

OYBACHI NEWSLETTER



Spring Severe Weather Season In Full Swing

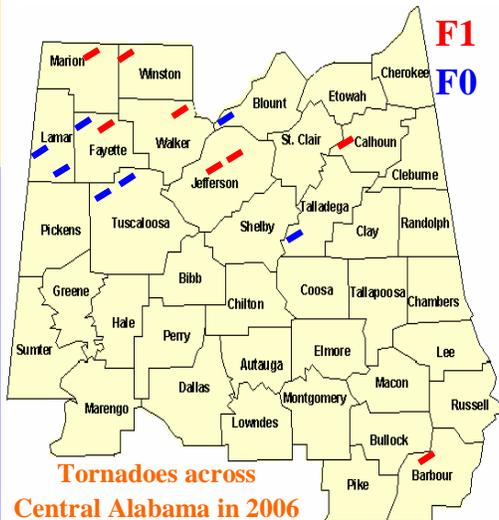
By: Krissy Scotten

It's just barely spring (by the date), but the area has already seen several severe weather episodes in the months of March and April. These four events, two very impressive straight line wind events and two supercell tornadic events, tracked across Central Alabama in a 30 day period.

were rated F1 and the other four were rated F0 on the Fujita Tornado Intensity Scale. It was an atypical severe weather day as many of these tornadoes were easily seen and photographed.

March 20th was another straight line wind event, but this time the main concentration of damage was across Elmore, Montgomery, Bullock, and Russell Counties. In Bullock County alone, thousands of trees were snapped with near 100 mph wind gusts.

Probably the most impressive severe weather event was April 7th-8th. This event was anticipated days in advance as a potential significant severe weather event for the area. Luckily, most of the significant severe weather stayed well to our north, but the area did experience 6 tornadoes. These tornadoes, all F1s except one F0, touched down in Marion, Winston, Calhoun, Talladega (F0), and two in Jefferson County.



The first event occurred Thursday, March 9th, across Northwest Alabama. The main threat on this day was straight line winds. Damage assessments had wind gusts as high as 100 mph across Marion, Lamar, Fayette, and Winston Counties.

Once again the same areas were hit on Monday, March 13th, as two supercells moved across Northwest Alabama. A total of six tornadoes touched down in Lamar, Tuscaloosa, Fayette (2), Blount, and Walker Counties from these two supercell thunderstorms. Two tornadoes



Uprooted tree on brand new 2006 Cougar caused by F0 Tornado in Childersburg (Talladega County) on April 8th. Photo courtesy of Nathan Jones and Lori Barlow.

March Severe Weather Statistics

Severe Thunderstorm Warning Lead Times

31 Minutes

Tornado Warning Lead Times

30 Minutes

Flash Flooding Lead Times

79 Minutes

False Alarm = 29%

Detection = 98%

Critical Success = 75%

Inside this issue:

The Changing of the Seasons 2

In the Hot Seat : Greg Machala 2

Clearing the Smoke About Wildfires in Alabama 3

CO-OP World 4

Outreach 4

Mark's Wacky Weather World 5

"Powered By Linux" 6

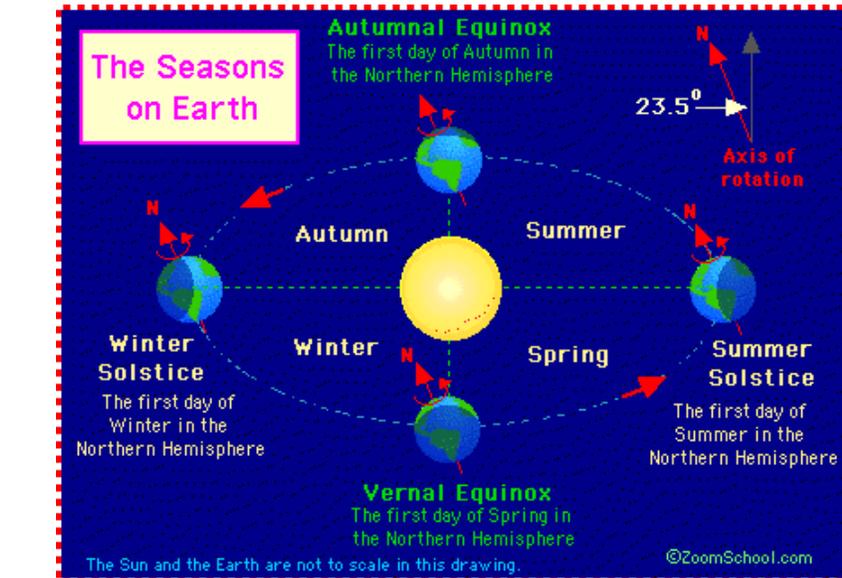
WE'RE ON THE WEB! weather.gov

The Changing of the Seasons By: Jessica Smith

Did you know that the seasons change because of the tilt of the earth and not because of the distance between the earth and the sun? The earth rotates in an elliptical orbit around the sun on an axis which is tilted at 23.5 degrees. As the earth orbits, this tilt actually allows different portions of the globe to be exposed to sunlight.

In the spring and summer months, the earth's Northern Hemisphere tilts toward the sun, and the days grow warmer. The summer solstice, which marks the first day of the astronomical summer, is known as the longest "day" of the year. This is because it has longest amount of daylight. On the other hand, the earth is tilted away from the sun in December. The winter solstice is the official start of astronomical winter and is the day with the least amount of daylight, thus making it the shortest "day" of the year. Interestingly, the earth is approximately 3 million miles closer to the sun in winter than in summer.

Now, why is it that the warmest and coldest days of the year do not occur on the solstices? The answer lies in the composition of the earth's surface. Because of their massive sizes and heat capacities, the continents and oceans take time to heat up and cool



down. For example, the Northern Hemisphere receives the most sunlight around the summer solstice. However, the temperatures of the land and oceans are still cool from the winter and spring. It takes some time, on the order of one to two months, for the land and oceans to respond to the warming temperatures of the atmosphere.

An equinox occurs midway between the solstices. It is at these points when the sun's rays are directly overhead at the equator. It is around these times of the year that day and night are of equal length. The March

equinox is known as the vernal equinox, which marks the first day of astronomical spring. The September equinox is the first astronomical day of fall and is known as the autumnal equinox.

The dates of the solstices and equinoxes for 2006 are as follows:

Vernal Equinox - March 20

Summer Solstice- June 21

Autumnal Equinox-September 22

Winter Solstice-December 21

In the HOT SEAT: Information Technology Officer Greg Machala (the c is silent)



Picture of ITO Greg Machala chasing any visitors away with his ruler.

Originally From: LaGrange, Texas (about 60 miles east of Austin)

School: Texas A&M University - 1990 (B.S.)

Interests at the Office: Computers, Troubleshooting, and Linux

Favorite Part About Your Job is: Programming and Web Development

Offices Worked: WSFO Waco, NWS San Antonio, NWS Fort Worth, and NWS Birmingham

Most Memorable Weather Event Worked: November 24, 2001

Interest in Weather Started Because: Grew up on a farm in Central Texas so we relied on weather in just about every aspect.

What Do You Like About Birmingham: Hills. Central Texas is flat.

What's Next Career Wise: Retirement.

Why the Career Change from Meteorologist to IT?:

Love challenges and troubleshooting. "Computers are logical unlike weather."

Clearing the Smoke About Wildfires in Alabama

By: Mark Rose

You may have noticed a great deal of media coverage in recent years about wildfires. A majority of these wildfires have taken place in California, and more recently, in Texas and Oklahoma. Are fast-moving destructive wildfires possible in Alabama? Before 1998, no one thought Florida would be prone to wildfires. Though it is possible Alabama could also suffer extreme wildfires, it is very unlikely.

While Alabama does have its share of wildfires, they do not rival those out west.

Why? For starters, we live in a semi-tropical climate. Even if we were to receive 25 percent of our normal yearly rainfall, that would still be more rain than many of the normal years across the western states. Once a drought has been established, there are two key elements that drive extreme wildfires. They are low humidity and strong winds. In Alabama, we are fortunate to be under the influence of a large high pressure system over the western Atlantic Ocean called the Bermuda High. The circulation around the high pressure system gives us a moist southerly flow from the Gulf of Mexico and keeps the pressure gradient, which determines wind speed, weak enough to keep our sustained winds mainly in the 5-10 mph range. Alabama can experience low humidity and strong winds during the daylight hours, but at night our winds diminish and the humidity increases, allowing fire fighters to get any serious blazes under control.

“Though it is possible Alabama could also suffer extreme wildfires, it is very unlikely

Alabama also has a lot of deciduous trees, which drop litter on the ground during the winter. Litter is the uppermost layer of the forest floor consisting chiefly of fallen leaves

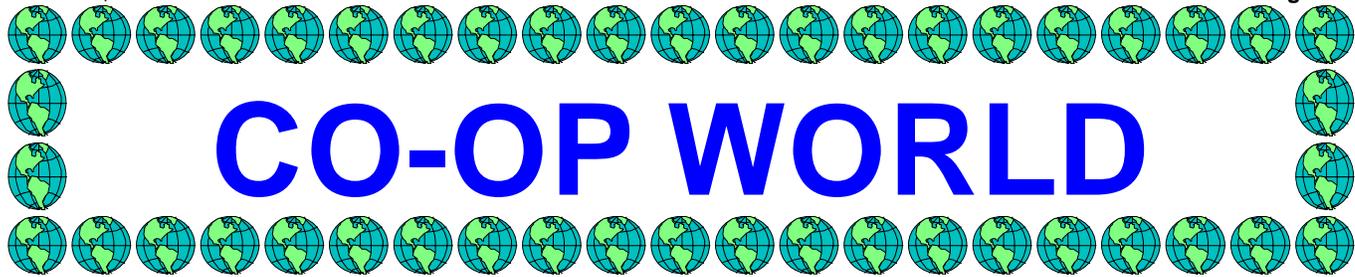


A
Conservancy
fire training
workshop in
Alabama.
© Laura
Butterfield/
TNC.

and other decaying organic matter. The litter then becomes fuel for fires when it dries out. A warm and breezy winter day can cause the fuels to dry out quickly and burn. This type of wildfire can burn several hundred acres in a day, but it never reaches the intensity or destructiveness of the wildfires out west.

There is certain fire terminology with which Alabamians should be acquainted. The National Weather Service issues two types of products that highlight a wildfire threat. A **Fire Weather Watch** is issued when the fuels are dry, and we are forecasting low humidity and strong winds. The watch will normally be issued 24 to 48 hours in advance of the event. A **Red Flag Warning** is issued when the threat of wildfires is imminent. The Alabama Forestry Commission (AFC) also has responsibility for making the public aware of the threat of wildfires. They will issue a **Fire Alert** when all or portions of Alabama begin experiencing wildfires. This allows the AFC to restrict the issuance of burning permits. The Fire Alert is based solely on what is happening in each county and does not have a requirement for wind or humidity. In extreme drought situations, the AFC may issue a **Drought Emergency**, which bans all outdoor burning.

Over the past several years, north Alabama has experienced above normal rainfall and south Alabama below normal rainfall, and this year has been no different. Spring is typically characterized by warm breezy days with low humidity, so wildfires may yet become a newsmaker even in Alabama.



CO-OP WORLD



James B. Price awarded the Benjamin Franklin Award

Meteorologists from NWS Birmingham presented James B. Price of Pinson the *Benjamin Franklin Award*, given to a cooperative observer completing 55 years of service.

Mr. Price has provided the NWS Birmingham office with weather data for nearly 21,000 consecutive days and even more impressively has never missed a day!

Mr. Price has also been recognized by National Weather Service Director D.L. Johnson, Alabama Congressman Spencer Bachus, and Alabama Governor Bob Riley for his dedication and accomplishments.

Pictured above (left to right) are: Dave Wilfing, Data Acquisition Program Manager (DAPM) NWS BHM, Krissy Scotten, Journey Forecaster NWS BHM, Mr. James B. Price, Jim Stefkovich, Meteorologist-In-Charge NWS BHM, and Faith Borden, Lead Forecaster NWS BHM.

Mr. Price has also received the following recognitions:

The *John Campanius Holm Award*, which is granted each year to a maximum of 25 cooperative observers for outstanding accomplishments. The award was named for a Lutheran minister who was the first person known to have taken systematic weather observations in the American colonies in 1644 and 1645.

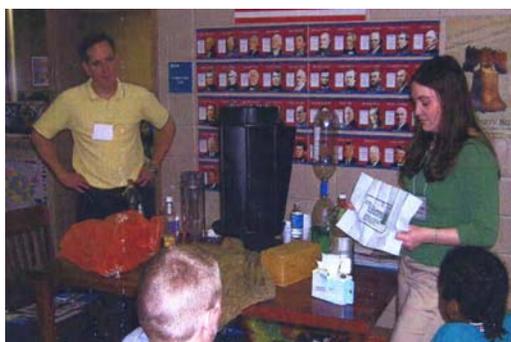
The *Thomas Jefferson Award* is the highest and most prestigious award given to Cooperative Weather Observers. It is named for our third President, who kept an almost unbroken series of weather records from 1776 to 1816. This award is given to very few observers each year, usually not more than five, for outstanding and unusual achievements.



Haleville Co-op Observer Randy Stultz awarded the 10 Year Length of Service Award

Pictured (left to right) are: Honorable Jimmy Elliott, Mayor pro tem of Haleville, Randy Stultz, Haleville observer and best joke teller in the COOP program, and Dave Wilfing, Data Acquisition Program Manager (DAPM) NWS BHM.

OUTREACH: 5th GRADE CAREER FAIR



Forecasters John Sirmon and Krissy Scotten explain weather balloon releases.

Journey Forecasters John Sirmon and Krissy Scotten participated in the annual Fifth Grade Career Fair at Riverchase Elementary School in Hoover, Alabama on March 7th. Over 50 students interested in the field of meteorology chose to listen to John and Krissy speak about topics such as how to become a meteorologist, what it is like to be a meteorologist, and who is the National Weather Service? Not only were meteorology careers discussed, but both John and Krissy emphasized the importance of severe weather safety, especially since Severe Weather Season is in full swing across Central Alabama.



Tornado Myths and Misconceptions

Since we are in the heart of the Spring Severe Weather Season, let's talk about tornado myths and misconceptions.

First off, what is a tornado? The National Weather Service defines a tornado as a violently rotating column of air (usually rotating counter-clockwise or cyclonic), descending from a thunderstorm that is in contact with the ground. Most tornadoes are brief, but in some instances, tornadoes can last for over an hour, producing considerable damage and injuries.

Myth or Misconception 1:

The funnel never touched the ground, but there was still damage. Is it still a tornado?

By definition, the rotation must be in contact with the ground to be a tornado. Does this mean the funnel has to be on the ground? Well, the answer to this question is NO. Many tornadoes exhibit incomplete funnels or no funnels at all sometime during their life cycles. In many instances, there will be debris visible on the ground below the funnel or wall cloud. Additionally, wind speeds at ground level may not be strong enough to produce damage...but the tops of many trees may sustain damage because the winds at that level are strong enough to cause damage. Simply stated, the rotation must be at ground level to be called a tornado, damage or not.



Myth or Misconception 2: Tornadoes are increasing in frequency.

The number of confirmed tornadoes is increasing across the United States. But here are a few things to consider; the number of tornado days is not increasing, the number of violent tornadoes is not increasing, and the number of weak tornadoes is increasing greatly. The increase in tornadoes is most likely due to better reporting of the tornado events and better investigation by the NWS and Emergency Management Agency (EMA). Many more smaller tornadoes most likely occurred in the past but went undocumented and unconfirmed.



Myth or Misconception 3: Opening your home windows will equalize pressure and protect against tornado damage.

This myth only takes up valuable time in a potentially dangerous situation and has little effect on home protection. If a tornado is moving toward your home, time is very valuable. Use this precious time to enact your safety plan and get all of your loved ones to a sheltered location. The pressure difference caused by a tornado can be ventilated through the holes and vents that already exist within most homes. Homes are actually damaged and destroyed by high winds and not the pressure. Additionally, opening the windows may actually let the strongest winds inside which may produce failure of the entire structure. Stay away from the windows!

Myth or Misconception 4: Mobile homes attract tornadoes.

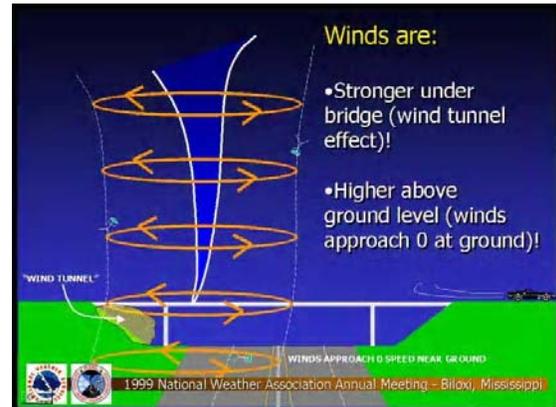
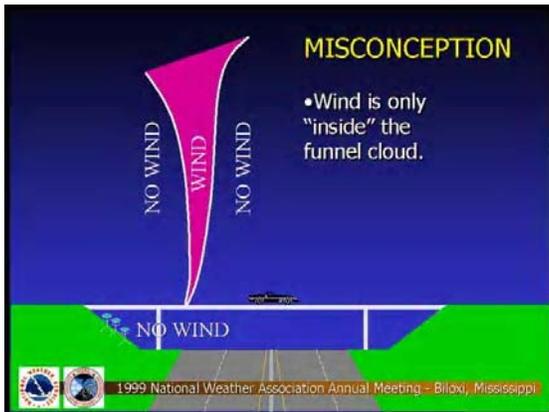
Tornadoes are not selective. A tornado is equally likely to hit a home, a mobile home, a business, a forest, or an open field. Mobile homes are just a bit more vulnerable to devastating wind damage than other structures.

Mark's Wacky Weather World continued on Page 6...

Mark's Wacky Weather World continued from Page 5...

Myth or Misconception 5: Highway overpasses are safe shelters during a tornado.

The word needs to get out that this is a huge myth and can be potentially deadly. Many people believe that tornadic winds are only associated with the funnel, most of the winds are moving upward, and the overpass provides some protection. In reality, winds extend well outside the visible funnel and are very strong just above the ground surface. Hiding under an overpass is similar to standing next to a cement wall completely unprotected from the flying debris.



If you ever experience any unusual weather phenomenon or have any comments about the articles, please forward your accounts, stories or pictures to...

Mark.Linhares@noaa.gov

“Powered By Linux” - How Linux Helps the National Weather Service By: Angel Montanez

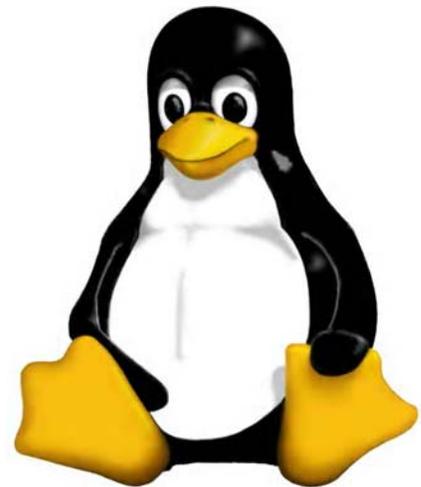
So what is this thing called Linux? Have you even heard of it? Well, let me give you a brief history of it. Linux is a free operating system that was created by Linus Torvalds back in 1991. It was created as a free clone of the UNIX operating system. (Yes, there are operating systems other than Windows.)

What makes Linux unique from other operating systems is that it is free. How can this be you ask? Well, back in the 1980s, this guy named Richard Stallman developed the GNU project. The goal of GNU project was to develop a complete UNIX-like operating system composed entirely of free software. By the early 1990s, the GNU project had collected and produced a good amount of free software. The only thing missing for them was the kernel (otherwise known as the brains of the operating system). After a few failed attempts of trying different kernels, the

GNU project and Linus Torvalds decided to use the Linux kernel in the project, and hence the Linux operating system was created. Whew! That was a lot of history to cram into a short paragraph.

Today, Linux is used as both servers and desktops by corporations, government agencies, and personal users. One of those government agencies that use Linux is the National Weather Service.

The National Weather Service uses Linux to power our very important servers. The servers are in charge of sending all of our weather information out to the world. We also use it as our desktop that runs our AWIPS system. What is AWIPS? It's a computer program which allows us to gather weather information such as computer models, satellite pictures, Doppler radar, surface observations, and many other things.



Have you also heard our NOAA Weather Radio All Hazards voice? You guessed it; it is also powered by Linux.

As you can see, Linux is more popular than you thought. There are many other things that Linux is useful for. Do you want to learn more about Linux? Go to www.google.com and type Linux on the search bar. There will be plenty of good info. Enjoy!