



South Texas Weather Journal



2008 Fall / Winter Edition Corpus Christi , Texas

Weather Forecast Office

IKE SLAMS TEXAS

By John Metz—Warning Coordination Meteorologist



Ike evolved from a tropical disturbance that moved off the African coastline during the last week of August. As the disturbance moved into the central Atlantic a tropical depression formed and quickly strengthened into tropical storm Ike. Ike reached hurricane status within 3 days and maintained hurricane strength for the remainder of its 2 week lifespan marching across the southern Bahamas, across both tips of Cuba, through the central Gulf of Mexico, and into Southeast Texas.

Ike approached Texas as a very large hurricane with tropical storm force winds spanning a distance of 425 miles in diameter from northwest to southeast across the storm. Ike was actually larger in size than hurricane Katrina which was 380 miles in

diameter.

Hurricane Ike made landfall as a Category 2 hurricane with maximum sustained winds of 110 mph. Hurricane force wind gusts spread well inland across southeast Texas reaching the city of Lufkin which is 150 miles from the coastline.

Ike's large wind field contributed to storm surge values well in excess of those normally associated with a category two storm. Preliminary estimates from the NWS at Houston/Galveston and the Harris County Appraisal District indicate that Ike's peak storm tides reached 12-16 feet on the west side of Galveston Bay and possibly 16-20 feet along the shores of Chambers County, which lines the eastern portion of Galveston Bay. A significant surge of up to 10 feet was even observed 20 miles inland across Sabine Lake and into the community of Bridge City, which is located about 10 miles east of Beaumont along Interstate 10.

(Continued on page 13)

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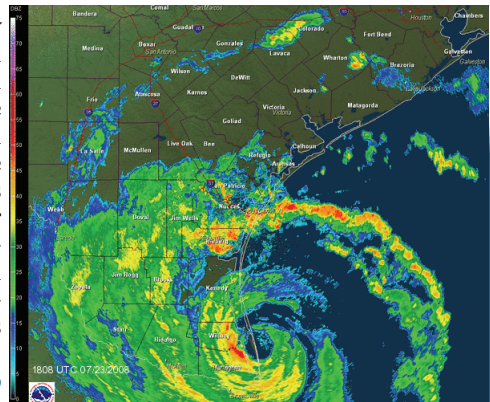
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HELLO DOLLY

By Jason Runyen—Forecaster

Hurricane Dolly made landfall approximately 80 miles south of Corpus Christi, Texas on Wednesday July 23, 2008. Sustained tropical storm force winds spread as far north as the Corpus Christi Naval Air Station, with tropical storm force wind gusts impacting nearly the entire Coastal Bend and Rio Grande Plains region. The peak wind gust measured in our county warning area was 63 mph at the Automated Surface Observing System (ASOS) in Alice, Texas. The winds peaked at approximately 60 mph along the barrier island as well from Bob Hall Pier down to Baffin Bay.

(Continued on page 12)



A LOOK BACK

Drought Conditions Intensifying across South Texas, Hitting the Victoria Area the Hardest

By Greg Wilk—Lead Forecaster / Hydrology Program Leader

2008 Rainfall Totals/Departures

Corpus Christi: 27.56" / -2.70"

Victoria: 21.29" / -15.94"

Beneficial rainfall during the summer helped to alleviate or end the drought conditions experienced over much of South Texas during the first half of 2008. Before the summer rains began in July, nearly all of South Texas was in an extreme drought condition, with the major impacts being low crop yields and poor cattle grazing areas. However, by mid September, accumulated rainfall was sufficient to end the drought over all but Victoria and Goliad counties, with conditions in these two counties lowered to moderate drought status (you can go to <http://www.drought.unl.edu/dm/archive.html> to view historical drought conditions over Texas).

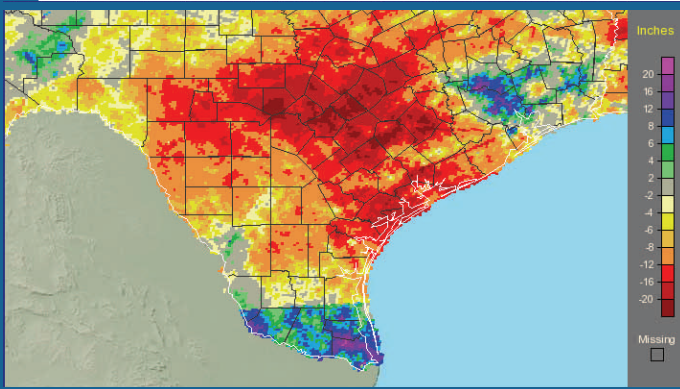
cold fronts become more frequent (and may move slowly or stall over the area) and often interact with tropical moisture from the Gulf of Mexico.

While frontal boundaries have moved across South Texas over the past few weeks, rainfall with these boundaries have been scarce. As a result, areas which previously recovered from the drought in August and early September returned to accumulating rainfall deficits for 2008.

By the end of October, drought conditions returned to most of eastern half of South Texas. Since Victoria and Goliad counties never experienced drought relief by the end of summer, severe drought conditions returned to this area, with extreme drought conditions rapidly approaching (see <http://www.drought.unl.edu/dm/monitor.html> for the latest Drought Monitor product).

In fact, river levels on the Guadalupe River at Victoria are becoming so low that concerns about the water supply for the city of Victoria are increasing. On top of that, Canyon Lake (where city of Victoria receives its water), is at its lowest level ever.

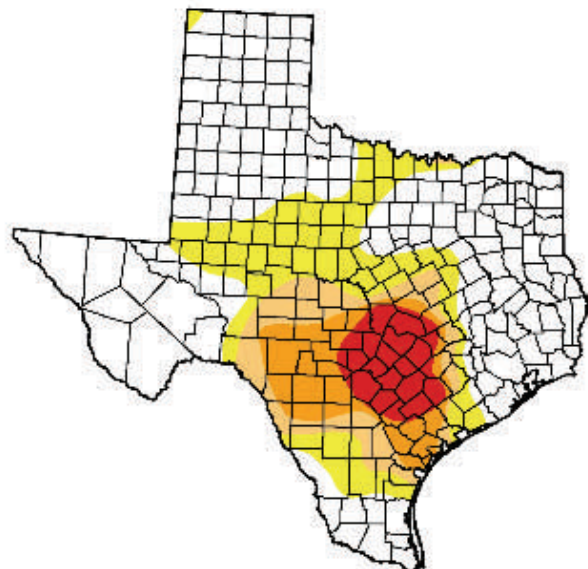
Below: 2008 Rainfall Departure thru Nov 25



However, the latter half of September and all of October brought inadequate rainfall amounts to the region. Unfortunately, these are two of the months when a significant portion of the yearly rainfall normally occurs, since

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	59.5	40.5	22.0	14.0	6.2	0.0
Last Week (11/11/2008 map)	59.2	40.8	22.4	14.5	6.8	0.0
3 Months Ago (08/26/2008 map)	41.2	58.8	28.1	13.0	3.1	0.0
Start of Calendar Year (01/01/2008 map)	52.0	48.0	11.6	0.0	0.0	0.0
Start of Water Year (10/07/2008 map)	67.2	32.8	20.5	11.0	3.6	0.0
One Year Ago (11/20/2007 map)	28.5	71.5	3.8	0.0	0.0	0.0



Intensity:

- D0 Abnormally Dry
- D1 Drought - Moderate
- D2 Drought - Severe
- D3 Drought - Extreme
- D4 Drought - Exceptional

Above: U.S. Drought Monitor thru Nov 18

A LOOK AHEAD

Another Dry Winter for South Texas

By Greg Wilk—Lead Forecaster / Hydrology Program Leader

With a current absence of [La Niña](#) and [El Niño](#), predicting weather patterns on seasonal timescales becomes increasingly challenging. Instead, the Climate Prediction Center uses other climate patterns over the Arctic and North Atlantic.

“These patterns are only predictable a week or two in advance and could persist for weeks at a time,” said Michael Halpert, deputy director, Climate Prediction Center. “Therefore, we expect variability, or substantial changes in tem-

perature and precipitation across much of the country.”

Unfortunately, the prospects for drought relief over the next few months are not promising. The rainfall outlook through February indicates a greater likelihood for below normal precipitation. If this holds true, drought conditions will worsen, as soils become dry and reservoirs continue to lose water. There is a greater likelihood for above normal temperatures across South Texas as well.

Average Winter Precipitation

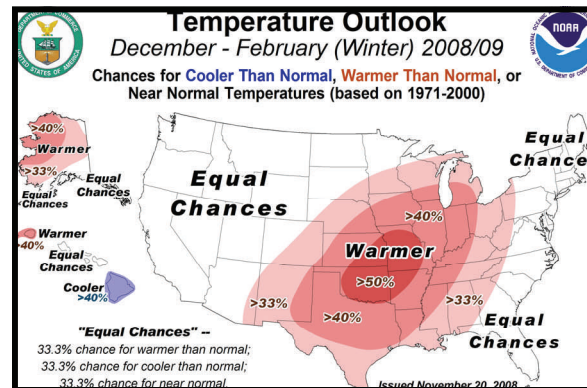
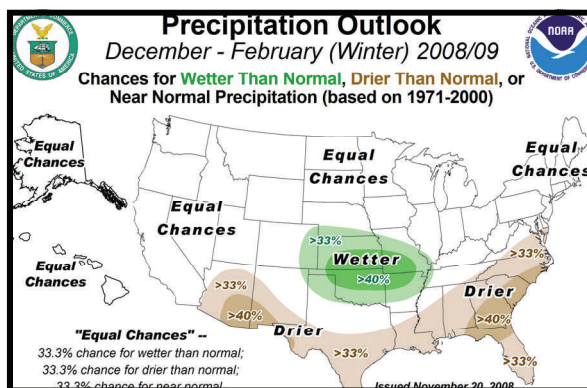
Victoria: 6.95”

Corpus Christi: 5.21”

Laredo: 2.55”

Average Winter Temperatures

Average Highs in January range from the Low 60s in Victoria to the Upper 60s in Laredo. Lows in January average in the Low to Mid 40s.



2009 Fire Season—Déjà Vu?

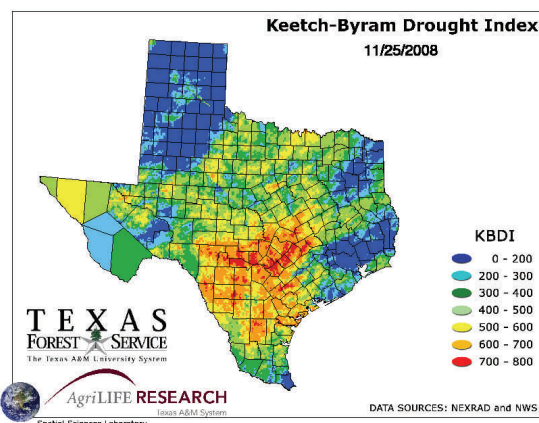
By Jason Runyen— Forecaster / Fire Weather Program Leader

The drought has caused widespread concerns about wildfires around the state, including right here in South Texas. Already high KBDI values have been gradually increasing and expanding throughout the region. With a greater likelihood of below normal precipitation for the winter, look for KBDI values to continue to increase along with the fire danger by early next Spring.

Burn bans have been enacted in portions of South Central and South Texas. In all, about 50 of the state's 254 counties had bans in effect, according to the Texas Forest Service.

Mark Stanford, fire operations chief for the Texas Forest Service, said conditions are similar to the dry winter of 2005 that preceded the "catastrophic" 2006 fire season.

In South Texas, officials are predicting a possible repeat of last season, when 27 wildfires scorched at least 76,000 acres before Dolly soaked the area and temporarily ended the drought.



NWS PRODUCT CHANGES

New South Texas Winter Storm Criteria

Freezing Rain **1/8 inch**

Sleet **1/2 inch**

Snow **2 inches**

New Winter Storm Criteria for South Texas

By Mike Gittinger—Lead Forecaster

Despite the recent historic snow event on Christmas 2004, winter weather is pretty unusual across south Texas. Given the infrequency of snow and ice, there is little to no equipment in place to help counter adverse travel conditions caused by wintry precipitation. In addition, south Texas residents have little experience traveling in such adverse travel conditions.

Because of this, significant impacts occur across the region even with relatively light winter weather precipitation events. Schools, businesses and roads close with relatively light snow or ice accumulations. With this in mind, several adjustments have been made to lower the accumulation criteria for Winter Storm Warnings in south Texas. The table to the left shows the new local warning criteria for South Texas.

In cases where ice accumulations are just below the criteria, but temperatures are cold enough that significant icing is occurring on roadways, forecasters can still issue Winter Storm Warnings due to significant travel impacts. If winter precipitation is occurring or expected to occur, amounts are not expected to reach the local warning criteria, and significant travel impacts are not anticipated, then Winter Weather Advisories are issued. Both Winter Storm Warnings and Winter Weather Advisories are only issued for high confidence events where the chance of precipitation is 80% or greater.



Above: 2007 Ice Storm in Oklahoma



Above: 2004 Christmas Snow at NWS CRP

NWSChat to Replace IEM Chat as Important Communication Tool

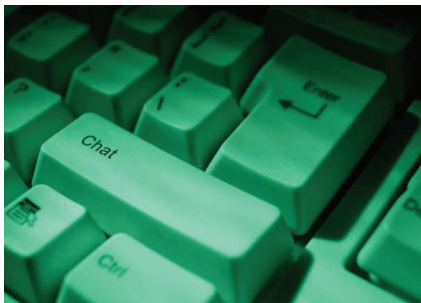
By Roger Gass—Meteorological Intern

NWS meteorologists use an instant messaging program called "IEMChat" to exchange warning decision and significant weather information to external partners, furthering the NWS's mission of saving lives and property.

During the next several months, the NWS will transition to a new, more secure agency-supported instant messaging program called "NWSChat". NWS partners can use NWSChat as an efficient means of communication to collaborate with the NWS during a fast-paced significant weather or hydrologic events. NWSChat also provides media and emergency re-

sponse partners with the ability to communicate significant event reports back to NWS operational personnel, who in turn utilize the information to make effective warning decisions.

The NWS in Corpus Christi encourages all of our media partners and emergency management personnel to take part in this vital effort. More information about this program can be found from our website at <https://nwschat.weather.gov/>. If you have any questions you can call our office at 361-299-1354 or e-mail John Metz at john.metz@noaa.gov or Roger Gass at roger.gass@noaa.gov.



WINTER PREPAREDNESS

Are You Ready For An Ice Storm? Looking Back at History

By Scott Cordero—Meteorologist-in-Charge

Snap! Crackle! Pop! No, I'm not talking about the sounds of a popular breakfast cereal; rather, it's the eerie sound of the outdoors after a major ice storm. An ice storm is a potentially crippling weather event that can leave people without power or communications for up to two weeks.

The weight of ice that accumulates on trees, power lines, and other objects can cause them to snap and fall. That's why after a significant ice accumulation, get ready for the loud noises as tree limbs crash to the ground.

Thankfully, ice storms are very rare in South Texas. For this reason, it is important to look back in history to see what occurred with this type of event. A sleet and ice storm of great severity, for this South Texas region, occurred at Corpus Christi, Texas, December 19, 20, and 21, 1924, and a much lighter fall was recorded on the 25th. More sleet fell in the severe sleet storm of 1897, but owing to the sparsely settled country at that time, less damage was sustained than in the 1924 storm.

Rain began about 2.10 a. m. of the 19th; at noon, the surface temperature descended to the freezing mark, and within half an hour thereafter overhead wires, trees and shrubbery, streets and sidewalks were covered with a heavy coating of glaze making travel of allsorts difficult and dangerous. The coating on the wires and trees soon became so heavy as to cause the wires to break and branches of trees to collapse, while small ornamental trees and shrubbery were crushed to the ground. In rural areas of the Coastal Bend the burden of ice caused telephone communication to cease about 3 a.m. on the 19th, but it was not interrupted in Corpus Christi until later in the day.



Above: A Woman and four children pose with their sleds during the 1924 Ice and Snow Storm in Corpus Christi. Image from the Corpus Christi Public Library,

The storm persisted intermittently from the 19th to the 21st of December 1924. During this time 0.3 inches of snow fell and 0.9 inches of sleet fell, practically all of which remained on the ground. On the morning of the 21st there was an inch of snow and sleet on the ground, a rare occurrence for Corpus Christi.

The reason significant ice accumulation is so rare is that very special conditions need to be in place. Freezing temperatures need to occur on the ground, while precipitation falls through a substantial layer of air that is above freezing. As the rain falls and hits objects on the ground, it freezes on contact. Heavy rainfall results in significant ice accumulation.

How do you prepare for an ice storm? Well, your primary concerns are loss of heat, power and communication service, and a shortage of supplies if the storm conditions continue for more than a day.

To mitigate those concerns, have available: flashlights and extra batteries, extra food and water, extra medicine, baby items, and first aid supplies. Remember, fuel carriers may not reach you for days, so if you use heating fuel make sure you are not close to empty. Also, if power goes out make sure alternate heating sources like fireplaces, wood stoves, and space heaters are used properly to prevent fire and make sure they are properly ventilated.



Above: A Transmission line tower crumpled from the weight of ice during a 2007 storm in Oklahoma.

COOP CORNER

Choke Canyon Dam Awarded 25 Year Honored Institution Award

By Larry Maifeld—Observing Program Leader

For 25 years, Choke Canyon Dam has rendered faithful and conscientious service to the National Weather Service as a Cooperative Observer at Three Rivers, Texas.

Their voluntary contribution of time and effort to provide and maintain daily temperature, precipitation, evaporation and other various reports have made a positive impact on local, national and global climate databases. Weather information provided by Choke Canyon dam is utilized by innumerable individuals and agencies in projects that range in magnitude from casual weather information to

complex scientific and atmospheric research.

Their unselfish dedication and commitment to weather reporting will have far-reaching and long-lasting effects in our pursuit of mastering the art and science of meteorology.

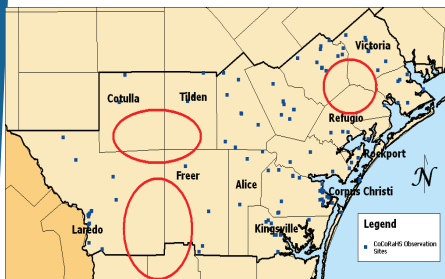
On September 30th, 2008, Mr. Norman Kuentler and his crew at Choke Canyon Dam were recognized as a vital and precious member of the National Weather Service Cooperative Observer program with the presentation on the 25 Year Honored Institution Award.



Left: Choke Canyon awarded the 25 Year Honored Institution Award before Corpus Christi City Council.

Pictured Left to Right: Larry Maifeld (NWS CRP OPL), Mayor Henry Garrett (Corpus Christi), Scott Cordero (NWS CRP MIC), Norman Kuentler (Choke Canyon Dam)

The South Texas CoCoRaHS rainfall network now has over 130 observers!



Call For More CoCoRaHS Observers

By Tony Merriman—Forecaster / CoCoRaHS Coordinator

The National Weather Service in Corpus Christi would like to thank everybody who has joined and report their rainfall amounts. We really appreciate the time and effort you put into measuring and reporting your rainfall amounts. The data you supply is very valuable not only to meteorologists, but also to researchers.

We would like to continue to expand the network. If you have any friends or relatives who would like to participate, please tell them about the program and have them sign up. We really need observers in the areas circled on the map to the left.

Once your friends or relatives fill out the application at the following website <http://www.cocorahs.org/Application.aspx>, they will receive a **free** rain gauge from the National Weather Service.

If you have any questions about the program, please email Tony Merriman at Tony.Merriman@noaa.gov. Thanks again for all your hard work and dedication! We at the National Weather Service really appreciate it!

SCIENCE SCOOP

SPoRT Program to Improve Weather Forecasting

By Alex Tardy—Science and Operations Officer

The Short-term Prediction Research and Transition (SPoRT) program is a NASA funded project to bring unique observation and research capabilities to the National Weather Service operations. The primary focus is on the regional scale (for example, Texas coast) and emphasizes forecast improvements within a 24 hour period.

Real-time MODIS (Moderate Resolution Imaging Spectroradiometer) and AMSR-E (Advanced Microwave Scanning Radiometer) imagery and products from the Terra and Aqua Earth Observing System (EOS) polar-orbiting satellites are available from a number of direct broadcast ground stations throughout the world. The SPoRT program obtains this data from the University of Wisconsin (UW) and the University of South Florida's (USF) direct broadcast stations and provides imagery and selected products to several NWS Forecast Offices, including Corpus Christi. The true color MODIS composite at a 250 meter resolution can be used to detect sea breeze fronts, cloud structure and smoke (Figure 1). The AMSE-E imagery can see through the clouds and precipitation (a limiting factor for most weather satellites) and provides 4 dimensional displays of total lightning which includes cloud-to-cloud lightning (Figures 2 and 3). Forecasters typically just have cloud-to-ground lightning information available to diagnose storms.

NWS offices near coastal regions or along the southern border of the U.S. are often limited in monitoring upstream weather conditions because of the lack of observations. A GPS combined TPW (total precipitable water) and anomaly product provided by CIRA (<http://amsu.cira.colostate.edu/gpstpw/>) is made available to these offices to monitor

moisture changes in the upstream weather patterns.

Various products are also generated from the Geostationary Operational Environmental Satellite (GOES) Imager and Sounder data in real time. Most of the weather forecasters satellite data has come from GOES in the past. The Imager provides 1-km visible and 4-km infrared measurements for fog detection, and high resolution cloud product information (for example, the depth of clouds). The 8-km Sounder data has the necessary channels to produce land surface temperature and total precipitable water (measure of moisture in the atmosphere), and detailed cloud information. Additionally, selected NOAA aviation products are obtained and made available to the several southern region NWS forecast offices.

In addition, real-time mesoscale model forecasts are also produced using the Weather Research and Forecasting (WRF) model at NOAA's National Severe Storms Laboratory (NSSL). The current model configuration uses a high resolution 4 km domain that covers the continental United States. At this time these forecasts are disseminated to the Huntsville Forecast Office to supplement the routine model output available from the National Centers for Environmental Prediction (NCEP). Researchers are using the satellite Sea Surface Temperatures (SST), as depicted in Figure 4, to start the WRF model and improve weather predictions such as the sea breeze formation on the Coastal Bend.

The combination of these unique and detailed SPoRT products will help forecasters in short term decision making and analysis.

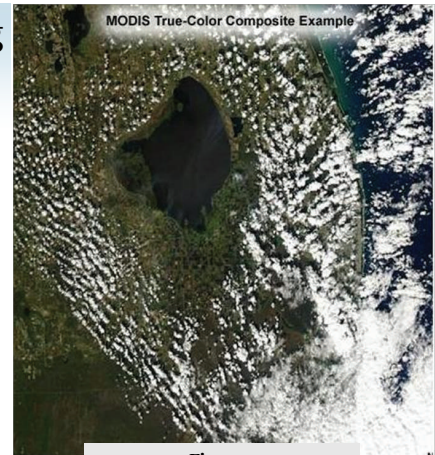


Figure 1

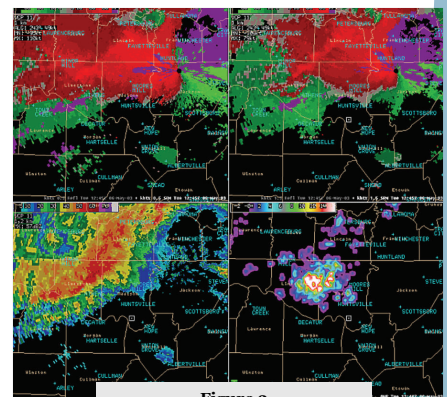


Figure 2

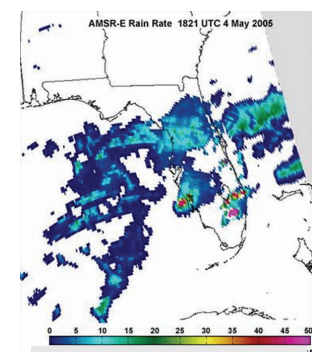


Figure 3

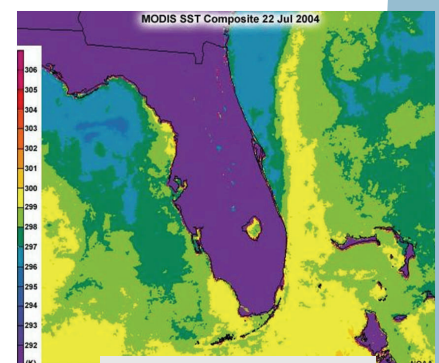


Figure 4

STAFF SPOTLIGHT

NWS Corpus Christi Welcomes New Science and Operations Officer

With the departure of Ron Morales to NWS Charleston, SC, we are pleased to introduce Alex Tardy as NWS Corpus Christi's new Science and Operations Officer (SOO).

Alex was born in Vermont and grew up in a rural town near Waterbury. The winter is long in Vermont and alpine skiing was a great way to enjoy it. His interest in weather began as a skier in the volatile Vermont climate during his teens.

Alex started his career in the NWS as an intern at a network radar site in Volens, VA. There he operated a WSR-74S conventional radar which soon was replaced by Doppler. He then transferred to Burlington, VT where he finished his internship, developed as a forecaster and initiated research projects.

Alex was then promoted to the weather forecast office in Sacramento, CA as a journey forecaster. Alex completed many research projects and papers in Sacra-

mento and spent much of his free time in the Sierra Nevada on the ski slopes or enjoying the outdoors.

Alex met his wife in Sacramento and then was promoted to a lead forecaster in Salt Lake City. Alex enjoyed the best skiing and snow in the country while living next to the Wasatch Range and started a family. He had many focal point duties as a journey and senior forecaster including those related to AWIPS, WSR-88D, and local modeling and research.

Alex left the snowy Wasatch Range for the moist, warm climate of the Coastal Bend. Alex's position is the Science and Operations Officer, responsible for training, research and technology infusion.

Most of his free time is now spent raising 2 young kids, but he still finds time to enjoy the outdoors with the family, travel occasionally and make a ski trip. Alex considers the weather a hobby and typically observes and follows it during his free time.



Above: Alex Tardy, NWS Corpus Christi's new Science and Operations Officer

WCM REMINDER



Schedule Your 2009 SKYWARN Class Now!

February 2009						
S	M	T	W	T	F	S
25	26	27	28	29	30	31
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28

March 2009						
S	M	T	W	T	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31	1	2	3	4
5	6	7	8	9	10	11

Choose date in Feb or Mar 2009 then call John Metz to Schedule

National Weather Service
 Contact person: John Metz
 Phone: 361-299-1354
 Cell: 361-232-8289
 E-mail: john.metz@noaa.gov



Book Your SKYWARN Classes Early

Since the program started in the 1970s, the information provided by SKYWARN spotters, coupled with Doppler radar technology, improved satellite and other data, has enabled NWS to issue more timely and accurate warnings for tornadoes, severe thunderstorms and flash floods. SKYWARN spotters are part of the ranks of citizens who form the Nation's first line of defense against severe weather. There can be no finer reward than to know that their efforts have given communities the precious gift of time that can help save lives.

For more information on SKYWARN visit <http://www.weather.gov/skywarn/>. To schedule a SKYWARN class see the contact information to the left.

DID YOU KNOW?

Interesting Christmas and New Year's Weather Facts in South Texas

Record Lows for Christmas Day:

Victoria: 14°F in 1983

Corpus Christi: 15° in 1983

Laredo: 14°F in 1983

Record Highs for Christmas Day:

Victoria: 88°F in 1964

Corpus Christi: 89° in 1964

Laredo: 91°F in 1955



Record Lows for New Year's Day:

Victoria: 20°F in 1928

Corpus Christi: 23° in 1928

Laredo: 25°F in 1928

Record Highs for New Year's Day:

Victoria: 83°F in 2006

Corpus Christi: 84° in 2006

Laredo: 85°F in 2000

Christmas Day Snow

Victoria: 12.5" in 2004

Corpus Christi: 0.1" in 1918, 4.3" in 2004

Laredo: 1-2" in 2004

New Year's Day Snow

No measurable snow has been recorded in South Texas on New Years!



MESSAGE FROM THE MIC

Reaching Out to South Texas

By Scott Cordero—Meteorologist-in-Charge

Our goal here at the National Weather Service in Corpus Christi, Texas is to protect life and property. In an attempt to do this, we issue various types of watches, warnings, and advisories to alert you, the public, of impending hazardous weather that is either occurring or could possibly occur in your area.

Knowing that hazardous weather is possible is one thing, but what should you do if hazardous weather is threatening you and/or your family? When hazardous weather occurs, seconds can literally mean the difference between life and death. Staying calm and knowing the correct instructions to follow could save your life.

This is why the National Weather Service in Corpus Christi, Texas believes it is important to educate our community about weather safety and preparedness.

In our efforts to accomplish this task, we offer various forms of outreach, such as presentations and setting up booths at area events, going to schools just to name a few. We provide these services for any community, school, public/private group, or business that is interested in learning about weather safety and how to prepare for it.

We also offer office tours that allow you to see what the National Weather Service is and what we do. If you would like to schedule to have someone come and talk to your community, school, group, business, or if you would like for us to set up a booth at your next event, please contact your National Weather Service in Corpus Christi at (361) 289-0898 or (361) 299-1354.

SCHOOL SAFETY

NWS Corpus Christi Partners With Texas School Administrators at Safety Conference

By John Metz—Warning Coordination Meteorologist

Forecaster Katie Roussy and Warning Coordination John Metz from NWS Corpus Christi had the opportunity to participate in the Texas School Administrators Safety Conference in Corpus Christi TX November 17-19. The conference was organized by the Texas School Safety Center (TxSSC). Hector Guerrero from WFO San Angelo was also instrumental in organizing NWS participation in this conference.

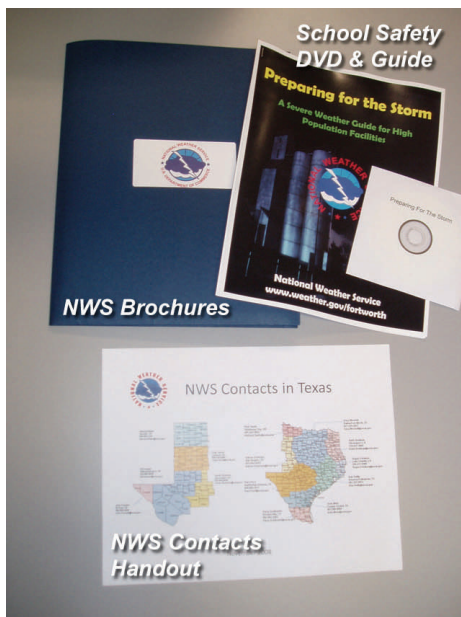
Several hundred school administrators from across Texas and many other states were in attendance. At this conference the NWS set up an informational booth on weather safety for school, distributed folders of NWS Safety Brochures, and distributed NWS Ft Worth's new school safety DVD titled "Preparing for the Storm", and accompanying booklet.

Roy Sedwick from Lower Colorado River Authority and John Metz gave 2 presentations titled "NWS Warning & Safety Programs for Schools" and the "Texas

War Council - Flash Flood Deaths in Texas".

What is the Texas School Safety Center (TxSSC) you might ask? Created in 1999 and authorized by the Texas Legislature in 2001 the TxSSC is to serve as a central location for school safety information, and to provide schools with information including research, training, and technical assistance to reduce youth violence and promote school safety in Texas. It is located within the Center for Safe Communities & Schools, Dept of Criminal Justice, College of Applied Arts at Texas State University - San Marcos.

The TxSSC expressed a real interest in partnering with the NWS to push the message of severe weather safety throughout Texas schools. Those who attended the two NWS breakout sessions left with a heightened awareness and went to the NWS booth to pick up all of the free weather safety materials. Many expressed interest and the need to better their school's weather safety plan.



SERVING OUR COMMUNITY

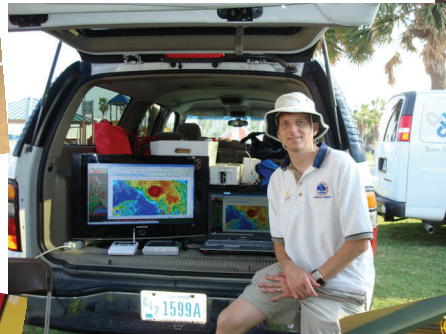


Left: MIC Scott Cordero presents Victoria Fire Chief Vance Riley with service award in honor of the 10 year anniversary of the devastating 1998 flood

Right: Forecaster Katie Roussy demonstrates a tornado chamber at 2008 Bayfest



Below: WCM John Metz demonstrates mobile weather briefing capabilities at 2008 Bayfest



Left: W.C. Andrews Elementary School students practice tornado safety during a drill



Right: Forecaster Katie Roussy talks to students at the Texas State Aquarium Summer Sea Camp

Right: Forecaster Jason Runyen briefs Victoria Policy Leaders on Hurricane Ike at the Victoria EOC (picture courtesy of Victoria Office of Emergency Management)



Below: Interns Christina Barron and Roger Gass demonstrate a weather experiment to Cub Scouts during the Texas State Aquarium Scout Day



Left: WCM John Metz participates in a full scale chemical release drill with the City of Corpus Christi and the Nueces County LEPC



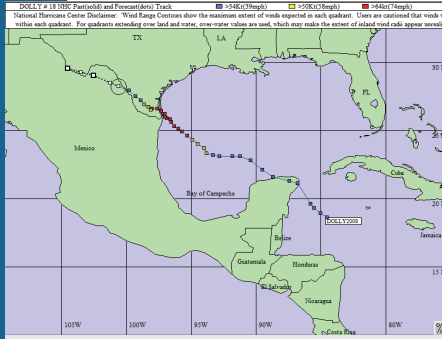
Right: Forecaster Jason Runyen shows Cub Scouts a GPS Radiosonde instrument during an office tour



Right: El.Tech. Bill Harrison & HAM Radio Coordinator Steve Hampton install new VHF radio antenna & radio donated by Dow Chemical. The equipment was used during Hurricanes Dolly and Ike



HURRICANE DOLLY CONTINUED



The gusty winds caused sporadic power outages across the southern Coastal Bend and Rio Grande Plains, primarily between Corpus Christi and Laredo. Only a few thousand electric customers were impacted in the Corpus Christi CWA, however much more extensive power outages occurred in Deep South Texas.

Although the center of Dolly passed well to our south, her slow forward motion before landfall caused water levels to rise along the Mid Texas Coast. A storm

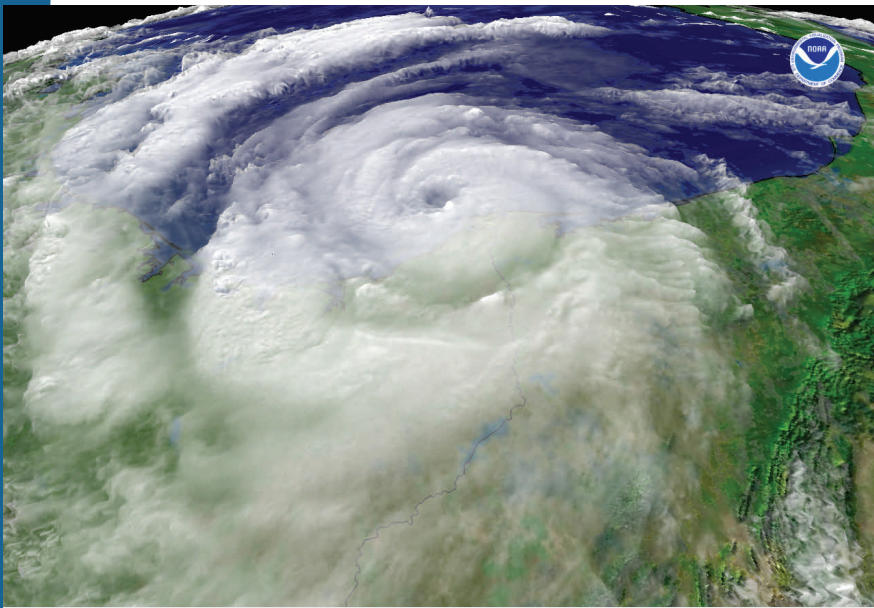
surge of 2-3 feet MLLW was observed along the mid Coast and total storm tides approached 4 feet MLLW on North Padre Island shortly after the time of landfall Wednesday Evening. It is also interesting to note that total storm tides peaked at 3-3.5 Ft above MLLW in the back bays including Nueces Bay and Lavaca Bay.

Tornadoes are common in hurricanes and are generated in two areas: the eye wall region, and in the northeast quadrant of the hurricane, up to 250 miles northeast of the center. The NWS Service in Corpus Christi issued 6 tornado warnings on the day of landfall, for the counties of San Patricio, Nueces, Kleberg and Jim Wells. Isolated tornadoes occurred in the northeast quadrant, including one waterspout and three tornadoes. Only minor damage was observed, with the tornadoes all rated EF-0.

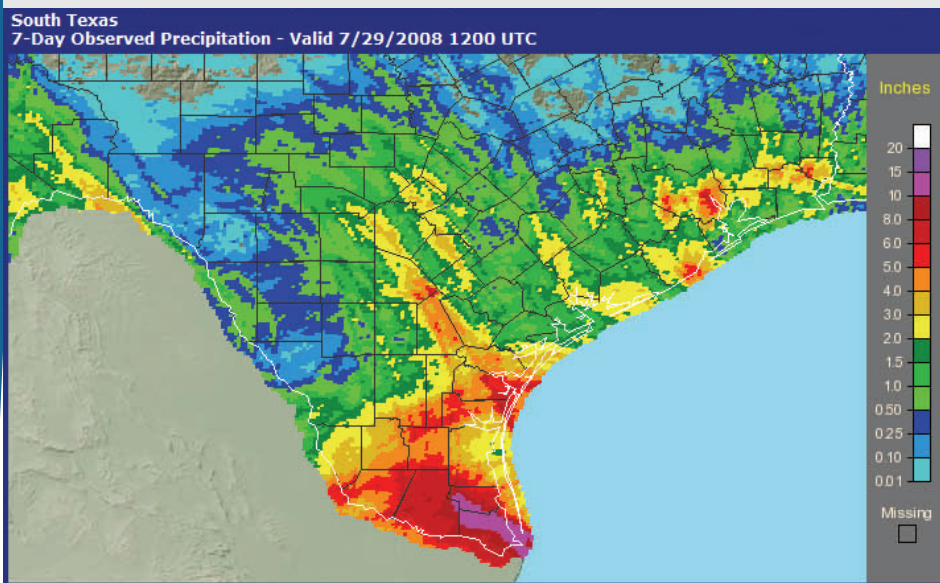
Dolly's slow movement produced torrential rainfall over the mid coast region and Rio Grande Plains. Rainfall totals of 1-2 inches were observed over northern portions of the region from Victoria to Laredo. Totals of 3-6 inches were observed generally south of a line from Rockport to Zapata.

These heavy rains resulted in flooding of rural low lying roadways, including FM 70 near Chapman Ranch in southern Nueces County and FM 628 and 1118 in Kleberg County. Minor street flooding was observed in Jim Wells and Duval Counties. The city of Laredo also experienced street flooding as the center of the circulation passed over the city. The heavy rains had a negative impact on the farmers' ability to harvest the cotton crop. However the rains did temporarily end extreme and exceptional drought conditions which plagued the South Texas region.

Dolly was the fourth of five hurricanes to make landfall in Texas this decade (Ike was the fifth). Hurricane Umberto made landfall near High Island, Texas in 2007. Hurricane Rita hit Southeast Texas in 2005 and Hurricane Claudette made landfall near Port O'Connor in 2003. Damage estimates from Dolly continue to come in, and could reach or exceed \$750 million. Fortunately there were no deaths or injuries reported in the mid coast region from Dolly.



Below: NWS radar estimate of precipitation from Hurricane Dolly



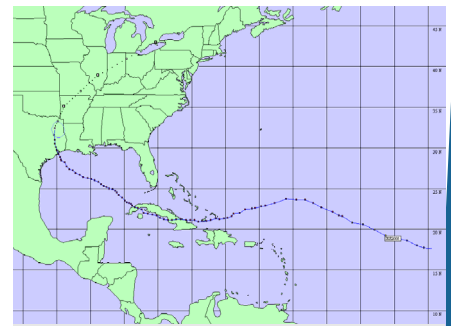
HURRICANE IKE CONTINUED

The hardest hit areas were in the typical right front quadrant of the hurricane, along the Bolivar Peninsula eastward to Sabine Pass. Many of these folks were just recovering from Hurricane Rita which struck in 2005.

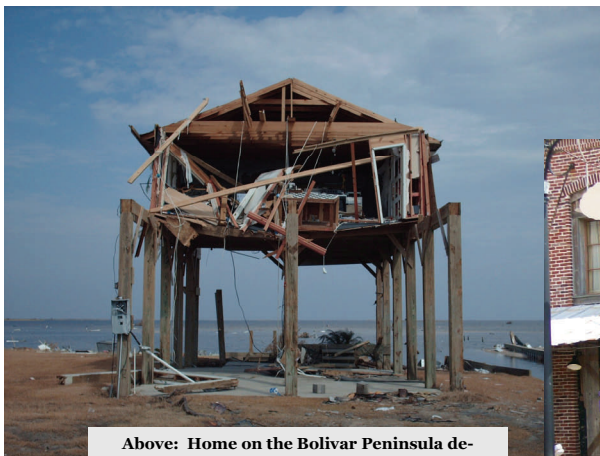
Although Ike made landfall 200 miles northeast of Corpus Christi the impact from this storm was felt all the way down the coast. Storm tides up to 5 feet were felt as far south as Port Aransas and for months after the storm millions of pounds of debris washed up on Texas Beaches.

If Ike had made landfall on the Mid Texas Coast, the impact from storm surge would have been devastating. It is likely that Ike would have produced storm surge inundation well into the category 3 and possibly category 4 surge zones along and to the right of where the center crossed the coast.

Hurricanes will continue to impact the Texas coast, and on average strike every 2 to 3 years. Major hurricanes hit Texas about once every 6 years. The last major storm to strike the mid coast was Celia in 1970, 39 years ago. Will you be prepared when the next storm strikes?



Above: Track of Hurricane Ike



Above: Home on the Bolivar Peninsula destroyed by storm surge from Hurricane Ike



Below: Damage to Landry's on Kemah from Hurricane Ike storm surge



Above: Debris from the Upper Texas Coast and Louisiana washed up on Corpus Christi beaches. Nearly 1000 tons of debris was removed from Nueces County beaches.



Below: Flooding was observed in Rockport, 160 miles south of Hurricane Ike's landfall

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Above: Staff of the NWS Corpus Christi Weather Forecast Office

Pictured left to right: Front Row...Christina Barron, Jennifer Chase, Katie Roussy, Mike Gittinger, Greg Wilk, Alex Tardy, Larry Maifeld, Tawnya Evans, Mani Medrano. Back row:...Scott Cordero, Tim Tinsley, Richard Martinez, Bill Harrison, Joel Venneman, Tony Merriman, Jim Reynolds, John Metz, Jason Runyen, Alan del Castillo