Fuels Advisory for the Coronado National Forest
May 2011 UPDATE
Frost Damaged Oaks and Continued Drought

(Based on Data from Sierra Vista Ranger District)
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Fuels on the Coronado National Forest are coming into alignment as we approach the peak of the fire season. The combination of abundant grass, winter drought, and frost damaged oaks have brought fuels along the low to mid elevations into alignment just as we are entering in to the hottest and driest portion of the year. Those areas above 6000-7000 feet are still lagging but are expected to follow suit due to the lack of winter moisture.

Precipitation

In 2010, the Coronado received above average precipitation across the entire Forest. The monsoon was particularly good with isolated areas on the Sierra Vista Ranger District reporting as much as 21 inches just in the month of July. This allowed for abundant growth of grasses and carrier fuels throughout the majority of the high desert of the Coronado. However, in the time since October 2010, the Coronado has been experiencing drought conditions, receiving only 1.43 inches of an average of 5.06 inches over the last six months. Meaning the Coronado over the last six months has only received 28% of average precipitation for this time period. The situation in 2011 has not improved with the Coronado receiving only an average of 0.79 inches of a 3.37 average, or 23% of annual precipitation between January and April (Figure 1).

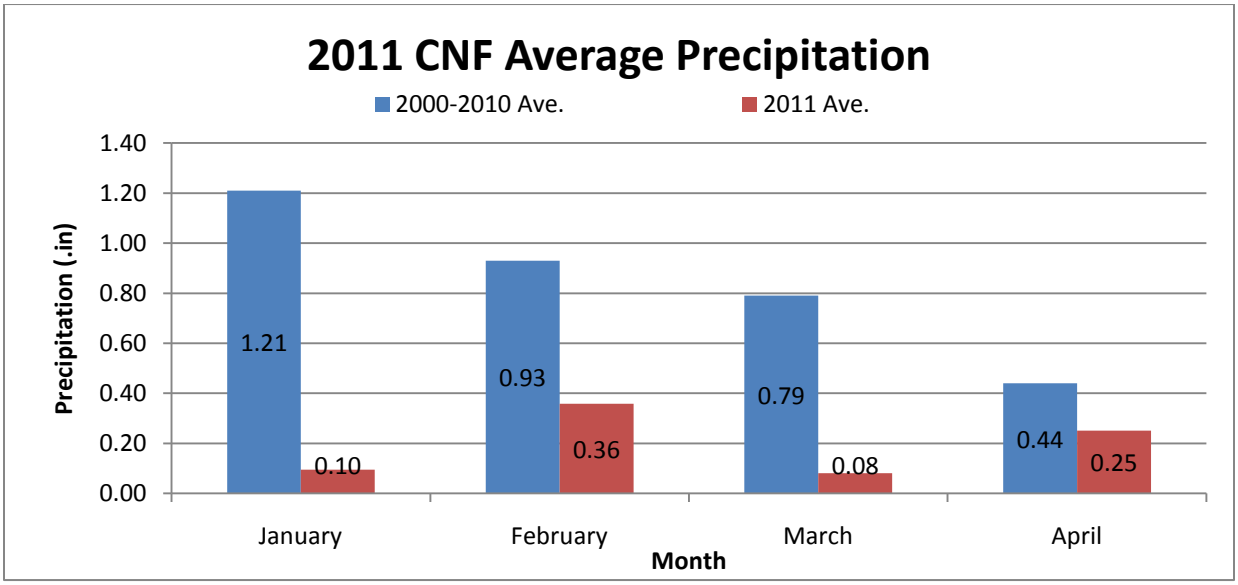

Figure 1. Coronado NF average precipitation is at 23% of average for the time period Jan.-April.

Oaks

There has been a slight improvement in the condition of some of the oaks which were damaged by the early February freeze. However, this improvement is minimal and only likely to impact fire behavior in small isolated areas were some green up is occurring. In the time since March, nearly 80% of the oaks

between the 4000 and 6000 foot zone have shown signs of the frost damage. These oaks for the most part have turned all their leaves brown and dropped them. In the past two weeks we have experience some of the oaks trying to green up and put new leaves on. However, this is only occurring in isolated areas and is generally located on the better sites, moister canyon bottoms, treatment areas, and/or open areas where competition between other vegetation is less. The majority of all the oaks along the mid-slope country are showing little to no change. The slight green up in some of the oaks has brought averages up from 67% at the beginning of March to 74.5 % at the beginning of May. Despite the slight improvement, live fuel moistures in the oaks still remain at the 90th percentile (Figure 2). Due to the lack of precipitation over the last six months, I expect this green up to be short lived and not significantly reduce the overall fire behavior except maybe in those small isolated pockets where some green up is occurring.

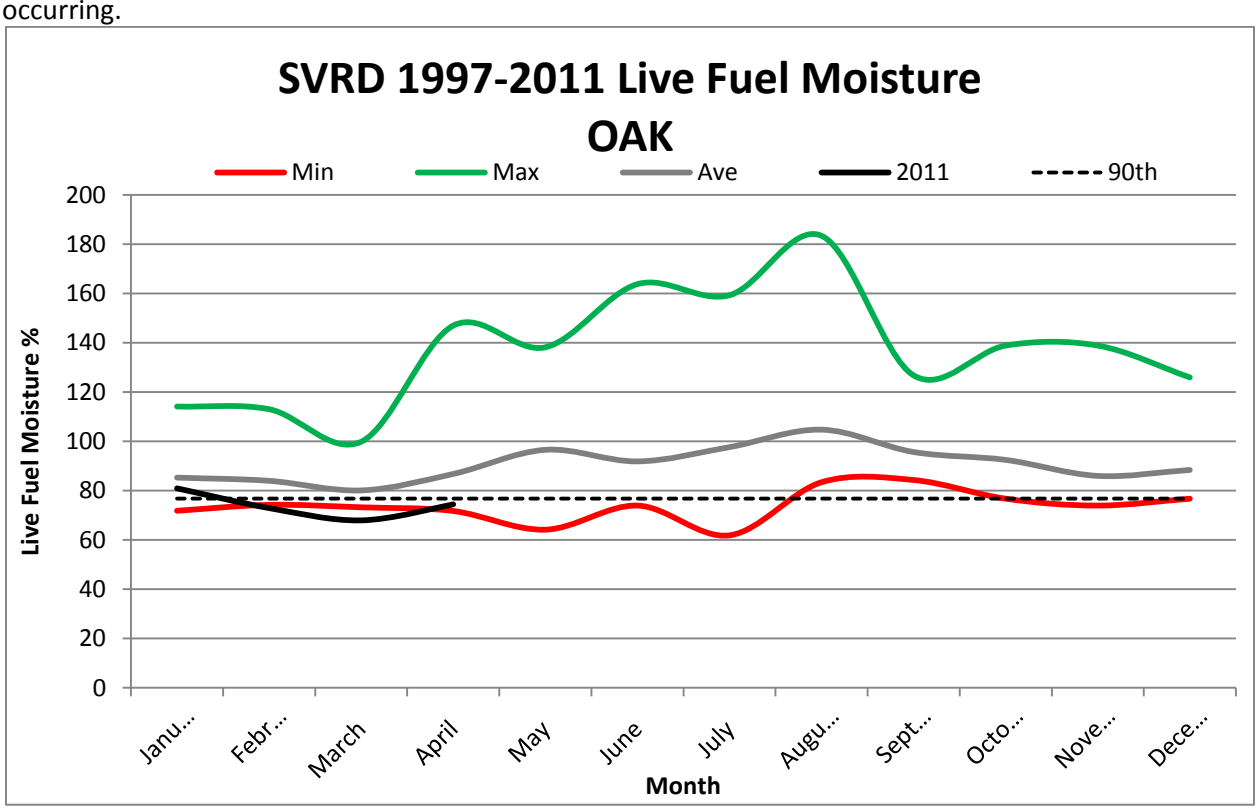

Figure 2. Live Fuel Moistures for oaks improving slightly but still in the 90th percentile.

Manzanita/Juniper

The live fuel moistures in the manzanita and juniper has decline by about 15% each over the past two months. Live fuel moistures in the manzanita have dropped from the mid 80's to the low 70's. The live fuel moistures in the junipers have dropped from the mid 90's to the low 80's. Thus, putting both into the 90th percentile ranges for both species (Figures 3 and 4). There is a possibility that we will see a slight green up in these two species as well, however we are not yet seeing that and due to the lack of moisture, I expect any green up to be small and short lived. Due to the drop in live fuel moistures in the Manzanita and Juniper, the overall conditions of the live fuels across the three main brush types (Oak, Manzanita, and Juniper) are at the 90th percentile (Figure 5).

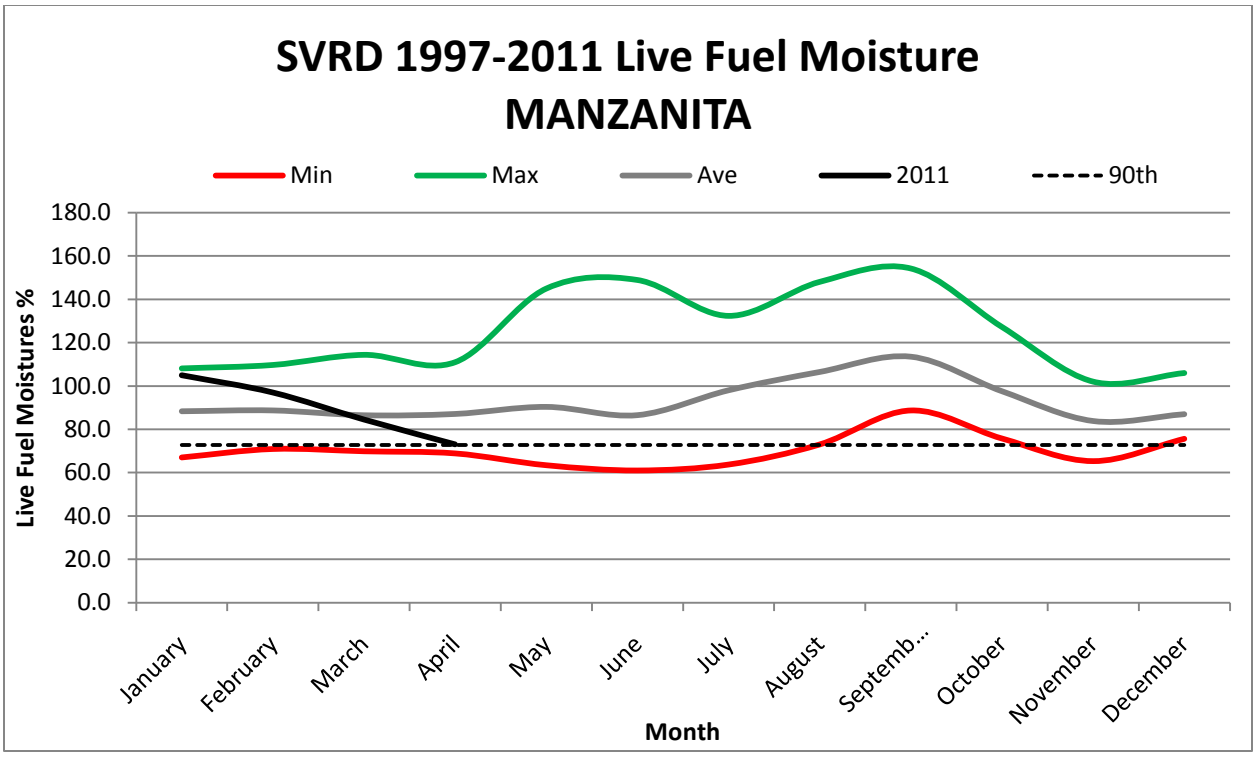

Figure 3. Live fuel moistures in the Manzanita are at the 90th percentile.

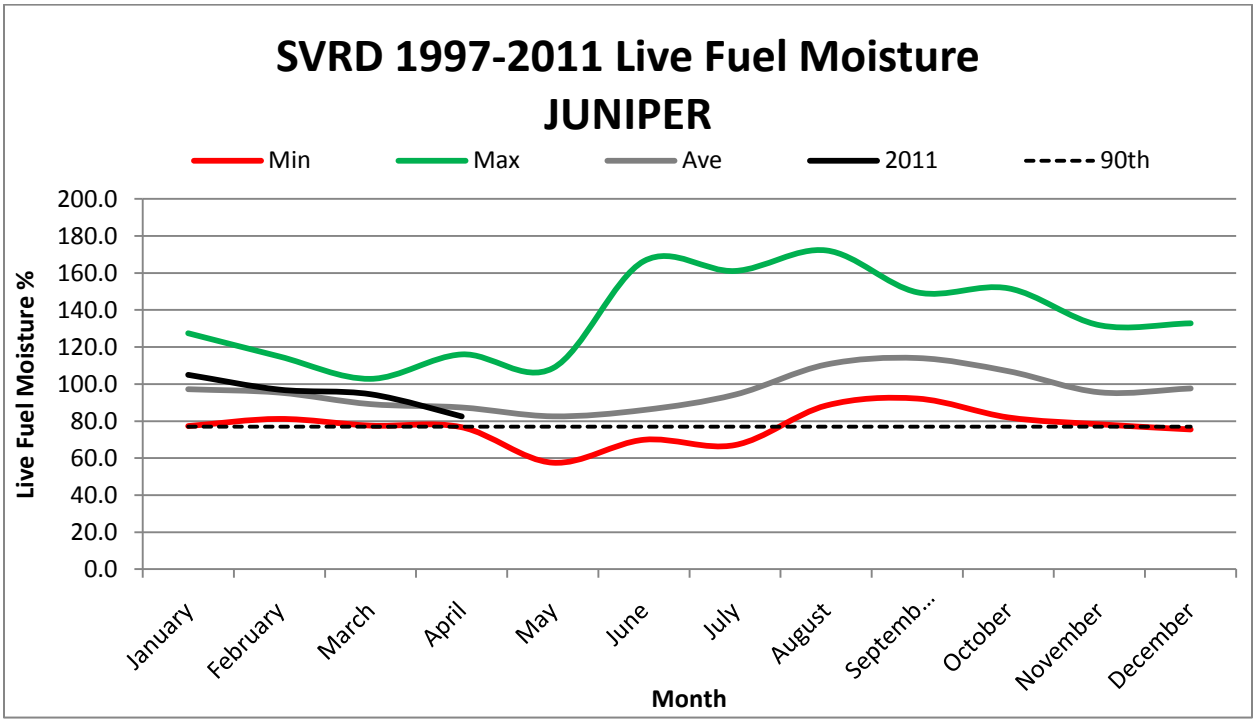

Figure 4. Live fuel moistures in the Junipers are almost at the 90th percentile.

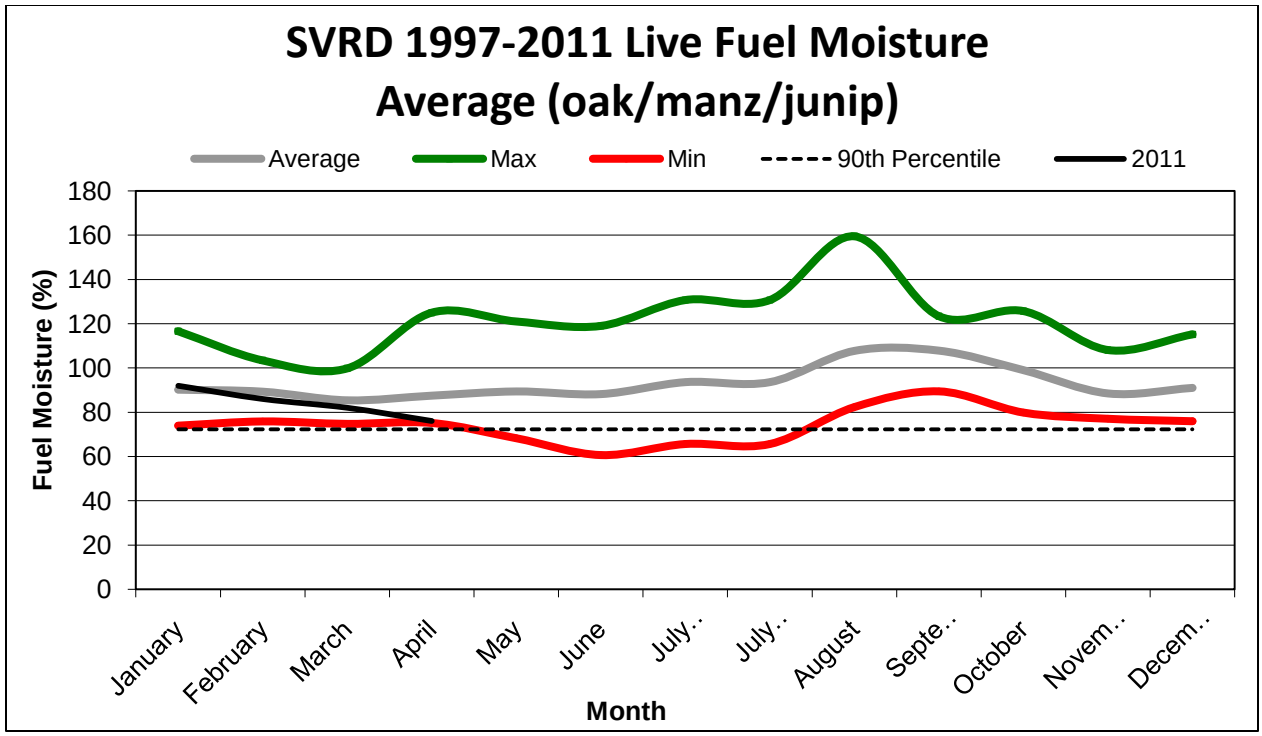

Figure 5. Average fuel moistures across the three main brush types are at the 90th percentile.

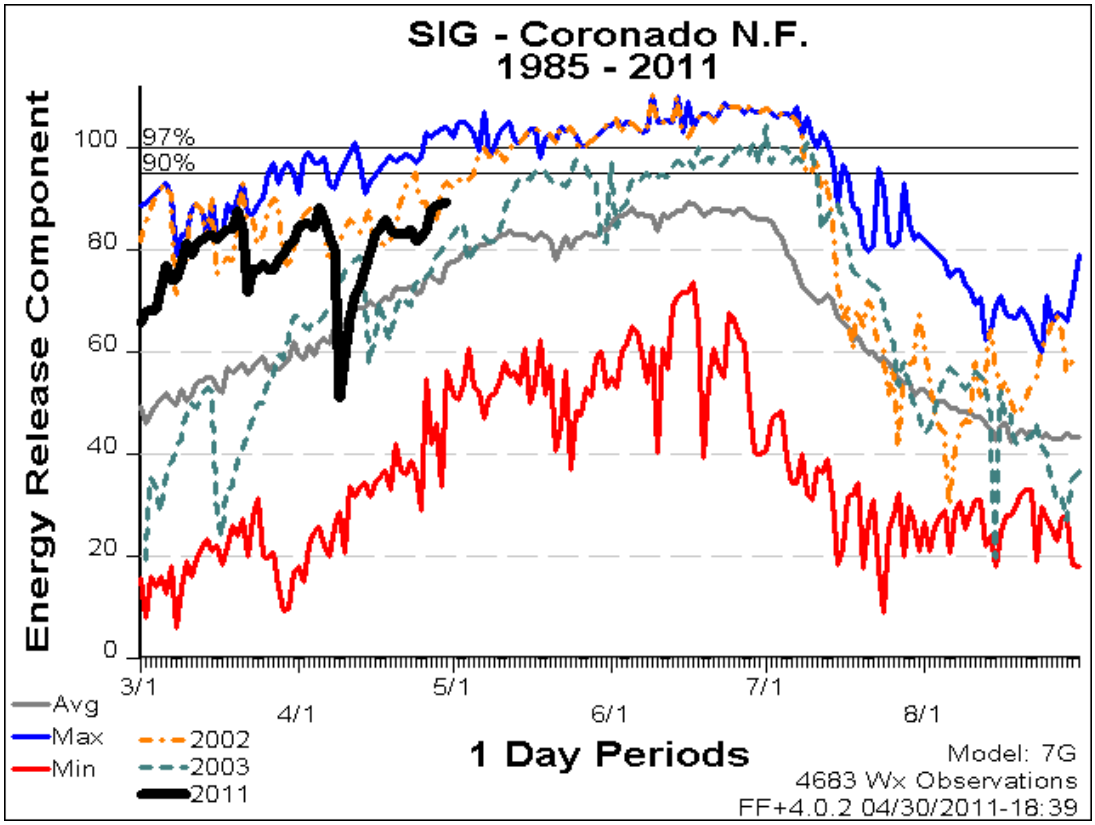

Figure 6. ERC based on the Coronado SIG (Saguaro, Columbine, Sasabe, Muleshoe RAWS)

The ERC's and 1000 hours are showing the same trends. The Coronado SIG (the group of four RAWS used to make the Coronado NF Pocket Card) is currently showing the ERC's and 1000 hour fuels to be in the 80th percentile and aligned with other historically big fire years on the Coronado (Figures 6 and 7).

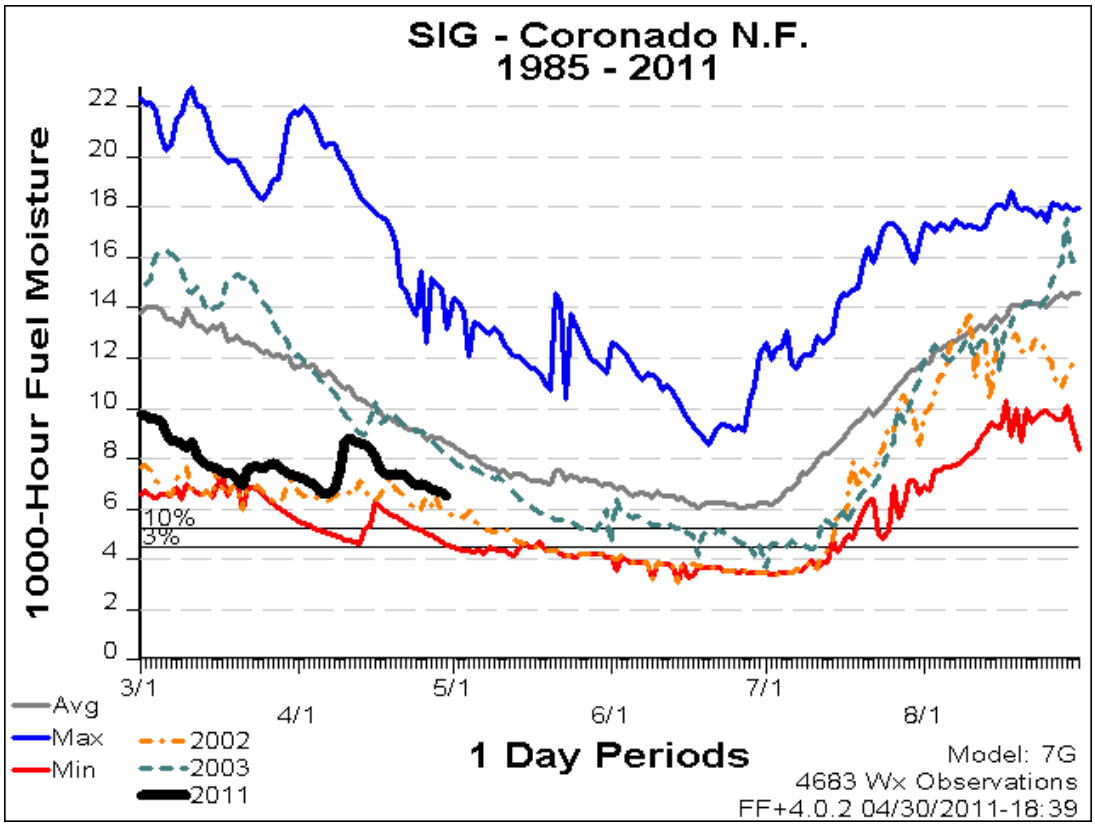

Figure 7. 1000 Hour fuels based on the Coronado SIG (Saguaro, Columbine, Sasabe, Muleshoe RAWS)

Summary

Conditions on the Coronado are setting up to align with the peak of the Fire Season. The Forest received above average precipitation in 2010 which allowed for abundant growth and continuity of grasses. This has been followed by well below average precipitation since October 2010. The hard freeze in early February compounded the situation by further stressing the majority of the oaks along the 4000 to 6000 foot gradient. Conditions above 6000-7000 feet are slightly better but expected to follow suit due to the lack of winter moisture.

May, June, and early July are the hottest months of the year on the Coronado; conditions are aligning with the low and mid elevation fuels with the majority of the brush types at or near the 90th percentile. With no significant relief expected until the onset of the monsoon in early July, expect conditions to continue to deteriorate. Wildfires over the past two months have progressively shown more aggressive fire behavior. Expect fires in the low to mid elevation ranges to get big and difficult to manage with only a little wind or slope. Higher elevations will likely become more active as we move through the next 30-60 days. Direct suppression tactics will likely be difficult or impossible without the support of engines or aircraft. Make sure good safety zones are established, good black or areas void of fuel. Maintain good situational awareness at all times and don't underestimate the fine flashy fuels.

Picture 1. The majority of Frost damaged oaks on the Sierra Vista Ranger District still not greening up.

Picture 2. Oaks mid-slope Stump Canyon Sierra Vista Ranger District

Picture 3. Oaks showing green up in the bottom of the Montezuma Canyon but not on the mid-slopes in the Coronado National Memorial.

Picture 4. Oaks mid-slope in Ash Canyon Sierra Vista Ranger District

Picture 5. Spotty green up across the eastern foothills of the Huachuca Mountains

Picture 6. Green up in the Hunter Canyon Hazardous Fuel Reduction project, Sierra Vista Ranger District

Picture 7. Green up occurring in the treated portion of the Ash Canyon Hazardous Fuels Treatment (right), left side untreated.