

# SOUTHEAST ARIZONA FIRE WEATHER ANNUAL REPORT 2008

## **1. Summary**

Winter 2008 started with temperatures near normal and rose to slightly above normal in February. Only two significant systems would impact Southeast Arizona this season, the first producing 6 to 8 inches of rainfall in the Catalinas, 2 to 4 inches of rainfall in the Rincons but only an inch or less in the valleys, and the second producing widespread rainfall amounts ranging between 1 and 2 inches. The second system broke Tucson International Airport's record rainfall for February 15<sup>th</sup> with 0.94 inches. January 1, 2008 began about a half inch under normal precipitation values. Spring proved to be drier and warmer than normal. May was an unusual month by being the coldest since 1998, and producing an unusually strong low pressure system late in the month. Wind speeds in advance of this system on May 21<sup>st</sup> would gust in excess of 45 mph, which caused containment issues on the Frye Mesa prescribed burn by turning it into a wildfire. This wildfire was short lived as this system produced enough precipitation in both rain and snow to extinguish it. Even with this last minute shot in the arm, spring 2008 continued to be statistically below normal with the precipitation deficit reaching 1.37 inches.

The summer Monsoon season continued to be warmer than normal, but was active by producing above average precipitation. While precipitation amounts varied greatly over Southeast Arizona, Tucson International Airport saw 5.28 inches of rainfall, exceeding statistical normal by two-thirds of an inch. This active monsoon brought a much needed boost to yearly precipitation values, but ultimately fell short of normal by 0.7 of an inch.

Fall continued the theme of warm and dry conditions ranking as both the 6<sup>th</sup> warmest and 6<sup>th</sup> driest autumn on record. Only one storm system of significance moved through the area on Thanksgiving weekend with storm total precipitation of one inch or less. This increased the yearly rainfall deficit to almost 3 inches. As 2008 came to a close, December proved to be warm, but it would also be the first December since 1997 to actually reach statistical normal precipitation. The bulk of this month's precipitation came over the holidays, as a series of strong winter storms moved through the area starting the 23<sup>rd</sup> and continuing through the 27<sup>th</sup>. These two storms brought total precipitation ranging from 1.25 to 1.75 inches of rainfall in the valleys and 8 to 28 inches of snow in the surrounding mountains. This last bout of precipitation still fell three inches short of getting Southeast Arizona to normal precipitation values, ranking this year as the 23<sup>rd</sup> driest on record.

Four fires/complexes had either Type I or Type II Incident Command Teams attached: the Solano, Alamo/Beehive, Frye Mesa and Distillery. These fires burned a total of 19,090 acres. WFO Tucson had 7 IMET dispatch days.

Thirty-eight fire weather watches were issued this year, twenty-seven of which were upgraded to Red Flag Warnings. Twenty of these would verify. Spot forecasts for wildfires increased from 60 for 2007 to 83 in 2008 while prescribed burns were down this year to 86 from 101 last year.

## **2. Fire Weather Watch/Red Flag Warning Verification**

For an event to occur, the fire danger rating, minimum relative humidity, and wind speed values (sustained and/or gusts) must have met the following criteria listed below (for 3 or more hours) and published in the 2008 Southwest Area Operations Plan.

Fire Danger Rating:	High or greater
Minimum Relative Humidity:	15 percent or less
Sustained Wind Speed (ASOS):	25 mph or greater
Sustained Wind Speed (RAWS):	20 mph or greater
Wind Speed Gusts:	35 mph or greater

In referring to the 2007 Annual Report, a problem was apparent in the verification of Zone 146, so this year an attempt was made to use only one observing station to verify this Zone. However, 2 stations, Stray Horse RAWS in Zone 146 and Horse Camp RAWS in Zone 147 had significant jumps in the number of Red Flag events. In comparing this year's data to data from the previous 5 years for both stations, this deviation from the average is such that the quality of data from each station must be brought into question. To attempt to mitigate the bad data for Zones 146 and 147, each of the statistics for these zones had the bad data removed.

### **Red Flag Zone Verification Statistics:**

<u>Zone</u>	<u>POD</u>	<u>FAR</u>	<u>CSI</u>	<u>Avg. Lead Time</u>	<u>Issued</u>
146	0.93	0.57	0.56	17.50 Hours	11
147	1.0	0.71	0.20	18.42 Hours	7
148	1.0	0.52	0.48	14.55 Hours	23
District	1.0	0.44	0.49	16.82 Hours	41

### **Fire Weather Watch Zone Verification Statistics:**

<u>Zone</u>	<u>Issued</u>	<u>Upgraded to RFW</u>	<u>Verified</u>	<u>Avg. Lead Time</u>
146	14	9	7	43.08 Hours
147	6	3	4	44.08 Hours
148	18	15	9	38.69 Hours
District	38	27	20	41.95 Hours

## **3. Spot Forecasts**

<u>Zone</u>	<u>Wildfires</u>	<u>Prescribed</u>	<u>Other</u>	<u>Total</u>
146	16	40	0	56
147	11	11	0	22
148	56	35	4	91
District	83	86	4	169

#### **4. IMET Dispatches**

IMET: Steven M. Reedy

Days out of the office: 7

Number of Fires: 2

- Frye Mesa (near Safford, AZ) May 22<sup>nd</sup> to May 23<sup>rd</sup>
- Distillery (near Vail, AZ) June 26<sup>th</sup> to June 30<sup>th</sup>

#### **5. Fire Weather Teaching Assignments**

<u>Course</u>	<u>Location</u>	<u>Dates</u>	<u>Instructor</u>
S290	Tombstone, AZ	2/9 to 2/10	Steven M. Reedy
S290	Snowflake, AZ	4/19 to 4/20	Steven M. Reedy