Weather or Not ?

National Weather Service, Los Angeles/Oxnard

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Storm Chasing in California

by Spotter William Reid

As a spotter in California, we don't get many opportunities to experience severe weather. The time may come, though, when conditions are favorable for tornadoes in your area, and you might find yourself observing a curious cloud feature which looks like it might be a tornado. I have yet to observe any tornadoes in California, but I have seen several dozen on the Great Plains. Here are some things to look for when it comes to spotting tornadoes and the clouds that spawn them.

Most of us would not have any problem recognizing a classic tornado with a fully developed funnel cloud above a prominent whirl of dirt and debris. California tornadoes, however, tend not to be the long-lived, classic variety of the Midwest and Plains. The classic -type of tornado is spawned by a cumulonimbus cloud which has a rotating updraft, known as a supercell. A tornado spawned by a lesser-developed cloud such as a cumulus is apt to be a landspout. A waterspout is similar to a tornado, but is different in that it forms over water versus land. California's coastal waters and its desert areas have their share of waterspouts and landspouts, respectively.

Waterspout offshore from Point Mugu

While waterspouts and landspouts tend to develop along surface boundaries, there may or may not be any rain or thunder activity with these cells. Often there is little or no condensation funnel associated with the "violently rotating column of air". At the surface, the waterspout will tend to have a whirl of spray, and the landspout a tight whirl of dust and dirt. The tornado is often long and narrow, and may become filled with water spray or dust and eventually become quite prominent. Look for a small "nub" or funnel sticking out of the cloud base above these whirls. If you see strongly rotating debris in the absence of clouds, then it is not a tornado, but is more likely just a dust devil. Landspout tornadoes can persist for a long time, perhaps 20 to 30 minutes in some cases. The strongest ones may be able to flip mobile homes and automobiles.

Tornadoes associated with supercell storms are another story. California does have supercells and tornadic supercells… ours just aren't

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Office Comings and Goings

by Intern Jamie Meier

We've had little turnover in the office this past year, with the only flux happening with our student interns. In January, Stefanie Sullivan, a graduate student from UCLA, completed her M.S., and now works in the San Diego office. We wish her the best of luck with our neighbors!

Edan Lindaman, also a graduate student from UCLA, took a position as a Forecaster Intern in Las Vegas. Edan completed her M.S. in January as well. Edan has been enjoying the weather out in Vegas (including the snow on Las Vegas Blvd!) but hopes to return to sunny Southern California eventually.

Come and gone is Steven Van Horn, yet another graduate student from UCLA. Steven worked here with us starting in May, until he completed his Master's Thesis last December. Steven is now a Forecaster Intern in chilly Spokane, Washington.

Storm Chasing in California

by Spotter William Reid

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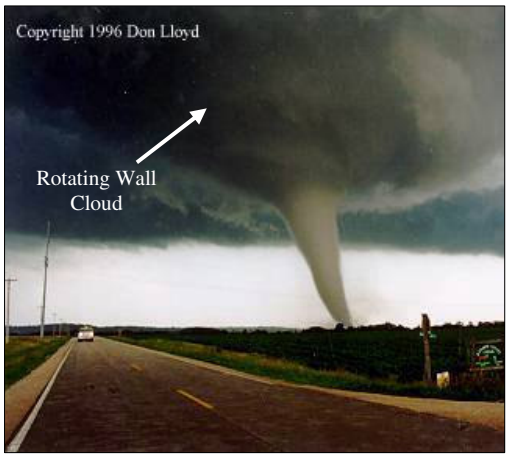
quite as violent as those that form east of the Rocky Mountains. Within a supercell, a tornado forms near an area called the "Clear spot", where sinking air in the cloud evaporates part of the cloud itself, forming a sort of hole. The area adjacent to the clear slot needs to be watched closely. It is here that the storm base might be locally lower than most of the rest of the base, and this would be called a "wall cloud". The presence of a clear slot and nearby nasty-looking wall-cloud can be quite dramatic, especially up close! The chances for a tornado increase greatly if the wall cloud is rotating rapidly. If a funnel cloud begins to extend down from the wall cloud region, you should check for spin-ups and debris moving around at the surface beneath the entire area. Tornadoes can often form without obvious funnel clouds. As long as there is strong rotation at the surface beneath an area of rotation in the clouds above, then that is usually sufficient to meet the definition of "tornado".

It is not always easy to recognize the cloud features that often tag along with a tornadic supercell. The look of the storm will vary greatly depending on which side of the updraft you are on, and your distance from the updraft base. There are often low cloud features which might appear to be funnel clouds or wall clouds. If you suspect that the feature that you are monitoring might be a funnel cloud or a wall cloud, then check to see if it is "attached" to the cloud base. True wall clouds and funnel clouds will be firmly connected to the storm base. True funnel clouds will exhibit fairly fast rotation, and there is usually a nice, smooth appearance to the sides of the funnel cloud. Funnel-shaped clouds which are hanging down but which do not have a laminar look and are not associated with rapid rotation are likely just benign clouds that look like a funnel---not true funnel clouds.

The screaming messages here:
a) If a cloud has an area that looks like it's lowering (you're thinking wall-cloud), but has little or no rotation, and no dust/dirt/debris cloud at the surface, then it is very doubtful that a tornado is in progress. Keep watching though- this may organize into something more significant.
b) If you observe a bona-fide funnel cloud and/or wall-cloud, report them to the NWS. Watch the area beneath, and report a tornado if you observe fast rotation at the surface, or perhaps a plume of dust, dirt, and debris.

As a spotter, the NWS relies on your reports for their timely warnings. You want to get things right, especially when it comes to spotting tornadoes. If you observe a suspicious lowering, check carefully for obvious strong rotation and any debris in the air beneath it. Most of all, personal safety is priority number one. Be aware of rapidly changing conditions, and know that the best spotter report isn't worth risking your life!



Did You Know?

On average, California experiences 6 to 7 tornadoes a year. The vast majority are rated 0 or 1 on the Enhanced-Fujuta Scale. For more information on the EF-scale, see: www.spc.noaa.gov/efscale/

Snow-Fest Across the Antelope Valley

By Curt Kaplan and Dave Gomberg

On Wednesday December 17th, a winter storm dumped between 6 to 12 inches of snow with local amounts to 18 inches in the adjacent foothills of the Antelope Valley. This was one of the most significant snow events in the past decade for the Antelope Valley, causing numerous road closure for an extended period of time. A day prior to the heavy snowfall event, computer weather models indicated the ingredients coming together for a potential heavy snowfall event. Significant moisture and lift occurred at the mid levels of the atmosphere, while strong offshore flow occurred near the surface which helped maintain strong evaporative cooling to support low snow levels. As the day progressed…the "wet Santa Ana" condition intensified as wrap around moisture from the east continued to pile significant snowfall across the Antelope Valley, especially adjacent foothill locations.

Meteorologists at the National Weather Service in Oxnard properly identified conditions leading up to this heavy snowfall event. A Winter Storm Watch was issued for the Antelope Valley early Tuesday morning, then upgraded to a Winter Storm Warning by Tuesday evening. However, as the snow event began, trained weather spotters were instrumental in providing critical snowfall accumulation and snow level reports. This information was then incorporated into timely updates of Winter Storm Warning products and local storm reports which enabled the media to give critical updates to the general public. Many thanks to our spotters for providing this information and sending photos of this rare heavy snow event. We continue to encourage you to provide your critical spotter reports as well as the much appreciated photos of future weather events.
Photos can be sent to the following e-mail address:
Curt.Kaplan@noaa.gov

Photos Courtesy of Weather Spotter Andrew McElhaney

CoCoRaHS Comes to California

By Curt Kaplan

The National Weather Service in Oxnard is now working with The Community Collaborative Rain, Hail, and Snow Network, otherwise known as "*CoCoRaHS*". CoCoRaHS, available to spotters in California as of October 1st, is a community-based network of volunteers of all ages and backgrounds working together to measure and map precipitation. You can find more information about participating in this program on their homepage:
www.cocorahs.org
or through our "Weather Spotter" homepage at:
www.wrh.noaa.gov/lox/spotter/

CoCoRaHS has several goals, including providing accurate high-quality precipitation data for our end users, increasing the density of precipitation data available throughout the country, and encouraging citizens to have fun participating in meteorological science.

Feel free to contact Curt Kaplan at the NWS at curt.kaplan@noaa.gov for more information. If you are looking to purchase an official 4 inch rain gage, CoCoRaHS recommends equipment that can be found at the following two sites:
www.weatheryourway.com/cocorahs/store.html

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Los Angeles/Oxnard

520 North Elevar Street
Oxnard, CA 93030

Phone: 805-988-6610
Spotter Line: 800-524-6120
Fax: 805-988-6613
Spotter Program Coordinator: Curt Kaplan
E-mail: Curt.Kaplan@noaa.gov

Thank you for your continued support in the spotter program! We couldn't do it without folks like you!

Also, if we don't already have your email on file, send a quick note to Curt Kaplan, so you can receive the latest updates!

What to Report?

Remember to please keep calls short with the information given below, as well as specific times and locations of reports, and a reference to the nearest city/town (if possible). There are many spotters who call at the same time. This helps all calls get through in a timely manner.

Flooding/Debris Flows:
- Rainfall Intensity: How much is falling over a specific period?
- Flooding or Debris Flows that are threatening life/property, or are disrupting traffic.
- Describe the flooding:
  - water depth
  - time it began and ended

Winter Weather:
- Amount, rate and time of new snow accumulations.
- Elevation of snow level
- Icing of roads or road closures
- Very low temperatures:
  - Coast: 35 degrees or lower
  - Valleys: 30 degrees or lower
  - Deserts: 20 degrees or lower
- Significant wind chill

Fog:
- Report visibilities less than or equal to 1/4 mile

Wind:
- Report winds of 30 mph or more
- Speed of winds (sustained or gusts)

Extreme Heat:
- Report for these temperature thresholds:
  - Coast: 95 degrees or higher
  - Valleys: 105 degrees or higher
  - Deserts: 115 degrees or higher

Thunderstorms:
- Estimated location, duration, speed and direction of movement
- Any hail (size, accumulation, etc)
  - 1/4" = pea size
  - 1/2" = marble size
  - 3/4" = penny size
  - 1" = quarter size
  - 1 3/4" = golf ball size
- Wind speeds and gusts
- Rainfall rate and amount
- If lightning strikes any object

Surf:
- Report when surf is 6 feet or greater
- Any flooding or damage caused by high tides and/or high surf

Tornadoes:
- Funnel clouds, waterspouts or any rotating clouds
- Estimated location, duration, speed and direction or movement

Damage or Injuries:
- Please report any confirmed weather-related damage, injuries, or deaths.

Call Toll-Free
24-hours a day:
1-800-524-6120