



# MESONET WEATHER CAMP | FIRST ANNUAL

—by Danny Mattox

**IT WAS A WEEK OF WEATHER WONDER** and learning for middle and high school students. Students visited weather facilities housed at the National Weather Center in Norman, checked in with Rick Mitchell at KOCO TV and explored weather physics at the Science Museum Oklahoma.

The first annual Oklahoma Mesonet Weather Camp was held June 5-10 at the National Weather Center in partnership with OU's Precollegiate Program. The weeklong camp introduced middle and high school students to advanced meteorology concepts and careers in meteorology. While the majority were Oklahoma students, participants came from as far away as California.

Students learned about the complexity of monitoring and forecasting weather through a variety of hands-on investigations. Students investigated sunlight levels using solar cars, wind-resistant housing designs and instrument calibration with tipping bucket rain gauges.

In addition to the lessons, the students toured the National Weather Service, the Storm Prediction Center, an Oklahoma Mesonet site and the Oklahoma Mesonet instrument calibration lab. One of their tour highlights was checking out storm chaser mobile mesonet and radar vehicles. They also launched a weather balloon with a National Weather Service meteorologist.

On day four, students traveled to Oklahoma City to visit the facilities of KOCO and Science Museum Oklahoma. During their tour of KOCO, the campers got to try out their weathercasting skills in front of a green screen and talk with chief meteorologist Rick Mitchell about the life of a TV meteorologist. That night, the Mesonet Weather Camp visit was featured on the 10:00PM news. Their next stop was Science Museum Oklahoma, where they were exposed to



Mesonet Weather Camp students study the tornado simulator at Science Museum Oklahoma. Severe weather was a part of the curricula at this year's weather camp.

many different fascinating scientific concepts and gadgetry. The most popular was the tornado simulator, of course!

For their final day, students took over the atrium in the NWC lobby and demonstrated activities from earlier in the week for their parents. A number of older students expressed interest in becoming mentors for future Mesonet Weather Camps, while younger ones said they "want to come back next year." The campers unanimously gave the program high marks, with many describing it as "the best experience of their lives." ■

# MESONET IN PICTURES

## *Mesonet Weather Camp*

- Mesonet Weather Camp students spent an afternoon at the studios of KOCO with meteorologist Rick Mitchell. Their visit was featured on the 10:00PM newscast that evening.



## *Mesonet Weather Camp*

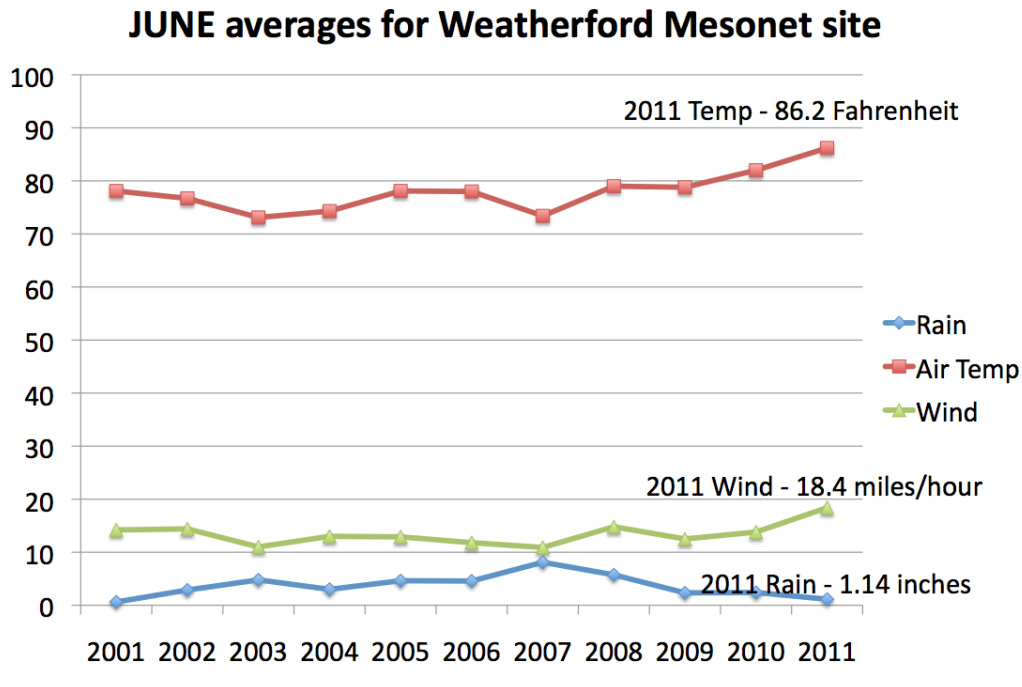
- Students calibrate a tipping bucket rain gauge employing the same procedures Mesonet technicians use in the lab.



# MESONET IN PICTURES

## June Averages for Weatherford Mesonet Site

- This graph shows June averages of air temperature, wind speed and rainfall recorded by the Weatherford Mesonet station from 2001 to 2011.



## Mesonet Station Monthly Summaries

- To access Mesonet Station Monthly Summaries for any Mesonet station back to January 1994, first click on "Weather" in the top menu bar. From the left menu, choose "Past Data & Files." Select "Station Monthly Summaries" table, then set year, month, display format and site.

MESONET CLIMATOLOGICAL DATA SUMMARY													June 2011		Time Zone: Midnight-Midnight CST								
(WEAT) Weatherford													Nearest City: 4.0 WSW Weatherford		County: Custer								
Latitude: 35-30-29													Longitude: 98-46-30		Elevation: 1765 feet								
DAY	TEMPERATURE (°F)				DEG DAYS		HUMIDITY (%)			RAIN (in)		PRESSURE (in)		WIND SPEED (mph)			SOLAR (MJ/m <sup>2</sup> )		4" SOIL TEMPERATURES				
	MAX	MIN	AVG	DENPT	HDD	CDD	MAX	MIN	AVG	STN	MSL	DIR	AVG	MAX	SOD	BARE	MAX	MIN	NA	NA	NA		
1	93	73	82.0	65.4	0	18	91	34	61	0.00	28.26	30.13	SSE	16.7	32.3	25.35	76.9	NA	NA	NA			
2	95	72	82.8	53.5	0	19	64	19	40	0.00	28.10	29.97	SSE	20.2	44.0	24.79	76.0	NA	NA	NA			
3	98	75	85.5	53.6	0	21	64	18	36	0.00	28.08	29.95	S	21.9	43.3	30.58	76.3	NA	NA	NA			
4	96	73	83.6	50.0	0	19	57	13	35	0.00	28.23	30.10	SSE	14.5	28.6	29.80	77.0	NA	NA	NA			
5	97	71	84.1	52.2	0	19	56	15	36	0.00	28.21	30.08	SSW	13.6	29.9	29.50	77.3	NA	NA	NA			
6	99	72	85.6	53.0	0	20	65	14	38	0.00	28.08	29.94	S	15.9	31.6	30.52	77.9	NA	NA	NA			
7	100	72	86.9	55.8	0	21	71	18	39	0.00	27.95	29.81	SSE	21.0	42.0	29.02	78.6	NA	NA	NA			
8	101	78	87.4	58.6	0	24	54	21	40	0.00	27.92	29.77	S	23.7	39.7	29.43	79.1	NA	NA	NA			
9	99	76	85.8	59.3	0	22	65	25	43	0.00	27.94	29.80	S	20.5	40.7	26.06	79.6	NA	NA	NA			
10	97	69	82.0	59.8	0	18	93	27	50	0.60	27.98	29.84	SSE	17.3	58.6	27.99	79.6	NA	NA	NA			
11	91	66	76.8	65.4	0	13	96	38	71	0.00	28.04	29.90	ENE	13.2	31.0	25.31	77.9	NA	NA	NA			
12	99	64	82.4	59.4	0	16	95	23	52	0.00	27.98	29.83	SSE	21.1	48.4	30.15	77.8	NA	NA	NA			
13	105	76	89.8	49.7	0	25	52	11	29	0.00	27.95	29.81	SSW	21.7	46.4	30.95	78.7	NA	NA	NA			
14	100	74	87.2	54.8	0	22	65	18	35	0.00	27.92	29.77	SSW	20.4	44.6	29.43	79.1	NA	NA	NA			
15	98	66	83.4	58.7	0	17	88	18	49	0.00	27.97	29.83	SE	12.8	28.3	31.07	79.5	NA	NA	NA			
16	103	75	88.8	59.8	0	24	72	18	42	0.00	27.82	29.67	SSE	23.8	45.6	30.00	80.7	NA	NA	NA			
17	107	81	92.1	51.5	0	29	60	10	30	0.00	27.77	29.61	S	20.5	42.4	31.38	81.3	NA	NA	NA			
18	102	73	87.7	54.8	0	23	58	15	35	0.00	27.84	29.69	W	11.2	29.9	31.46	81.3	NA	NA	NA			
19	107	77	92.1	57.6	0	27	58	15	34	0.00	27.74	29.58	SSW	24.4	47.1	29.12	81.6	NA	NA	NA			
20	104	71	87.9	51.1	0	22	67	5	36	0.00	27.69	29.53	S	26.7	48.2	29.73	82.2	NA	NA	NA			
21	94	62	79.1	46.9	0	13	72	15	37	0.00	27.95	29.81	WNW	10.5	31.9	31.06	80.2	NA	NA	NA			
22	98	68	83.4	42.2	0	18	45	14	26	0.00	28.05	29.91	NE	7.3	21.7	28.08	80.0	NA	NA	NA			
23	105	68	88.0	47.3	0	21	54	12	27	0.01	28.01	29.86	S	13.2	34.8	27.25	80.6	NA	NA	NA			
24	104	77	89.7	54.0	0	25	55	13	33	0.00	27.89	29.75	SSW	23.4	48.0	30.17	81.5	NA	NA	NA			
25	108	78	92.1	61.4	0	28	69	17	40	0.00	27.83	29.68	S	24.8	45.3	31.24	82.8	NA	NA	NA			
26	108	79	93.6	62.8	0	29	63	21	39	0.00	27.83	29.68	S	25.9	44.4	30.45	84.0	NA	NA	NA			
27	100	78	89.3	62.7	0	24	67	31	42	0.00	27.98	29.84	NE	18.6	34.7	27.83	84.6	NA	NA	NA			
28	92	67	80.6	65.5	0	14	97	39	62	0.42	28.15	30.01	ENE	13.8	46.3	27.41	83.3	NA	NA	NA			
29	101	69	86.6	61.9	0	20	81	24	47	0.11	28.10	29.97	S	16.0	43.9	24.70	81.0	NA	NA	NA			
30	104	77	90.4	57.6	0	25	57	19	36	0.00	28.07	29.93	S	16.7	32.5	30.86	81.6	NA	NA	NA			
100 72 86.2 56.2													<- Monthly Averages ->		27.98 29.84		S 18.4 58.6			29.02 79.9 NA NA NA			
Temperature - Highest: 108							Degree Days - Total HDD: 0					Number of Days With:											
Lowest: 62							Total CDD: 638					Tmax ≥ 90: 30											
Rainfall: Monthly Total: 1.14 in.							Humidity - Highest: 97					Rainfall ≥ 0.01 inch: 4											
Greatest 24 Hr: 0.60 in.							Lowest: 5					Tmax ≤ 32: 0											
												Rainfall ≥ 0.10 inch: 3											
												Tmin ≤ 32: 0											
												Avg Wind Speed ≥ 10 mph: 29											
												Tmin ≤ 0: 0											
												Max Wind Speed ≥ 30 mph: 25											



# DROUGHT WITH AN EXTRA BOOT

—by Al Sutherland

**WE EXPECT DRYNESS** with a drought. We expect heat with a drought. The unexpected boot to the drought of 2011 was the wind in April, May and June. On many days, strong daytime winds continued on through the night.

Ron Wright, OSU Extension Educator for Custer County, said, “I’ve been asked, if it has been this hot before? Yes. What was different this year was the constant wind. It just kept on blowing.”

The above average air temperatures and wind speeds blasted plants and sucked away soil moisture. With so little rain and so much evaporation, Oklahoma drought impacts continue to get worse.

In Western Oklahoma, abandonment of winter wheat fields have been all too common. Summer pasture has produced little feed for livestock. Summer crops look like they will follow in the footsteps of low yielding to non-existent winter crops. Low hay production will leave ranchers severely short on feed for the winter of 2011-2012.

Low rainfall is even forcing farmers with irrigation to make tough choices. They just don’t have enough water to meet all

their planted crops need. This means abandoning portions of a field or choosing to water one crop and abandon another. Whatever the farmer chooses, it means lost farm revenue.

Weatherford is known for its wind. The recently installed wind farm turbines are a testament to Weatherford’s wind. Yet even in windy Weatherford, 2011 gave us a new high in wind speed averages. The wind average for the month of June at the Weatherford Mesonet site came in at 18.4 miles per hour. That is the highest monthly wind average for any station in the history of the Oklahoma Mesonet.

The chart on page three shows June 2011 air temperature, rain and wind in Weatherford compared to the previous ten years. The lowest rainfall was in 2001, with 2011 the second lowest. June averages of air temperature and wind showed a significant increase for 2011 compared to the previous ten years.

We can only hope that a break in this dry pattern comes sooner, rather than later. And the wind goes from blowing to breezy. ■



# Drought flourishes during hot, dry June

By Gary McManus, Associate State Climatologist

## JUNE WRAP-UP

The meager amount of rain that managed to fall on Oklahoma during June was no match for the extreme heat and wind that was so prevalent for much of the month. The statewide average rainfall total for June was 1.17 inches, more than 3 inches below normal and the fourth driest June on record dating back to 1895. Southwestern Oklahoma suffered through its driest June on record with an average of 0.52 inches.

Add heat to the equation and you have the ingredients for drought intensification. That is exactly what occurred during what became the second warmest June on record. The statewide average temperature finished seven degrees above normal at 83.5 degrees, second only to 1953's 84.6 degrees. For southwestern and west central Oklahoma, where high temperatures averaged more than 100 degrees during the month, it was the warmest June on record. Altus' average high temperature of 104.8 degrees is the highest recorded by the Mesonet for any month.

The latest U.S. Drought Monitor map released on June 30 indicates 33 percent of Oklahoma – virtually the entire western third of the state – is experiencing exceptional drought, the highest designation on the drought intensity scale. Severe-to-exceptional drought covers nearly 56 percent of the state.

The Oklahoma Mesonet site at Seiling led the state's precipitation totals with 4.77 inches. The Mesonet sites at Ketchum Ranch and Grandfield had the lowest totals at a hundredth of an inch. Of the 120 Mesonet sites, 36 had less than a half-inch of rainfall during what is normally Oklahoma's second wettest month. Grandfield was the warmest location in the state with an average temperature of 89.9 degrees, the third highest average recorded by the Mesonet for any month. Kenton enjoyed the state's coolest weather with an average of 76 degrees. The highest temperature of the month was 115 degrees at both Erick and Hollis on the 26th. The lowest reading was 49 degrees at Kenton on the eighth. The average wind speed at Weatherford during June was 18.4 mph. That is the highest average wind speed ever measured for any month by the Oklahoma Mesonet. Wind measurements began in 1994. Seven of the top 20 monthly average wind speeds recorded by the Mesonet occurred during June 2011.

# 3"

## BELOW

normal statewide June rainfall

# 7°F

## ABOVE

normal statewide June  
air temperature average

# 33%

## D4 DROUGHT

percent of Oklahoma  
in highest drought rating  
on June 30

# 18.4 mph

## HIGHEST

monthly wind speed average  
for a Mesonet site

## CALENDAR

### JULY

- ▶ 5th: Speaker Service at Purcell Library, Shawnee Library
- ▶ 6th: Speaker Service at Blanchard Library, Newcastle Library
- ▶ 7th: Speaker Service at McLoud Library, Tecumseh Library
- ▶ 9th: Speaker Service at Norman Library
- ▶ 13th: Speaker Service at Noble Library
- ▶ 14th: Speaker Service at Earlywine YMCA Library
- ▶ 19-22nd: EarthStorm Teacher Workshop, Norman
- ▶ 22-23rd: Oklahoma No-till 2011 Conference, Norman
- ▶ 28-30th: Oklahoma Cattlemen's Convention, Midwest City

### AUGUST

- ▶ 17th: Mesonet Steering Committee Meeting, Stillwater
- ▶ 22nd: OK-FIRE Training Workshop, Guymon
- ▶ 22nd: First day of classes, University of Oklahoma and Oklahoma State University
- ▶ 22nd: OK-First Refresher, Oklahoma Emergency Manager Conference, Norman
- ▶ 23rd: OK-FIRE Training, Oklahoma Emergency Manager Conference, Norman
- ▶ 29th-Sept 1: OK-First Certification Course, Norman

## CONTACTS

Accessing recent (within the past 7 days)  
Mesonet data

Contact: [Mesonet Operator](#)

Instrumentation, telecommunications, or  
other technical specifications

Contact: [Chris Fiebrich](#)

Mesonet agricultural data and products

Contact: [Al Sutherland](#)

Mesonet meteorological data

Contact: [OCS Data Requests](#)

K-12 educational outreach

Contact: [Andrea Melvin](#)

OK-First

Contact: [OK-First Staff](#)

OK-FIRE

Contact: [J.D. Carlson](#)

Not sure?

Contact: 405-325-2541 or [Chris Fiebrich](#).

## FORECAST FOR JULY

[Click here to view the original maps from the Climate Prediction Center.](#)

