



2005 Shareholders' Report

— National Weather Service

Louisville, Kentucky

I'm a "Shareholder?"

Welcome to the first addition of the Louisville Shareholders Report. You are a shareholder in the National Weather Service (NWS)! As a taxpaying citizen of this country, you have invested in the Federal government, of which the NWS is a part. The NWS was appropriated \$783,000,000 for Fiscal Year 2005. That equates to an investment of \$2.63 per person. As the Meteorologist In Charge of your investment, I feel it is my duty to report to you how your "holdings" have fared.

This report details activities of the Louisville Weather Forecast Office (WFO) and events in its county warning area (CWA) during 2005. Since you are both a shareholder and a customer, I hope you find our activities have demonstrated the sort of stewardship you expect from your public servants. As always, I welcome your comments and suggestions as to how the NWS can be an even better investment for you.

-- John Gordon, Meteorologist-in-Charge (MIC)



A double-rainbow photographed from in front of Louisville's National Weather Service Forecast Office.

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Warning Coordination Meteorologist:

Norm Reitmeyer

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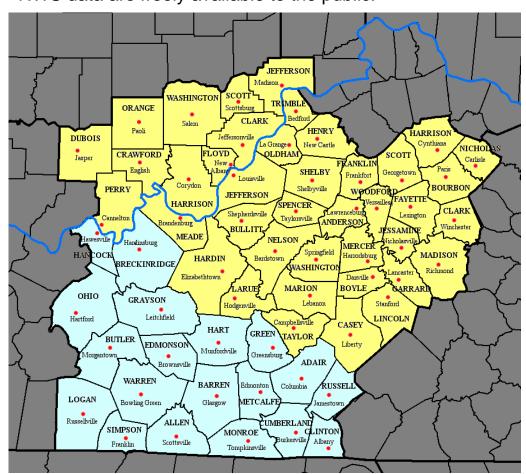
Ted Funk





Who is the National Weather Service?

The National Weather Service is a dedicated team of professional meteorologists, hydrologists, and technicians providing critical weather information to the public. Our primary goal is the protection of life and property from the effects of all types of weather. The number one priority of the NWS is to provide timely and accurate warnings of tornadoes, severe thunderstorms, and floods. In addition, we also issue routine forecasts for the general public, aviators, and fire weather specialists via NOAA Weather Radio, the Internet, and AP Weather Wire for enhancement of the national economy. The NWS is the sole United States official voice for issuing warnings during life-threatening situations. All NWS data are freely available to the public.



The National Weather Service office located in Louisville, Kentucky ("LMK") is responsible for weather warnings and forecasts for more than just the Louisville area. We are charged with providing lifesaving weather information to 49 counties in central Kentucky and 10 counties across southern Indiana. This area includes the cities of Lexington and Bowling Green in Kentucky and Jasper in Indiana, in addition to Louisville. In the map above, yellow counties are in Eastern Time and blue counties are Central Time.

Organization

The National Weather Service is a tax-funded organization in the Federal government:







Office Highlights from 2005



Administrative
Assistant
Pam Lozier
was awarded
the Regional
Cline Award
for Support
Services, and
is in the
running for
the national
award.

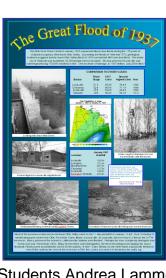


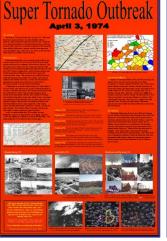
John Gordon hosted the first-ever Kentucky Area MIC Summit with four other offices in mid-May. Area officials (pictured, L to R: John Gordon [Louisville MIC], General Clay Bailey [KY EMA], Beverly Poole [Paducah MIC], Alan Rezek [Charleston, WV MIC], Shawn Harley [Jackson MIC]) met for a day and a half to improve communication, forecasting, and severe weather operations. KY State EMA director General Clay Bailey had an extensive briefing along with a very productive question and answer session.

NWS Louisville was among a group of offices that won the United States Department of Commerce Silver Medal Award for Meritorious Federal Service for providing lifesaving information before, during, and after the record snowstorm and floods across the Ohio Valley in December 2004 and January 2005.

Forecaster Ben Schott organized Lightning Safety Awareness Night at a Lexington Legends baseball game in August. Ben got to throw out the first pitch and MIC John Gordon helped with the play-by-play in the radio booth during the 5th inning.









Students Andrea Lammers (Indiana University) and Sarah Ede (Western Kentucky University), and Forecaster John Denman constructed informative posters about historical area weather events.





Office Highlights from 2005

Information Technology Officer (ITO) Tony Freeman and Graphical Forecast Editor (GFE) Program Leader Mark Jarvis hosted a 2-day Ohio Valley computer and software summit with 7 other NWS offices.



http://www.stormready.noaa.gov/

Warning Coordination Meteorologist Norm Reitmeyer helped get Bowling Green StormReady. Norm has also been visiting state and county road departments in an effort to obtain more real-time reports during inclement weather.

StormReady communities in this area:

- Shelby County
- Scott County, KY
- Grayson County
- Edmonson County
- Warren County
- Taylor County
- Russell County
- Adair County
- Casey County
- Univ. of Louisville
- University of Kentucky

The office and its grounds were overhauled this year, with several staff members pitching in to help.

Forecaster Angie Lese joined our team April 28. She's in charge of the Weather Radio program and our forecast verification.



Aviation Program Leaders Joe Ammerman and Chris Smallcomb visited 80% of all airports in our 59 county warning area. Joe, a Senior Forecaster at LMK, is organizing an Aviation Workshop for pilots in 2006.

John Gordon, Science and Operations
Officer (SOO) Ted Funk, and
Forecaster Angie Lese spoke at the
National Weather Association annual
conference in Saint Louis in October.
Students Sarah Ede and Andrea
Lammers presented posters that were
given the award for "Best
Undergraduate Poster".

To keep our customers up-to-date, we now issue a Hazardous Weather Outlook (HWO) three times a day: at 4:30am, 11:30am, and 3:30pm eastern time. The outlooks are placed on NOAA Weather Radio and on our website. The HWO provides information on thunderstorms, snow, floods, and any other hazardous weather in the seven-day forecast.

Instant Messaging (IM) has become a vital tool in our severe weather operations. We use IM extensively to communicate with local media, letting them know which storms are of particular interest, and giving them a heads-up when we're about to issue a warning. In return they send us reports and assist us in our warning process.





Office Highlights from 2005



Mike Callahan and Pam Lozier were recognized as "Champions for Children" by the Jefferson County Public School District.

In September, we met with District 3 of the Kentucky Department of Highways in Bowling Green to discuss the winter forecast, coordination efforts before and during winter storms, and obtaining road and weather reports from the department.

In conjunction with other NWS offices that serve Kentucky, we staffed an NWS booth at the Kentucky State Fair in August. Videos, historical weather posters, an NWS overview PowerPoint presentation, NOAA Weather Radio, our tornado machine, and informative brochures were on display.



John Gordon presents Service Hydrologist Mike Callahan with a Regional Excellence Award for his leadership in helping standardize the NWS Hydrologic Forecast System.



The Ohio River at Cannelton Lock, upstream from Tell City, Indiana

Seminars were given to students at Western Kentucky University in April and Purdue University and Indiana University in November, describing severe and winter weather meteorology and giving tips on how to gain employment with the NWS.

Flash Flood Hot Spot Project: We have completed mapping about half our counties with locations that are highly, moderately, or slightly prone to flash flooding. The goal is to provide a better service to the customer by improving our warning decision-making and by using this flash flood information in our warnings and statements. Ultimately, we'd like a map of the entire region showing counties that are prone/not prone to flash flooding and also a map of each county with detailed hot spots.





Office Highlights from 2005

The staff at NWS Louisville has always been passionate about furthering our meteorological and career-oriented knowledge through on-going training.

The Weather Event Simulator (WES) is an integral part of our training program. The WES can re-play significant weather events, such as severe weather outbreaks, in a practice setting to maximize forecaster proficiency.

All staff members also took many classes in our Advanced Warning Operations Course (AWOC), which was a comprehensive review of severe weather and flood related topics.

Every spring we practice using the software employed in issuing life-saving severe weather warnings, so that when actual severe weather hits, we are on top of our game and ready to go in an instant.

Training was also provided on honing our Doppler radar skills.

Ted Funk developed and delivered a fullday workshop on leadership skills. The goal of the training was to ensure that employees



remain dedicated and highly motivated to work together providing outstanding service to our customers. The workshop was so successful that Ted was invited to give his presentation to other NWS offices as well.



A new fiber optic line was installed to connect the radar, located at Fort Knox, to NWS Louisville. This new connection will greatly diminish the chances of losing the radar feed during severe weather.

Tony Freeman held a regional IT workshop in Louisville in May to share ideas and innovative procedures among the area's ITO's. Tony won a local Cline Award for Program Management and Administration Services.



You can now send us your storm reports via the World Wide Web! Call us and ask for Norm Reitmeyer or Tony Freeman for more information!

Did You Know...?

The NWS office in Louisville was established on September 11, 1871. In the ensuing 134 years the office has always maintained a presence as one of the community's most enduring public servants. For more information see

http://weather.gov/lmk/about_us/lmk_history.php.





Office Highlights from 2005



Bill Whitlock, always willing to help

On September 24 at 2:30 a.m. CDT, Hurricane Rita made landfall near the Texas/Louisiana border. Bill Whitlock, Electronic Systems Analyst (ESA), had volunteered to help with recovery from the storm, so less than 5 hours after landfall he left NWS Louisville bound for Lake Charles, Louisiana. He met up with three other NWS electronic technicians at their central meeting point in Wichita, Kansas and the convoy proceeded to Lake Charles.

They arrived at the NWS office in Lake Charles on Monday, September 26 and met with NWS officials to devise a plan of action for the following day. That the most critical need was to restore access to NWS employee homes by making temporary repairs to allow them to leave the makeshift shelter at the office and return home.

At 6:00 a.m. the next morning, the 4 man crew was joined by several other NWS employees and they began the trek through the hurricane ravaged area into local neighborhoods. Armed with chainsaws and hammers they removed trees and other debris and made temporary roof repairs to employees' houses. Each day brought new challenges with 100 degree temperatures and steep roofs.

The evenings were spent making repairs to NWS equipment such as radar, surface observation systems, and weather radio equipment. The team also performed preventive maintenance on the power generation systems at the office and radar site. Usually around midnight the team would retire for the night to rest for the 6:00 a.m. wake-up.

By the end of the week when the employees' houses were patched up and somewhat livable again, the team packed their trucks and started the trip back to their home sites, each with plenty of stories and a new respect for the power of Mother Nature.

As an avid supporter of the Combined Federal Campaign (http://www.opm.gov/cfc/), NWS Louisville raised \$13,773 (a 16% jump over 2004's amount, and 10% higher than the goal for 2005) with 100% employee participation. We were honored with the "Highest per Capita Giving" distinction. The contributions will support more than 275 local, national, and global agencies that touch the lives of our families, friends, and neighbors. The office also contributed to the community via food drives and various charity events throughout the year.



F2 tornado damage in Munfordville, KY, November 6, 2005





Severe Weather - Our Primary Concern

As the only source of official severe weather warning information, every year we issue hundreds of warnings for impending tornadoes, flash floods, and severe thunderstorms. These warnings reach the public via NOAA Weather Radio and through relay by local television and commercial radio stations.

In an effort to disseminate this life-saving information as rapidly as possible, warnings go out over NOAA Weather Radio automatically. The moment we issue the warning it is picked up by NOAA Weather Radio and read by the computer's voice on the air immediately.

2005 Severe Weather Quick Facts

In 2005, the Louisville NWS office issued 23 Tornado Warnings, 76 Flash Flood Warnings, and 300 Severe Thunderstorm Warnings. On May 19 alone we issued 56 Flash Flood Warnings and 42 Severe Thunderstorm Warnings in a ten-hour period.

All but five of the Tornado Warnings were issued in November...with 16 of them on November 15.

From April through June, a three-month period in which over half of the year's warnings were issued, the average amount of time from the issuance of the warning to development of severe weather was 13 minutes.

Only 14% of severe weather occurrences in 2005 happened without a warning in effect.

Special Accomplishments in 2005

- Warnings are issued by county. However, some people, such as tourists and truck drivers, don't always know what county they are in. To address this issue, we started including mile marker numbers for storms that cross interstates.
- John Gordon is also a weather officer with the Air Force Reserve out of Keesler Air Force Base. Mr. Gordon flies to Biloxi, MS once a month and flies winter storms and tropical cyclones. John flew missions into Tropical Storm Franklin, Hurricane Nate, Hurricane Ophelia, and Hurricane Katrina while the storm was gaining strength in the Gulf of Mexico. John spoke to FOX News' Geraldo Rivera the night before Hurricane Katrina struck the Mississippi Gulf Coast.

John Gordon's view in the eye of Hurricane Katrina in August 2005.











Public Forecasting

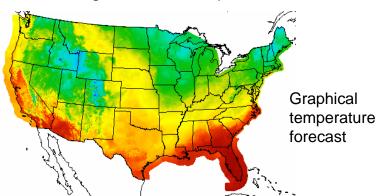
While saving lives and property by issuance of timely, precise severe weather warnings is our highest priority, much of our everyday routine is concerned with providing weather forecasts. We issue forecasts for the general public, aviators, and fire weather specialists. We provide the greatest emphasis and detail on the first two days of the forecast.

We create office statistics of forecast precipitation and daily maximum and minimum temperatures in the first two days of the seven-day public forecast. This builds a local climatology and helps us determine our strengths, weaknesses, and forecast trends.

In addition, we have the ability to compute verification statistics for individual forecasters.

In the summer of 2005, 95% of our low temperature predictions and 93% of our high temperature predictions in the first two days of the forecast were within 5 degrees of what actually occurred. This was better than both of the two main forecasting models.

During the winter of 2004-2005, the Louisville NWS office out-performed model-generated forecasts and other NWS offices on both high and low temperatures.

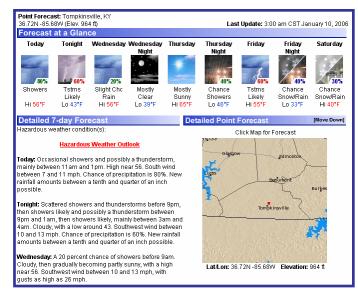


Your Local Forecast

By going to our website,

http://weather.gov/louisville, and clicking
on the map on our home page (see
below), you can obtain a detailed
forecast for your exact location. The
forecast is computer-generated from our
database for the exact spot you clicked
with your mouse. You can also find a
forecast, for anywhere in the country,
via zip code or by city-and-state.





Your forecast for Tompkinsville, Kentucky.



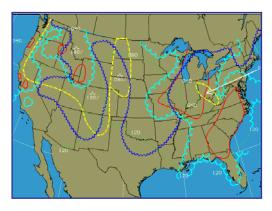


Aviation Forecasting

At NWS Louisville we prepare aviation forecasts specifically tailored towards pilots. These forecasts are written at least four times a day, with updates as necessary, for Louisville International Airport, Blue Grass Airport in Lexington, and Bowling Green-Warren County Regional Airport.

These forecasts predict exact wind speed, wind direction, visibility, weather, and the height and amount of any cloud cover. The forecasts are so vital to the safety and economy of aviation that pilots are *required* to consult the forecast before departing. Also, the aviation forecasts have the power to ground flights or require pilots to have alternate route plans if conditions at their preferred airport are too poor to land or take off.

An example of one of the many types of aviation forecasts issued by the NWS.



Hydrological Forecasting

Flooding is one of the leading causes of fatalities and property loss in the United States. To that end, we take flooding very seriously in the NWS. There are over two dozen locations in southern Indiana and central Kentucky for which we closely monitor water levels and can issue statements when flooding is expected. We issue Flash Flood Warnings when powerful thunderstorms drop copious amounts of rain on ground that simply can't absorb the heavy precipitation. Flash Flood Warnings are also issued in the case of dam breaks.

We have developed a very userfriendly webpage loaded with river information that is easy to find, understand, and apply. Take a tour of our "Advanced Hydrologic Prediction Service" at

www.crh.noaa.gov/ahps2/index.php?wfo=lmk .

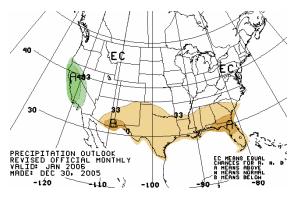


Data Acquisition Program Manager Larry Dattilo installing a new river gauge.

Fire Weather Forecasting

NWS Louisville issues fire weather forecasts to support both controlled and uncontrolled burns in southern Indiana and central Kentucky. Not only do Federal organizations use the forecasts in areas such as Hoosier National Forest, but agricultural interests can also use the wind, humidity, and precipitation information for reasons such as controlled field burns. Visit our fire weather webpage, where shareholders can send a fire weather forecast request directly to us, at http://www.crh.noaa.gov/lmk/?n=fireweather. We issued 44 spot forecasts in 2005.



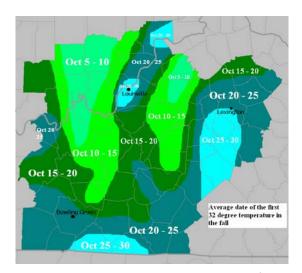


One example of a climate forecast issued by the NWS's Climate Prediction Center.

Climate

"Climate change"..."Greenhouse Effect"..."Global Warming"... Climate and its effects on humanity have become hot topics over the past several years. Data showing a steady warming trend and predictions of continued warming, possibly at an alarming rate, have affected all walks of life. Politicians are including climate change in debates...insurance companies are addressing it when determining premiums and writing policies...local communities wonder what changes will happen to sea levels and agricultural livelihoods.

For many years the Climate Prediction Center (CPC), http://www.cpc.noaa.gov, has issued long-range temperature and precipitation forecasts. These forecasts are issued for time periods as much as 13 months into the future for the entire nation. In Louisville in 2006 we will unveil a new website that takes CPC's national forecasts and tailors them to specific points. Beginning this year our customers will be able to choose a location and time period to develop a forecast suited to their particular needs. The forecasts will be presented in colorful, easy-to-read graphs as well as in text.



Map showing the average date of the first fall freeze across the area.



NWS Louisville student employees collaborating on a project.

NWS Louisville has created a special Local Climate Team to deal with the myriad climate issues that need to be addressed. In 2005, after much discussion internally and with our media partners, the team succeeded in moving the official weather observation site for Louisville from the suburban location of the NWS office back to Standiford Field, where it had been for several decades prior.

In 2006 the team will continue its work in the development of climate studies and the presentation of climate information to our customers.





NOAA Weather Radio – The Voice of the National Weather Service

All life-saving weather warnings and routine public forecasts, current conditions, and other weather information are sent out over the airwaves via NOAA Weather Radio (NWR). Our products are read on the radio automatically by a computer-generated voice, thus eliminating any time-consuming human intervention. NWR broadcasts on seven VHF band frequencies ranging from 162.400 MHz to 162.550 MHz. Specially equipped radios will even automatically turn on for you when we issue a warning for your area, which can be a lifesaver when severe storms strike in the middle of the night.



NWS On the Web

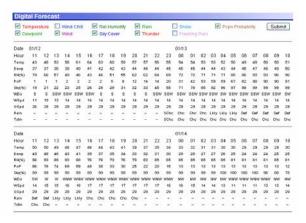
Our website, http://weather.gov/louisville, is an indispensable resource for weather information. Every product we issue, from general information statements to forecasts to warnings, is available there. A visitor to the site can easily get an instant look at the most significant weather headlines in effect via our colorful forecast map.

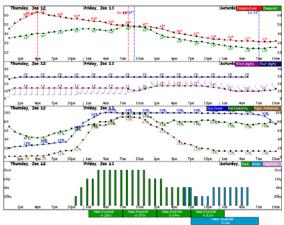
Along the left side of every page is a host of links to other sources of information, including aviation, fire weather, climate, severe weather, and general forecasts.

The "Top News of the Day" section at the head of the main page is updated frequently with the latest topics of interest to our users.

Further down on the main page is a very popular section displaying significant weather events that have taken place on that day in history.

NWS Louisville's website provides "one-stop shopping" for all your weather needs!





Forecasts, just one of the many helpful items found on our website, are available in graphical, tabular, and worded formats.

Today: Mostly sunny, with a high around 66. South wind between 13 and 15 mph, with gusts as high as 29 mph.

Tonight: A chance of showers and thunderstorms, mainly between 11 pm and midnight, then periods of showers and possibly a thunderstorm, mainly after 2 m. Low around 47. South wind around 14 mph, with gusts as high as 29 mph. Chance of precipitation is 80%. New rainfall amounts between a quarter and half of an inch possible

Friday: Periods of rain showers, mainly before 11 am. Some thunder is also possible. High around 52. West wind between 13 and 17 mph, with gusts as high as 29 mph. Chance of precipitation is 90%.

Friday Night: A slight change of rain and snow before 8pm then a slight chance of snow between 8pm and 10pm, then a slight chance of snow between 8pm and 10pm, then a chance of flurries after 10pm. Cloudy, with a low near 29.

Northwest wind between 10 and 17 mph, with gusts as high as 29 mph. Chance of precipitation is 20%.

Saturday: Mostly cloudy, then gradually becoming mostly sunny, with a high near 41. Northwest wind around 11 mph, with gusts as high as 29 mph.

Saturday Night: Mostly clear, with a low around 26.

Sunday: Mostly sunny, with a high around 50

Sunday Night: Partly cloudy, with a low around 40.

M.L.King Day: A chance of showers. Cloudy, with a high near 56. Chance of precipitation is 50%.

Monday Night: A 50 percent chance of showers and thunderstorms. Cloudy, with a low near 42.





Louisville Cooperative Observer Program

In the nationwide Cooperative Weather Observer Program over 11,000 volunteer weather observers across the country record daily weather data.

NWS Louisville's area of responsibility includes 88 of these cooperative, or "COOP", observers. Seventy-one of the stations are in Kentucky with the remaining 17 in southern Indiana. Most of these Cooperative Observer stations report both temperature and precipitation (rain and snow) every day of the year. Some of these stations also have the additional duty of being the National Weather Service's eyes for stream and river flow monitoring. Two observers represent the "official snow sites" for two major metropolitan cities in central Kentucky. In addition, six of these 88 sites represent the agricultural interests of the area by reporting soil temperatures and relative humidity.

2005 was an extremely busy year for the Cooperative Program at NWS Louisville. Staff members performed 180 routine and emergency repair visits to the 88 sites consuming over 800 man hours. Time In Service awards were presented to 9 observers, including a 55 year award to the longest serving observer in NWS Louisville's area of responsibility.

2006 looks to be another banner year with at least 3 new Cooperative Weather Stations being established and 14 Time In Service Awards (10 to 40 years of service) to be presented. The establishment of a new "Kentucky Mesonet" will bring in an additional 10 to 15 new state-of-the-art weather stations to central Kentucky.



Benjamin Franklin Award presented by Larry Dattilo (second from left) to Charles McMurtrey of Summer Shade, Kentucky for 55 years of continuous dedicated service to the people of Kentucky.



10 year Time In Service Award presented to Beverly Devine of Willisburg, Kentucky by Hydrometeorological Technician Rick Lasher.





Plans for 2006

We are a dynamic, active office. In 2006, a handful of our planned activities include:

- Overhaul the storm spotter presentation and database
- Explore ways to obtain more severe weather reports from the public
- Expand the StormReady program
- Partnering with the Civil Air Patrol for more aerial damage surveys
- Aviation Workshop for pilots at Bowman Field (Louisville) on August 12
- Leadership training (continued from 2005)
- Congressional and Emergency Manager Open House
- Storm survey workshop (February)
- Conference calls for Emergency Managers and media before hazardous weather events
- Press releases before extremely dangerous forecast storm systems
- Increase the number of talks we give to civic organizations
- Tornado database for southern Indiana and central Kentucky
- Expand "This Day in Weather History" section of our webpage
- Winter and severe weather training
- Add on to the office's storage facility

Spotter Classes

Every late winter and early spring we conduct classes in which we train the public to become official NWS storm spotters. In 2005 we trained 3,127 people at 78 different classes! Setting up a class in your community is easy — simply give our Warning Coordination Meteorologist, Norm Reitmeyer, a call at 502-969-8842!



Senior Meterologist Joe Ammerman speaks to a group of teachers at NWS Louisville.



National Weather Service, Louisville

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