

The EF5 Drought has Ended - What is Up?

I have had a hard time coming up with a new training over the last few times. This time, I was hoping for something to happen before tonight, but alas as I have no control over time and space, that will happen a day late. So what to do? Well, wait and learn of the biggest news in some time in the weather, storm chasing, tornado communities.

Two weeks ago the National Weather Service announced the first EF5 rated tornado in 12 years. Yep, 12 years. The last one was the Moore, Oklahoma tornado in 2013. There have been many debates that there never would be another EF5 tornado as by now we associate that rating with a Moore, Joplin, and Jarrell tornado which were all extreme in there damage and loss of life.

So what has happened? And since we are outside of tornado season, why would we learn of this in October? Well, we have to go back to June 20th in North Dakota. North Dakota? That's not in regular tornado territory. Right?

North Dakota's last EF5 tornado was 68 years ago at Fargo on what date? Yep again, June 20th. So what has happened this year?

A wild weather day took all day to set itself up for this tornado to finally be spawned at 11pm near Enderlin (doesn't that sound like it should be in Middle Earth?). We find an amazing supercell with an amazing wall cloud. All of which at this time of night can only be seen in the strikes of lightening and the lights around it. Most storm chasers who had been in the area had already headed for home and some to hotels for the night. A few though were still out and got some video. I will enter note here that we can be thankful this tornado did not hit a town or city. It was about a mile wide and ran for 12 miles on a divergent course, that's another story and how this can happen, around the east side of Enderlin.

After it hit, the NWS went out and did their normal checks and rating by the book and came back with an EF3 rating for the tornado. But, despite that being played by the book, they wanted to take time and look at it again as there were some interesting bits to it that had not been seen before or considered before.

First were the trees. The trees were stripped of branches, which, ok, not too unusual for a stronger tornado. But two things also happened here. Trees were torn out of the ground with their root balls still attached. So what do we do? We go around and see if we can find where the hole is that the tree came out of and see how far it has traveled. Not hard, except, they had one tree with root ball that they never did find the hole it came from. So was it some distance away? Or what? But to go with just that, yes we know tornadoes can carry things some distance. But also the tree trunks standing were all stripped of their bark and not only that, the trunks underneath were smooth as silk as though they had been sanded down to the a beautiful polish in a shop. What force would it take to do that?

Second was that they wanted to watch what video had been taken that night by storm chasers of the storm and the actual cloud and the tornado itself.

But no, this all didn't just demand a third look because of these alone. There was something even more mind boggling that happened here. What has many people excited is that it has nothing to do with normal damage criteria for ratings. They actually went outside the box, or say the book, to look not so much at damage, because as we all should know that the rating of tornadoes is based all on damage and not on the size or vortice or any part of the tornado itself.

But there was a train. The tornado passed over a train. it was pulling 33 cars of which 19 were grain hopper cars all completely full, and 14 were tanker cars that were empty. I highly

recommend going out and finding the pictures for this. We have a train off the tracks. Five cars turned at right angle to the tracks and stretching out into the farm field. On their sides. All wheels taken off the cars and laying near the tracks where they once were sitting. The last car in this line is a tanker. But there was one more tanker that had been connected to this one and it was out in the field 476 feet away from the tanker it had once been attached to and about 600 - 1000 feet from the track. So ok, that sounds pretty amazing. But, do you know what these cars weigh? A hopper car that is completely full weighs 286,000 lbs. A tanker car that is empty weighs 72,000 lbs. What kind of force would it take to move these cars first to their sides and also out into a field and one all alone further out. With all the power of mathematics, it was determined that it would take a 266 mph wind to loft a tanker car. It would also take a 230 mph wind to over turn full grain hopper cars. Now it has been determined that the wind in this tornado did not probably make that 266 mph speed. When studying the ground in the field, it could be said that the tanker was in the air, if at all, for a very short bit, but that it was rolled over and over and over again to its resting place.

With this information, the National Weather Service made the unprecedented move to upgrade the Enderlin tornado to an EF5. They are giving it wind speeds over 200 mph which rates an EF5.

Many are excited that it wasn't a massive horrible tornado that broke this drought. But one that few even took note of when it happened. Also, many are hoping that this is the beginning of looking at tornadoes, not just for their damage, but also to the tornado itself in rating it. But since this one saw little damage compared to hitting a city - catastrophic damage is not a major criteria here, and other tornadoes that were of massive size and or strength but ran through more open country can be rated for what they were like even though they didn't cause catastrophic damage, because they didn't hit a city. Although Enderlin isn't clear of sadness as three people were killed. A husband and wife being two of them whose house was wiped out.

Of course, we could say more here, but I do recommend going out and looking it up with the National Weather Service or good Youtube channels. Ethan at June First has a good video on it and Carly Anna WX had a video out soon after the news broke just speaking to it and her first impressions. These are both good. For a more in depth look, check Trey at Convective Chronicles, he takes the meteorology totally apart with tornadoes, derechos, and storms. He explains what was going on up there in the sky and why it went on a divergent path. No tornado goes divergent by breaking the rules of physics. But often it takes looking at it afterwards to see what happened; the reason for going divergent isn't seen by being a part of it in the moment.