What to Expect for the 2005 Fire Season!

The 2005 fire season is rapidly approaching and many areas east of the Cascades have the potential for an above normal fire season. The areas that forecasters think will be most susceptible to large fires will be the east slopes of the Cascades, the Okanogan Highlands east into the Northeast Mountains and the Columbia Basin. The potential for an above normal fire season is based on many factors.

The region east of the Cascade mountains has received on average only about 80 percent of normal precipitation yearly for the past 7 years. This will stress out the live fuels and allow for the tree crowns to carry fire in July and August. As such the large dead fuels could not absorb the precipitation that would normally fall through these months. In addition snow came off the mountains several weeks early, thus allowing grasses and shrubs to get an early start on the growing season.

The months of April and May saw abundant moisture across the region, and June is shaping up to be normal. This will help moisten up the dead fuels until late June. However it will also yield a bumper crop of grasses and shrubs. Fuels experts around the region say that the cheat grass, and other grasses and shrubs are already about twice as tall as normal. The warm temperatures of late June and July will allow these fuels to “cure” at the normal rate and be ready to carry fire by early July.

Now as for fire starts, forecasting summer thunderstorms in May is a risky business. However all long term indicators show a normal thunderstorm season for 2005. This results in about 15-20 days of lightning in the mountains and about 5-10 days of lightning in the basin. This will lead to a possibility for numerous fire starts. For more information, visit our fire weather web page or http://www.nifc.gov

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Lightning Detection Technology

Weather forecasters closely monitor thunderstorm development. When lightning is generated, forecasters are alerted to watch for other hazardous weather like: heavy rain, hail, flash flooding, high winds, and tornadoes; all of which can occur with electrified storms.

Lightning information is critical for:

• Weather forecasters to identify hazardous weather to issue warnings to the public.
• Air traffic controllers to re-route airline traffic around hazardous weather and to warn pilots before vulnerable takeoffs and landings at airports.
• Forestry officials to focus firefighting efforts in remote areas.
• Electric power utilities to prepare crews for dispatch to specific areas for quick repairs when thunderstorms create their transmission lines and generating facilities.
• Golf courses and outdoor sports facilities to warn players to seek safe shelter.
• Communications networks to re-route traffic around thunderstorms to avoid interruption.

Due to the importance of lightning data, research was conducted on lightning properties and its behavior starting in the mid-1970’s. This work resulted in the development of a national lightning detection system, the U.S. National Lightning Detection Network (NLDN) which came into existence in 1989. Since that time, the NLDN has monitored the 20 to 25 million cloud-to-ground lightning strikes that occurs every year across the contiguous 48 states. This network operates 24 hours a day, 365 days a year.

With the NLDN, meteorologists are able to use this valuable lightning data to assist in forecasting. For example, the direction, change in number of strikes, polarity, area covered and dissipation of a storm can help determine thunderstorm intensity. Lightning information is most valuable to forecasters when it is combined with other weather information from radar and satellite, to help project the real-time path of a thunderstorm.

The term “lightning prediction” has different uses. Lightning prediction can mean predicting a storm has enough energy to generate lightning over a general area, or it can mean predicting the time and place a strike is going to occur. The capabilities of predicting general lightning activity have been available for more than 10 years. By using sensing equipment to measure different weather parameters, a meteorologist is able to determine when lightning activity is likely over a large area. That’s as close as technology gets to reliably predicting lightning.

Mother Nature continues to closely guard her secret on when and where each strike will occur. For more information, visit http://www.lightningsafety.noaa.gov

Spotter Notes—Spotter training is still underway. When a meeting is scheduled, a notification will be mailed to all area spotters. In addition, please check the spotter section of our web page for the latest details on training.

Staff News

WS Spokane welcomes Dwight Williams as the new Electronics Systems Analyst. He replaced Robert Cummings who took a position in Reno, NV. Dwight moved from the Western Region Headquarters in Salt Lake City, UT. He and his wife, son, dog and fish are excited make Spokane their home. Welcome Dwight!

Lightning Awareness Week is June 19-25, 2005, and this is a great opportunity to educate everyone to the dangers of lightning. Please visit our website and check all the information on thunderstorm lightning. If you have any storm pictures you would like to share, we would be happy to receive a copy of them for use in our presentations or publications.

If there is something you would like to see in the next newsletter or if you have comments about a past issue of the Weather Watcher, please contact Robin or Ken (509) 244-0110 extension 223.

The main purpose of this publication is to keep our readers informed about our services and programs, and to recognize those who help us accomplish our mission, including weather spotters, coop observers, media and emergency management.

All articles are written by the NWS staff and close contacts. A special thanks to John Livingston, Ron Miller, Charles Ross, and Bob Tobin for their contributions.

Trivia: How hot is a bolt of lightning?
Coop Corner

THUNDERSTORMS

The Inland Northwest gets a fair share of thunderstorms throughout the year, with the late spring and summer months favored for this type of weather. Many people are fascinated by thunder and lightning, and most everyone has a story about a scary or thrilling thunderstorm encounter.

As meteorologists, we have studied the ins and outs of thunderstorms, how to forecast when and where they will happen and then what type of hazards they will likely produce. It can be very exciting and challenging when we go into “severe weather mode” and issue flash flood, severe thunderstorm or tornado warnings.

The American Meteorological Society defines thunderstorm as a local storm invariably produced by a cumulonimbus cloud and accompanied by lightning and thunder. It goes on to say that thunderstorms are usually of short duration and can produce wind gusts, heavy rain and sometimes hail. Thunderstorms are a unique phenomenon in nature because of the lightning that they produce.

There has been extensive research done on thunderstorms throughout the world. Popular culture has recognized some of these storms through the movie “Twister” and the increasing coverage of “storm chasers”. We have various studies and conceptual models we use when diagnosing the possibilities for thunderstorms. There is a preferred scenario for long lived “supercell” thunderstorms in eastern Washington and north Idaho. There is also a preferred pattern for the “dry thunderstorms” of July and August that can lead to significant wildfire activity.

Drought Update

And the million dollar question is… Has the wet weather this spring been enough to turn the drought around across the region? Well that depends. For many dry land farmers that rely on spring rainfall for their crops, this wet spring has been very beneficial. Yet a couple of wet spring months cannot make up for an entire winter’s snow pack. Since the mountain snow pack feeds our rivers and streams throughout the summer, the lack of snow pack will have an impact on river levels. This will have direct impacts on many water users who have water rights on area rivers and streams. There may also be fish and wildlife impacts due to the drought this summer. For information on the drought, check out our web page or see the State of Washington drought page at:


John Livingston

Spring in Review—Drought Relief

After a very dry winter in the Northwest, with near record-low snow packs, there was little hope of averting drought conditions. February was one of the driest on record, and planning for drought mitigation was already well underway.

March began on much the same note: dry and mild. The first half of the month saw little if any precipitation and every day was warmer than usual. The storm door finally opened on the 16th with a wet and windy Pacific storm. Winds gusted to 55 mph at the Spokane airport as many sites received one to two tenths of an inch of rain. The weather pattern remained stormy for the rest of the month. Most locations in extreme eastern Washington and the Idaho Panhandle wound up with near to above normal precipitation for March. However, the east slopes of the Cascades remained dry as westerly winds continued to keep them shadowed by the Cascades. By the end of the month, Wenatchee had received only 54% of their normal precipitation for the winter, with Spokane and Lewiston at 65% and 75% respectively.

April saw a continuation of the cool and unsettled weather for the month. The month continued to average near or slightly above normal temperatures. High pressure finally built over the western U.S. in latter half of the month, bringing more spring-like weather to the area. Temperatures continued the trend started in March.

In summary, we want to salute and thank our many volunteers, friends and cooperators who help us in our quest to accurately warn about thunderstorm threats. Thanks to our spotters who provide valuable ground truth. Thanks to our friends in the media, our partners in the Emergency Alert System (EAS), who pass on our critical information quickly and accurately. And thanks to the state, county and local government officials, also our partners in the EAS, who ensure their communities are prepared and then respond. John Livingston