



The West Texas

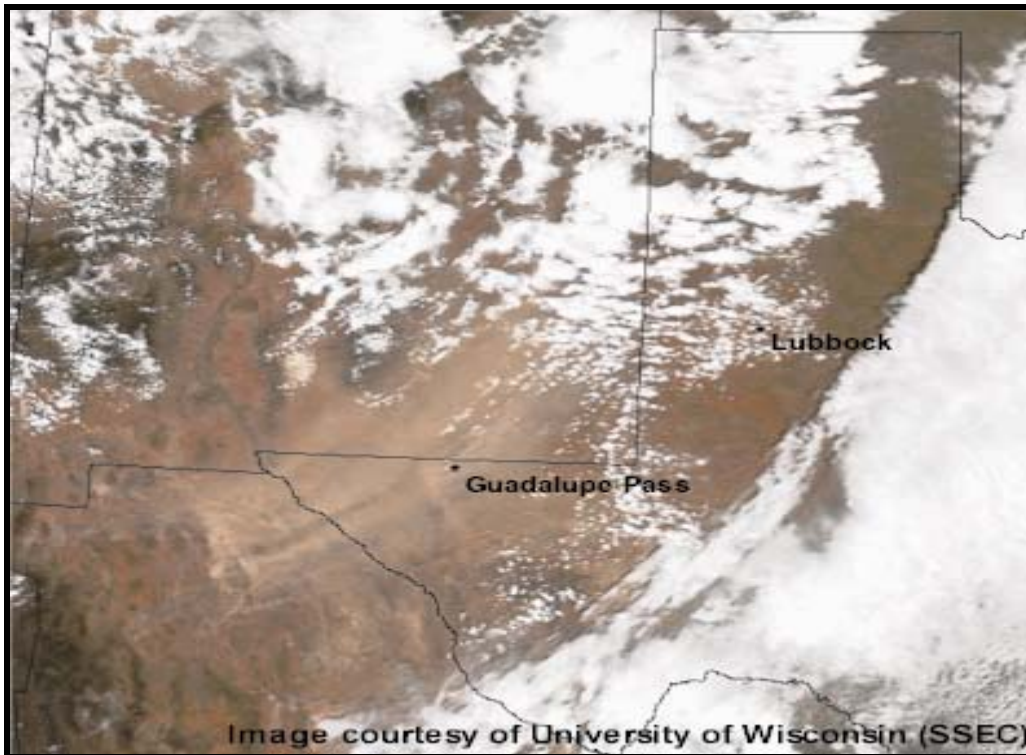
# TWISTER



Summer 2003

NATIONAL WEATHER SERVICE FORECAST OFFICE LUBBOCK TEXAS

## The April 15, 2003 High Wind Event/Dust Storm



By Mark Conder,  
Forecaster

A powerful upper-level low pressure system moving over West Texas from the South-western U.S. was responsible for the worst dust storm in several years over the South Plains. Large plumes of dirt carried from New Mexico, West Texas, and Northern Mexico into the South Plains caused visibilities to drop to as low as 1/8 mile at some locations. In addition, this system produced numerous severe thunderstorms that formed on a sharp dry-

The image (above) from the NASA TERRA satellite shows the dust storm in progress over West Texas around noon CDT. Note the streaks of dust over Far West Texas.

line and brought large hail and damaging wind gusts to the area. Roof damage was the most common damage report. There were reports of high profile vehicles being blown over and various structures were damaged by wind and hail. Two tornadoes also developed in Childress County, one of which produced F1 damage in Kirkland. Golfball size hail was reported in Floydada. The National Weather Service Office in Lubbock issued nineteen severe thunderstorm and tornado warnings for the event as well as a high wind warning. (Continued on page 2)

### *What's in this edition...*

**January through June Rainfall totals across the South Plains**

### **Coop News**

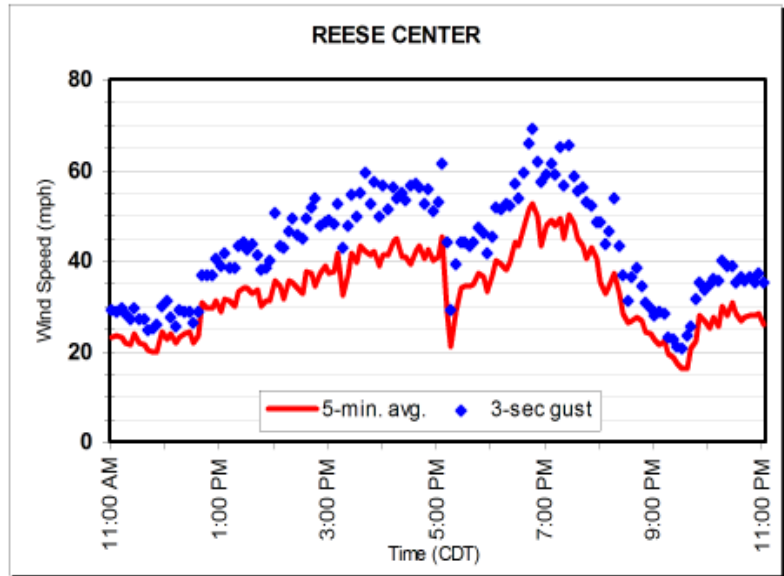
**Gridded Forecast Database and Products**

(continued from page 1— April 15 High Wind/Dust Storm)

Stations of the West Texas Mesonet provided five-minute updates of the wind speed and direction and were very useful to forecasters tracking the storm. There are 37 mesonet weather stations scattered across the South Plains area. Below is a partial list of high wind reports received from stations of the West Texas Mesonet: (\* - denotes a thunderstorm wind gust)

3 mi N of Roaring Springs*	79 mph	7:10 pm
1 mi SE of Ralls	78 mph	6:20 pm
3 mi N of Plains	71 mph	6:10 pm
4 mi S of Levelland	71 mph	6:45 pm
1 mi N of O'Donnell	70 mph	7:25 pm
Reese Center	69 mph	6:45 pm
2 mi NE of Friona	68 mph	2:55 pm
2 mi NE of Floydada	67 mph	5:45 pm
5 mi SW of Graham	67 mph	7:00 pm

Other high wind reports included a 67 mph gust at the Lubbock International Airport, a 55 mph gust at the Childress Airport, and a 98 mph gust at Guadalupe Pass.



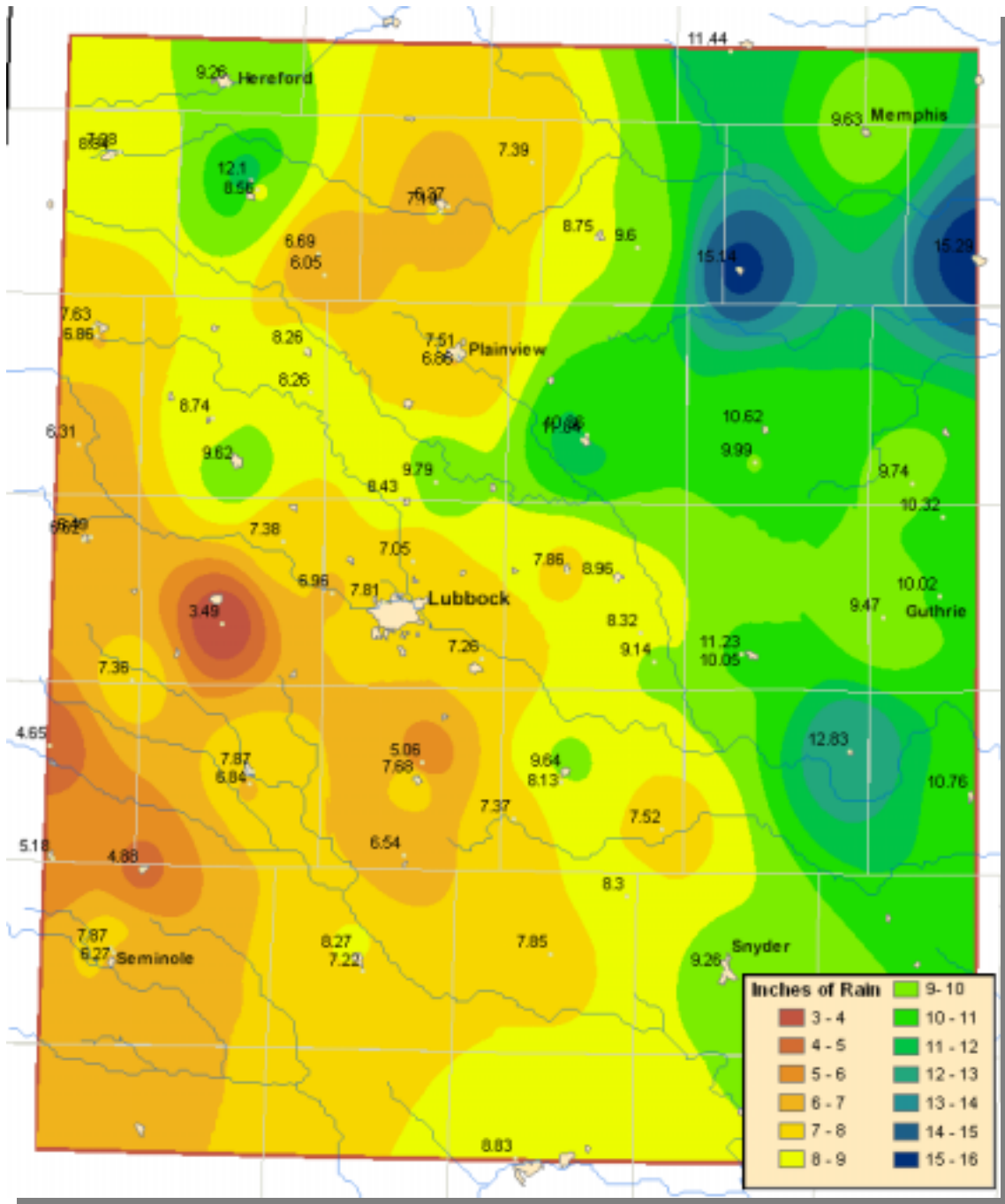
A graph (right) of the wind observations from the mesonet station at Reese Center shows several interesting features.

The high winds prior to 5 pm were ahead of the dryline. Thunderstorms developed along the dryline near Lubbock and then moved rapidly northeast. There was a brief drop in the wind speed before the cold front “caught up” with the dryline and came sweeping through around 7 pm. One remarkable feature of the graph is how the average wind speed remained at or above 40 miles per hour for approximately 7 hours.

## Spotters – Great Job!

Despite getting off to a rather slow start, we ended up having a fairly active severe weather season across the South Plains area this past spring. From April through June, we issued 263 severe thunderstorm and tornado warnings for the 24 counties in our warning area. Storm spotters from across the South Plains, extreme southern Texas Panhandle, and Rolling Plains played an important role in our warning program by providing us real-time reports of severe weather and visual evaluations of storm structure, which were used to complement our radar observations. Many thanks to all of our spotting teams for their dedicated efforts this spring!

# January—June Rainfall Across the South Plains



map by Mark Conder, Forecaster

Rainfall observations from the South Plains Area including data obtained from the NWS Cooperative Observers and the West Texas Mesonet stations through

## Plainview weather observation now available to the world!

By Jody James, Senior Forecaster

The Plainview Airport AWOS (automated) observation is now being transmitted to FAA and National Weather Service circuits, which means it will be available to pilots, weather forecasters, and the general public. With assistance from state grants, and funds provided locally, the Plainview Airport Board voted last year to purchase a satellite uplink system that transmits the observation through a private vendor in Minnesota, which then sends the data to the world. The data were previously available via telephone and aircraft radio only. This airport observation can now be accessed by pilots for pre-flight briefings, and in-flight if the aircraft is equipped with data link services. The National Weather Service in Lubbock looks forward to using this important weather observation to better assess weather conditions in the Plainview area, and improve forecasts.

## Coop – News

by Johnny Wallace, DAPM

New weather reporting systems, still in a testing phase, are WXCODER, a web based on-line system requiring a computer, an active email address and on-line access, and IV-ROCS, a phone-in access system requiring a touch-tone telephone. The Lubbock Weather Forecast Office (WFO) is one of the test sites for the new WXCODER reporting system. For those of you who have a computer and on-line access, I would suggest that you contact us so we can set up your account and start using the system. It is very easy! The data returns very quickly to us. Those Coop Observers who don't have a computer or on-line access should try to use the new IV-ROCS phone system. It is somewhat slower than the web-based system, but not difficult to get used to. IV-ROCS resembles many phone-in systems now in use by most companies and businesses throughout the world.

I know what most of you are thinking, "Why do we have to change reporting methods, again?" As computers continue to increase in both usage and capabilities, the older systems, like PCROSA, become more difficult to support and replacement hardware parts are more difficult to find. As the systems fail, they will not be replaced. All of our Coop-Observers have been very understanding about problems with PCROSA and in learning the new systems. Many of you have made the switch with few problems. We plan on getting into the field as quickly as possible to work with the observers that are having problems or that want additional training on the new systems. Hopefully the change to one of the new systems won't be too painful.

Again, I say that our Coop-Observers are among the best in the country. Your patience and understanding of this sudden change to these new systems is greatly appreciated by all of us at the WFO. If you have any further questions or any problems with the new systems please do not hesitate to call. I thank all of you for what you do for us.

# NWS's Gridded Database and Products

by Robert Barritt, Senior Forecaster

In December 2002 the Lubbock forecast office began producing its forecasts in a new way. Historically, a forecaster would analyze current and recent weather conditions as well as forecast data produced by a series of computer models, use his training to formulate the expected weather conditions, then transfer that forecast from the brain to paper. This would result in a series of text products. However, late last year the final parts of this equation changed. Instead of placing our forecast onto paper via a word processor, we now produce our forecasts using a graphics program. You might say it is similar to a "paint"-style program. The computer then takes our graphical forecast and places the forecast information into a gridded digital database.

What does this "mumbo-jumbo" mean? It means that we are able to process and pass along more forecast information in a wider variety of formats. Rest assured, our traditional text products remain. For example, you can still locate the zone forecasts at our website. However, you will also find graphical forecasts using maps, contours, and colors.

Also at our website you can find tabular products which range from the simple to the complex. And finally, our forecasts are beginning to be compiled with those of all the other forecast offices in the country. This will comprise a digital database from which computers can go in and grab the forecast for any point or series of points in the country for the times that are desired and for as few or as many forecast parameters as are needed.

Two new products you may find useful are the State Tabular Forecast and the Point Forecast Matrices. The State Tabular Forecast gives a brief overview of the expected weather conditions for the next seven days for nine cities that represent all parts of our forecast area. This forecast gives the expected predominant weather (e.g., Partly Cloudy, Thunderstorms or Snow), the high and low temperatures and the probability of precipitation. For more detailed information at these nine cities turn to the Point Forecast Matrices. This product gives three, six or twelve hourly forecasts of temperatures, dewpoints, relative humidities, wind speed and direction, cloud cover, probability of precipitation and amount of precipitation. This product would serve those people who need a forecast for sometime other than sunrise and late afternoon or for someone who needs to see how a weather parameter might change during the course of the day. If you need to know what the temperature is going to be at about 10 am, you can find it in the Matrices. Or maybe you need to know what the relative humidity is going to be at 3 pm tomorrow afternoon. That, too, is there.

We are excited to be able to bring you forecast information for the area in formats that we expect will be more useful and efficient to you.

Below is an example of a *Point Forecast Matrix* for the city of Brownfield.

BROWNFIELD-TERRY TX  
33.18N 102.27W  
317 PM CDT SAT JUL 19 2003

DATE	SUN 07/20/03						MON 07/21/03						TUE																	
UTC 3HRLY	20	23	02	05	08	11	14	17	20	23	02	05	08	11	14	17	20	23	02	05	08	11								
CDT 3HRLY	15	18	21	00	03	06	09	12	15	18	21	00	03	06	09	12	15	18	21	00	03	06								
MIN/MAX	69						100						71																	
TEMP	97	98	88	79	73	70	79	89	97	99	86	79	74	71	78	89	95	95	83	77	73	69								
DEWPT	50	48	52	54	55	58	60	54	47	47	51	53	55	57	60	62	59	53	53	57	60	60								
RH	21	18	29	42	53	66	53	31	18	18	30	41	51	62	54	40	30	25	36	51	64	73								
WIND DIR	S	S	SE	S	S	SW	SW	S	S	S	S	S	S	SW	SW	SW	S	SE	SE	E	SE	S								
WIND SPD	12	12	12	10	10	9	12	12	13	14	13	10	11	10	11	9	8	5	6	9	10	11								
CLOUDS	FWSCFWFWFWFWFWFWFWSCSCSCSCSCSCSCSCSCSCSCSC																													
POP 12HR	0						0						0						20						20					
QPF 12HR	0						0						0						0.10						0.21					
TSTMS							S						S						S						S					

DATE	07/22/03 WED			07/23/03 THU			07/24/03 FRI			07/25/03 SAT			07/26/03											
UTC 6HRLY	17	23	05	11	17	23	05	11	17	23	05	11	17	23	05	11	17	23	05	11	17	23		
CDT 6HRLY	12	18	00	06	12	18	00	06	12	18	00	06	12	18	00	06	12	18	00	06	12	18		
MAX/MIN	91 67 90			67 92 69			97 71 98																	
TEMP	86	90	74	67	84	89	74	67	86	91	75	69	90	96	78	71	91	97						
DEWPT	60	60	57	55	55	57	59	60	59	57	59	62	59	55	57	59	57	54						
PWIND DIR	SW	SW	SE	S	S	S	S	S	S	S	S	S	S	S	S	S	S							
WIND CHAR	GN	GN	GN	GN	GN	GN	GN	GN	GN	GN	GN	GN	GN	GN	GN	GN								
AVG CLOUDS	SC	SC	SC	SC	SC	SC	SC	SC	SC	SC	SC	FW	FW	FW	FW	FW	FW	FW	FW	FW	FW	FW		
FW																								
POP 12HR	20			20			20			10			10			0			0			5		
TSTMS	S			S			S			S			S			S			S			S		

Below is an Example of a *State Tabular Forecast* for Aspermont:

FCST	FCST	FCST	FCST	FCST	FCST	FCST	FCST
TONIGHT	SUN	MON	TUE	WED	THU	FRI	SAT
JUL 19	JUL 20	JUL 21	JUL 22	JUL 23	JUL 24	JUL 25	JUL 26
ASPERMONT							
CLEAR	SUNNY	PTCLDY	PTCLDY	PTCLDY	PTCLDY	PTCLDY	SUNNY
/73	101/73	98/72	92/70	93/70	93/71	99/73	100/
POP 0	POP 0	POP 10	POP 20	POP 20	POP 10	POP 0	POP 5

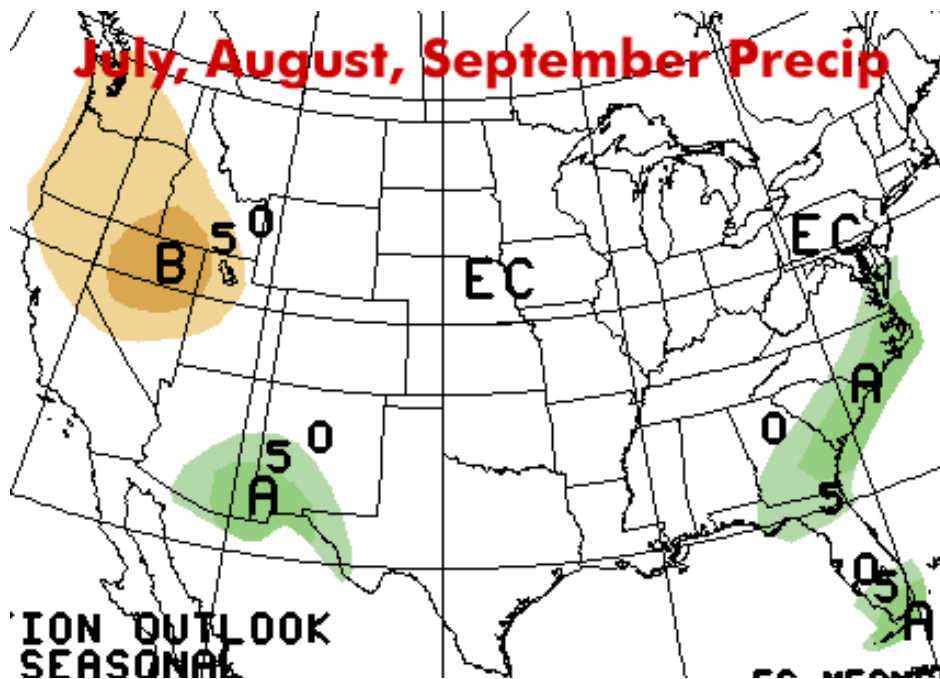


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**In This Issue...**

**April 2003 Dust Storm, Spotter Kudos, Coop News, January through June Rainfall totals across the South Plains and more....**



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The outlook for July through September 2003 calls for above normal temperatures over the Southwest, southern Texas and sections of the Southeast. The July-August-September precipitation is expected to be above normal in the Southwest where an enhanced monsoon is possible - though highly uncertain. For the South Plains, there are equal chances of wetter than normal, normal or drier than normal.