



## U.S. Forest Service Tonto National Forest Background and Justification

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May 2022

**TOPIC:** The implementation of Stage 1 Fire Restrictions, to include shooting restrictions, to protect public and firefighter safety, as well as National Forest System lands and resources, during a period of Very High to Extreme wildfire danger.

### **SUMMARY:**

On the Tonto National Forest, shooting is a recognized cause of wildfire ignition when elevated fire danger conditions are present. Fire danger conditions are monitored closely from spring through summer, or through the end of fire season, to determine when Fire Restriction Orders are appropriate, as documented in the Phoenix Interagency Fire Center - *Interagency Fire Danger Operating Plan*. These orders have regularly included a prohibition on the “discharging a firearm” (with an exception for legal hunting activity) pursuant to 36 C.F.R. 261.58(m), to protect the public and our natural resources from the risk of a recreational shooting-caused ignition during the extreme environmental conditions associated with Arizona summers. These are recurring seasonal conditions, normally occurring from mid-April to early July, but are variable as they are condition driven and may occur for longer or shorter periods depending on weather and resultant effects on fuel conditions (i.e. fire danger). Given the extremely high recreational use on the Tonto National Forest, there is a need to restrict recreational shooting for public safety and resource protection across the forest when these conditions are present. This occurs in concert with entering Stage 1 Fire Restrictions (prohibiting campfires, smoking, etc.), Stage 2 Fire Restrictions, and Fire Closures. The Tonto National Forest’s Stage 1 Fire Restrictions for 2022 include a forest-wide prohibition against “[d]ischarging a firearm, air rifle, or gas gun” (with an exception for persons engaged in legal hunting activity while taking wildlife), in compliance with, and under the authority of, the 2019 *John D. Dingell, Jr. Conservation, Management, and Recreation Act* (commonly known as the “Dingell Act”), due to the presence of Very High to Extreme fire danger conditions across the entire forest.

### **BACKGROUND:**

The Tonto National Forest is the backyard to 4.9 million people living in the Phoenix-Mesa-Scottsdale metropolitan area. Forest visitors also come from all over the state, including Flagstaff and Tucson. The Tonto National Forest is the most visited forest in the US Forest Service Southwest region (11 national forests in Arizona and New Mexico) with 23 percent of total regional visitation. Maricopa County is the fastest growing county in the United States. As a result, recreational shooting, along with many other recreational activities on the Tonto

National Forest, has increased over the past several years and is expected to continue to increase.

### **Recent Recreational Shooting Caused Wildfires**

Recreational shooting has ignited many wildland fires<sup>1</sup> on the Tonto National Forest, many of which have threatened lives and property, and have resulted in significant irreversible resource damage and costs to taxpayers. The Tonto National Forest averages several dozen smaller recreational shooting-caused fires per year, and several larger fires dependent on location and fuel load. Some of the notable recreational shooting-caused fires on the Tonto National Forest (2019 to 2021) include:

- Mountain Fire 6/7/19 – Cave Creek Ranger District – 7,470 acres; threatened lives and property resulting in evacuations of hundreds of recreationalists; destroyed Sonoran Desert ecosystems; cost over ¾ of a million dollars.
- Central Fire 6/20/20 – Cave Creek Ranger District – 4,499 acres; threatened lives and property resulting in evacuations from homes in New River area; destroyed Sonoran Desert ecosystems; cost over 2 million dollars.
- Whitlow Fire 4/21/20 – Mesa Ranger District – 842 acres; threatened lives and property resulting in evacuation of recreationalists; destroyed Sonoran Desert ecosystems and mining infrastructure; cost hundreds of thousands of dollars.
- Cline Fire 4/24/20 – Mesa Ranger District – 70 acres; threatened lives and property resulting in evacuation of recreationalists; destroyed Sonoran Desert ecosystems; cost over a hundred thousand dollars.
- Lone Fire 6/9/20 – Mesa Ranger District – 60 acres; threatened lives and property resulting in evacuation of recreationalists; destroyed Sonoran Desert ecosystems; cost tens of thousands of dollars.
- Roma Fire 4/12/20 – Mesa Ranger District – 15 acres; threatened lives and property resulting in evacuation of recreationalists; destroyed Sonoran Desert ecosystems; cost tens of thousands of dollars.
- Foothills Fire 5/23/20 – Mesa Ranger District – 9 acres; threatened lives and property resulting in evacuation of recreationalists; destroyed Sonoran Desert ecosystems.
- Wala Fire 5/2/20 – Mesa Ranger District – 7 acres; threatened lives and property resulting in evacuation of recreationalists; destroyed Sonoran Desert ecosystems.
- Sunset Fire 6/4/20 – Mesa Ranger District – 5 acres; threatened lives and property resulting in evacuation of recreationalists; destroyed Sonoran Desert ecosystems.
- Whitlow Fire 5/2/21 – Mesa Ranger District – 43 acres; threatened lives and property resulting in evacuation of recreationalists; destroyed Sonoran Desert ecosystems.

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<sup>1</sup> Target shooting is considered the most likely cause of these fires. Fire investigators eliminated all other potential causes and there were indications in the areas of recent target shooting (shell casings, ear plugs, bullet impact marks on rocks, targets left, witness statements, etc.).

- Spring Fire 5/2/21 – Mesa Ranger District – 65 Acres; threatened lives and property resulting in evacuation of recreationalists; required multiple aircraft and firefighters to contain.
- 6 Fires (Lower, More, Sugar, Candy, Creek, Hershey) from 3/21-4/19/22 – Mesa Ranger District ~ 8 acres; destroyed Sonoran Desert ecosystems.

The Mountain and Central Fires noted above crossed roads and grew rapidly to several thousand acres through previous burn scars (which should have had reduced fuel loads) and previously unburned vegetation in a matter of a few hours, despite rapid and aggressive initial attack by numerous agencies. While evacuations were successful on these fires, and firefighters and law enforcement were able to escort hundreds of recreating members of the public from recreation areas in the path of some of these fires, there are no guarantees that evacuations will be repeatable at the same level of success in the event of a future ignition. The evacuation process also keeps firefighters from being able to attack the fire as they are engaged in the process of assisting law enforcement to ensure public safety. The resource damage to the Sonoran Desert from these fires, which is not a fire-adapted ecosystem, is irreversible. Prohibiting recreational shooting during periods of high fire danger not only mitigates the risk to the public and natural resources, but also the risk to firefighters and aviators who must respond to a fire in the event of an ignition.

**Current Environmental Conditions:**

Previous years' rainfall on the Tonto National Forest led to increased vegetation which has carried over to present, including the abundance of Red Brome (*Bromus rubens*) and other invasive grasses (see photo at end of document). Red Brome is an invasive non-native annual grass that has far more extreme burn characteristics than native perennial grasses. The biological cycle of this grass is that it sprouts in cooler conditions far earlier than native grasses, grows very rapidly utilizing the available soil moisture and nutrients, then produces seed, dies, and cures or dries out. Visually, this results in a carpet of green grass that lasts only a couple of weeks, and then becomes a brown swath of standing dead grass. The density and coverage of this grass, coupled with its biological cycle, results in a continuous carpet of fine fuel that is easily ignitable and spreads fire rapidly under very high to extreme fire danger. These grasses are more dominant at lower elevations on the Tonto National Forest, but they also reach into the mid and upper elevations. These cured grassy fine fuels are more susceptible to ignition and fire spread as fire danger conditions worsen. Drought conditions such as is being experienced this year, bring all fine fuels including needle cast as well as heavier fuels into susceptible conditions for easy ignition (Current drought monitor, temperature and precipitation history and outlooks at the end of document).

We have reached Very High to Extreme fire danger which is considered an emergency situation – one in which fire managers increase fire prevention and preparedness actions, including increased patrols, implementation of fire restrictions, and the augmentation of staffing or resources as available, to address the increased risk of fast-moving, damaging fires. Vegetation

becomes volatile and susceptible to ignition due to seasonal curing and normally high temperatures, leading to very low fuel moistures and often high levels of continuous fine-fuel loading. The presence of these factors creates an environment in which ignitions from human-caused activities can occur at a much higher rate than normal, including the increased risk of igniting a wildfire from discharging a firearm. Further, wildfires from ignitions under these conditions can spread extremely fast and pose a significant risk to the public and firefighters and create substantial difficulty and danger to firefighters during wildfire suppression. Under these conditions, typically fire workload increases dramatically and results in a shortage of firefighting resources.

#### **Fire-Related Restrictions:**

The conditions that typically warrant other fire restrictions (i.e., prohibitions on campfires, smoking) are the very same conditions that warrant the prohibition of recreational shooting. Recreational shooting and other human activities, such as campfires, charcoal grills, and use of vehicles or equipment that may lead to sparking, have a high likelihood under the conditions previously described to create a situation that threatens human life and property. Fires caused by recreational shooting happen numerous months throughout the year across the Tonto National Forest due to the use of binary exploding targets and tracer ammunition, such as the 37-acre Christmas Fire on the Mesa Ranger District on December 27 of 2020, which was caused by target shooting binary explosives. However, under Very High to Extreme fire danger conditions, the risk of ignition from ordinary shooting activities increases significantly due to weather and fuel conditions. Contrary to common understanding, a spark from a steel bullet jacket or rock is not necessary to ignite a fire under these conditions especially when fine fuels are present. Rather, the simple instantaneous transfer of kinetic energy to heat energy from an ordinary lead bullet suddenly stopping and landing/spattering in available fine fuel can ignite a fire. The purpose of fire restrictions, including a prohibition of recreational shooting, is to mitigate the risk of fire when environmental conditions favor substantial fire spread, and any resulting fires would be most difficult to control.

#### **Current Management:**

The Tonto National Forest's urban nature and proximity to large population centers create significant challenges to fire prevention efforts. The Tonto National Forest borders hundreds of miles of private property and Wildland-Urban Interface in the Phoenix-Mesa-Scottsdale metropolitan area (population over 4.9 million) and surrounds entire cities (i.e. Payson, population 15,813 and Globe, population 7,347). The potential for ignition of destructive fires under Very High to Extreme fire danger conditions presents a public and firefighter safety threat. To address this, the Tonto National Forest, and many surrounding land management agencies, typically implement collaborative, emergency recreational shooting restrictions based on fire danger. Past years have shown that recreational shooting fires are nearly eliminated when shooting is prohibited as part of Stage I, or higher, fire restrictions. These restrictions need to be implemented quickly to respond to changing weather and fuel conditions, which we

deem an emergency to the public safety and natural resources, as well as all our firefighting personnel and law enforcement, that have to respond to these human-caused fires.

**Dingell Act Compliance:**

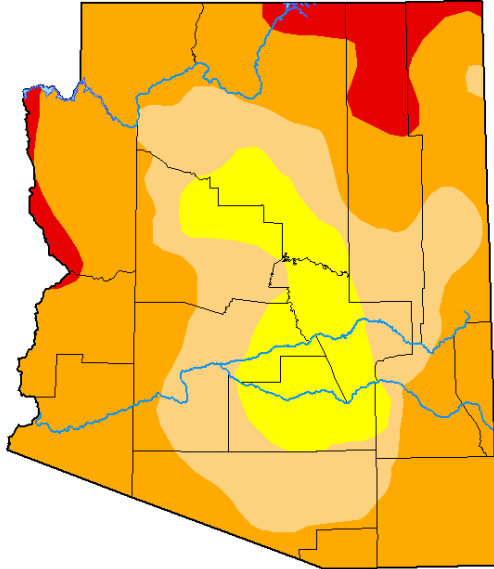
Under the Dingell Act, designations of areas in which recreational shooting is prohibited must be for “the smallest area for the least amount of time that is required for public safety . . . .” Section 4103(a)(2). Recreational shooting needs to be restricted across the entire Tonto National Forest during periods of Very High to Extreme fire danger until there is a substantial and prolonged change in fuel and weather conditions, decreasing fire danger below Very High. These are the same conditions that lead the forest to implement Stage 1 Fire Restrictions and higher, such as Stage 2 restrictions, and complete Forest Fire Closures in the most extreme of conditions.

These restrictions are only put in place when indicated by current and forecasted weather conditions and their relationship to actual and predicted fire danger, as reflected in our *Phoenix Interagency Fire Center - Interagency Fire Danger Operating Plan*, and after careful consideration by fire and land managers in coordination with partners and neighboring agencies. This plan uses the best available science to calculate fire danger levels utilizing the National Fire Danger Rating System (NFDRS), that are correlated to local fire occurrence and problematic fires in the area.

To utilize an emergency recreational shooting restriction on the Tonto National Forest during Stage 1 Fire Restrictions, and higher, would mirror the approach taken on the Bureau of Land Management’s Phoenix District and the Prescott National Forests, as well as the permanent year-round approach by the state of Arizona regarding state lands. This provides for a consistent and thorough wildfire mitigation and public safety strategy across this portion of the Arizona landscape.

It would be virtually impossible to identify individual areas or exclude elevations on the Tonto National Forest where recreational shooting would not present an unacceptable risk of ignition during Very High to Extreme fire danger conditions. As such, Stage 1 or 2 restrictions must be imposed across the entire National Forest. In terms of duration of the restrictions, based on experience and typical weather patterns, the high risk of ignition normally exists during May, June, and July. Notably, there are exceptions, as Very High to Extreme fire danger conditions continued into November 2020 due to lack of significant moisture necessitating continued fire restrictions, including recreational shooting. Conversely, fire danger lasts for a much shorter period in some years, or may never reach that threshold, in other years. The Tonto National Forest, along with our partners, continuously monitor weather and fuel conditions, with the resultant fire danger ratings and restrictions being modified or rescinded as soon as conditions no longer warrant restrictions. At this juncture, we anticipate maintaining Stage 1 or potentially Stage 2 restrictions, including the recreational shooting prohibition, until September 30, 2022, but will rescind the restrictions early if current emergency fire situation abates due to reduction of fire danger.

# U.S. Drought Monitor Arizona



**April 19, 2022**  
(Released Thursday, Apr. 21, 2022)  
Valid 8 a.m. EDT

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
<b>Current</b>	0.00	100.00	86.42	59.77	6.28	0.00
<b>Last Week</b> 04-12-2022	0.00	100.00	86.42	59.77	6.28	0.00
<b>3 Months Ago</b> 01-18-2022	0.00	100.00	56.71	25.80	5.08	0.00
<b>Start of Calendar Year</b> 01-04-2022	0.00	100.00	55.74	26.15	5.08	0.00
<b>Start of Water Year</b> 09-28-2021	0.00	100.00	80.38	40.02	13.69	0.00
<b>One Year Ago</b> 04-20-2021	0.00	100.00	99.02	94.62	86.56	57.79

**Intensity**

- None
- 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. For more information on the Drought Monitor, go to <https://droughtmonitor.unl.edu/About.aspx>

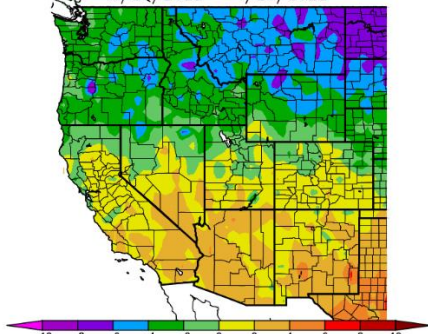
**Author:**

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U.S. Department of Agriculture



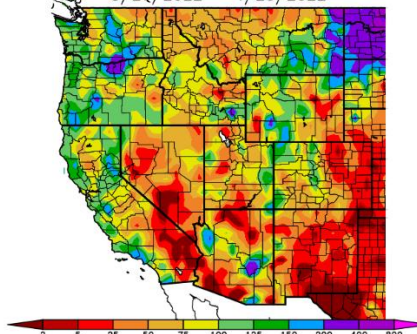
[droughtmonitor.unl.edu](http://droughtmonitor.unl.edu)

Ave. Temperature dep from Ave (deg F)  
3/27/2022 - 4/25/2022



Generated 4/26/2022 at WRCC using provisional data.  
NOAA Regional Climate Centers

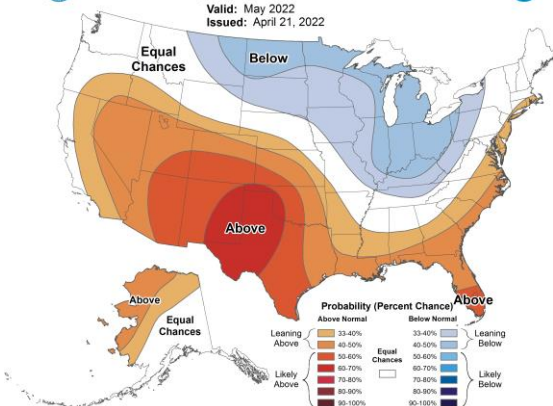
Percent of Average Precipitation (%)  
3/27/2022 - 4/25/2022



Generated 4/26/2022 at WRCC using provisional data.  
NOAA Regional Climate Centers

## Monthly Temperature Outlook

Valid: May 2022  
Issued: April 21, 2022



## Monthly Precipitation Outlook

Valid: May 2022  
Issued: April 21, 2022

