



2004-2005 Winter Outlook

Mike McClure
Senior Forecaster

The Climate Prediction Center (CPC) in Washington DC issues seasonal outlooks during the middle of each month that predict temperature and precipitation trends out to a year. They are broken down into Above Normal (A), Near Normal (N) and Below Normal (B). Regions where the likelihoods of the three categories are the same (33.33...%) are designated as "EC" (Equal Chances). The latest outlooks for this winter (Figure

1) indicate below normal on precipitation and equal chances of being Above, Normal or Below on temperatures.

...we are in the early stages of an El Nino...

El Nino can play a major role in determining the type and intensity of weather during the winter. El Nino

refers to the abnormal warming of surface ocean waters in the Eastern Tropical Pacific, and can have significant impacts on not only the weather, but on the economy as well.

The latest data indicates that we are in the early stages of an El Nino episode, and many of the prediction tools that CPC uses suggest that at least weak El Nino conditions will persist into the early portion of 2005. One prediction (cont. page 2)

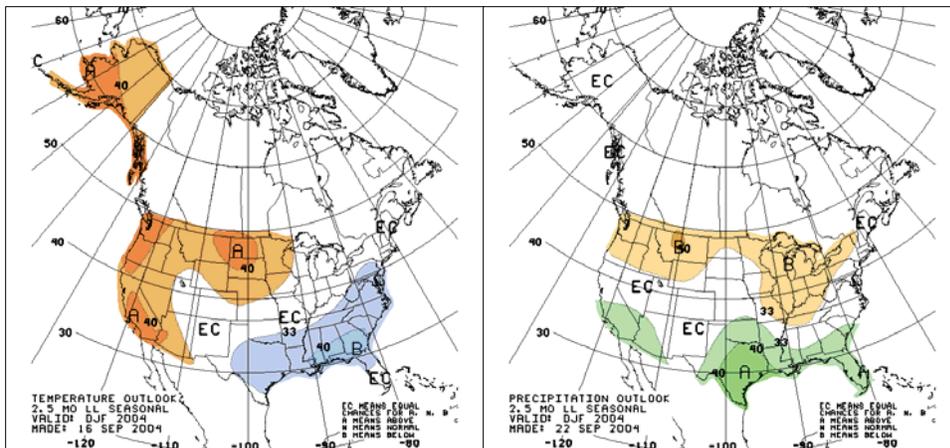


Figure 1. Temperature and Precipitation outlooks for December 2004-February

Coops Honored with Appreciation Day

On Saturday, July 17th, the NWS Office in Davenport, Iowa (Quad Cities) hosted a Cooperative Observer Appreciation Day.

The event recognized the efforts and dedication of NWS Cooperative Observers from across the Davenport office's Service Area. Guest speakers

passed along their thanks and praise to the observers. Included among the guest speakers were, NWS Central Region Director Dennis McCarthy, Iowa State Climatologist Harry Hillaker, Illinois State Climatologist Jim Angel, and Steve Hilberg from the Midwest Climate Center.

Local media attended the event. A reporter from the Quad City Times interviewed various people, including speakers, NWS Quad Cities staff, and cooperative observers.

The North Central River Forecast Center near Minneapolis, (cont. page 3)

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WINTER IS ALMOST HERE. TAKE TIME TO REVIEW WINTER SAFETY RULES.

WINTER CLIMATE ACROSS THE AREA:

Dubuque:

Average temp: 20.9
Annual snowfall: 40.6

Cedar Rapids:

Average Temp: 22.2
Annual snowfall: 26.3

Moline:

Average temp: 24.8
Annual snowfall: 31.8

Burlington:

Average temp: 26.3
Annual snowfall: 24.7

2004-2005 Winter Outlook (continued from page 1)

tool CPC uses is the Oceanic Nino Index (ONI). The National Oceanic and Atmospheric Administration (NOAA) operational definition of El Nino characterizes it by a positive ONI greater than or equal to +0.5°C. The most recent ONI value (+0.7°C for June through August 2004) exceeds the threshold for El Nino conditions. Magnitudes of El Nino and corresponding ONI values are as follows: Weak (+0.5°C to +0.8°C); Moderate (+1.0°C to +1.3°C); Strong (+1.6°C to +2.4°C). CPC model predictions suggest that the ONI value will likely remain between +0.5°C and +1.0°C into the spring of 2005, which correlates with weak to moderate El Nino conditions.

So, what – if anything – can this tell us about the winter of 2004-2005? The answer might be found in looking back at previous El Ninos, and comparing temperature and precipitation anomalies with the various magnitudes (Figure 2).

In reviewing the temperature and precipitation anomalies and corresponding magnitudes of El Nino, what becomes apparent is the significant difference between a weak and moderate El Nino episode, especially with regard to temperatures. This then may explain CPC's usage of equal chance in their temperature forecast for Eastern Iowa, Northwest and West Central Illinois and Northeast Missouri. Recall, the most recent ONI value is +0.7°C. Should this not change then we can expect a weak El Nino episode this winter. This has been shown to correlate to a large negative temperature anomaly, or deviation from the common rule, hence much colder than normal on temperatures for our area. Precipitation also shows a large negative anomaly, hence well below normal.

What if El Nino were to strengthen and become moderate in intensity? The impact on our weather, especially with temperatures, is dramatic. Large positive temperature anomalies develop, hence well above normal. Meanwhile, precipitation anomalies remain negative, though

not by as much. It should be mentioned that the very cold winters of 1976-1977 and 1977-1978 likely had some impact in skewing the results for weak El Nino episodes. Given that the strength of El Nino remains uncertain, and seeing how going from a weak to moderate episode can have such an impact, we now know why CPC's winter 2004-2005 outlook demonstrates more confidence on precipitation trends rather than temperatures. In a weak El Nino it is more likely that other less predictable climate factors will play a big role in the temperature character of the winter. It must also be pointed out that climate is a long term composite of daily weather. It is possible to have several days of record warmth, but overall have a winter season with a below normal temperature. Seasonal climate focuses on the overall character of the period.

The CPC's homepage (www.cpc.ncep.noaa.gov) has many types of outlooks and assessments.

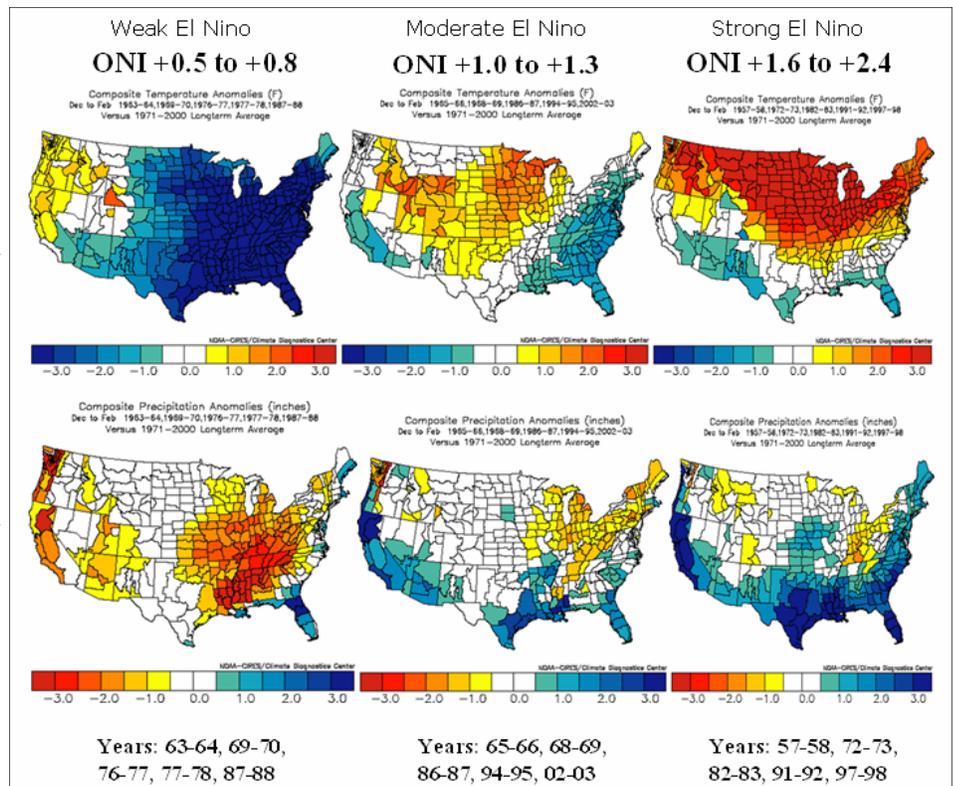


Figure 2. Temperature and Precipitation anomalies associated with Weak, Moderate and Strong El Nino episodes. Source: Climate Prediction Center

Looking Back: Summer 2004

Over much of the region, June through August averaged cooler and drier than normal. Here are some statistics from Quad City International Airport in Moline, IL:

Average High Temperature: 80.4
Departure from normal: -3.8
Average Low Temperature: 62.2
Departure from Normal: -1.6
Mean Temperature: 70.5
Departure from Normal: -2.7

Highest temperature: 94 on 7/13
Lowest temperature: 45 on 8/14

Total precipitation: 9.65
Departure from Normal: -3.42

Are You Ready for Winter Driving?

Winter driving in the Midwest can be unpredictable.

The following four precautions may help you to avoid an unpleasant or dangerous situation while traveling:

1. Winterize your car to keep it in top operating condition. This will also improve safety and fuel economy.
2. Keep your gasoline tank as full as possible. This will minimize water in the tank and will provide the maximum advantage in case of trouble.
3. A cellular phone or a CB radio can be a very useful item in emergencies.
4. Carry a winter survival car kit at all times.



Winter survival kit should contain:

- A sleeping bag or blanket for each person.
- Two empty coffee cans with lids. One may be used for sanitary facilities, the other to burn candles for heat.
- Matches and candles.
- Wool caps, mittens and overshoes.
- First aid kit with pocket knife.
- Large box of facial tissues.
- Flashlight with extra batteries.
- Shovel.
- Canned nuts, dried fruit and candy.
- Battery booster cables.
- Transistor radio with extra batteries.
- A small sack of sand or one set of tire chains.

If you do get stranded, stay with your vehicle. Remember to leave a window slightly open if you use your car's own heater as a heat source. Carbon monoxide poisoning can happen without the victim being aware of it until it's too late.

Coops Honored with Appreciation Day (continued from page 1)

Minnesota, a big user of cooperative observer information, wrote the following letter:

July 16, 2004

Cooperative Observers:

The North Central River Forecast Center wishes to take this opportunity to thank aof those within the Cooperative Observer Program. They provide critical data which aids the National Weather Service in providing quality forecasts, each and every day.

The unselfish dedication of the Cooperative Observers greatly assists the National Weather Service in its mission of saving lives and protecting property.

Thank you again and we look forward to your continued assistance in furthering our mission.

-Signed-

*Mark M. Ziemer, P.E., Acting Hydrologist In Charge
North Central River Forecast Center*



NWS Central Region Director, Dennis McCarthy thanks cooperative observers for their dedicated service. Photo by Jeff Zogg, Quad Cities forecast office.

NWS Quad Cities Hosts AHPS Users' Workshop

On Tuesday, July 20th, the NWS Forecast Office in Davenport, Iowa (Quad Cities) and the Benton County, Iowa, Emergency Management Agency co-hosted two AHPS users' workshops in Vinton, Iowa. The Davenport NWS office worked with the NWS Forecast Office in Des Moines, Iowa, to program the workshop. Scott Hansen, Coordinator of the Benton County Emergency Management Agency, provided the facilities and refreshments.

Both workshops were identical. One was held late in the morning and another was held early in the afternoon. Each workshop was two hours long. The goal of holding two workshops instead of one was to attract more people. Around 25 people attended the workshops. Jeff Zogg, Service Hydrologist for the Davenport forecast office led both workshops. Jeff also gave a presentation on probabilistic forecasts and later used a live Internet connection to show attendees where AHPS information—both deterministic and probabilistic information—is located. Marian Baker, Senior Service Hydrologist for the Des Moines forecast office, also spoke on inundation mapping possibilities. The workshop touched on the seven-day deterministic forecasts in AHPS but spent minimal time on them since most of the atten-



Jeff Zogg from the Quad Cities forecast office talks about probabilistic forecasts. Photo by Chuck Schaffer, Quad Cities forecast office.

dees already used that information.

A wide range of disciplines attended the workshops. Those disciplines included emergency management, public works, engineering, media, conservation boards, and academia (University of Iowa—facilities management and engineering). Some good discussion points and action items for the NWS arose from the workshops.

What is AHPS?

AHPS is another NWS acronym that stands for *Advanced Hydrological Prediction Service*.

More information and live data pertaining to area rivers may be found on our website: www.crh.noaa.gov/dvn/

Click on River&Lakes AHPS in the left column.



Road Report Information

Illinois: 1-800-452-IDOT (4368)
www.dot.il.gov/operations/inetcond.html

Iowa: 1-800-288-1047
www.iowaroadconditions.org

Missouri: 1-800-222-6400
www.modot.state.mo.us/road_conditions/

Winter Weather Safety: Treatment for Cold Weather Exposure

If a person shows any signs of over-exposure to cold or wet and windy weather, take the following measures, even if the person claims to be in no difficulty. Be aware that often the person will not realize the seriousness of the situation.

- * Get the person into dry clothing and into a warm bed with a warm (*not hot*) water bottle.
- * Concentrate heat on the trunk of the body first so cold blood is not forced into the heart.

- * Keep the head low and the feet up to get warm blood circulating to the head.
- * Give the person warm drinks.
- * Do not massage or rub the person's skin.
- * Keep the person quiet.
- * Never give alcohol or pain relievers



Measuring Snowfall and Snow Depth

Mike Bardou and Tom Phillip

As winter approaches, we turn our attention from severe weather to snow and ice. Winter weather can have a widespread and significant impact on just about everybody who needs to venture out. Snowfall reports are essential for providing accurate and timely forecast updates to the public and to those who keep roads clear, as well as for maintaining a reliable climate record. Measuring snowfall is a relatively simple task, but does require a few specific steps.

The tools needed are: 1). A flat surface that does not produce heat, and 2) a ruler. The flat surface may be a piece of plywood painted a light color such as white to reflect sunlight or a picnic table. This surface should be in a location where drifting does not occur and is away from buildings and trees. Mark the location with a flag or stake.

During a snow event, snow measurements should be taken every six hours. To do this:

1. Push the ruler straight into the snow, perpendicular to the snow board, until the ruler hits the snow board.
2. Record the depth to the nearest tenth of an inch; e.g. 3.5 inches.
3. After recording your measurement, clear the snow board of snow and place on top of the accumulated snow.

4. The 24-hour snowfall total will be the sum of the four most recent 6 hour observations; do not take more than four observations in a 24 hour period.

A snow depth report is a measure of the snow that remains on the ground each day. Snow depth should be recorded once per day at 7 a.m. when snow depth is 2 inches or greater. Depth is reported to the nearest whole inch, e.g. 3.5 inches becomes 4 inches while 3.4 inches becomes 3 inches.

Two methods can be used to measure snow depth:

1. A second snow board can be used to 'catch' the snow. However, the snow depth reading is taken in the same manner as the snowfall measurement. This second snow board will NOT be cleared off after any measurement.
2. Snow depth can also be taken without a snow board:
 - Take a ruler and take measurements at several locations around your yard or property. These measurements should be



Snow measurement using a snowboard and ruler at the National Weather Service.

taken in spots that you feel represent the actual snow depth. Avoid drifts or areas where snow has been blown away. - Add all of the values and then divide by the number of measurements taken. Round this to the nearest whole inch. The more measurements taken, the more accurate the average will be.

Editor's note: The described snowfall measurement procedures are intended as refresher material for official NWS cooperative observers. If you would like to report snow, but are not an official spotter or involved in the coop program, please see information on our website at: www.crh.noaa.gov/dvn/preparedness/winter/measure_snow.htm

Winter Weather Safety:

Hypothermia

When the body begins to lose heat faster than it can produce it, a condition called hypothermia begins to develop. The symptoms become very apparent, and include:

Uncontrollable shivering

Vague, slow, slurred speech

Memory lapses; incoherence

Immobile, fumbling hands

Frequent stumbling

Apparent exhaustion; inability to get up after a rest

If you must go outside, remember the following:

Avoid overexertion

Dress warmly in loose-fitting, layered, light-weight clothing

Avoid alcoholic beverages

Keep yourself and your clothes dry

Check infants frequently

**NWS Quad Cities
9050 Harrison Street
Davenport, IA 52806**



Weather Home Companion

NWS Quad Cities
9050 Harrison Street
Davenport, IA 52806

Phone:
(563) 386-3976

On the web:
www.crh.noaa.gov/dvn

Editor: David Sheets
E-mail: david.sheets@noaa.gov

Contributors:
Jim Belles, Meteorologist-in-Charge
Donna Dubberke, Warning
Coordination Meteorologist
Jeff Zogg, Service Hydrologist
Mike McClure, Senior Forecaster
Mike Bardou, Meteorologist Intern
Tom Phillip, Meteorologist Intern

My First Blizzard

**Donna Dubberke
NWS Meteorologist**

I'll never forget my first Midwestern blizzard. It was January of 1999. We had only moved to Iowa about 4 months earlier, and were enjoying our first Christmas in our new home. Then came New Years. The weather turned cold and it started to snow. And snow. And snow. And snow.

You might think, "What's the big deal?" Well, you'd have to understand that I grew up in Texas, where everyone stays home to play if you get a half inch of snow. Once when I was a kid, I remember we had a whopping $\frac{3}{4}$ inch of snow. School was cancelled, and my parents both played hooky from work. We built a skinny, 2-foot tall snowman on the trunk of my

dad's car, and it was the hit of the neighborhood!

Anyway, on that New Years in 1999, we ended up with more than a foot of snow at our house. The drifts were piled up on the patio, completely covering the furniture. It was absolutely beautiful. The fresh snow turned the backyard into a winter wonderland fit for a Christmas card.

What do you think we did? Of course we decided to go outside and have some fun! We spent the next half hour getting the kids bundled up until they could barely move, and then we ventured outdoors. My son, John was just over a year old at the time. He wobbled one step onto the patio, the snow reached his armpits, and he started to scream. He was



Our 3-year-old daughter standing in a two-foot snow drift on the patio.

so mad! We were afraid the tears would freeze on his face, so we rushed him back indoors. Our 3-year-old daughter was a bit more adventurous. She tried to make a snowball, but the snow was so dry that it just fell apart. (Who knew that all snow isn't good for packing?)

So after a whole 3 minutes outside, we headed back indoors, spent the next 20 minutes shedding our winter gear, and then enjoyed the best part of a Midwest blizzard - hot chocolate!