UNL students gain experience by pursuing severe weather

CHASER from page 6

"It still looks good," he says. "I think Ken is wrong, the clouds will break."

The chasers head further into town and file into the Hastings Public Library to use the Internet. Ashley wants to take a closer look at some of the data to update his own forecast.

The area of convergence — where the warm front and dry line meet — is centered to their west. Ashley and Dewey argue a bit about the way to approach it.

Dewey wants to stay in Hastings, because he thought going too far west would force the group to play catch-up. He wants the storms to come to him. On this trip, the professor is only an advisor, not the lead chaser. He offers advice, and won't supersede Ashley's command unless the group is in danger.

Ashley wants to go west, get out of the overcast skies, to visibly see the storms forming. Then, when they do start to form, the group to choose one to chase.

The group heads west.

2:20 p.m. – near Arapahoe

The chase team breaks out of the overcast skies. In the distance is the dry line and what appears to be the beginning of development.

Dewey, a middle age balding man who carries around a 35mm camera everywhere, remains unsure. "I just don't think that there is enough moisture," he says, referring to the dew points coming in over the small scanner laying on the dash board of his minivan. "They aren't as high as we expected, but they still aren't bad."

3:10 p.m. — Same

The team is positioned at Arapahoe, just east of McCook, in the southwestern corner of the state. The warm front was about 25 miles to the north and the dry line had just pushed through McCook. Straight ahead, a small thunderhead develops into a small supercell – the type of storm that produces tornadoes — within 20 minutes.

3:31 p.m. Near the intersection of Highways 183 and 6.

The team swings around the precipitation side of the storm, which reveals a large wall cloud. As the storm merges with the warm front, it maintains severe structure and begins to intensify its rotation.

Ashley, surrounded in the lead car by multiple scanners monitoring Ham radio frequencies, State patrol and National Weather Service, drives faster toward it as the wall cloud starts to clear off more. At 90 miles an hour, he spots a dirt road heading straight toward the wall cloud and makes a sudden turn.

After piling out of the chase cars, everybody is excited. They are pointing and watching intently. Dewey points to the dark sky above and everyone looks up to see huge striations in the anvil, which reveal rotation in the storm. Everything looks good.

The wall cloud forms a bulge and the seems to intensify briefly, but nothing happens. Within 10 minutes, rain wraps its way around the eastern edge of the wall cloud, closing it off from view. Dewey is still unconvinced that the storms have enough moisture.

By this point, a few warnings start to come through the many antennas on the chase cars. The National Weather Service chatter is echoing through the open doors of all the cars. Ashley starts to look around as the sun comes out from behind the anvil of the supercell as it makes its way north. All around, there are developing cells.

The question of the day becomes, which one to chase?

4:16 p.m. – Same place

Leaving the supercell behind, the team goes southeast.

"Nothing is going to happen with that cell," Dewey explains. "It's heading for the cold air north of the warm front. It will become just a rain producer."

SEVERE WEATHER TERMINOLOGY

CONVECTION –Meteorologists term for vertical motions, used to denote the presence of cumulus clouds; most often refers to instability.
DRY LINE – the line at which warm moist air meets cold dry air. Creates a large amount of convection under the right conditions by giving lift to the warm air.
INSTABILITY — Possessing the ability to move away from the original position; allows convection.
MESOCYCLONE – An area of rotation storm-sized that is characteristic of supercell storms. May be larger than a tornado that forms with it, but not always.
SUPERCELL – A large thunderstorm chacterized by a long-lived intense rotating updraft. While relatively rare, these storms produce a large amount of severe weather and virtually all violent tornadoes.
WALL CLOUD – Pronouced lowering of the updraft base, where air is taken into the storm, with no visible precipitation underneath. Often precedes tornadoes.

Tim Karstens/DN

Dewey is wrong. As storm progressed north, it turns severe again, and produces a F3 class tornado, captured on video by another storm chaser, and splattered across the national evening news the next day.

5:11 p.m.

Almost directly south of Holdrege, near Alma, another large cell comes into view. As the cars cross the path of the storm, the sun backlights the clouds, which makes the details of the clouds more visible.

Excitement returns to Dewey as he sees large round clouds under the northeastern edge of another anvil, a tell tale sign of a severe storm. The storm keeps looking better as they come around the eastern edge and look through the thin precipitation and spot a well-defined mesocyclone, with a pronounced wall cloud formation.

They stop for a brief second in a gas station parking lot and roll down the windows. Ashley is staring down his map and looking intently around the storm. A small funnel cloud snakes across the front of the wall cloud.

Someone shouts, "Do you see that!", but Ashley shrugs it off. "Yeah, yeah, we're tracking a nice Meso."

As they rush out of the eastern edge of the town to find a good vantage point and get out of the path of the storm, other chasers line the roads.

"It's nice to see the other chasers around here, it tells us that we are in the right area," Dewey says.

A van with several antennas sticking out of the roof and big white signs that say 'storm chaser' pulls off the road in front of us.

As the storm becomes more visible, Ashley finds a hill overlooking the city, with the perfect vantage point of the mesocyclone.

The cars come to rest and chasers fly out everywhere. Before long a small crowd has gathered along the road. The hilltop is positioned directly underneath the anvil of the storm. A constant dribble of rain reminds the chasers of the dangerous area of the storm they are in, where lightning and hail are the most intense.

An old, beat up ambulance makes its way up the hill too, carrying the storm spotters from the town. Two older men hop out and start to chat with the chasers.

But the storm does nothing. Ashley, in his old T-shirt and long brown hair, looks worn and edgy; the storms should have produced large tornadoes by now. He lights up another cigarette and seems less talkative.

As the supercell moves off to the north, it becomes clear that the day was a bust. Although there were supercells, Dewey became increasingly convinced that the storms were moisture starved. That day, there were two tornadoes to the north and many more in northeastern Colorado.

8:00 p.m.

Everyone arrives back at Ashley's apartment. After driving 900 miles over the past two days of chasing, the team has not even been close to a tornado. "You don't get a tornado everyday," Dewey says. "But then again, we are storm chasers, not tornado chasers."