Chicagoland Skywarn

Issue 3, Volume 1 August 2009

Special Interest Articles:

Individual Highlights:

Welcome new members and readers! Do you have some news or would you like to write an article for our newsletter? We're looking for authors! Contact Mike at aa9vi@arrl.net

Record Cold Summer Continues

From NWS Chicago Website

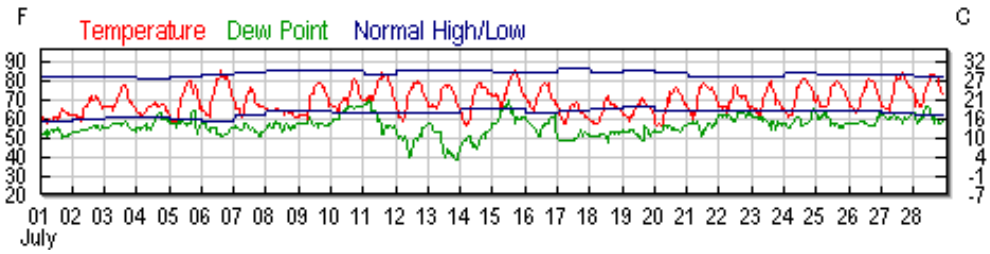
So far in 2009 there have been 26 days with temperatures at or above 80 degrees. This is tied with 1947 for the **2nd fewest 80 degree days to date in Chicago** dating back to 1942 when the official recording station was moved away from the lake. The year with the fewest number of days above 80 through July 19th is 1967 when there had only been 24 days. The average number of 80 degree days through July 19th dating back to 1942 in Chicago is 40.

In addition...this has been the 3rd coldest July 1st through 18th in Chicago since 1942 with an average temperature of 68.5 degrees. The coldest July 1st through 18th occurred back in 1945 when the average temperature was 68.1 degrees and the second coldest was back in 1967 when the average temperature was 68.2.

Finally...so far this July the warmest temperature has been 86 degrees on July 6th. **Dating back to 1942 there never has been a July in Chicago where the temperature didn`t reach at least 89 degrees.** In both 2000 and 1979 the warmest temperatures for the month of July were 89 degrees. So with no heat currently in the forecast this record could be in jeopardy as well.

When going through record books looking at cool summers...1967 comes up near the top of many lists and seems to be the most comparable summer on record to the current summer. Looking back at 1967 it appears as though the cool weather didn`t let up in august. In fact, August 1967 featured 17 days with highs cooler than 80F and of those 4 failed to even reach 70F. There were also no days in August 1967 with highs at or above 90 in Chicago. While these stats about August 1967 may be interesting...they hold absolutely no predictive value whatsoever as to what August 2009 may hold.

July Temperatures at Chicago O'Hare from weatherunderground.com



Terminal Doppler Weather Radar

By George Geotsalitis, NB9R

TDWR is advanced technology weather radar deployed near 45 of the larger airports in the U.S. The radars were designed by the Federal Aviation Administration (FAA) in response to several disastrous jetliner crashes to scan hazardous aviation conditions such as wind shear, gust fronts and downbursts (microbursts) in the vicinity of airports and "sometimes" to support the NWS mission.

The TDWRs also measure the same quantities as the familiar network of 148 NEXRAD WSR-88D Doppler radars--precipitation intensity, winds, rainfall rate, echo tops, etc. However, the newer Terminal Doppler Weather Radars are higher resolution (150m along a radial out to 48nm) and can "see" details (precipitation and velocity) in much finer detail close to the radar. The TDWR also displays its product in 256 colors which provides greater detail. This high-resolution data has generally not been available to the public until now. Collaboration between the National Weather Service (NWS) and the FAA has resulted in the data for all 45 TDWRs being available in real time via a free satellite broadcast (NOAAPORT). All 45 sites are expected to be operational by June 2009.

Weather Underground (www.wunderground.com) is now making the TDWR data available to the public and will be adding new sites as they become available. Weather Underground is calling them "High-Def" stations on their NEXRAD radar page (identified as yellow crosses). Storm Alert has already integrated the TDWR into their StormLab product and WeatherTap will be incorporating the information, soon, as well.

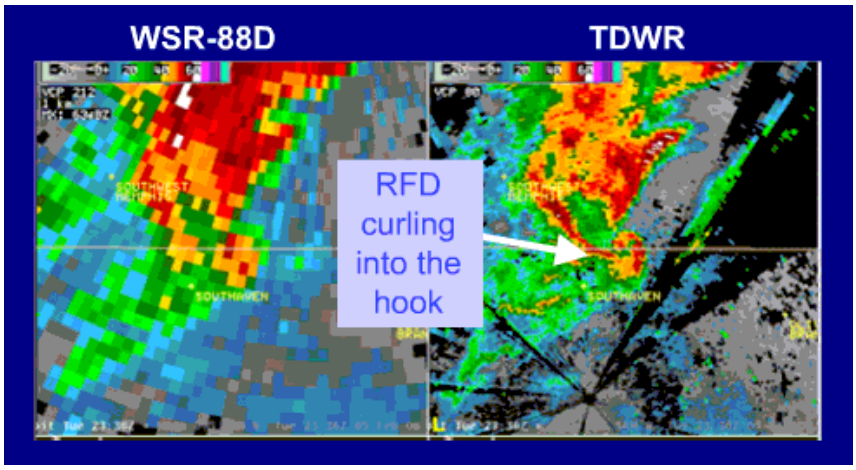
All of this does not without some "baggage;" because the TDWR operates at a 5cm wavelength (C Band vs. the WSR-88D, 10cm, S Band), signal attenuation due to heavy rain and/or hail can impact results.

For additional information, please refer to the National Weather Service TDWR Tutorials at the URLs listed below:

http://wdtb.noaa.gov/buildTraining/SPG3/part1/player.html

http://wdtb.noaa.gov/buildTraining/SPG3/part2/player.html

http://wdtb.noaa.gov/buildTraining/SPG3/part3/player.html



View of a tornado taken by conventional WSR-88D NEXRAD radar (left) and the higher-resolution TDWR system (right). Using the conventional radar, it is difficult to see the hook-shape of the radar echo, while the TDWR clearly depicts the hook echo, as well as the Rear-Flank Downdraft (RFD) curling into the hook. Image credit: National Weather Service.

Why Has this Summer Been So Cool?

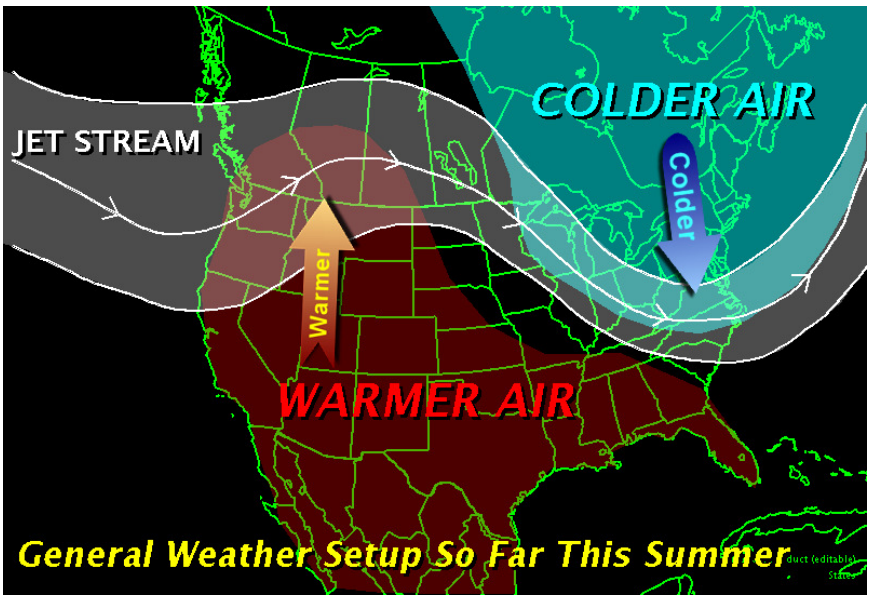
Excerpts from NWS Milwaukee Website

In general, large air masses will follow the configuration of the upper level jet stream. Thus far this summer, the jet stream has been aligned in a pattern that has a ridge across the Western United States and a trough across the Eastern United States. A ridge will push the jet stream further north and allow warm air to reach higher latitudes. Meanwhile, a trough will push the jet stream further south and enable cool Canadian air to dip to lower latitudes. A graphical depiction of the general weather setup this summer is shown to the right (*note that smoothing and estimation are used*):

This type of pattern can happen in any given summer, but what has been unusual this year is the persistence of the pattern. The western ridge and eastern trough upper level flow pattern has been entrenched across North America since essentially mid-June, approximately when temperatures began to noticeably cool in our area.

The last significant trough to impact the area moved through in early to mid June. Other weaker troughs have moved from west to east across the Northern US since then, but they were either too weak or small to show up in the above analysis. With the stubborn ridge to our west, this type of pattern is referred to by meteorologists as a blocking pattern, where overall large scale changes are negligible over long periods of time.

In summary, the cause of the cold weather has been a persistent trough in the Northeast US with a persistent ridge in the Western US. This pattern hasn't changed or modified much since the middle of June. Therefore, it's not surprising that this summer has been cooler than normal in Southern Wisconsin, and we are still experiencing one of the coldest starts to July on record.



What is this Winlink Stuff I've Been Hearing About?

By Mike Swiatkowski, AA9VI

Historically, Northern Illinois has not been an active area for Winlink 2000 stations. Wisconsin has embraced this particular hybrid internet and HF/VHF/UHF packet based technology of sending emails.

So what is this Winlink stuff anyhow and why are we still taking about 1200 baud VHF packet radio?

Well, I was lucky enough to run into some local hams from the North Shore Radio Club that had spoken to one of the experts on the topic. Jim Darrow, KB9MMC, presented a detailed presentation on the topic on April 18th of this year at the ARES/RACES Workshop in Libertyville to them.

According to the Winlink website (www.winlink.org) "*Winlink 2000 (WL2K)* is a worldwide ***system*** of volunteer resources supporting e-mail by radio, with non-commercial links to internet e-mail. These resources come from Amateur Radio, the Military Affiliate Radio Systems (MARS), and other volunteer organizations. The system provides valuable service to emergency communicators, and to licensed radio operators without access to the internet. The all-volunteer Winlink Development Team (WDT) is committed to continuous improvement using modern computer and networking technology with the most efficient and effective radio modes and digital protocols for local, regional and long-distance applications."

Winlink comes in 2 flavors: a base station connected to a radio and the internet or a client station that you can use on the go. Winlink makes for a great emergency communications backbone since it supports email when the internet in a ravaged area is down.

WA9KJE has already put a Winlink base station on the air in Chicago. It's one of the first of its kind in our area. The station operates on 145.05 MHz.

During KARSFEST this year in Peotone I saw that there was another Winlink 2000 presentation. So, the concept is gathering momentum in our area.

Interested in signing on a Winlink 2000 station of your own? Contact Jim, KB9MMC at his arrl.net address. He's a pretty friendly guy and will be very helpful. Ask for the nice April 18th Libertyville power point presentation to get you started.

LATE BREAKING NEWS
The Illinois Section Emergency Coordinator has chosen 145.61 MHz as the statewide Winlink frequency.

The DuPage Amateur Radio Club has a wealth of information on its site:
skywarn.w9dup.org

Weather "or-not"

By George Geotsalitis, NB9R

Visolve is software that transforms colors of the computer display into the discriminable colors for people including people with color vision deficiency (commonly called color blindness). In addition to distinguishing colors and finding specific color, it aims to help people with color blindness to:

- guesstimate actual colors
- feel color graduations in natural scenery

This might come in handy when viewing NWS Nexrad radar signatures and other (multi-colored) weather information.

Visolve is freeware and can be found at: www.ryobi-sol.co.jp/visolve/en

New NOAA Satellite Reaches Orbit

From NOAA News

NOAA and NASA officials announced a new Geostationary Operational Environmental Satellite (GOES), launched June27th, successfully reached orbit, joining three other GOES spacecraft that help NOAA forecasters track life-threatening weather and solar storms.

"Reliable satellite coverage helps us see severe weather as it develops," said Mary E. Kicza, assistant administrator for NOAA's Satellite and Information Service. "With more than a thousand tornadoes touching down in the United States each year, and hurricanes a serious risk to residents along the Gulf and East coastlines, it's critical GOES-O is in orbit and ready when needed."

GOES-O is the second spacecraft in the GOES-N/O/P series and features significant improvements in the instruments that capture high-resolution pictures of weather patterns and atmospheric measurements.

"The imagery and data we get from GOES is key to our ability to continuously monitor and diagnose weather in the tropics," said Bill Read, director of NOAA's National Hurricane Center in Miami. "Continued improvements in the type and quality of GOES data will contribute to improvements in tropical cyclone forecasts."

GOES-O also provides expanded measurements for space and solar environment monitoring, including the Solar X-Ray Imager. The SXI is improving forecasts and warnings for solar disturbances, protecting billions of dollars of commercial and government assets in space and on the ground and lessening the effect of power surges for the satellite-based electronics and communications industry. On July 7, GOES-O was placed in its final orbit and renamed GOES-14.

Local NOAA Weather Radio – an Editorial

By Mike Swiatkowski, AA9VI

Is it just me or is the NWS weather radio coverage in Northern Cook and Eastern Lake Counties pretty poor for both the land based NWS stations KXI-41 162.5 MHz from Crystal Lake and KZZ-81 162.475MHz Lockport? The NWS some time ago decided to make the station with the best coverage in the area, KWO-39 162.55 MHz Chicago have a marine centric broadcast schedule. So, many of us in the northern 'burbs are left out in the cold since KZZ-81 and KXI-41 have only marginal reception.

I think it would be smarter to revert to the old programming on KWO-39 that featured more land-based forecasts, climatology, and local conditions.

KWO-39 has the best coverage but I don't want to listen to a seemingly endless loop of marine forecasts before getting to my local land based forecast. If you go out for a drive in McHenry and Boone Counties you'll notice significant overlap between the Rockford and Crystal Lake NWS stations. It seems that KXI-41 is just too far west for most in Eastern Lake and Northern Cook Counties to receive. Maybe the original intention was that KXI-41 would reach us better in the Palatine-Highland Park-Buffalo Grove area but the fact is that more often we receive the NWS station from LaPorte, IN or just an interference mess of both.

Chicagoland Skywarn

INQUIRIES/SUGGESTIONS
aa9vi@arrl.net

Join our Private Yahoo list (requires free membership)
Sign up at:
http://aa9vi.com/wx

Chicagoland
Skywarn Liaison Frequencies
(from FISHFAR):
Chicago: 442.975+ MHz
PL114.8 Hz
Schaumburg: 442.9+ MHz
PL 114.8 Hz
Gilberts: 146.925- MHz
PL 100.0 Hz
Gilberts: 442.925+ MHz
PL 114.8 Hz
Joliet: 442.925+ MHz
PL 114.8 Hz

APRS Packet WX: 144.39 MHz
Winlink Packet: 145.61 MHz

S.E. Wisconsin Skywarn
145.13- MHz PL 127.3 Hz

NWS Chicago Website:
weather.gov/chicago

NWS Chicago News – Summer Workshop for Kids

From NWS Chicago Website

Do you know a child who is fascinated by weather and would like to learn more about weather maps, clouds, and storms? The National Weather Service (NWS) will be hosting a Summer Weather Workshop for Kids on Thursday August 6 at the NWS office in Romeoville. There will be two sessions; 9:00 AM – 12:00 PM and 1:00 PM – 4:00 PM. The program is for middle and junior high students who will be entering 5th through 8th grade this fall.

The program is free but class size is limited.

In the class, students will;

- Get a tour of the NWS office, including a demonstration of Doppler radar
- Learn about basic weather concepts, high and low pressure, fronts
- Learn how clouds form
- Work with weather maps
- Receive safety information for severe storms and tornadoes
- Issue a mock tornado warning
- Do hands-on activities
- Find out about career opportunities in meteorology

For more information, and to register, contact Jim Allsopp at 815-834-1435 or email

Have You Registered?

eSpotter
Online Weather Reporting System

eSpotter is a system to facilitate the submission of spotter reports online. The system is being developed to enhance and increase timely & accurate online spotter reporting and communications between spotters and their local weather forecast offices. The use of the system is currently available for trained spotters and emergency managers.

If you are a trained spotter and wish to report severe weather, register for eSpotter at http://eSpotter.weather.gov Online training is also available at this website. It's simple. Give it a try!

CHICAGOLAND SKYWARN

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CITY, ST 60600