



# Storm Spotter's Newsletter

Mount Holly, NJ Edition

September 2007



## Newsletter for Spotters

Welcome to the second Spotter Newsletter from the National Weather Service in Mt. Holly, NJ. A newsletter will be published twice a year, one issue around March and another around September. The main purpose of this newsletter is to provide pertinent information to our spotters. We will include information for upcoming basic and advanced storm spotter training classes, as renewing your spotter ID every two years is strongly encouraged. Furthermore, articles that are related to severe weather and other interesting weather phenomena will be included. Stories may also be included commending the stellar work completed by our fellow spotters. Lastly, when needed, important updates will be included about the Mount Holly weather office to keep our spotters up to date. I would like to give special thanks to Stephanie Higbee, a meteorology student at Rutgers University, for her indispensable help in creating this edition of the newsletter.—  
Larry Nierenberg, Editor

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## Weather Trivia

*True or False???*

*In a lightning storm a safe place to be is in the car due to the rubber tires protecting you by insulating you from the ground..? (Answer on page 5)*

## Taste of Storm Chasing

While storm chasing through the Midwest for 10 days this summer I received both the most scientific and emotional experiences yet in my young life.

Beginning at the College of Dupage in Glenn Ellyn Illinois, a town right outside of Chicago, on a bright and sunny day, bad weather for those on this trip, information was given and belongings were packed. We left in the two most stylish storm chasing vans around, stock with a complete set of computers, electronic outlets, comfortable seating, and an array of antennas protruding out of the vehicles extended roof. This first day was not a chase day, but a day of travel to place ourselves in the most desirable location for the next days venture into what has been forecasted to be high risk for severe weather, with the right components for the threat for tornadic activity.

Our Instructor an experienced forecaster and chaser, makes his forecasts and predictions by observing computer data provided by various NOAA and the College of Dupage websites, radar images, and information received from other experience meteorologists who are nowcasting and forecasting in the Meteorology lab back at the college. The College of Dupage (COD) has an extensive community college program and is first to offer undergraduate storm chasing education. It contains NEX/LAB short for, Next Generation Weather Lab, this lab is where the student gets a chance to take part and learn how to forecast with computer and radar equipment. This is also the lab that the

storms/chase summary-meaning what storms we saw and different storm or weather phenomena that was observed, and photo and/or video notes-to take note of any type of weather event photos that might have taken. Going storm chasing with COD does not just entail sitting in the van looking for cool weather, it was the responsibility of everyone to keep their, “eyes on the sky” to be spotters (some were officially spotters, but those were not trained were asked to spot unofficially) to try and notice any signs of suspicious weather indicators i.e. super cells, wall clouds, funnels, lightning: cloud to ground or cloud to cloud, rotation, hail, rain shafts, mammatus, tornadoes etc...especially in chase mode and chase intercept mode. Chase mode is considered to be taking place when storms are likely and there is probably a watch out or “MD” (Mesoscale Discussion) for the area that we are located in and Chase-Intercept being, “We have our Storm” it may not be a tornado yet. Being unofficial spotters is helpful to everyone because weather changes so abruptly; this increases the chance of the group and the instructor to be more aware of the surroundings and of any directional changes that may need to be made so the group can be in the best position to see a tornado.

The spotter checklist (*attached below*) created for the trip had 85 possible weather phenomena that could have occurred during the trip and blank spaces for others that were spotted that may not have been on the list, because as all “weather wienies” know the list of weather phenomena can not be contained to a specified list. Some of the events that were witnessed including their date and location, some more common than others, are as follows: Supercell-mothership: Manitoba, Canada 6/23/07: A super cell so massive and flattened that it takes on the look of a “UFO mother ship.” Others being mammatus clouds-rounded smooth sack-like protrusions hanging from the underside of a cloud-usually an Anvil), beavers tail, Inflow bands, MCS (Mesoscale Convective System) and over shooting tops.

While out chasing our group saw many storm spotters on their cell phones most likely reporting what we were chasing things like lightning, rotation, and wall clouds...clear cut severe weather and tornadic indicators. Storm chasing is an amazing experience for any inspiring Meteorologist, storm spotters, or any weather enthusiasts. It is a chance to take part in some serious weather action with trained instructors and chasers who can teach you as well as lead you to the severe weather and possible tornadoes. It involves intense patience, tolerance to long car rides, and a list of personality traits including, but not limited to ethics. Storm chasing ethics are the name of the game, we are out observing and getting extreme thrills from seeing destructive severe weather and it is easy to forget the sensitivity that is necessary for those who live in the area are faced with it’s unstoppable power and the fear of destructive and even fatal possibilities everyday of their lives. That is something storm chasers and weather folk alike are required and should be required to keep in mind. ~ By: Stephanie Higbee

Note: For more information about the COD storm chasing experience, including more photos and slide shows with detailed information please visit their web site at: <http://weather.cod.edu>



*Mammatus Clouds appeared during a severe Thunderstorm outside Colby, Kansas June 19, 2007, A tornado formed shortly after.*



*Super cell thunderstorm with large anvil and overshooting*

1	Arvi-backslaved	
2	Arvi-crisp	
3	Arvi-gledder:	
4	Arvi-orphan	6/15 - 7/20/07 in SD
5	Bow-echo storm	Kansas, Canada
6	Clear slot	Kansas & Canada
7	Convective netting	
8	Curul-se-ACC/accs	SLZ - NID (T83 in NID) Kansas SD.
9	Curvus-moderate	
10	Curvus-towering	
11	Curvus-towering-gleaded	
12	Debris cloud	
13	Just being pulled into the storm	
14	Dual-devil	Kansas Canada major inflow
15	Just-foot	Smile on a Sunday, never
16	Elevated storms	
17	Blanking line	Canada
18	Flash flood	6/17 - 7/24 outside Joplin MO
19	Funnel cloud	Kansas, Canada
20	Funnel cloud not under updraft	
21	Gustnado	
22	Hail sig	Kansas



## Storm Chasing Trip Log

Day/Date of Trip: 6/11/07  
Start Location: Sixes Falls, D End Location: North Platte, NE  
Route Traveled: I-90 West to 81 South to  
80 West SW to North Platte

Accommodations (end of day): Duged Inn

Breakfast	
Lunch	
Dinner	
Misc	

Storms/Chase Summary:

NA. Saw some interesting tops and some  
- cumulus clusters from a few miles away.

Photo and/or Video Notes: Random photos in & out Dinner  
and in car.

Miscellaneous Information: \_\_\_\_\_

### Reader Submissions Wanted

While many of our staff here at the National Weather Service will be writing articles for the newsletter, we are persuading any of our readers to send in their storm stories and pictures to be included on our next newsletter. The stories should be from one to three paragraphs long and provide personal accounts of the severe thunderstorm or severe winter weather experienced. Also, any pictures to illustrate the story would be greatly appreciated.

All submissions will be evaluated for their content and the best will be chosen to have a section within our newsletter. It will be quite exciting to have a newsletter dedicated to storm spotters, as well as have portions of the paper written by storm spotters.

Send all submissions to: [phi.skywarn@noaa.gov](mailto:phi.skywarn@noaa.gov)

## Severe Weather Safety Tips!!

-All thunderstorms produce lightning. Even if the lightning can not be seen, no place outside is safe near thunderstorms.

-Use the 30-30 rule. If there is 30 seconds or less between lightning and thunder, go to a safer place. Wait at least 30 min. from hearing the last thunder before leaving the safer location.

--Lightning first aid: Call 911, Perform CPR and mouth-mouth resuscitation if possible, and don't worry about touching the lightning victim they can not electrocute you.  
--Flash flood—never drive through standing water. It could be very deep and fast moving and a deadly combination for ANY vehicle. Flash floods are #1 cause of weather related deaths in the US.

--Tornado— if there is a tornado touch down near your area get to a safe location either underground or in the center of a building—a closet, or bathroom without windows and use the coats to shelter you from debris. If driving, do not attempt to outrun the tornado...find a ditch or low lying area and lay flat and face down. Cover your head to shield from debris.

For these and more tips for severe weather safety visit:

<http://www.srh.noaa.gov/ovn/severewx/safety.php>

## Dangers of Storm Chasing...

Storm Chasing is not the world's safest venture... obviously. A chaser has a multitude of risks, some preventable—some not, which may fly in their way:

**Driving**—normal driving presents a danger, but add storm chasing and the danger increases greatly!

-Reckless drivers, those on the road that are too busy watching the storm and not the road, or those who are nervous and are trying to get home fast.

- Wildlife and cattle in the area can cause serious danger to drivers, by wandering into the road way

- Effects of the storm; hail, heavy downpours, flash flooding, debris, can all cause for a dangerous roadway to drive upon

**Yahoo chasers:** people who chase in a careless or reckless nature, hoping to drive into a tornado or get close to get the “ultimate thrill.”

**Core punching:** and the bear's cage: driving through the core of the storm, where the heaviest amounts of precipitation occur where rain wrapped tornadoes may be present. The Bear's cage is a slang term which describes the region of storm-scale rotation, in a thunderstorm which is wrapped in very heavy precipitation; named the bear's cage to reflect on the dangers of this area because to observe it one needs to be close to it in very low visibility.

\*It is important to be fully aware and cautious when storm chasing and not just worry about the storm causing accidents but dangers on the road and from surroundings as well.\*

**Below:** a tornadic super cell in Manitoba Canada, 23 June 2007. This cell produced heavy amounts of precipitation, damaging winds, and 3 known tornado touchdowns; it was a breath-taking, textbook marvel to observe, seeming to produce everything from Anvil-wall cloud-inflow-tornado.....



## Measuring snow

With Labor Day rapidly approaching, it is only a matter of time before we have to break out the snow shovels. With that in mind, here is a refresher on measuring snow.

Snowfall should always be measured on a snowboard or other flat surface away from trees and other obstructions. Snow should be measured with a ruler placed vertically into the snow.

Ideally, you should use a snowboard to measure snow. If you do not have a snowboard you can make one using plywood or other objects around the house. 2'x2' to 3'x3' is the ideal size for a snowboard.

Snowfall is measured to the nearest tenth (0.1) of an inch.

After the snow stops, snow depth is measured to the nearest WHOLE inch and always round up. You should measure in several places and take an average of the measurements.

When you are finished, call your measurement in to the National Weather Service.

## Just How Hot (or Cold) Was it?

Here is climatological information for the meteorological winter (December-February) and Summer (June-August) for Philadelphia...

### December 2006

Temperature 42.7 degrees Departure from Normal +5.3  
Precipitation: 2.15 inches Departure from Normal -1.16

### January 2007

Temperature 38.2 degrees Departure from Normal +5.9  
Precipitation: 3.35 inches Departure from Normal -0.17

### February 2007

Temperature 27.9 degrees Departure from Normal -6.9  
Precipitation: 1.73 inches Departure from Normal -1.01

### June 2007

Temperature 73.8 degrees Departure from Normal +1.4  
Precipitation: 4.02 inches Departure from Normal +0.73

### July 2007

Temperature 77.3 degrees Departure from Normal -0.3  
Precipitation: 3.44 inches Departure from Normal -0.95

### August 2007 (Through August 23<sup>rd</sup>)

Temperature 76.8 degrees Departure from Normal -0.2  
Precipitation: 2.94 inches Departure from Normal +0.11

## Winter Weather Safety

1. Always dress in layers to stay warm.
2. Do not travel during a winter storm, unless absolutely necessary.
3. If you must travel, allow plenty of extra time to reach your destination and pack an emergency kit with a cell phone, blankets, a flashlight or flares, a small shovel, sand or kitty litter (for added traction if you get stuck).
4. Always tell a family member or friend where you are going and what time you expect to arrive. Also let them know the route you will be taking.
5. Limit your time outdoors during extreme cold.
6. Be cautious when shoveling snow. It is a more strenuous activity than many people realize.
7. Heed the information provided in NWS watches and warnings.

## The Enhanced Fujita (EF) Scale...

Beginning earlier this year, the method that the National Weather Service uses to determine the strength of a tornado changed. For years, the NWS used the Fujita (F) scale, which was a 6 point scale ranging from F0 (weakest) to F5 (strongest). The Fujita scale was named for the late Dr. Theodore Fujita who did much of the pioneering work on tornado intensity.

However, there were some problems with the F-scale, including poor correlation between wind speed and rating and the fact that variability in construction was not taken into account, meaning there was no difference in the strength of winds needed to damage a well constructed building versus a poorly constructed one.

So the Enhanced Fujita Scale (EF) was developed. It is also a 6 point scale ranging from EF0 to EF5. The EF scale was designed to eliminate some of the problems of the old F-scale. The EF scale has 28 Damage Indicators for types of structures damaged, ranging from trees to mobile homes, to industrial buildings to homes. Within each Damage Indicator, there is a further breakdown to allow for differences in structural integrity. Wind speeds are determined directly from damage in the new EF scale.

The breakdown of the EF scale is below.

F Scale	Wind Speed	EF Scale	Wind Speed
F0	45-78	EF0	65-85
F1	79-117	EF1	86-109
F2	118-161	EF2	110-137
F3	162-209	EF3	138-167
F4	210-261	EF4	168-199
F5	262-317	EF5	200-234

Wind speeds in mph, 3-second gust

WFO Philadelphia Objectives 3.7 EF-Scale structure: 4, EF vs F-Scale

The EF scale also uses a 3 second gust as its wind speed, rather than an instantaneous gust (which was used in the old F-scale)

# Pertinent Spotter Info.

## Basic Spotter Courses

Check the NWS Mt. Holly website  
[www.nws.noaa.gov/phi](http://www.nws.noaa.gov/phi) for updated information  
on upcoming classes.

## Advanced Spotter Courses

Check the NWS Mt. Holly website  
[www.nws.noaa.gov/phi](http://www.nws.noaa.gov/phi) for updated information  
on upcoming classes.

## Mount Holly Severe Weather Statistics-2007 Through August 17, 2007

### Severe Thunderstorm Warnings

321 Issued  
190 Verified  
131 Unverified  
Lead Time 17.2 Minutes

### Tornado Warnings

7 Issued  
0 Verified

### Flash Flood Warnings

40 Issued  
21 Verified  
Lead Time 35 Minutes

One of the most important reasons we need storm spotters and accurate and timely reports from them is to help verify our warnings. Despite Doppler Radar and advanced technology, eyes on the sky are still the best way to determine the occurrence of severe weather. An accurate and timely report from a spotter, not only helps downstream residents, but can help NWS meteorologists determine if additional warnings are needed.

## Reporting Procedures

When calling the National Weather Service, have your name and spotter ID ready. Also have an approximate time when the severe event took place along with the type of severe weather. Lastly, be prompt about calling as every second counts.

## Weather Trivia

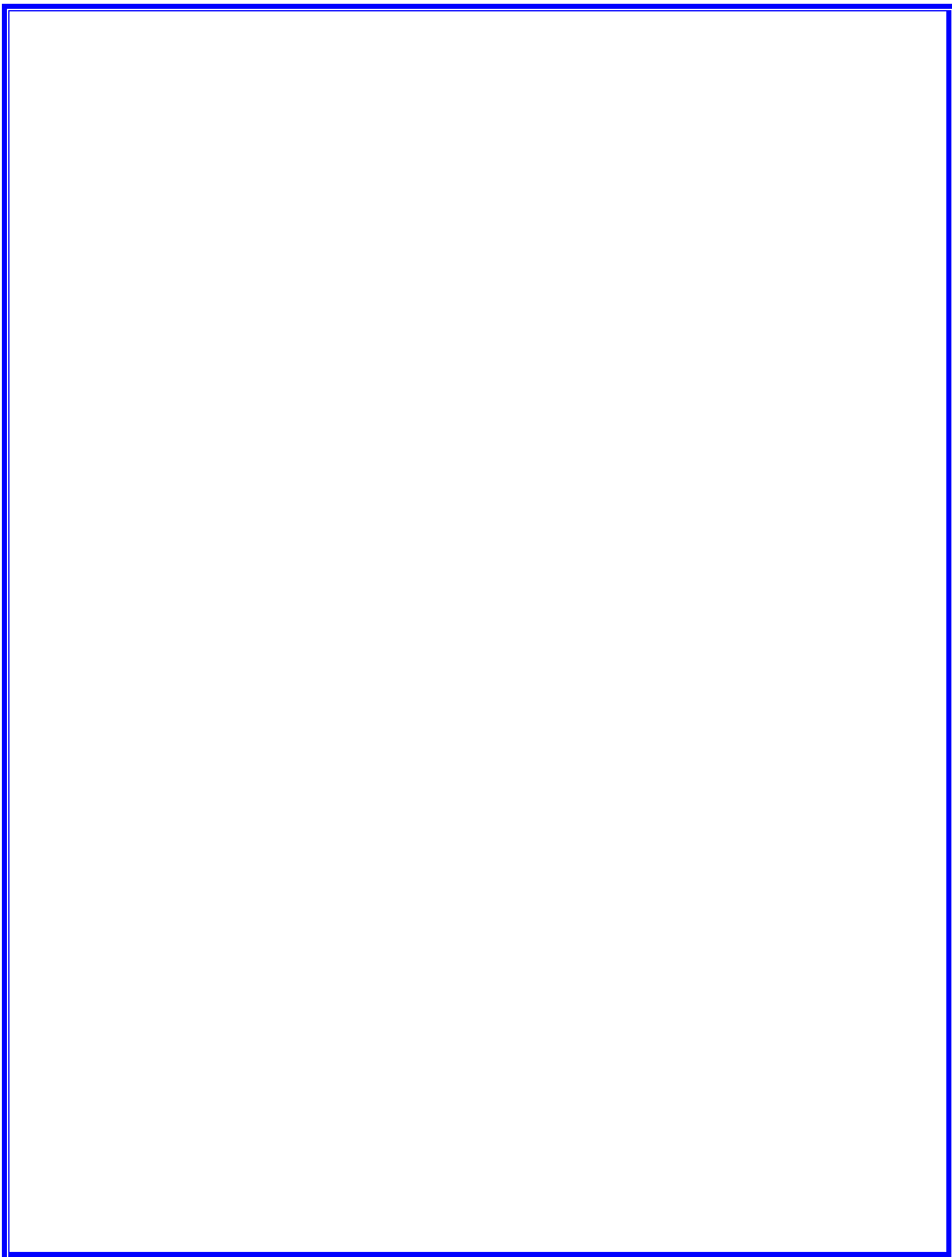
Answer: False! According to NOAA, a fully enclosed vehicle can give protection, but not because of the rubber tires... it is the metal that protects you!

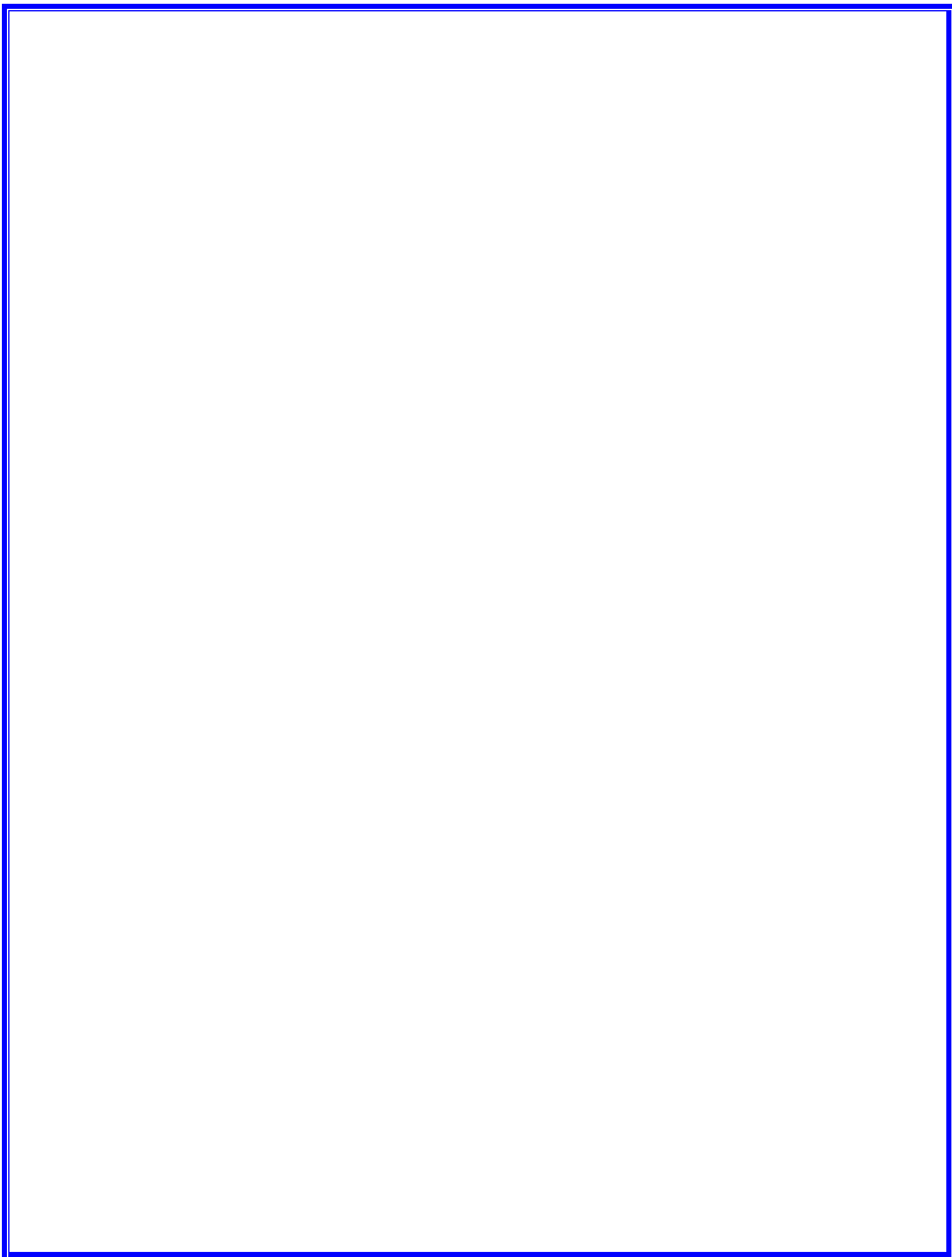
## Contact Information

If you have any questions, comments, suggestions, or submissions, please contact us via e-mail at  
[phi.skywarn@noaa.gov](mailto:phi.skywarn@noaa.gov)

Also, please send any name, email, phone or address changes to this email address as well.







### **Weather Trivia**

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Answer: False! According to NOAA, a fully enclosed vehicle can give protection, but not because of the rubber tires... it is the metal that protects you!

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