

UNL Weather Camp June 13 - 17, 2022

Tornado - Kanopolis Lake, KS

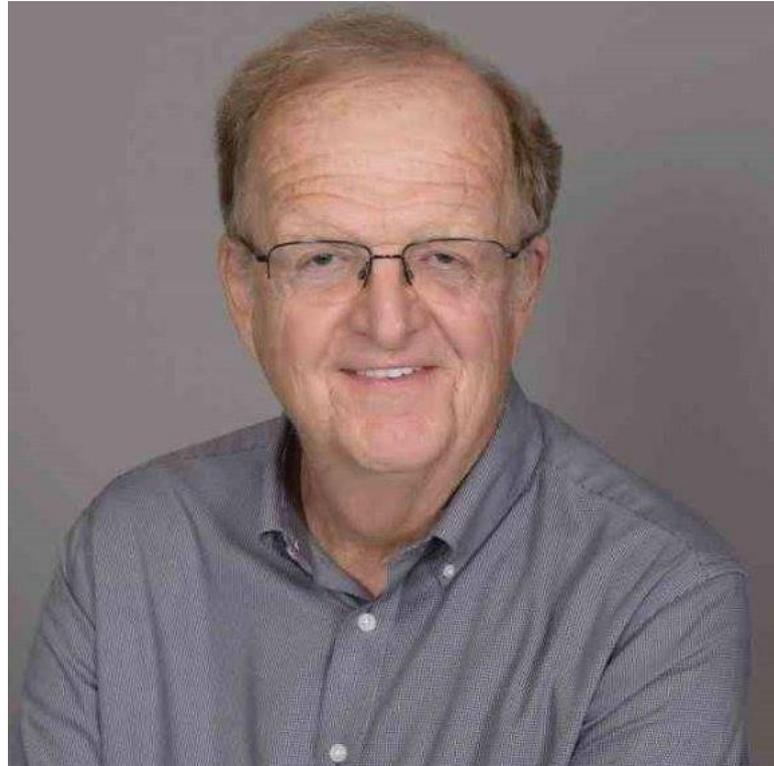
Photo by Scott Blair

NWS, Kansas City



We are part of the UNL Big Red Camp program
<https://4h.unl.edu/big-red-camps-sessions>

UNL Weather Camp 2022 Director



Dr. Ken Dewey, UNL Professor Emeritus.

UNL Weather Camp Website

<http://go.unl.edu/weathercamp>

Or

<https://lincolnweather.unl.edu/weathercamp>

UNL Weather Camp 2022 Staff

Weather Camp 2022 Lead Instructor



Emily Caulder, 2022 Graduate of Texas A&M University – ENGS Climate Change and Meteorology Minor

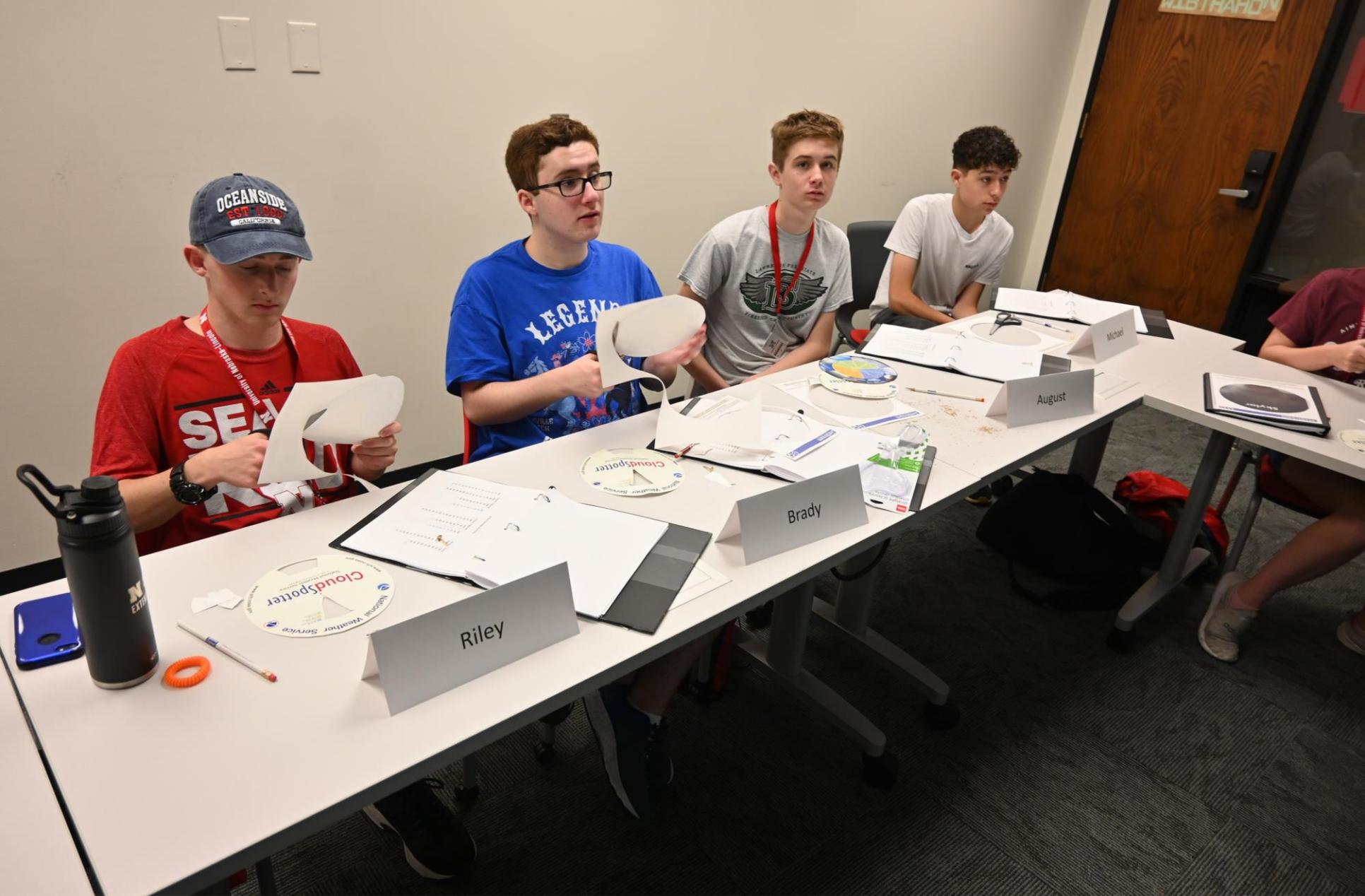
Weather Camp 2022 Instructor



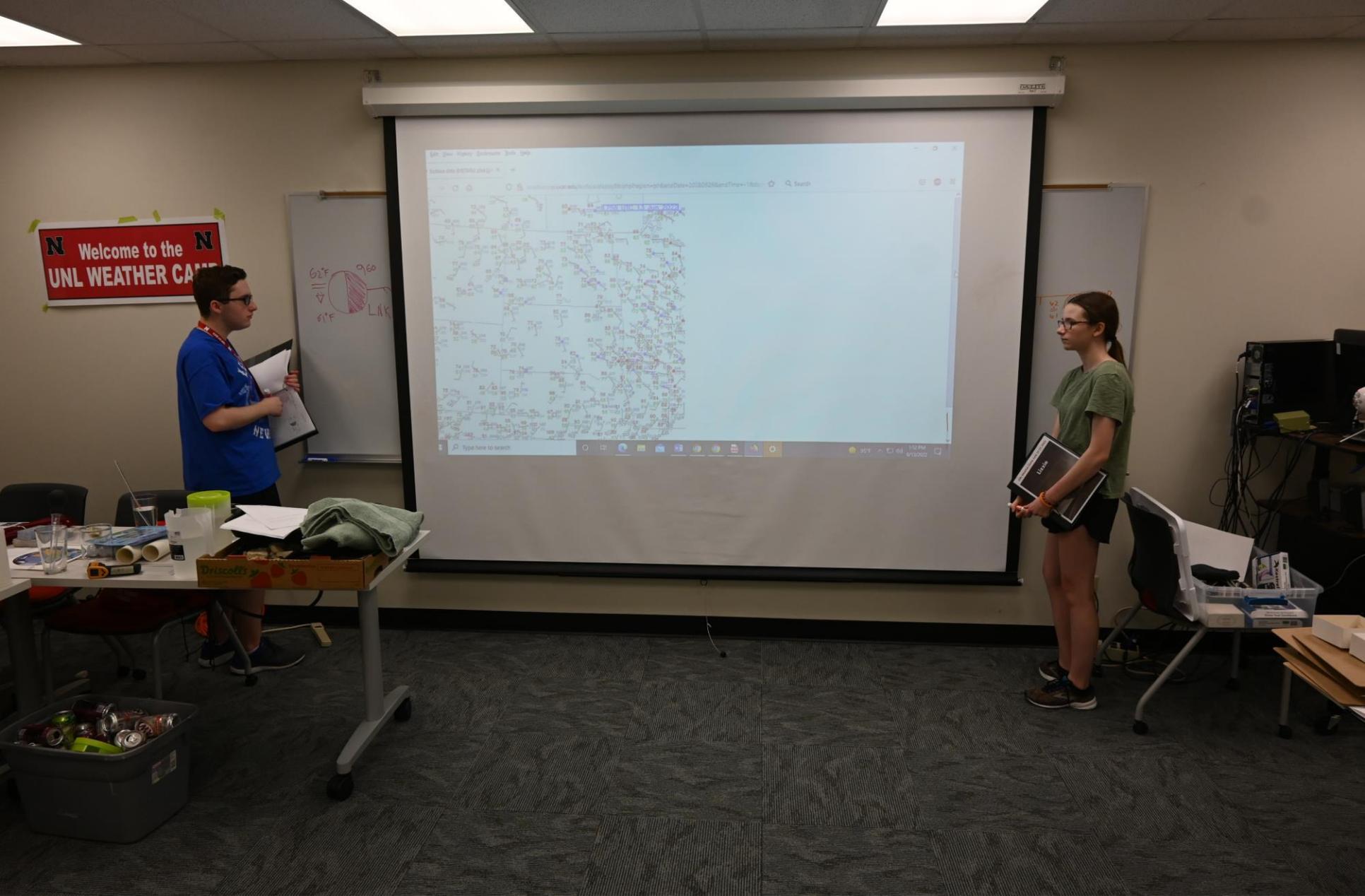
Grace Schleining
UNL Environmental Studies Major
and Pre-Law

Day 1: Monday, June 13, 2022

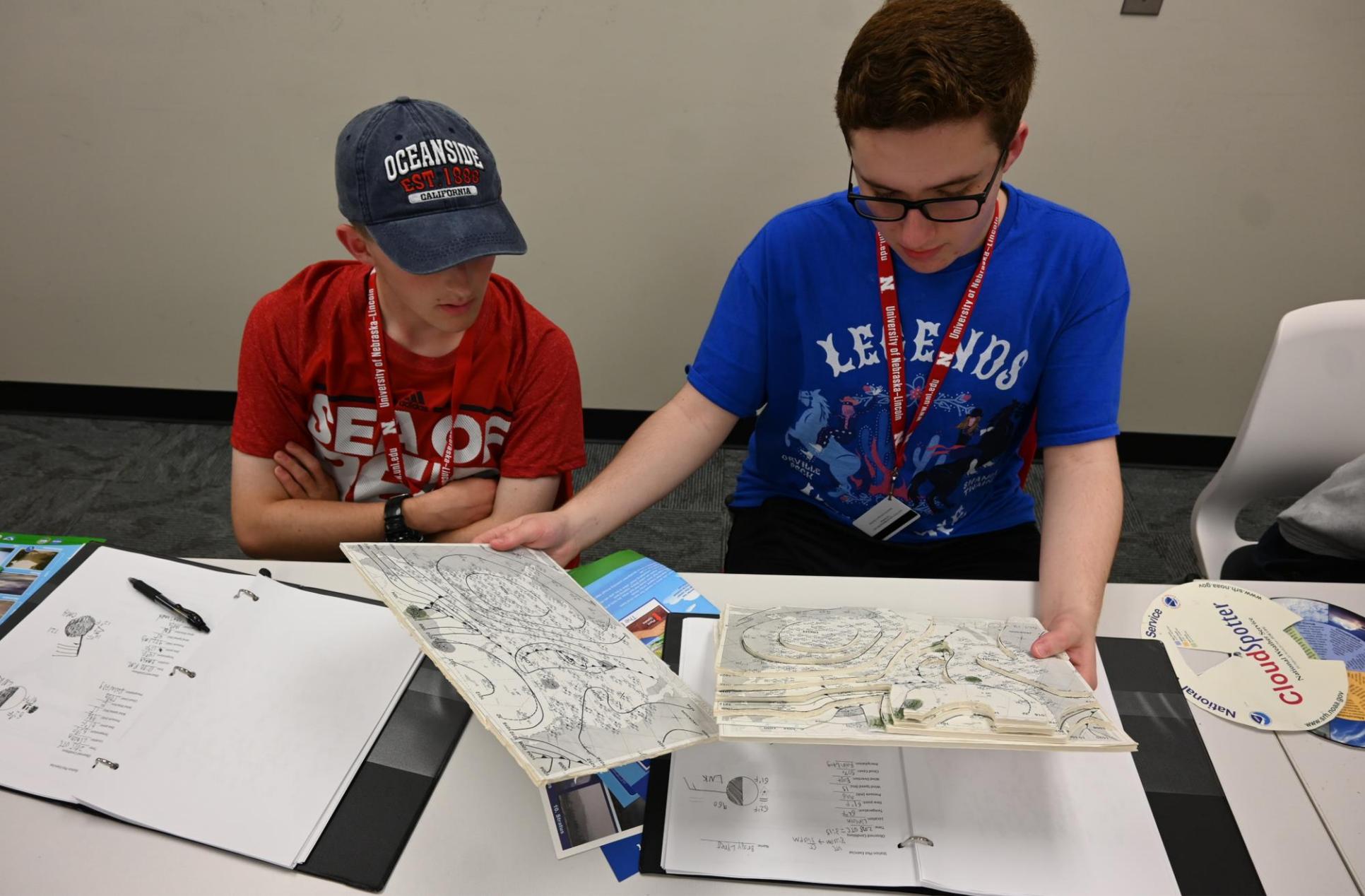




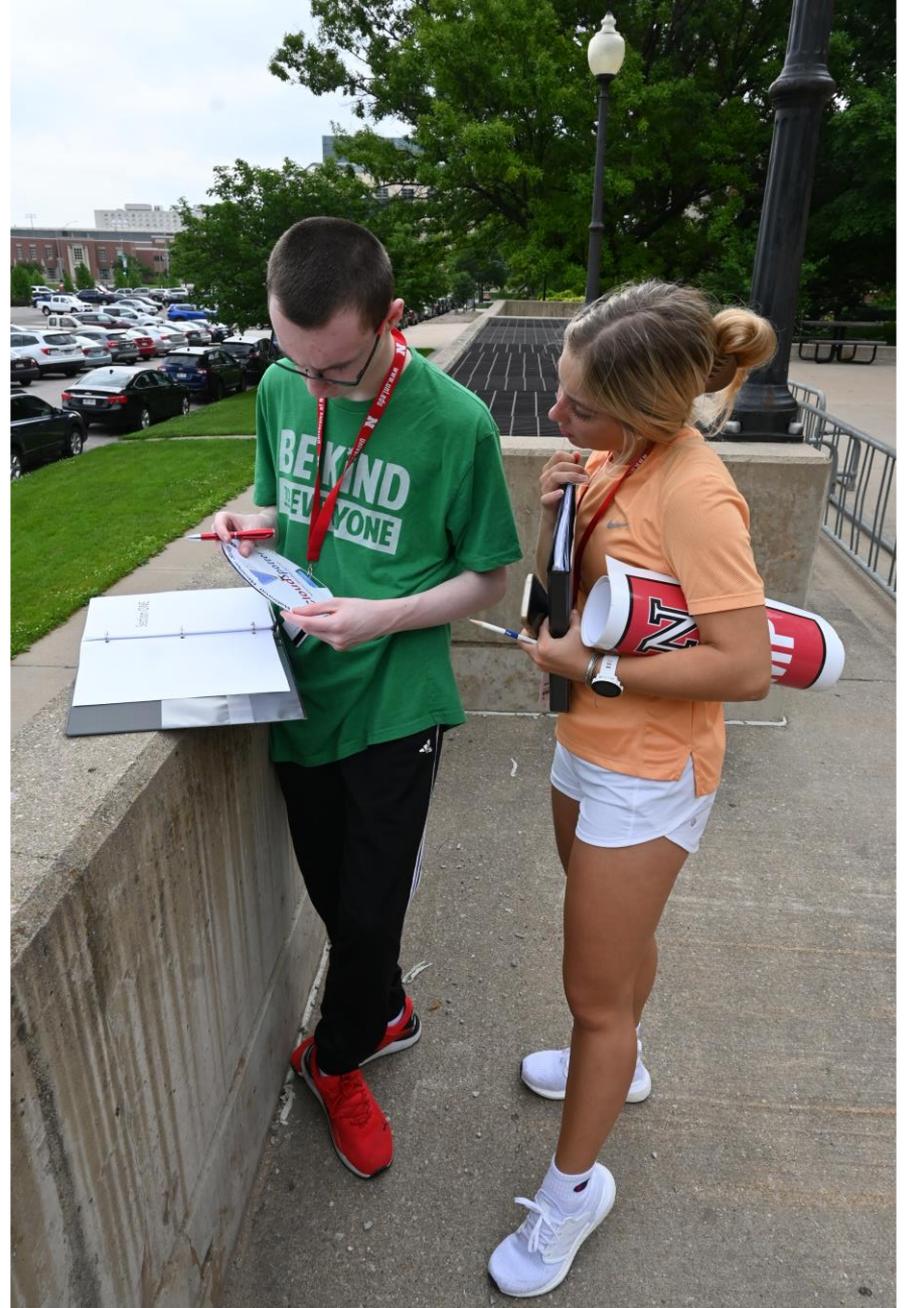
Creating our Cloud spotter identification wheels



Learning about the Station Model and weather map data interpretation



Comparing a standard 2-dimensional weather map to a 3-dimensional weather map



Taking weather observations for our weather journals



it was hot walking outside in the record high temperature of 103°F



Measuring temperatures of various surfaces



Comparing the surface temperatures of various colors of cars in a parking lot



Darker colors were much hotter than lighter colors. 153°F

Day 2: Tuesday, June 14, 2022

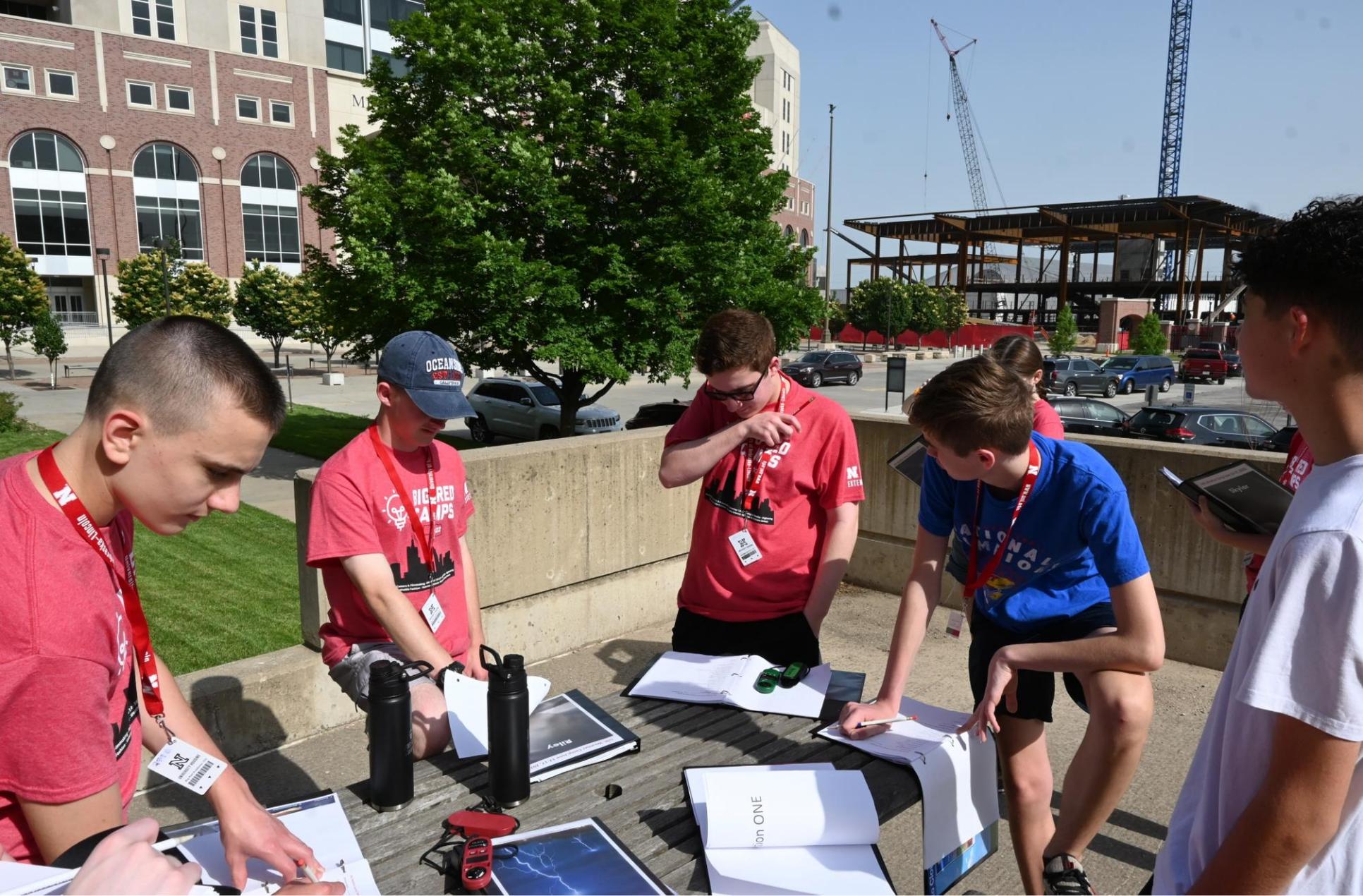




Taking weather observations for our weather journals



Weather observations for our weather journals



Taking weather observations for our weather journals



**Ian Mason, Meteorologist KNOP-TV.
Ian was a former UNL Weather Camper and Instructor.**



Ian visited with the weather campers via zoom



Measuring the temperatures of different colored surfaces on the Memorial Stadium field.
We found temperatures as high as 137°F



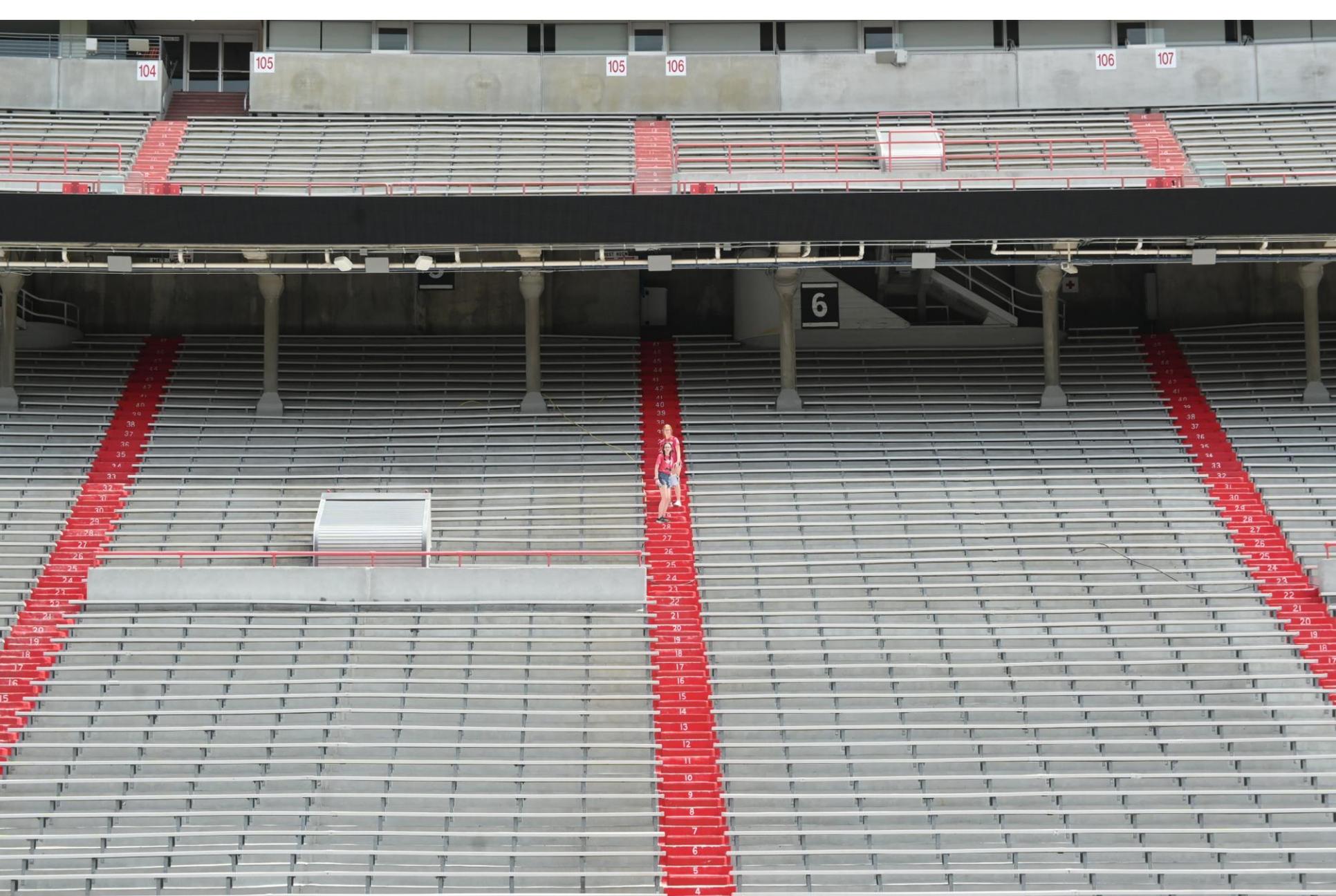
Measuring the temperatures of different colored surfaces on the Memorial Stadium field



Measuring the temperatures of different colored surfaces on the Memorial Stadium field



Measuring the temperatures of different colored surfaces on the Memorial Stadium field



Measuring the temperatures up in the seating areas



Measuring the temperatures up high up in the East Stadium



Pausing for a group photo high up in the East Stadium



Taking a break to observe the weather way up high in the stadium



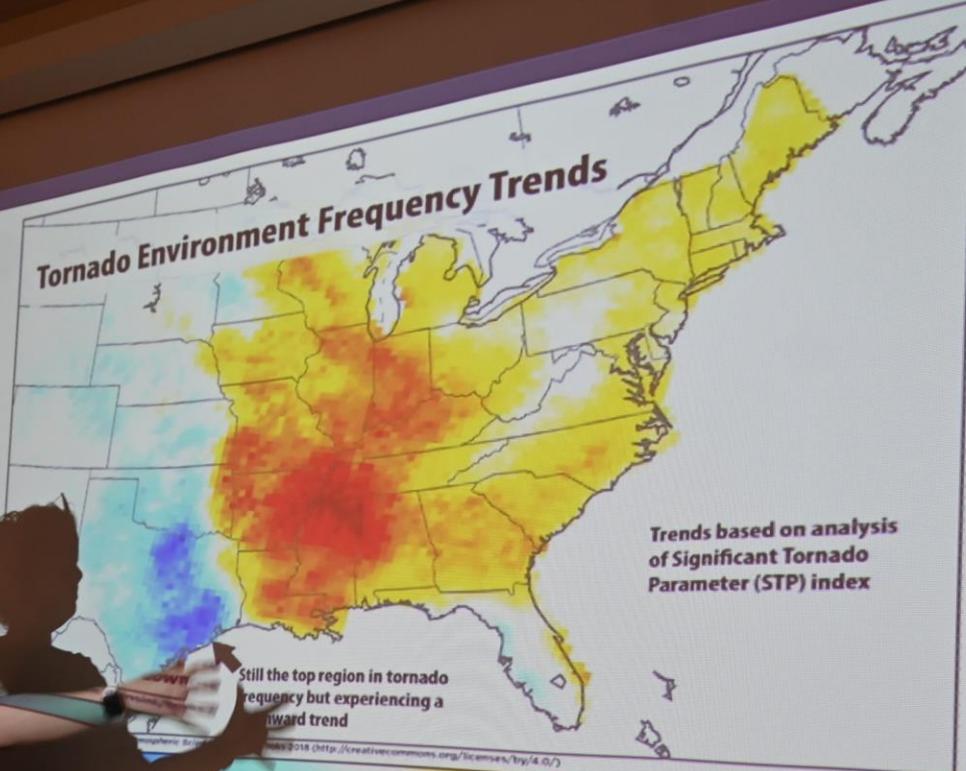
This has become a tradition for our UNL Weather Camp and we thank the UNL Athletic Department for letting us into the stadium each year



Visiting the UNL Meteorology Lab to learn more about degrees in Meteorology and Climatology

Welcome to the
UNL WEATHER CAMP

Tornado Environment Frequency Trends



Trends based on analysis
of Significant Tornado
Parameter (STP) index

Still the top region in tornado
frequency but experiencing a
downward trend

Upward trend

...e, shows the eastward shifting trend of tornado alley based on (STP) parameter.

Back in the classroom,
Emily illustrating how the traditional “tornado Alley” is migrating eastward.



Emily going over tornado myths in a unit called “are you a tornado expert?”

Day 3: Wednesday, June 15, 2022



Emily teaches the weather campers about weather radar



Daily weather map discussion



Visiting the Nebraska State museum of Natural History “Morrill Hall” on the UNL campus.



Visiting the Nebraska State museum “Morrill Hall” on the UNL campus.



Weather and Climate Science on a Sphere at the museum



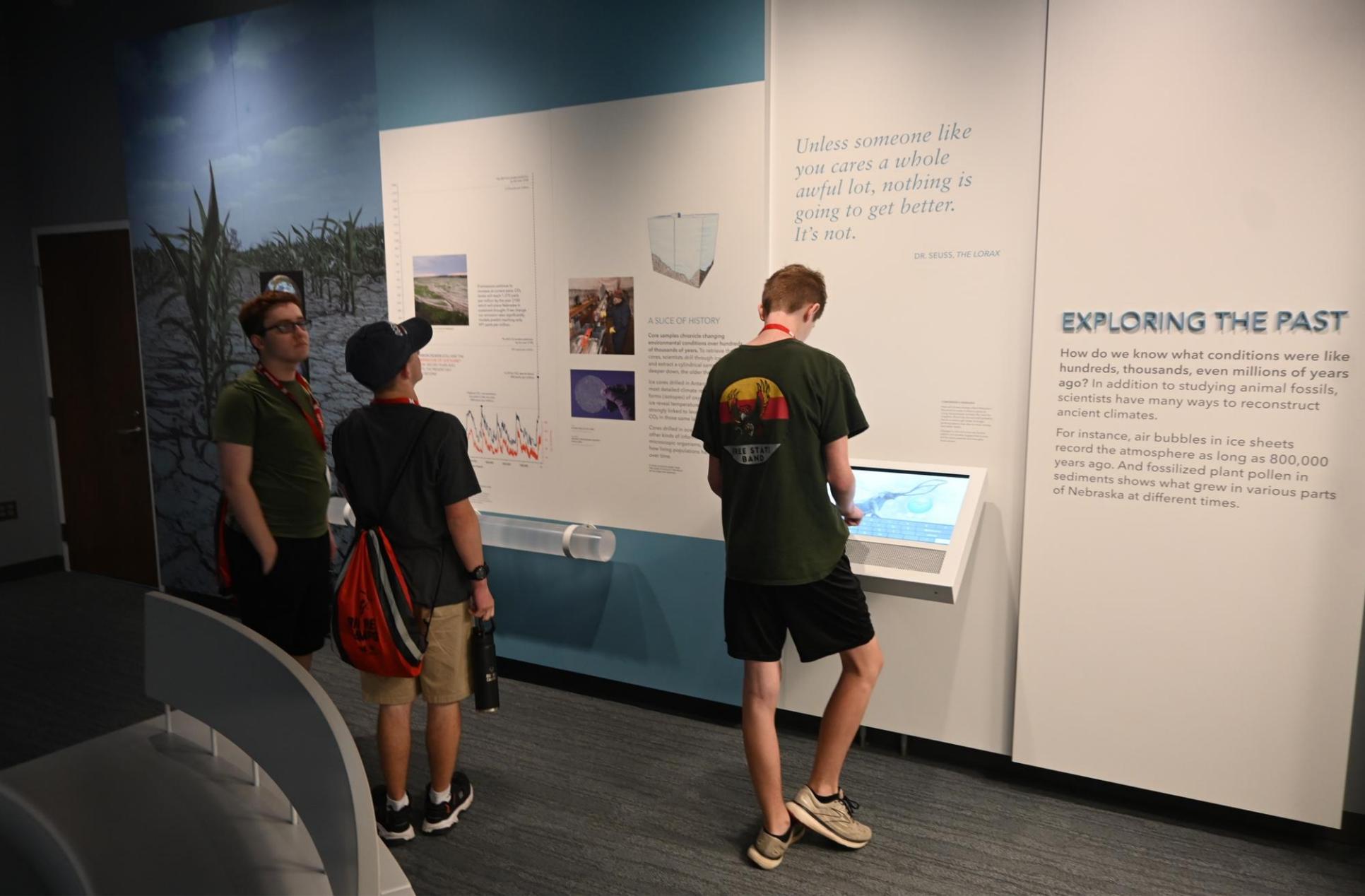
Weather and Climate Science on a Sphere at the museum



Exploring the “Cherish Nebraska” Exhibit at the museum



Exploring the “Cherish Nebraska” Exhibit at the museum



Unless someone like you cares a whole awful lot, nothing is going to get better. It's not.

DR. SEUSS, THE LORAX

EXPLORING THE PAST

How do we know what conditions were like hundreds, thousands, even millions of years ago? In addition to studying animal fossils, scientists have many ways to reconstruct ancient climates.

For instance, air bubbles in ice sheets record the atmosphere as long as 800,000 years ago. And fossilized plant pollen in sediments shows what grew in various parts of Nebraska at different times.

Exploring the "Cherish Nebraska" Exhibit at the museum



Exploring “Elephant Hall” at the museum



Exploring “Elephant Hall”
at the museum



Exploring “Elephant Hall” at the museum



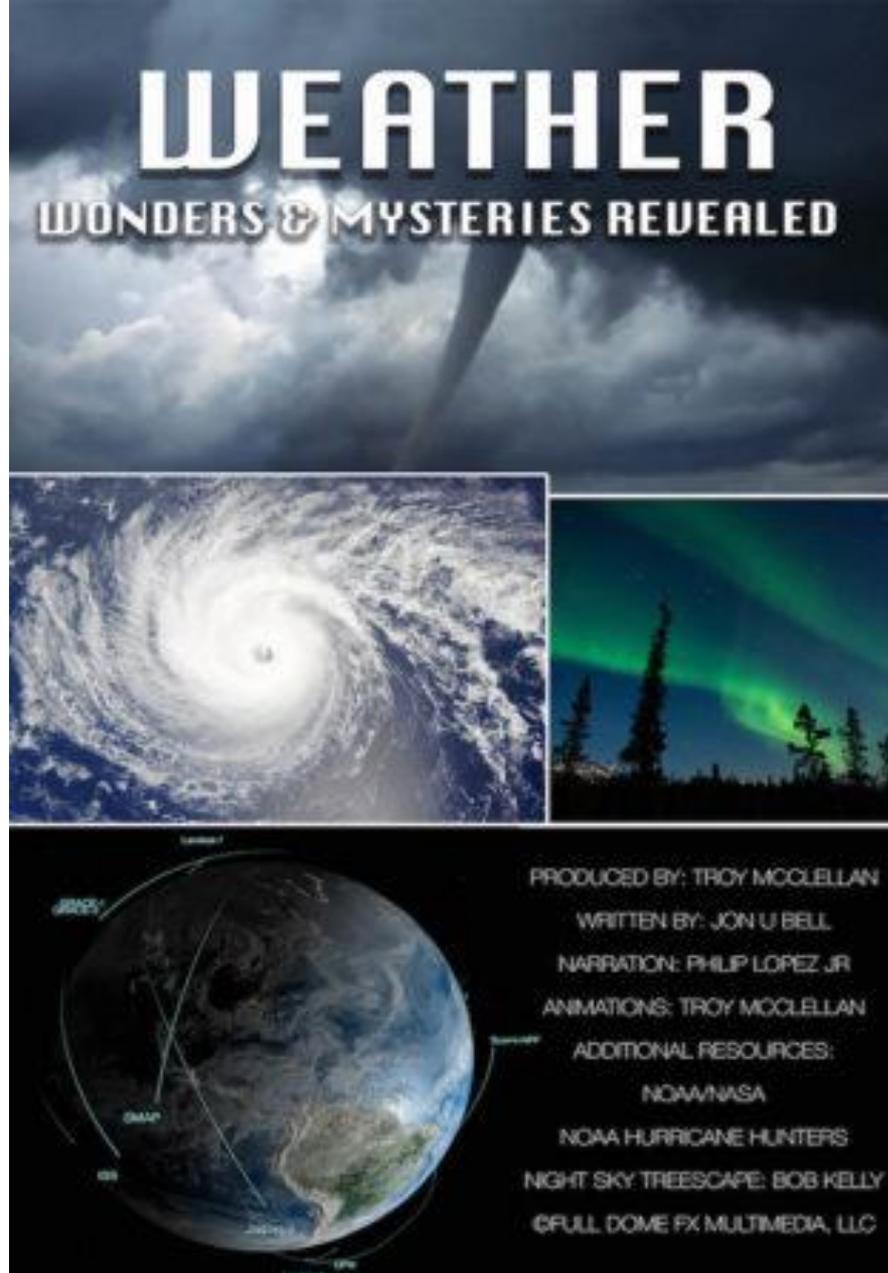
Emily finds an armadillo



Lunch time discussions provided a wonderful opportunity for everyone to casually visit outside the classroom



Lizzy brought the game of “UNO” to camp.
Here are some of the weather campers playing UNO during their lunch time



The Weather Campers had a private showing of the movie “Weather, Wonders and Mysteries Revealed” at the dome theater in the museum



Inside the Planetarium domed theater



Inside the Planetarium domed theater



Jeremy Bower, JRB Storm Photography, Storm Chaser and weather photographer visited with the weather campers



WHO IS JEREMY?

- B.S. Atmospheric Science – Ohio State, 2005
- Storm chasing since 2001
- Storm tours 2001 to 2006
- UNL, Vortex Intercept Team 2006 to 2009
- Self-taught photography enthusiast
- Presented on topics including storm safety, storm chasing, & photography

Photography featured by NWS, Emergency Management, The Weather Channel, Adorama's Photography Blog (NYC)

Currently employed by Nebraska Department of Natural Resources

Photo courtesy of Tim Sall – NWS Homestead

Jeremy Bower, JRB Storm Photography

A DAY IN THE LIFE OF A STORM CHASER

May 27, 2018
SE Wyoming Tornadoic Supercell



Jeremy Bower, JRB Storm Photography

TIPS FOR PHOTOGRAPHING SUNRISES/SUNSETS

- Use aperture priority mode (A,Av) – set for f/5.6 and adjust from there
- Use a camera and/or lens with image stabilization
- Use a foreground object to give image eye appeal

6/29/2019 – Longmont, CO
Sony A7RII
FE 16-35mm f/2.8 GM
1/60 sec.
f/4.0
ISO 160



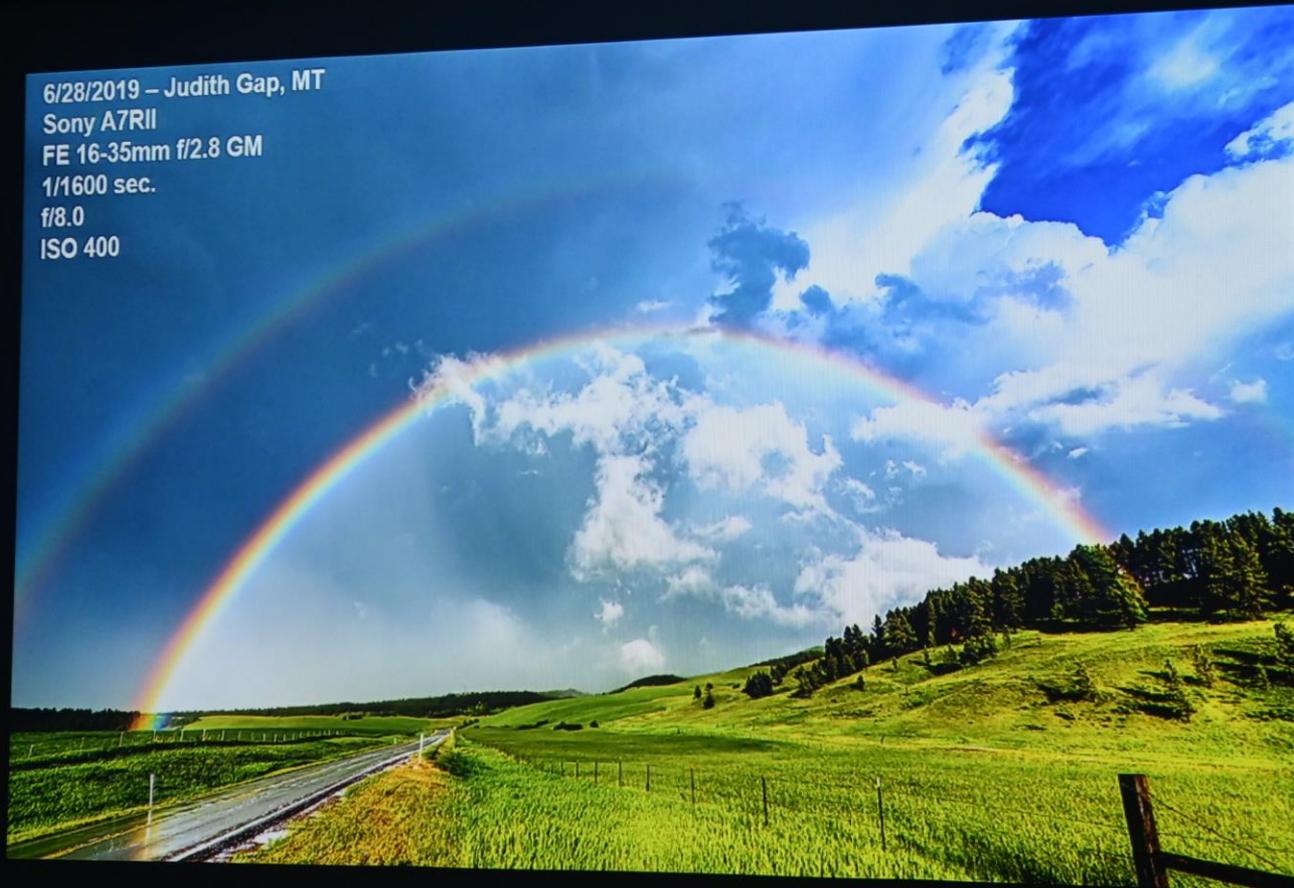
Jeremy Bower, JRB Storm Photography

LIGHTNING PHOTOGRAPHY

- Tripod or steady surface (tripod > lens > camera)
- Frame for relevance and perspective (look at the horizon)
- Manual Focus only (set lens to infinity)
- Manual Shutter and Aperture (Bulb Mode is the best)
- Patience! (mistakes will happen)
- Lightning Trigger (not necessary – we do not have one)



Jeremy Bower, JRB Storm Photography



6/28/2019 – Judith Gap, MT
Sony A7RII
FE 16-35mm f/2.8 GM
1/1600 sec.
f/8.0
ISO 400

Jeremy Bower, JRB Storm Photography



"Keep your eyes to the skies!"

Thank You
UNL Weather Camp!

jrbstorm@gmail.com

Say Hello!

questions & conversation
business cards with website info



JRBStorm Photography



@jrbstorm



flickr.com/jrbstorm



Instagram

jrbstorm



Jeremy Bower, JRB Storm Photography



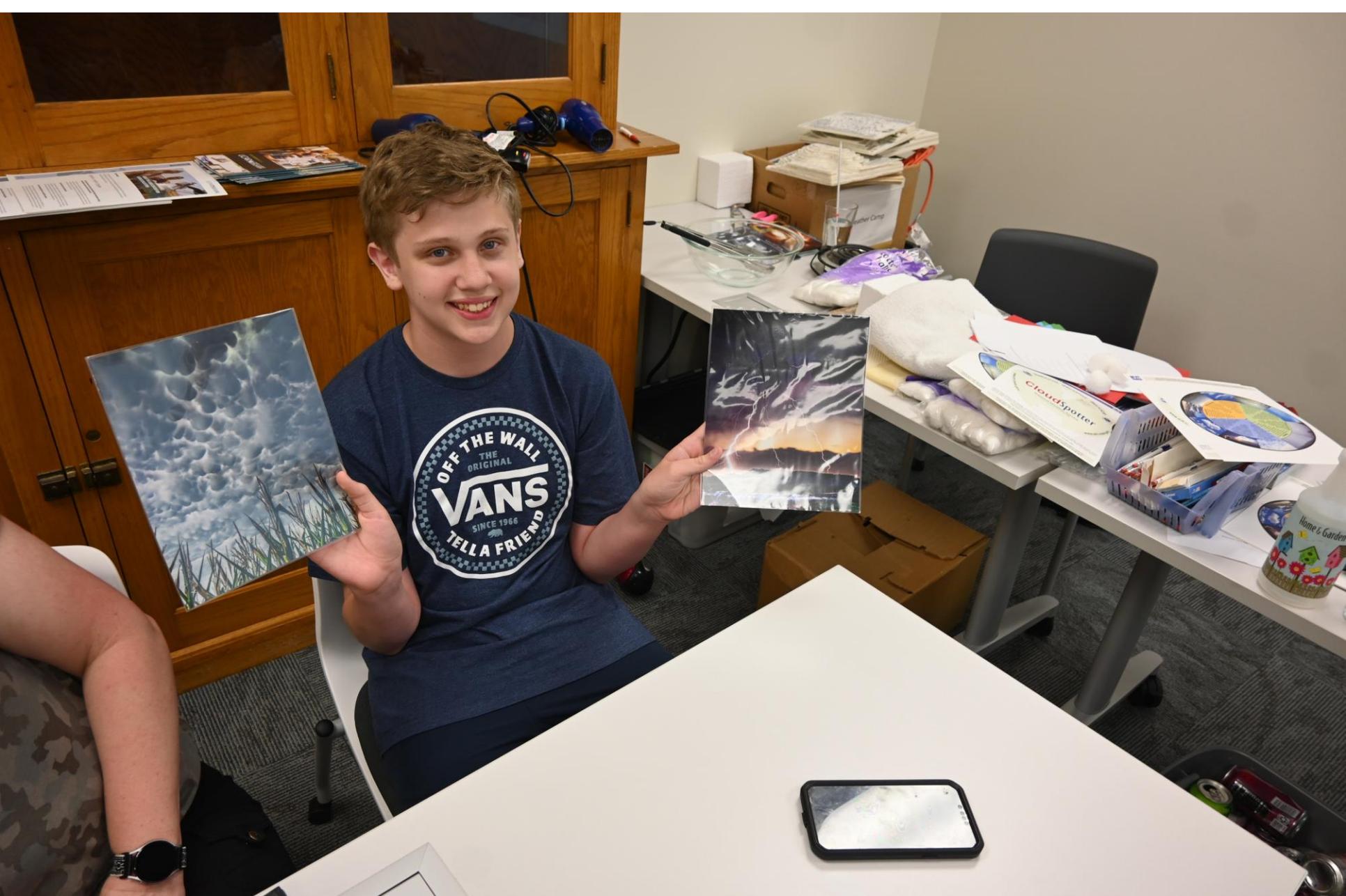
Jeremy Bower, JRB Storm Photography



Some of Jeremy's spectacular photographs



Near the end of Jeremy's visit, Camp Director Ken Dewey had the weather campers and instructors pick out two of their favorite photos and he purchased the photos for them.



Literally a “very happy camper”



Weather campers Group photo with Jeremy Bower, JRB Storm Photography

Day 4: Thursday, June 16, 2022



Heat conductivity experiment



Examining 3-Dimensional photographs



Science is fun!



Conducting an experiment measuring the rate of warming of 8 different surface types in the sun: water; dry sand; wet sand; gravel; dry soil; black sand; large rocks; & wet soil



They monitored the warming every 15 minutes to see which surface warmed the most and warmed the least



Lincoln's Channel 10/11 TV Meteorologist, Brad Anderson, came to our classroom and visited with the weather campers

Brad Anderson

1011 THIS MORNING, PURE NEBRASKA, 1011NOW AT NOON METEOROLOGIST

Lincoln



I have worked and lived in Nebraska since December of 1995. I started as the Weekend Meteorologist at 1011 in 1995 and in October 1998 I began working on the 1011 Morning and Noon Shows. In 2012 I started doing forecasts for Pure Nebraska. I have a wife, three boys a daughter in law, three dogs and a cat. Also a Grandpuppy.

Education

Meteorology





Accompanying him was their TV Station Meteorology Intern Carmello who is also the UNL Meteorology club president

Carmelo Lattuca

METEOROLOGY INTERN

Lincoln, Neb.



Carmelo is from Chicago, Illinois and attends school at the University of Nebraska-Lincoln, chasing his dreams of becoming a broadcast meteorologist at the conclusion of his college career.

Carmelo is a meteorology major with minors in broadcasting, mathematics, and applied climate science. During his fall semester in 2021, he took his first broadcast meteorology class before joining the student run news team Nebraska Nightly in early 2022. He was able to go through several newscasts doing both the first outlook and full forecast for the university. And whether the weather calls for snow showers, thunderstorms, or even just sunny skies, Carmelo is ready to start forecasting days in advance. Even from a very young age, Carmelo knew that meteorology was his passion and that he would pursue it as a career later in life.

In his free time, he likes bowling, playing chess, reading, and spending time with his friends and family. He thanks not only his friends, family, and professors for pushing him to pursue his dreams, but the 10/11 News Team for giving him his first official opportunity with broadcast meteorology.





Lincoln's Channel 10/11 TV Meteorologist, Brad Anderson



Group photo with Lincoln's Channel 10/11 TV Meteorologist, and TV Intern Carmello



After the classroom visit, the campers went outside and had an opportunity to explore the TV Station's Storm Chase Vehicle



After the classroom visit, the campers went outside and had an opportunity to explore the TV Station's Storm Chase Vehicle



And the day ended with exploring a tornado generator in the classroom



Close up of the tornado generator
in our classroom

Day 5: Friday, June 17, 2022



The city campus camps, like ours, relocated to meeting rooms in the East Campus Student Union building.



Our daily weather discussion



Getting ready to practice their afternoon Capstone presentations



Our Weather Camp tee shirts with the words, “It is Wise to be Weatherwise”, were handed out to the students



Our instructors having fun



One of our campers posing wearing lightning



Demonstrating convection (using a hair dryer) and the formation of hailstones (using ping pong balls)



Multiple hailstones!



Emily posing and taking a selfie to share on social media



Our last lunch together as June 2022 Weather Campers



One of our weather campers with
a perfect weather tee shirt
“I look at clouds and I know things”



Looking at the radar images from the storms that occurred last evening



Dawn Lindsley, UNL, College and Career Readiness, 4-H Extension Educator and Director of the Big Red 4-H Camping programs opens the group meeting of all the parents, guardians and sponsors for a review of all-camps week and giving of certificates to the campers



Closing session for all the camps combined



Our weather camp instructors, Emily and Grace, were recognized for their outstanding work as Big Red Camp staff.

It was also pointed out to the audience that both Emily and Grace were former UNL Big Red Campers who returned this year to be Big Red Camp staff and run the UNL National Weather Camp

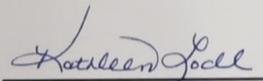
CERTIFICATE

FOR YOUR ACHIEVEMENT

Emily Caulder - Weather & Climate Science

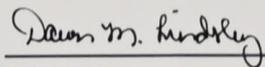
This represents the digital badge you have earned for participating in Big Red Camps June 12-17, 2022, through Nebraska Extension - 4-H at the University of Nebraska-Lincoln.

Your Hard Work, Dedication, and Achievement Is Commendable



Kathleen Lodi
Nebraska 4-H
Program Leader





Dawn Lindsley
Big Red Camps
Program Director





Emily read the names of each of the Weather Campers who then came forward and Grace gave them their certificates of achievement





Our Weather Campers and their Big Red Camp certificates of achievement

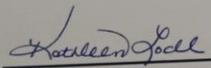
CERTIFICATE

FOR YOUR ACHIEVEMENT

Nathan Conroy - Weather + Climate Science

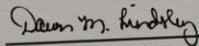
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Kathleen Lodi
Nebraska 4-H
Program Leader





Dawn Lindsley
Big Red Camps
Program Director



2022





We returned to our meeting room where Grace and Emily received Certificates of Commendation from the Weather Camp Director, Ken Dewey

JUNE 12-17, 2022



The University of Nebraska-Lincoln
proudly recognizes

Emily Caulder

for being an outstanding Weather Camp Instructor



Sponsored by UNL Department of Earth & Atmospheric Sciences, Nebraska 4-H,
Nebraska Extension, UNL Geography and UNL School of Global Integrative Studies

JUNE 12-17, 2022



WEATHERCAMP

The University of Nebraska-Lincoln
proudly recognizes

Grace Schleining

for being an outstanding Weather Camp Instructor



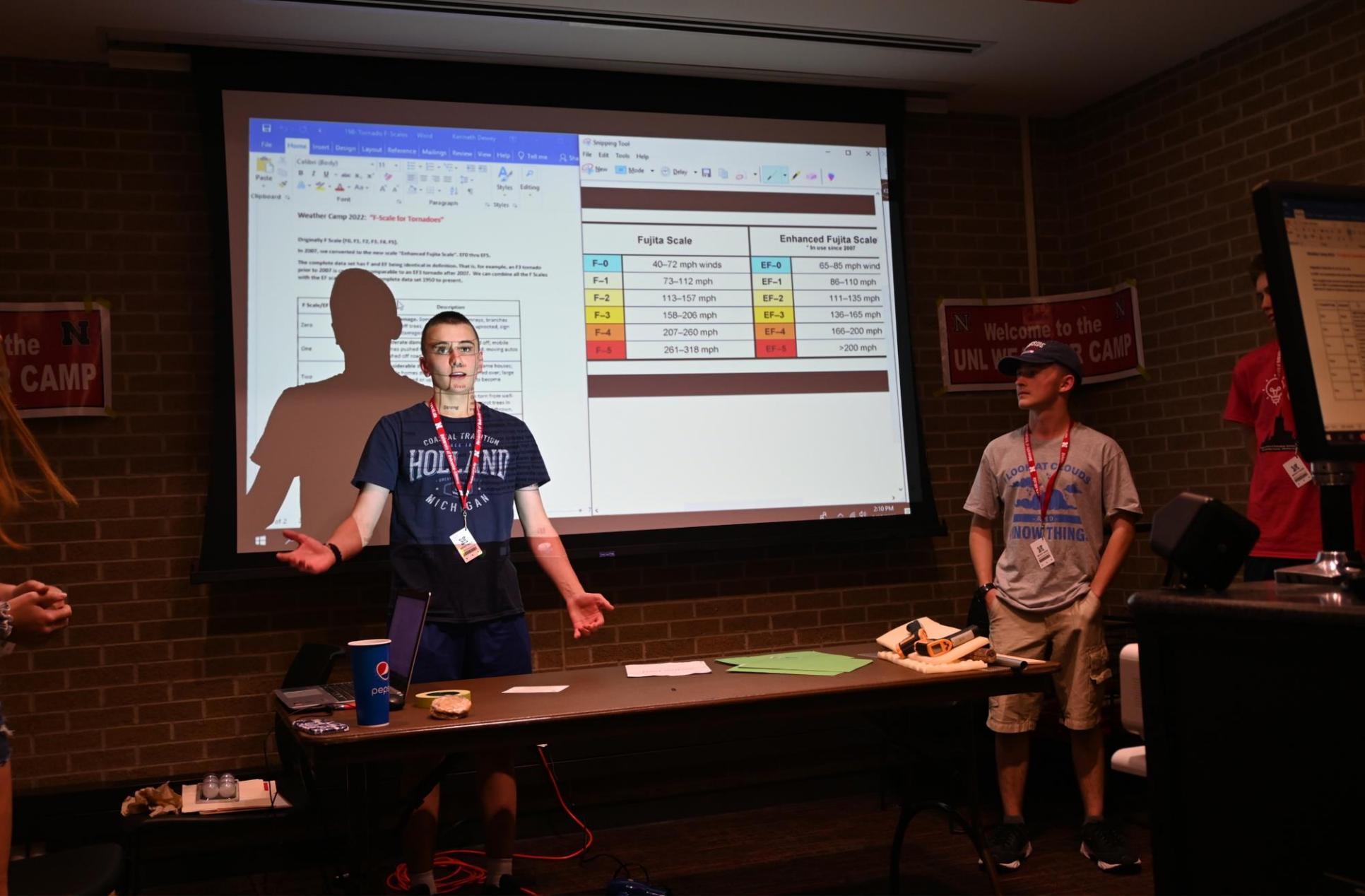
Sponsored by UNL Department of Earth & Atmospheric Sciences, Nebraska 4-H,
Nebraska Extension, UNL Geography and UNL School of Global Integrative Studies



Emily and Grace begin the Weather Camp Capstone event with family and friends of our weather campers present in the room



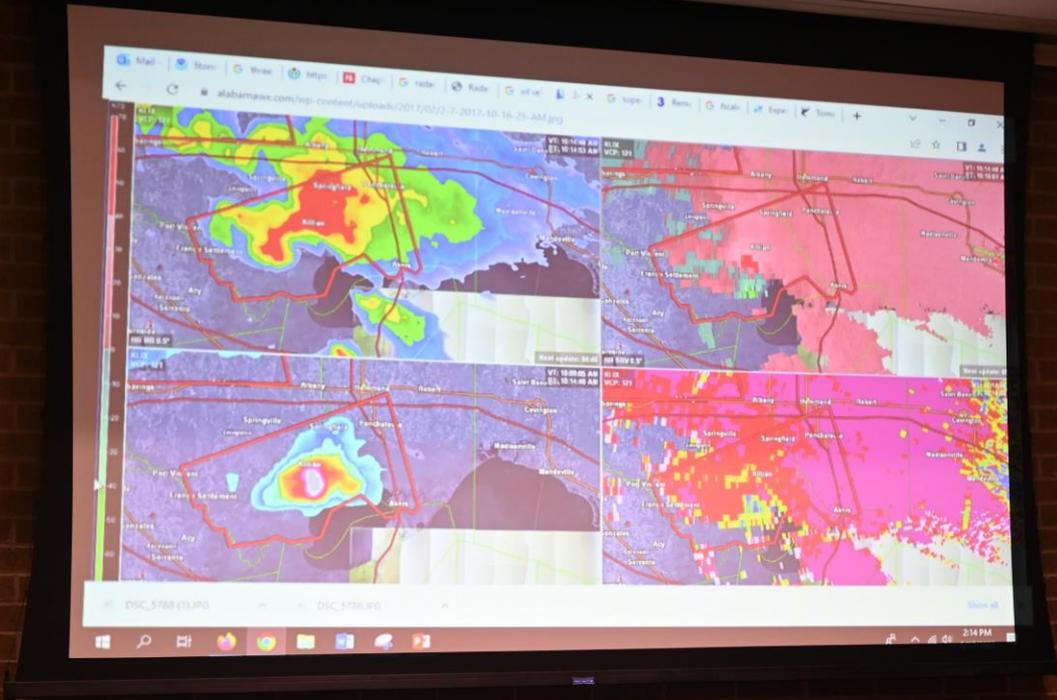
Capstone is when each of the students stands in front of everyone and illustrates/describes one of their favorite weather/climate concepts that they learned during the week



Fujita Scale		Enhanced Fujita Scale <small>*In use since 2007</small>	
F-0	40-72 mph winds	EF-0	65-85 mph wind
F-1	73-112 mph	EF-1	86-110 mph
F-2	113-157 mph	EF-2	111-135 mph
F-3	158-206 mph	EF-3	136-165 mph
F-4	207-260 mph	EF-4	166-200 mph
F-5	261-318 mph	EF-5	>200 mph

Two campers reviewed the history and current usage of the F-Scale that provides an estimate of the magnitude of tornado damage

come to the **N**
WEATHER CAMP



N Welcome to
UNL WEATHER CAMP

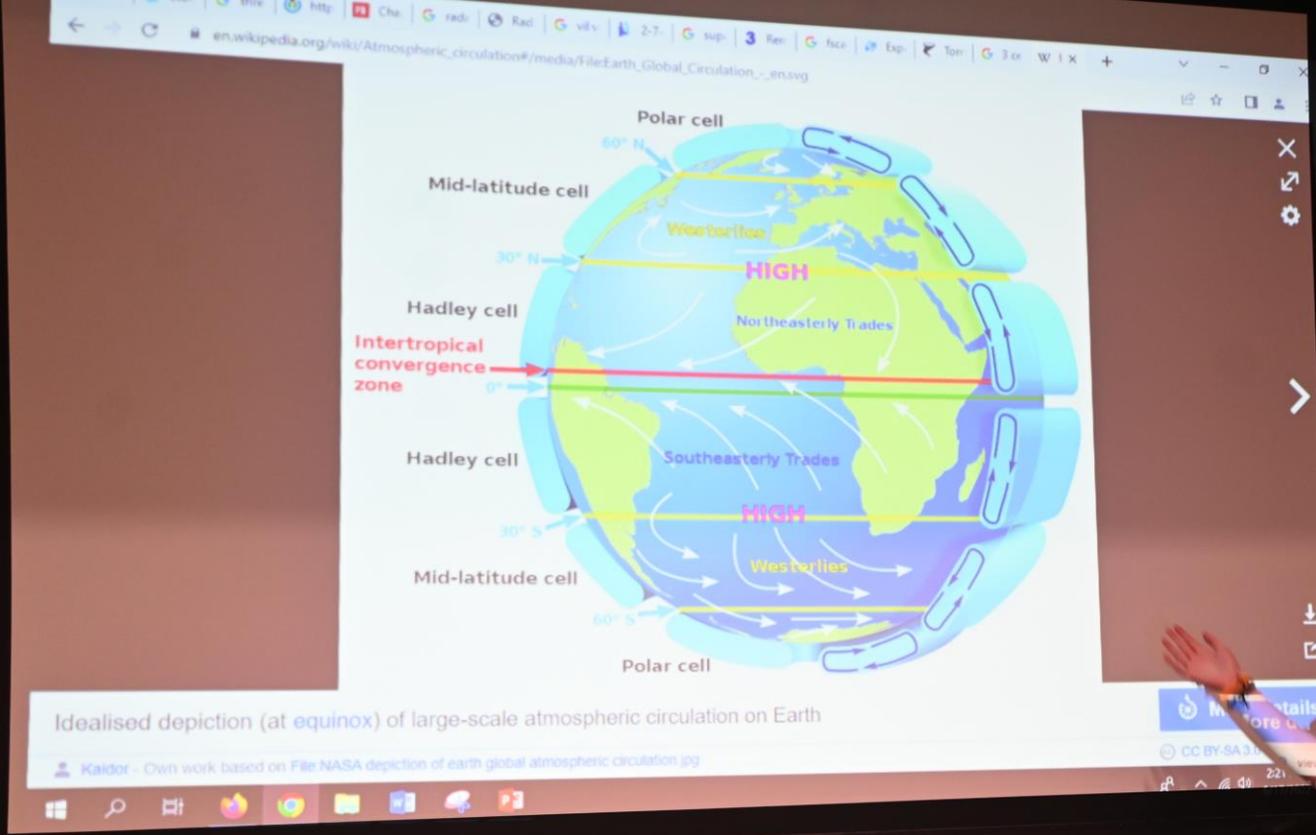
A young man in a red t-shirt and dark shorts stands to the right of the screen, holding a certificate. He is wearing a lanyard around his neck. The t-shirt has a logo that says "BIG RED CAMPS".

A table in front of the screen holds a laptop, a blue Pepsi cup, a sandwich, and some papers. A blue power strip is on the floor under the table.

A weather camper shared what he learned about various weather radar analyses



Emily provided the graphics for the camper presentations



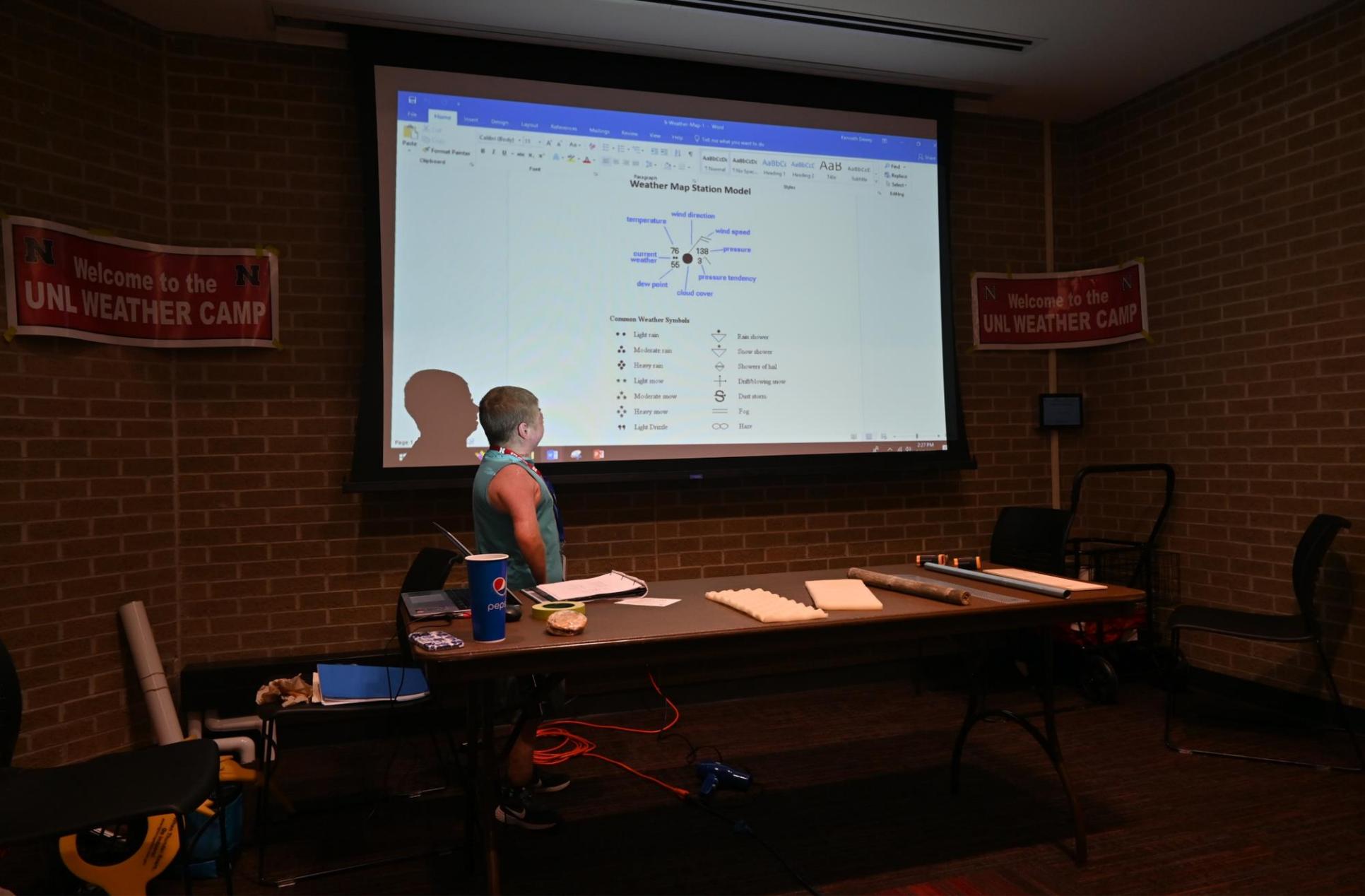
One of the weather campers described the “three cell” circulation model that describes why the climate varies the way it does around the globe



One of the weather campers had an interactive demonstration with the audience to show the concept of heat conduction



Audience member and future weather camper taking temperature measurements



One of the weather campers illustrated how surface weather maps are interpreted



Two weather campers quizzed the audience about tornado facts in a segment called “are you a tornado expert?”



Two weather campers quizzed the audience about tornado facts in a segment called “are you a tornado expert”.



The audience had an excellent understanding of tornado facts!



Each Weather Camper received a certificate of completion, and 4 gifts: a “Nebraska Twister” in a bottle & three books about the weather



Proudly displaying their weather camp certificates for being “weather wise”



Very happy weather campers with all their gifts!

And only one hour after the end of the 2022 Weather Camp, our two happy, but tired, instructors met at Dr. Dewey's house for dinner and **to start planning for next year!**



Come join us next year
at Weather Camp 2023

Look for information at
<http://go.unl.edu/weathercamp>

Photo: JRB storm Photography

