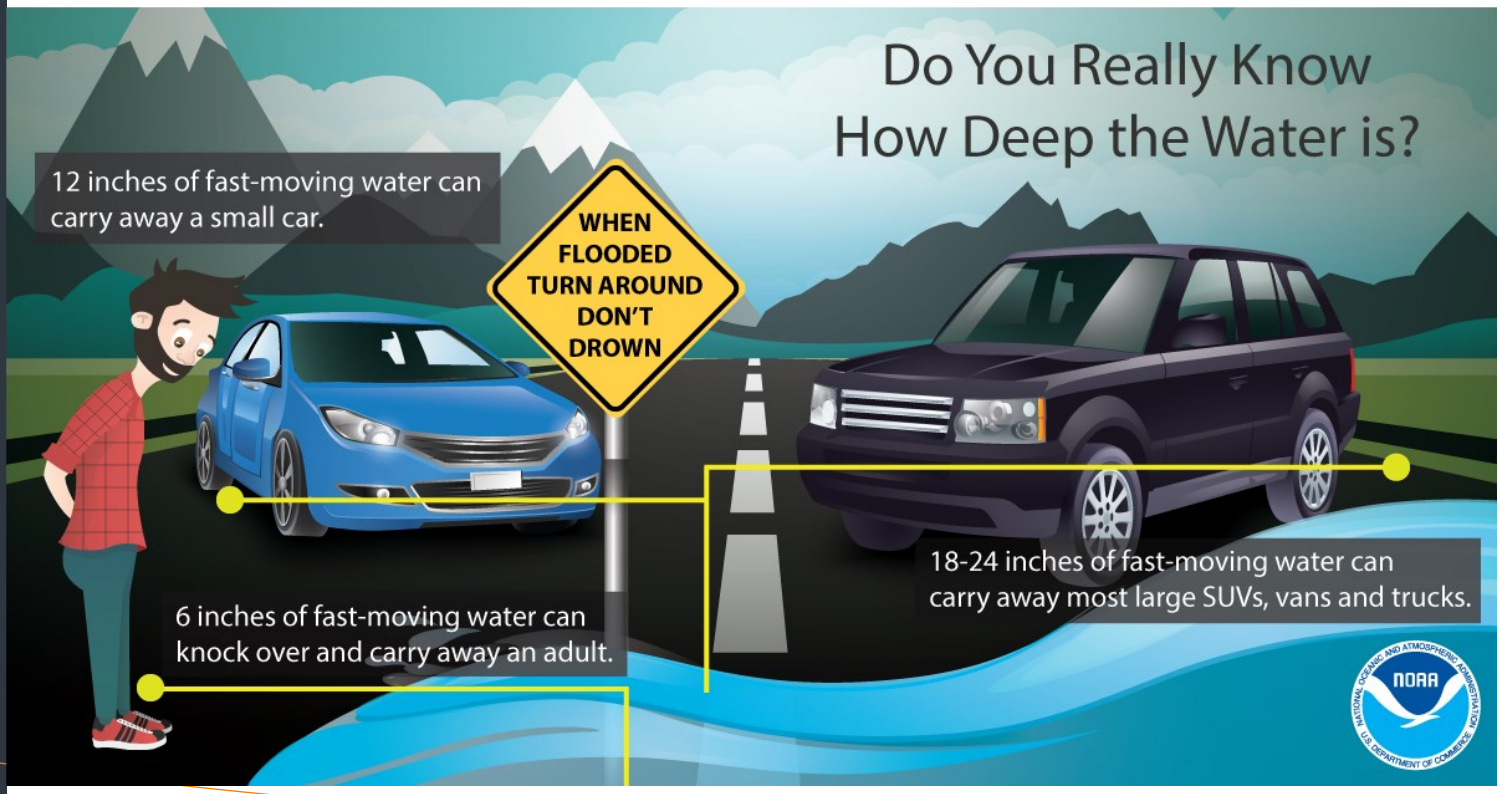
Thunderstorms occurred on ten days, mainly during the last three weeks of the month, when our area was dominated by upper level low pressure troughs which stalled over the Intermountain Region. The storms were often accompanied by brief heavy rain, and some produced strong outflow winds and hail.

Large hail was reported at a few locations on the 5th, 16th, and 25th. Diameters were mainly around an inch, but on the 25th golf ball size was reported just south of Caldwell, and near New Meadows.

Also on the 25th a late afternoon thunderstorm at Burns was accompanied by winds strong enough to down trees and power lines.







SUMMER is HERE!

Friendly reminders on keeping you and your family safe

Lightning Safety:

If you hear thunder, lightning is close enough to strike you, and on average, lightning kills 49 people in the U.S. every year. What should you do if a thunderstorm is near?

- Move inside a shelter: a substantial building with plumbing and electricity, or a metal-topped vehicle with the windows up.
- Stay in shelter for 30 minutes past the last thunder heard.
- If inside a building, stay away from windows and doors, and stay off porches.

If you're caught outside with no safe shelter nearby take the following actions to reduce your risk:

- Get off any elevated area such as a hill or mountaintop
- NEVER shelter under an isolated tree, or lie flat on the ground.
- Get out of and away from bodies of water.
- Avoid being near objects that conduct electricity, such as barbed wire fences, power lines, or windmills.

For more information, visit: http://www.lightningsafety.noaa.gov/

Fire Safety:

How to protect your home from wildfires:

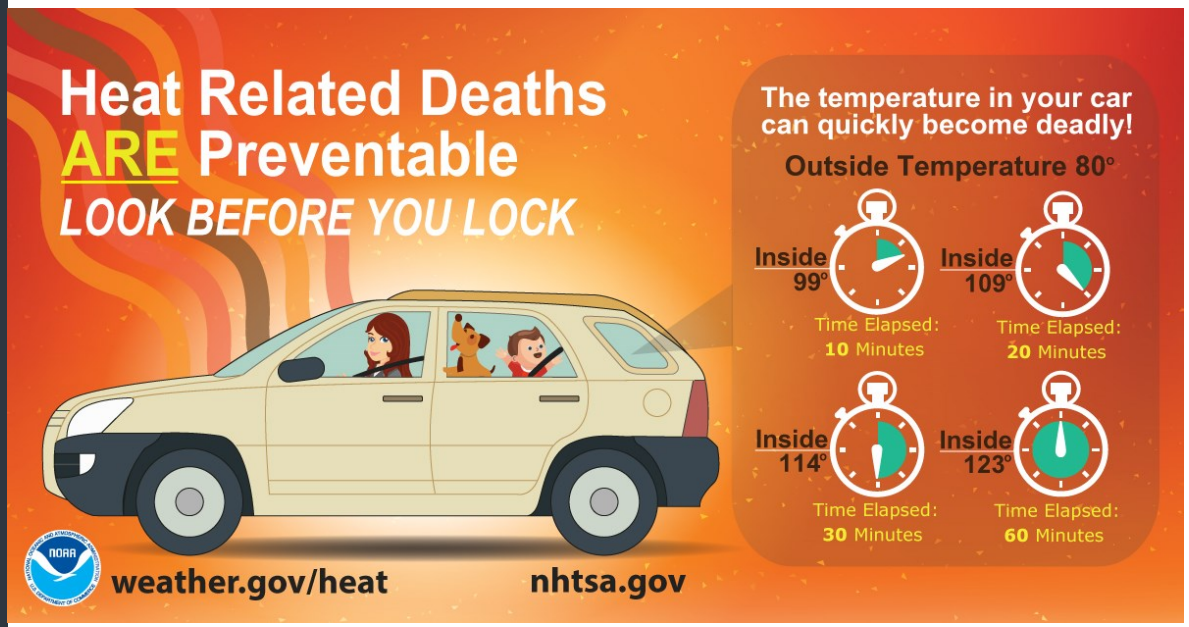
1. Create defensible space by clearing brush away from your home
2. Use fire-resistant landscaping and harden your home with fire-safe construction.
3. Assemble emergency supplies and belongings in a safe place
4. Plan escape routes and make sure all members of the household know the plan.

For more information, visit: http://www.nws.noaa.gov/om/fire/ready.shtml

Questions? Comments? Suggestions?

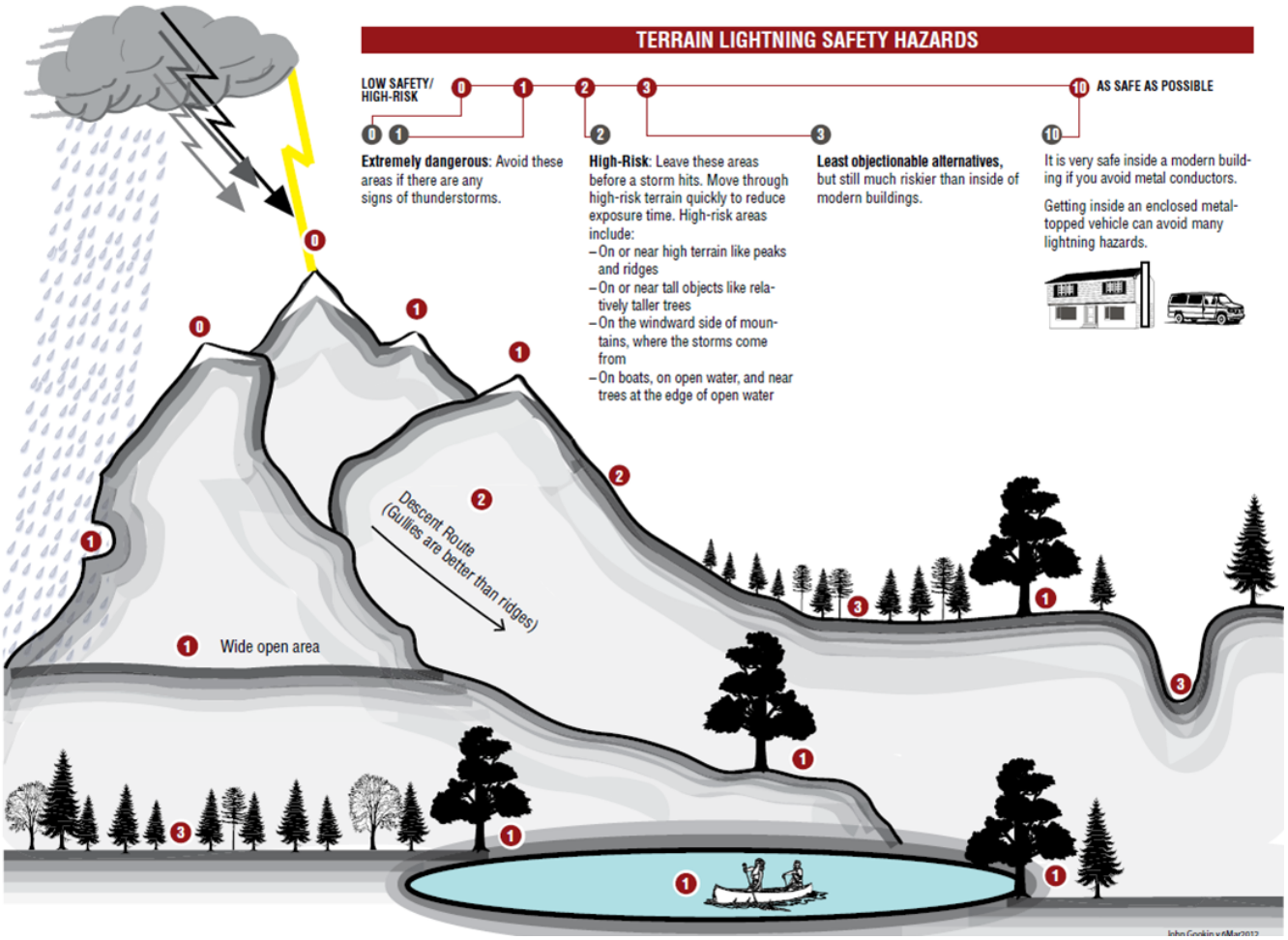
Email:

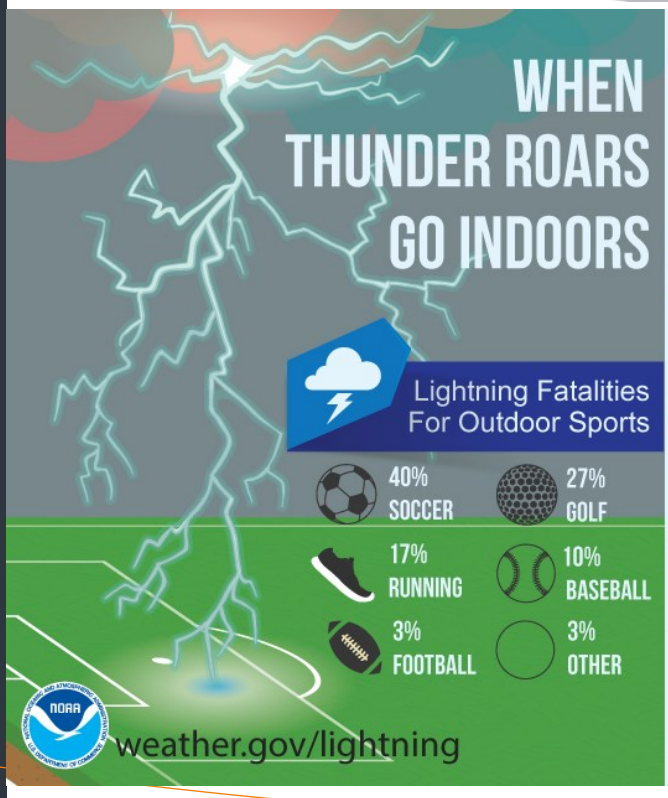
boi.spotter@noaa.gov



BACKCOUNTRY LIGHTNING RISK MANAGEMENT

No place outdoors is safe from lightning. Lightning is an objective hazard. Your behavior can reduce the risk of that hazard harming you.





THE SPEED OF WILDFIRES

WEATHER CONDITIONS

Wind speed has a huge effect on fire intensity and how fast fires travel. Wind pushes the flame forward and closer to the unburned fuel in front of the fire. Temperature, humidity, and precipitation are also important due to their strong influence on fuel moisture content.

SPOTTING

Wind and thermals can carry sparks and firebrands downwind of fires, greatly increasing spread rates.

FUEL TYPE

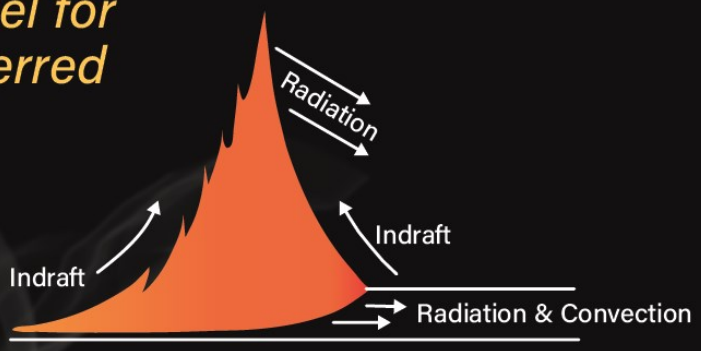
The type of vegetation along with the fuel moisture content, physical properties, and chemical properties play a role in fire behavior and how fast fires spread.

TOPOGRAPHY

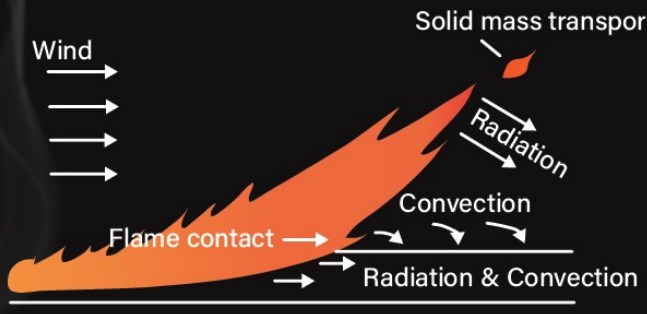
Slope steepness affects fire behavior in a similar way as wind by changing the flame angle. Elevation and aspect are also important in determining how fires spread.

Rothermal's *model for how heat is transferred and fires spread.*

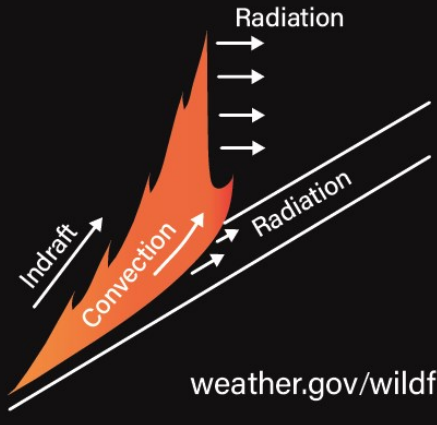
Schematic of **no-wind fire**



Schematic of **wind-driven fire**



Schematic of **upslope fire**



weather.gov/wildfire

Interested in measuring precipitation? Join the CoCoRaHS observing network.

Join CoCoRaHS Today!

CoCoRaHS is a practical, enjoyable and useful activity. If you have an interest in weather and would like to help your local community, as well as scientists and others interested in precipitation, then CoCoRaHS is for you. It only takes a few minutes a day and gives you the chance to participate in real hands-on science. You'll be amazed at what you learn as you become more aware of the variable weather that impacts you, your neighbors, your state and our entire country.

Data on the web

Volunteers submit their observations using the CoCoRaHS website or apps. Observations are immediately available to the public via maps and data analysis tools, and to data users via the CoCoRaHS Web API. Data users such as scientists, resource manages, decision makers and others have come to rely on the high density, high quality measurements provided by CoCoRaHS observers.

CoCoRaHS is Educational

CoCoRaHS offers learning opportunities too. In addition to training materials, newsletters and the 'Message of the Day', members also enjoy opportunities to attend Webinars featuring experts in weather, climatology and other pertinent disciplines. CoCoRaHS offers classroom resources for K-12 teachers. Students get to collect and submit real scientific data – all while meeting State and National Standards in science, math, geography and more!

What is CoCoRaHS?

The Community Collaborative Rain, Hail and Snow Network, is a non-profit, community based, network of volunteers who measure and report rain, hail and snow in their backyards.

A brief History

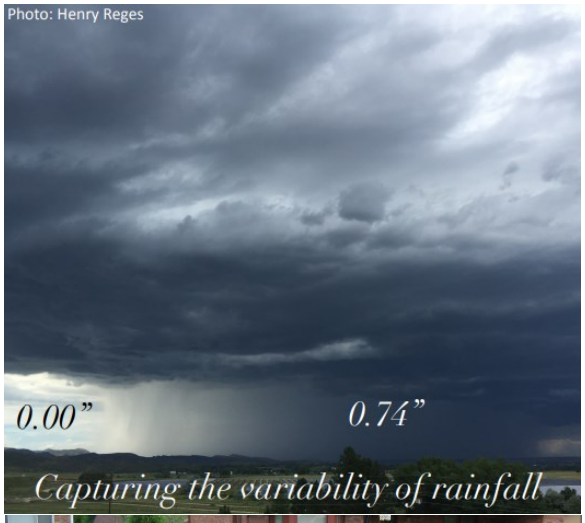
CoCoRaHS came about as a result of a devastating flash flood that hit Fort Collins, Colorado in July 1997. A very localized storm dumped over a foot of rain in several hours while other portions of the city had only modest rainfall. The ensuing flood caught many by surprise, caused $200 million in damages, and resulted in five deaths. CoCoRaHS was born in 1998 with the intent of doing a better job of mapping and reporting intense storms. CoCoRaHS became a nationwide volunteer network in 2010 and is now international with observers helping provide critical precipitation observations, benefiting their country's needs.

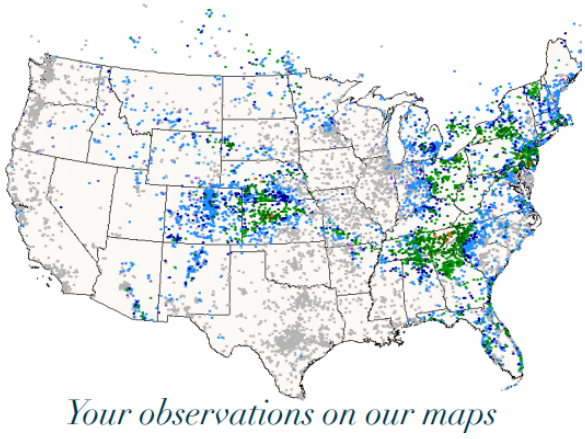
Volunteers of all ages welcome!

Individuals and family volunteers of all ages and all walks of life are the foundation of the CoCoRaHS network, Anyone can help. It only takes a few minutes to check the rain gauge and report your observations.

Training: "the Key to our success"

It is important that all CoCoRaHS precipitation reports be accurate and consistant. Training is provided on how to install gauges, properly measure precipitation and transmit reports. CoCoRaHS precipitation reports are accurate and very useful.



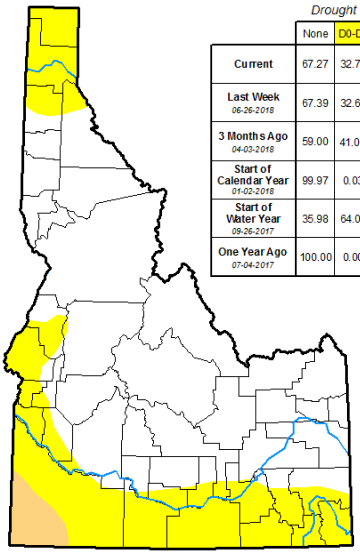


Why is there so much interest in rain, hail and snow?

Precipitation is essential for life. It varies greatly with topography, storm type and season. It really is true that it may pour on one side of the street and be dry on the other. A portion of a field may be pounded by hail while others nearby receive no damage. Snowfall may pile up in one neighborhood and only dust another. Rain, hail and snow are fairly easy to measure, and the data collected are very important. Meteorologists, hydrologists, engineers, builders, farmers . . . you name it, everyone seems to care about rain, hail and snow. That's why we ask, "How much fell in your backyard?"

There are limited observations across southwest Idaho and southeast Oregon, compared to the rest of the country, so we would love to have your observations. To learn more about the CoCoRaHS program and to see where your fellow observers have recorded rain amounts, visit http://www.cocorahs.org/.

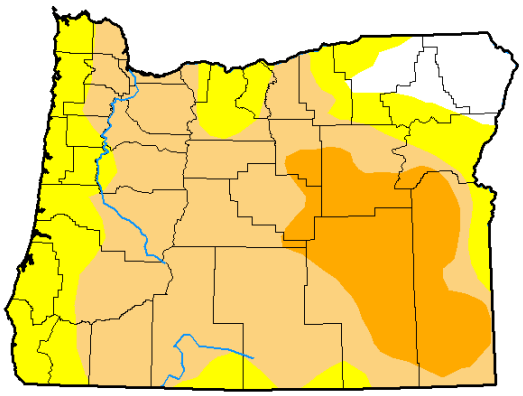
U.S. Drought Monitor
Idaho



Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	67.27	32.73	2.81	0.00	0.00	0.00
Last Week 06-26-2018	67.39	32.61	2.81	0.00	0.00	0.00
3 Months Ago 04-03-2018	59.00	41.00	0.00	0.00	0.00	0.00
Start of Calendar Year 01-02-2018	99.97	0.03	0.00	0.00	0.00	0.00
Start of Water Year 09-26-2017	35.98	64.02	16.90	1.23	0.00	0.00
One Year Ago 07-04-2017	100.00	0.00	0.00	0.00	0.00	0.00

U.S. Drought Monitor
Oregon



July 3, 2018
(Released Thursday, Jul. 5, 2018)
Valid 8 a.m. EDT

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	6.08	93.92	68.13	18.01	0.00	0.00
Last Week 06-26-2018	6.12	93.88	68.13	18.01	0.00	0.00
3 Months Ago 04-03-2018	32.44	67.56	32.89	0.00	0.00	0.00
Start of Calendar Year 01-02-2018	100.00	0.00	0.00	0.00	0.00	0.00
Start of Water Year 09-26-2017	39.23	60.77	28.57	0.00	0.00	0.00
One Year Ago 07-04-2017	100.00	0.00	0.00	0.00	0.00	0.00

Intensity:

- D0 Abnormally Dry
- D1 Moderate Drought
- D2 Severe Drought
- D3 Extreme Drought
- D4 Exceptional Drought

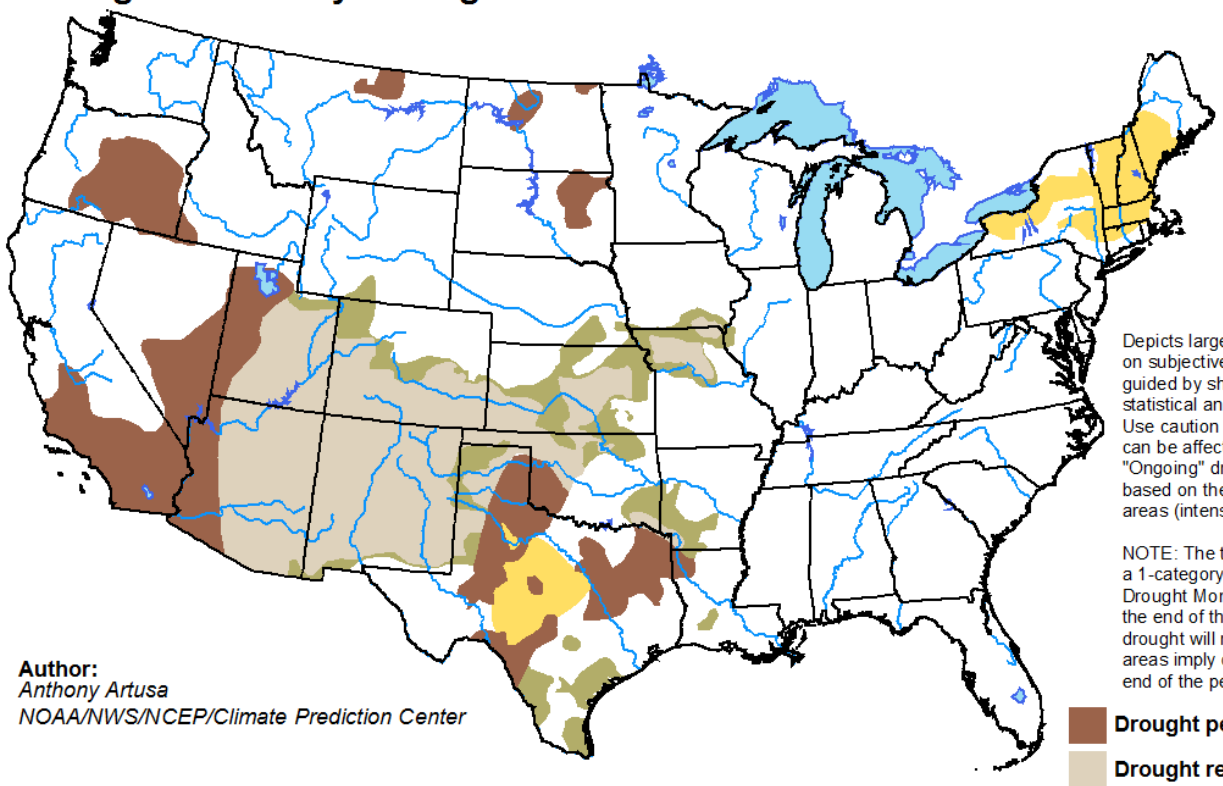
The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.

Author:
Richard Tinker
CPC/NOAA/NWS/NCEP

http://droughtmonitor.unl.edu/

U.S. Seasonal Drought Outlook
Drought Tendency During the Valid Period

Valid for June 21 - September 30, 2018
Released June 21, 2018

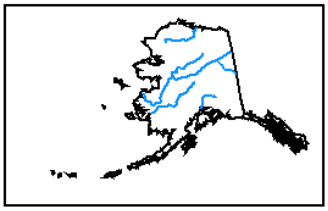


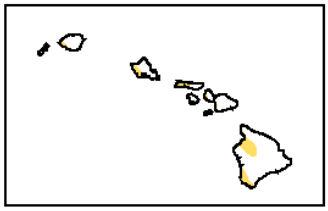
Author:
Anthony Artusa
NOAA/NWS/NCEP/Climate Prediction Center

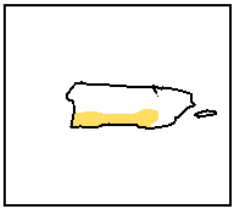
Depicts large-scale trends based on subjectively derived probabilities guided by short- and long-range statistical and dynamical forecasts. Use caution for applications that can be affected by short lived events. "Ongoing" drought areas are based on the U.S. Drought Monitor areas (intensities of D1 to D4).

NOTE: The tan areas imply at least a 1-category improvement in the Drought Monitor intensity levels by the end of the period, although drought will remain. The green areas imply drought removal by the end of the period (D0 or none).

- **Drought persists**
- **Drought remains but improves**
- **Drought removal likely**
- **Drought development likely**







http://go.usa.gov/3eZ73

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Tim Barker

Warning Coordination Meteorologist

Jay Breidenbach

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Meteorologists

Korri Anderson
Elizabeth Padian
Josh Smith
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Fire Weather Meteorologists

Chuck Redman

Hydrometeorlogical Technician

Wasyl Hewko

Meteorologist Interns

Jessica Caubre

Want to help NOAA weather scientists with research?

If you own a smartphone or tablet download the free **mPING** app in the App Store or Google Play.

Summer 2018 Outlook

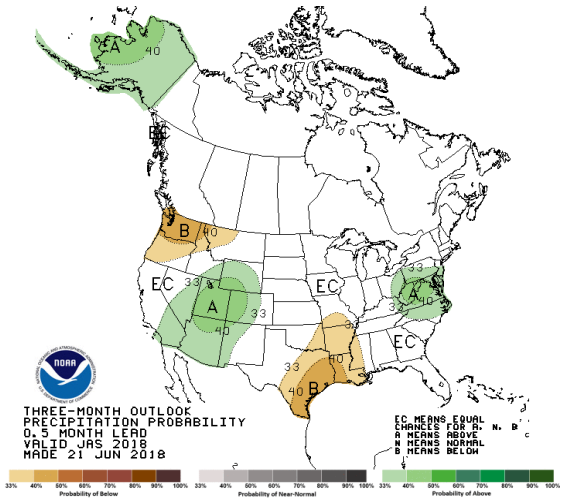
Stephen Parker

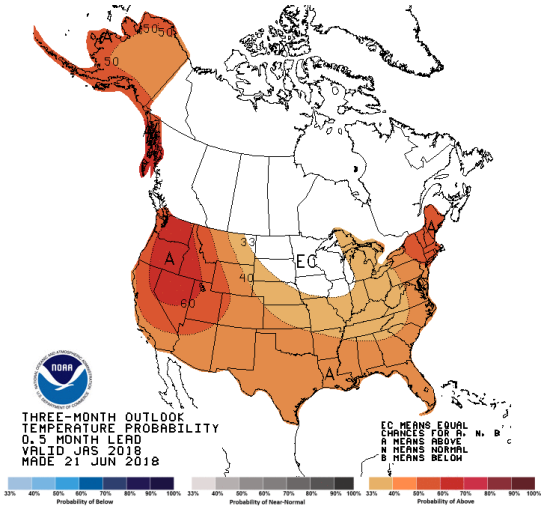
The ENSO (El Nino/Southern Oscillation) forecast for the summer is for neutral conditions. This means that there will be no strong forcing from ENSO to help guide the forecast. However, there are other patterns which lend themselves to forecasting for the summer season, particularly with regard to temperature.

The following graphics show the official three-month outlook for the summer of 2017 (Jul-Aug-Sep). The country's temperature outlook is for a better chance of above-normal temperatures across all but the north-central part of the country, with near equal chances of above- and below-normal centered over the Northern Plains into the upper Great Lakes.

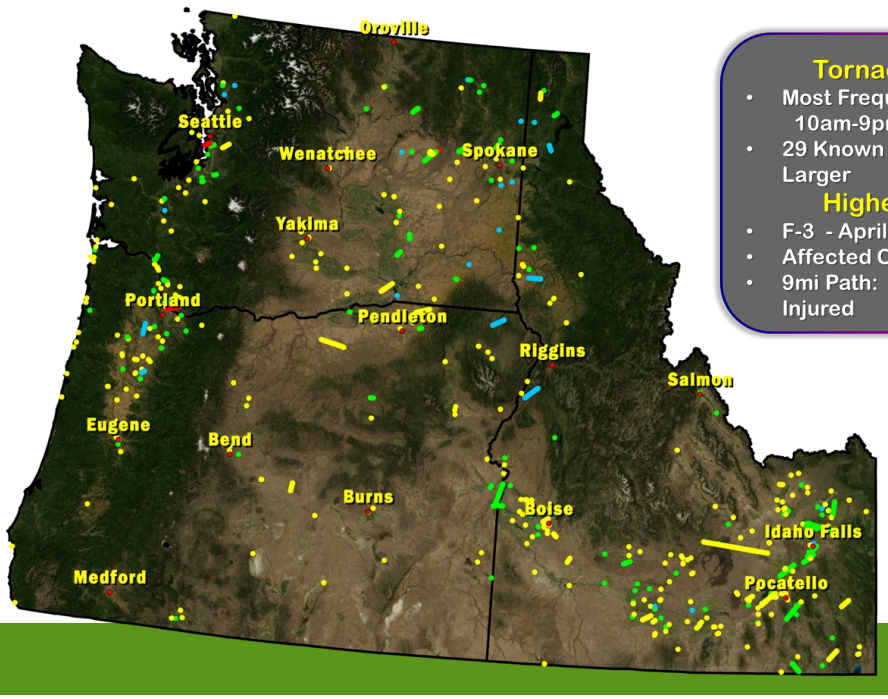
The country's precipitation outlook is for equal chances of above- and below-normal in most areas, with an axis of better chances for above-normal amounts from Wyoming southwest to the Arizona and surrounding areas, and also over the mid-Atlantic States. Alaska also has better chances of above-normal precipitation. Southeast Texas and surrounding areas have above -normal chances for below-normal precipitation, as do Washington state and surrounding areas.

For southeast Oregon and southwest Idaho, these charts indicate a better chance of above-normal temperatures with an equal chance of both below-normal and above-normal precipitation for most of our area. Higher chances for below normal precipitation are found in Baker County and northwest Malheur and Harney Counties. Above-normal precipitation chances are just off to our southeast. For *most* of our area, this means that there is no strong signal in the precipitation probability data, and therefore it is basically a forecast of "near-normal".





Tornadoes across the Pacific Northwest since 1950: 420 Tornadoes



Tornado Tidbits:

- Most Frequent: 10am-9pm Local Time
- 29 Known To Be F/EF-2 or Larger

Highest Rated:

- F-3 - April 5, 1972
- Affected OR & WA
- 9mi Path: 6 Dead & 300 Injured

F/EF Scale:

Unknown
0
1
2
3
4
5