

# UNL National Weather Camp

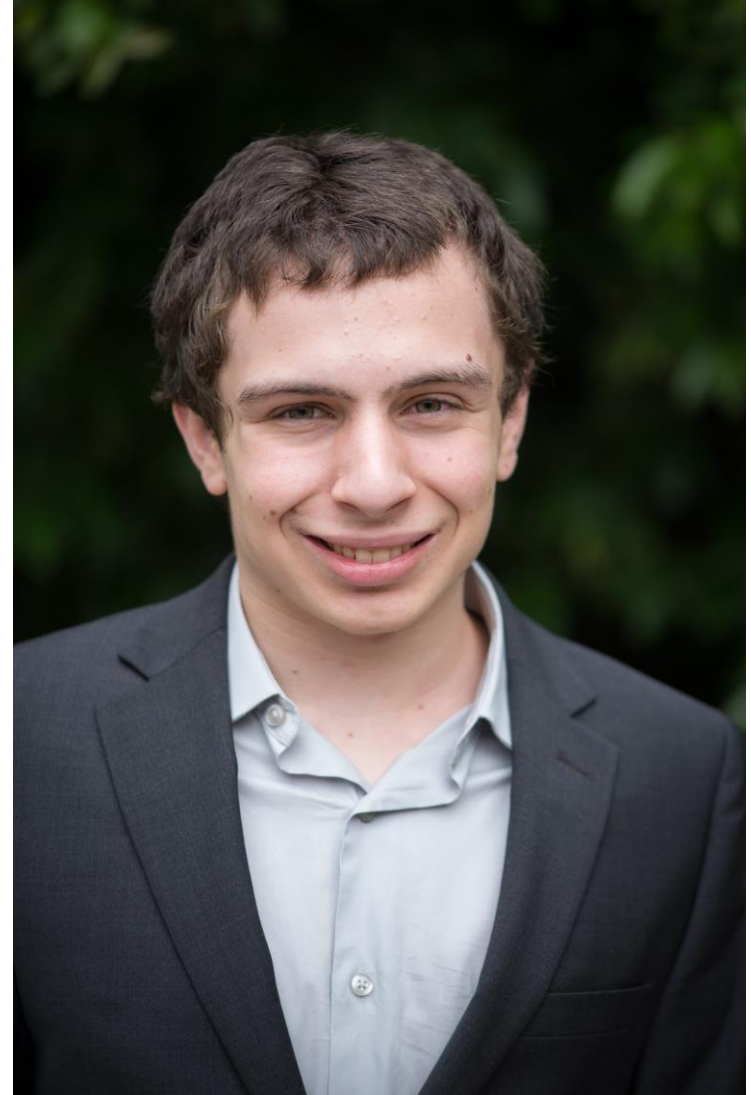
## June 11-16, 2023

Tornado - Kanopolis Lake, KS  
Photo by Scott Blair  
NWS, Kansas City



We are part of the UNL Big Red Camp program  
<https://lincolnweather.unl.edu/weathercamp>

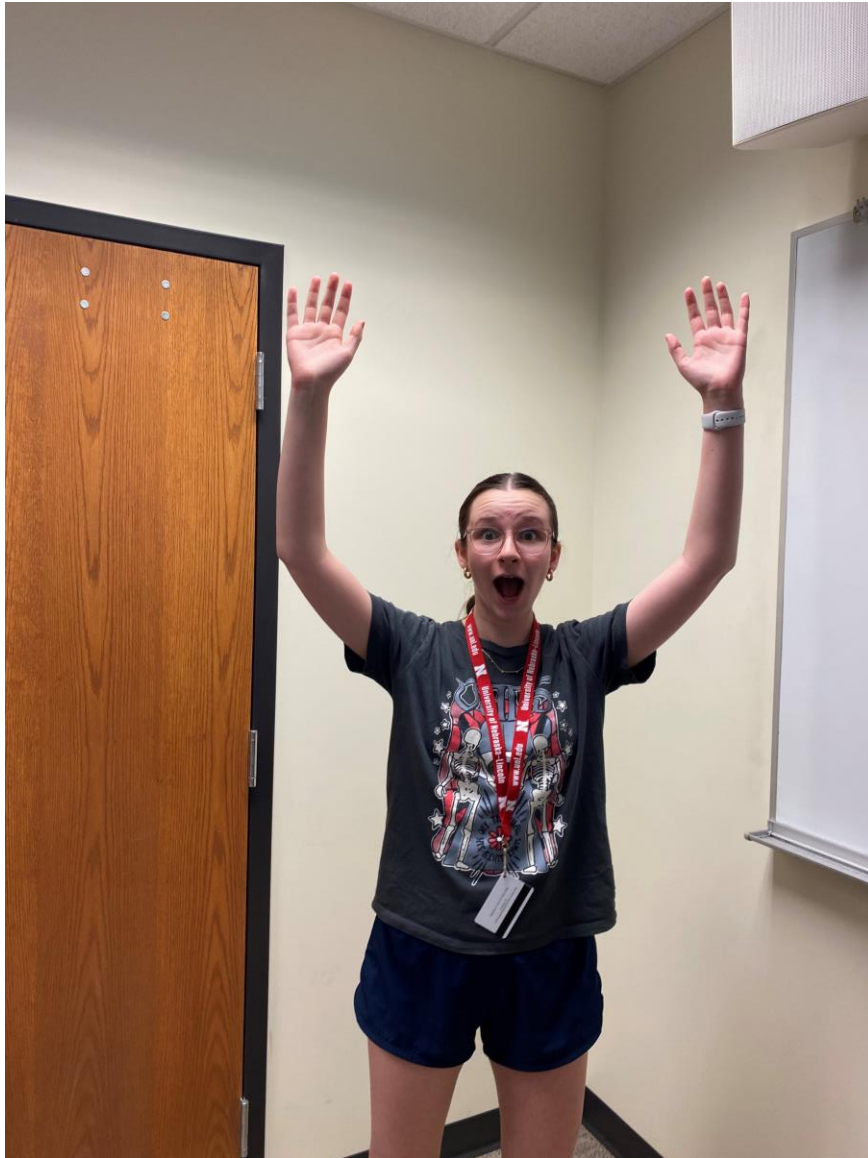
Lead Instructor: **Ethan Greenberg**, Los Angeles, CA, former UNL Weather Camper. Cornell University, B.S. in Meteorology, May 2023



Instructor: **Sam Romshek**, Papillion, NE  
Former UNL Weather Camper, currently Junior UNL Meteorology



Assistant Instructor 2023: **Lizzie Aurit**, Elkhorn, NE  
UNL Weather Camper last year, 2022





**Our three instructors, Lizzie, Sam, Ethan at the opening session of the all-Big Red Camps**

# June 2023 UNL Weather Campers

Lizzie: Elkhorn, NE

Michael: Houston, TX

Olivia: Missouri City, TX

Genevieve: Fort Worth, TX

Molly: Fort Worth, TX

Dashawn: Kirwin, KS

Wesley: Edmonds, WA

Nathan: St. Joseph, MO

Sabastyn: Winter Springs, FL

Leah: Kansas City, MO

Noah: Van Buren, AR

Lathan: Edmond, OK

Remington: Humboldt, NE

Alexis: Lincoln, NE

Jaxon: Lincoln, NE

# MONDAY – Meteorology & Climatology

8:00am- 8:15am: Walk to 162 Hardin Hall, East Campus

8:15am-9:45am: Intro to climate and climate change

9:45am-10:15am: Bus to Nebraska state museum, City Campus

10:15am-11:15am: **Cherish Nebraska Exhibit**, state museum

11:30am-12:15pm: Lunch

12:30pm-1:30pm: Tour meteorology lab and explore meteorology-climatology careers (**Dr. Dawn Kopacz**)

1:30pm-1:45pm: Travel to Hardin Hall, East Campus

2:00pm-2:45pm: **Mike Hayes**- SNR Applied Climate Science Program Director

2:45pm-4:30pm: Instruments and reading radar (PPT), Instruments demo:  
weather observations with kestrel, IR thermometers,  
discussing satellite/radar observations



**Taking the bus from East Campus to City Campus**







Science on a sphere in the Cherish Nebraska Exhibit, Nebraska State Museum, UNL



**Climate change on Earth**



**Elephant Hall in the Nebraska State Museum, UNL**



**Group photo in front of the Nebraska State Museum, City Campus, UNL**



**We ate our daily meals together,  
helping the campers to get to know  
the other campers**



**Another group photo, this time in front of the Earth and Atmospheric Sciences Department, on UNL city campus.**

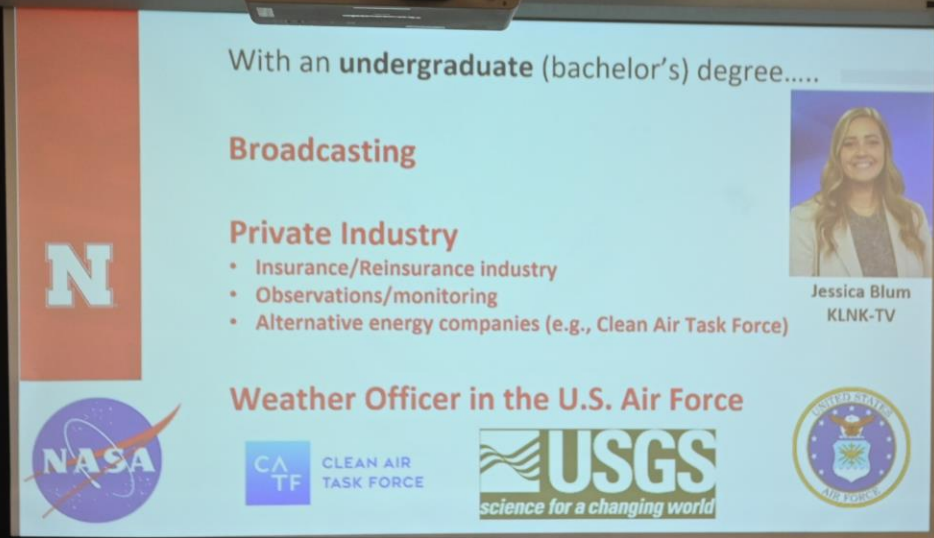
With an **undergraduate** (bachelor's) degree.....

**Broadcasting**

**Private Industry**

- Insurance/Reinsurance industry
- Observations/monitoring
- Alternative energy companies (e.g., Clean Air Task Force)

**Weather Officer in the U.S. Air Force**



Jessica Blum  
KLNK-TV



**Dr. Dawn Kopacz, UNL Earth and Atmospheric Sciences Department, met with the weather campers and told them about Meteorology careers.**





Facilities Help  
Call 472-1000  
Multi-Media Room  
Call 472-5011

What can I do  
with a degree in  
Meteorology -  
Climatology?

N

Weather Camp 2023

Dr. Diana Kozlov  
University of Nebraska - Lincoln  
June 17th, 2023

IN OUR GRIT, OUR GLORY

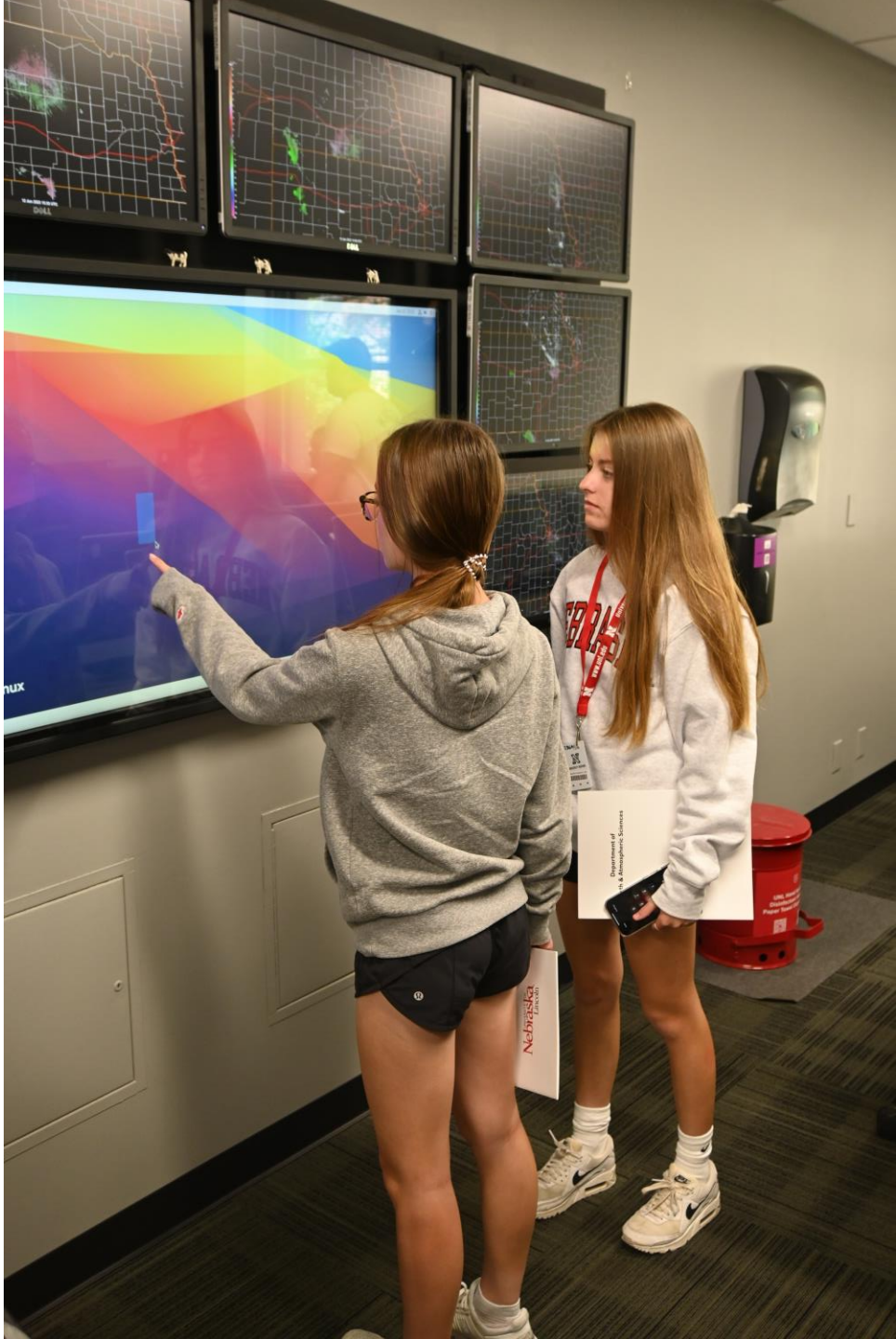


**Visiting the UNL Earth and Atmospheric Sciences Meteorology Lab**











Heading back to East Campus, UNL, where weather camp was being held



Chasing Climate  
Michael Hayes  
School of Natural Resources

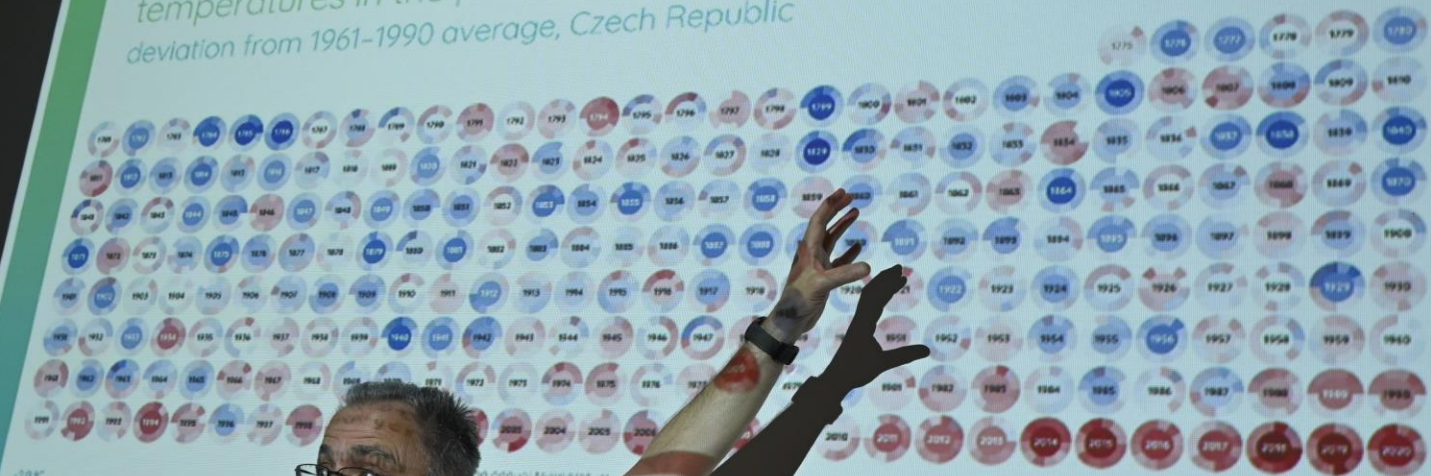
[mhayes2@unl.edu](mailto:mhayes2@unl.edu)

**UNL Professor Dr. Mike Hayes, telling the weather campers about the Applied Climate Science major in the School of Natural Resources**





# Deviation of mean annual and monthly air temperatures in the period 1775–2020 deviation from 1961–1990 average, Czech Republic

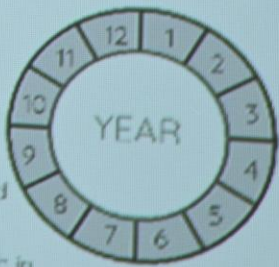


Circular diagrams above represent mean annual and monthly deviations from 1961–1990. Dark red indicates a significant positive deviation, while dark blue indicates a significant negative deviation. The color of the circle center, monthly mean deviation, is shown separately for monthly means.

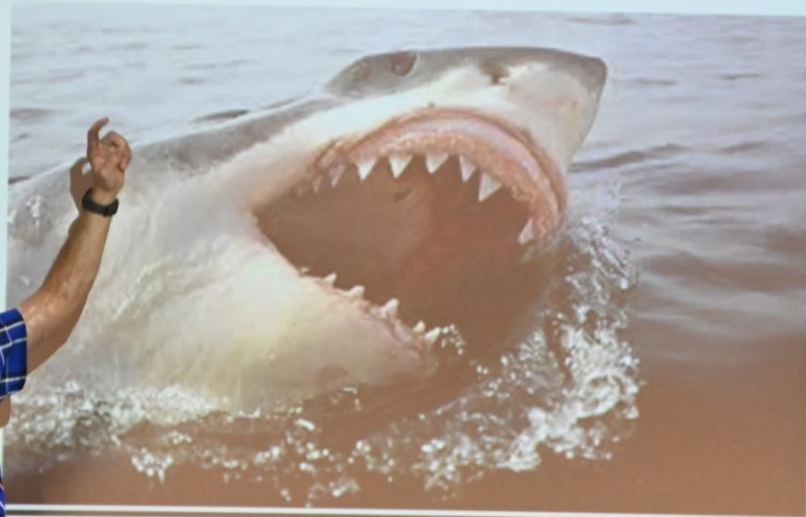
Absolutely coldest was the year 1807 (mean: -12.7°C, deviation: -11.0°C). It is also interesting to note that the warmest year was 2018 (mean: +2.7°C, deviation: +1.0°C).

Year 2018 (mean: 10.0°C, deviation +2.7°C). Coldest month in 1807 (+21.6°C). Month with highest negative deviation is December 1788 (mean: -3.2°C, deviation: +6.1°C).

With, however, in some years, there was no month with below-average monthly mean. For example, in 1775, 1776, 1777, 1778, 1779, 1780, 1781, 1782, 1783, 1784, 1785, 1786, 1787, 1788, 1789, 1790, 1791, 1792, 1793, 1794, 1795, 1796, 1797, 1798, 1799, 1800, 1801, 1802, 1803, 1804, 1805, 1806, 1807, 1808, 1809, 1810, 1811, 1812, 1813, 1814, 1815, 1816, 1817, 1818, 1819, 1820, 1821, 1822, 1823, 1824, 1825, 1826, 1827, 1828, 1829, 1830, 1831, 1832, 1833, 1834, 1835, 1836, 1837, 1838, 1839, 1840, 1841, 1842, 1843, 1844, 1845, 1846, 1847, 1848, 1849, 1850, 1851, 1852, 1853, 1854, 1855, 1856, 1857, 1858, 1859, 1860, 1861, 1862, 1863, 1864, 1865, 1866, 1867, 1868, 1869, 1870, 1871, 1872, 1873, 1874, 1875, 1876, 1877, 1878, 1879, 1880, 1881, 1882, 1883, 1884, 1885, 1886, 1887, 1888, 1889, 1890, 1891, 1892, 1893, 1894, 1895, 1896, 1897, 1898, 1899, 1900, 1901, 1902, 1903, 1904, 1905, 1906, 1907, 1908, 1909, 1910, 1911, 1912, 1913, 1914, 1915, 1916, 1917, 1918, 1919, 1920, 1921, 1922, 1923, 1924, 1925, 1926, 1927, 1928, 1929, 1930, 1931, 1932, 1933, 1934, 1935, 1936, 1937, 1938, 1939, 1940, 1941, 1942, 1943, 1944, 1945, 1946, 1947, 1948, 1949, 1950, 1951, 1952, 1953, 1954, 1955, 1956, 1957, 1958, 1959, 1960, 1961, 1962, 1963, 1964, 1965, 1966, 1967, 1968, 1969, 1970, 1971, 1972, 1973, 1974, 1975, 1976, 1977, 1978, 1979, 1980, 1981, 1982, 1983, 1984, 1985, 1986, 1987, 1988, 1989, 1990, 1991, 1992, 1993, 1994, 1995, 1996, 1997, 1998, 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020.



World Bank Official: "If climate change is the shark, it will be **water,**  
**as the teeth, that will bite us.**"



RESOURCES

UNIVERSITY OF NEBRASKA  
LINCOLN



# TUESDAY - Forecasting

## Tuesday's Forecast and Experiment Teams:

**Blizzards:** 4 campers Jaxon, Olivia, Genevieve, Remington

**Hurricanes:** 4 campers Nathan, Wesley, Melissa, Noah

**Tornadoes:** 4 campers Lizzie, Dashawn, Sabastyn, Leah

**Floods:** 3 campers, Michael, Molly, Alexis

8:30am-9:30am: Current Weather maps, reading weather maps (station model)

9:30am-10:15am: Forecast models, Isoline map creations

10:15am-11:15am: **Rusty Dawkins, Chief Meteorologist, KLKN ABC-TV Lincoln**

11:15am-11:30am: Weather process demonstrations

11:30am-12:30pm: Lunch

12:45pm-1:45pm: Outside experiment, IR Temperature measurements - Albedo

1:45pm-2:00pm: Teams present experiment results

2:15pm-2:45pm: **High Plains Regional Climate Center Director Razaul Mahmood**

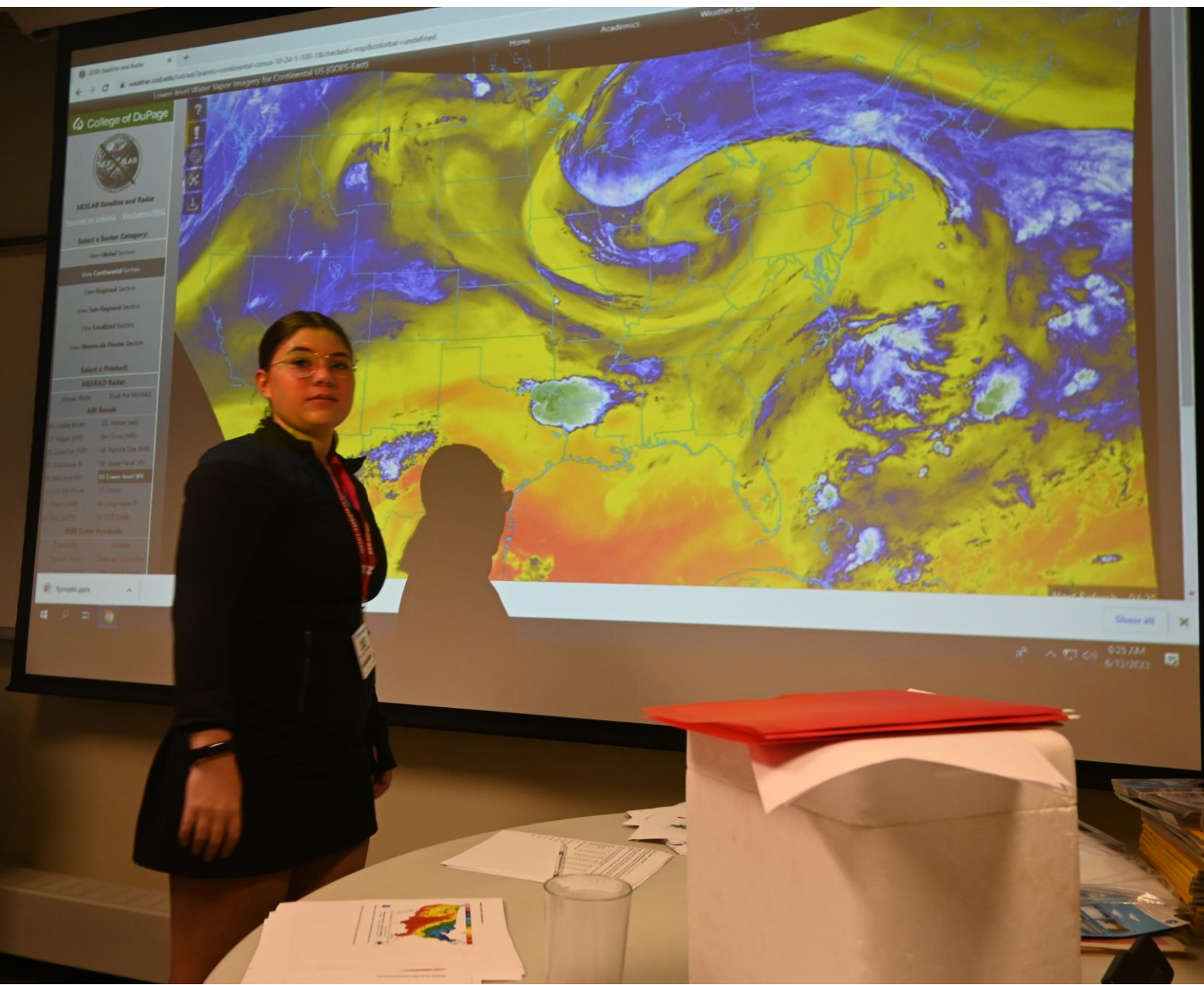
2:45pm-3:45pm: **National Drought Mitigation Center and "Waterbanking" game**

3:45pm-4:30pm: More Weather processes demonstrations









College of DuPage

NEXRAD Radar

Select a Sector Category:

- View Global Sectors
- View Continental Sectors
- View Regional Sectors
- View Sub-Regional Sectors
- View Localized Sectors
- View Waterside Flasher Sectors

Select a Product:

NEXRAD Radar

View Radar

View All NEXRAD

ABI Bands

- 01 Visible Short
- 02 Visible Long
- 03 Infrared
- 04 Cloud Top
- 05 Cloud Top Height
- 06 Particle Size
- 07 Aerosols A
- 08 Super-cooled W
- 09 Ice Water Path
- 10 Snow Water
- 11 Snow Depth
- 12 Snow Grain Size
- 13 Snow Grain Growth
- 14 Snow Melt
- 15 Snow Melt Rate
- 16 Snow Melt Rate
- 17 Snow Melt Rate
- 18 Snow Melt Rate
- 19 Snow Melt Rate
- 20 Snow Melt Rate

View Radar Products

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8:25 AM  
6/13/2023






**Rusty Dawkins, Chief Meteorologist at  
KLKN TV visited with the weather campers**









- 
- TELEVISION
  - NATIONAL WEATHER SERVICE
  - AIRLINE COMPANIES
  - GAS/ELECTRIC COMPANIES
  - NFL/MLB/GOLF
  - PRIVATE COMPANIES
  - YOUTUBE



WE BELIEVE IN  
EVERY PERSON

Pa  
NE  
SA  
HP  
ace  
SHA  
TOS













**IR (Infrared temperature sensors) experiment**











**Surface temperature of 157.2°F**











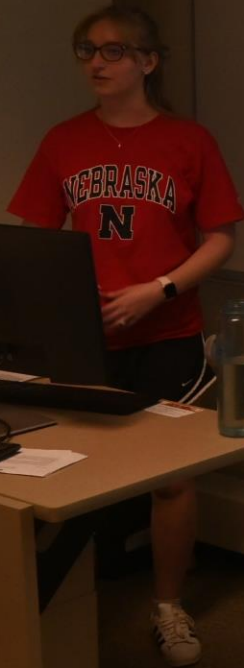
**Car dashboard temperature of 174°F**



**Dr. Razaul Mahmood, director of the High Plains Regional Climate Center, visits with the weather campers**



# Water Banking





**Factory Manager**

**Tuesday's Events:**

- 8:00am - 8:30am: Breakfast
- 8:30am - 10:15am: Morning session
- 10:15am - 11:30am: Lunch
- 11:30am - 12:30pm: Session 1
- 12:30pm - 1:00pm: Lunch
- 1:00pm - 2:00pm: Session 2
- 2:00pm - 2:45pm: Session 3
- 2:45pm - 3:45pm: Session 4
- 3:45pm - 4:30pm: Session 5
- 4:30pm: Walk to dorm, East Campus

**Wednesday (Severe Storms):**

- 8:00am - 8:15am: Walk to 162 Hardin Hall, East Campus
- 8:15am - 9:00am: Weather Discussion
- 9:00am - 10:30am: Thermodynamics, Skew-Ts, and severe thunderstorms
- 10:30am - 11:30am: Lab: SPC forecast products including severe plot exercise
- 11:30am - 12:30pm: Lunch
- 12:30pm - 1:00pm: Group exercise: Severe storms computer activity
- 1:00pm - 1:30pm: Weather Map products
- 1:30pm - 2:00pm: Weather Warning Coordination Meteorologist, NWS Omaha
- 2:00pm - 2:30pm: Jeopardy game
- 2:30pm: East Campus

**SABASTYN**

**DISHASTYN**















**Instructor Ethan demonstrates the concept of heat conduction**





# WEDNESDAY- Severe Weather

## Classroom and Computer Lab

8:30am-9:15am: Kestrel weather obs; Weather Discussion

9:15am-10:00am: Forecasting weather, Internet resources.

10:00am-10:15am: Convection demonstration (hail);

10:30am-11:15am: Can Crush. Go to **LAB**: Severe Plot tornado mapping exercise

11:15am-11:45 Severe Plot exercise discussion

11:45am-12:30pm: Lunch

12:30pm-1:30pm: Severe Weather Discussion

1:30pm-3:00pm: Return to classroom; Severe Weather, Map products

3:00pm-3:15pm: KLKN News reporter interviews weather campers

3:15pm-4:15pm: **Brian Smith Warning Coordination Meteorologist, NWS Omaha**



**Morning outdoor weather observations**









**Instructor Lizzie demonstrates the concept of convection and hailstone formation**





**Can crush experiment. Air inside a can is heated lowering its air pressure. The can is put into icy water which is higher density and the can implodes (crushes)**







On the left, a can prior to the “can crush” on the right, a can after the “can crush”





**Weather camper, Jaxon Trotter, shows the other campers his weather website  
<https://www.facebook.com/jaxonwx/>**



**Jessica Blum, who is a graduate of the UNL meteorology program and now at KLKN TV interviewed some of the weather campers**



**Jessica Blum, who is a graduate of the UNL meteorology program and now at KLKN TV interviewed some of the weather campers**



**Jessica Blum, our instructor Lizzie**



**Jessica Blum, who is a graduate of the UNL meteorology program and now at KLN TV interviewed some of the weather campers**



**Jessica Blum interviewing the weather camp director, Dr. Ken Dewey**

# UNL National Weather Camp hosts students from coast to coast

<https://www.klkntv.com/unl-national-weather-camp-hosts-students-from-coast-to-coast/>

June 14, 2023 10:32 pm by Jessica Blum



LINCOLN, Neb. (KLKN) – This week, 15 students from across the nation gathered for the UNL National Weather Camp in Lincoln to talk all things weather.

# The National Weather Service – Keeping You Safe



Brian E. Smith

Warning Coordination Meteorologist, National Weather Service  
Omaha/Valley, NE



**Brian Smith, Warning Coordination Meteorologist at the Omaha National Weather Service Office met with our weather campers**





## April 21, 1967 Tornado Outbreak Northern Illinois' Worst Tornado Disaster



Oak Lawn, IL

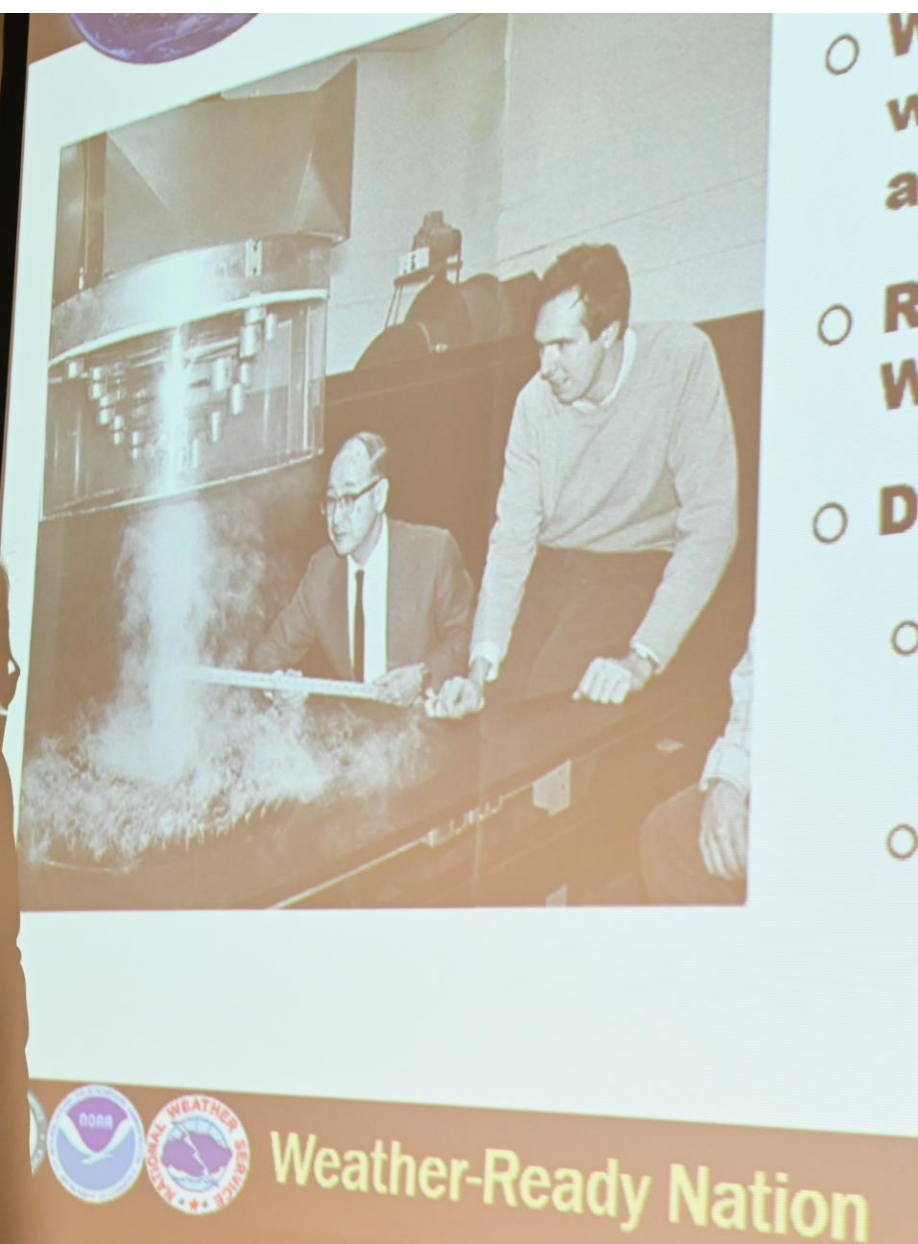
- 45 tornadoes outbreak total
- At least 10 tornadoes in north
- 3 F-4 tornadoes:
  - Belvidere, Lake Zurich, Oak Lawn
- 58 killed
- 1000+ injured



NWS Chicago [weather.gov/Chicago](http://weather.gov/Chicago)

Ready Nation





**Brian worked with Dr. Ted Fujita (next to him in the photo) at the University of Chicago.  
Dr. Fujita was the inventor of the tornado damage scale (F-Scale)**





**Jessica Blum, KLKN TV recording Brian Smith's presentation to the weather campers**









**Some evening fun with the weather campers**







# **THURSDAY- Severe Weather Part 2**

**8:15am-8:30am: Tornado damage photo posters**

**8:30am-9:30am: Weather Jeopardy Game**

**9:30am-10:30am: Weather Discussion, Weather Map products, Pivotal Weather products, Severe weather forecasting for today's severe weather**

**10:30am-11:30am: Computer programming. Hot Seat Forecast simulator.**

**11:30am-12:30pm: Lunch**

**12:30pm-2:30pm: Five research teams, five research topics – computer lab**

**2:30pm-3:00 pm: Practice for Thursday all-camps Capstone preview**

**3:00pm-4:30pm: Continue working on group research projects**

**5:00pm-6:00pm: Dinner**

**6:00pm-8:30pm All Camps Capstone Previews**



**The weather campers start their day looking at some poster boards showing tornado damage from recent tornadoes in the U.S.**





**Various weather-related posters and brochures for the weather campers to take home with them at the end of the camp**









Jeopardy Rules

- 1.) The first team with a person who raises their hand gets to go.
- 2.) A team which answers correctly gets to pick the next question.
- 3.) Wrong answers which are **not in the Records category** subtract the point value of the corresponding question.
- 4.) Record guesses have to be in the right place and within 10% of the value. If no team gets an answer within 10% after all teams guess, no one gets the points, but no points will be subtracted.

**Instructor Ethan created a “Weather Jeopardy” game for the weather campers**



	Tornado Safety	Radar and Instruments	Tornado and Severe Thunderstorms	Synoptic Meteorology	Records
100	100	100	100	100	100
200	200	200	200	200	200
	300	300	300	300	300
	400	400	400	400	400
500	500	500	500	500	500

Team 1	Team 2	Team 3	Team 4
-400	700	0	0
+ -	+ -	+ -	+ -

Despite not being the strongest tornado ever recorded, this was the deadliest United States tornado, killing 695 people.

Team 1	Team 2	Team 3	Team 4
0	0	0	0
+ -	+ -	+ -	+ -

Reveal Correct Response

Tornado Safety  
for 400

0:36 / 1:1  
6/15/2023







**It was intense but fun competition!**





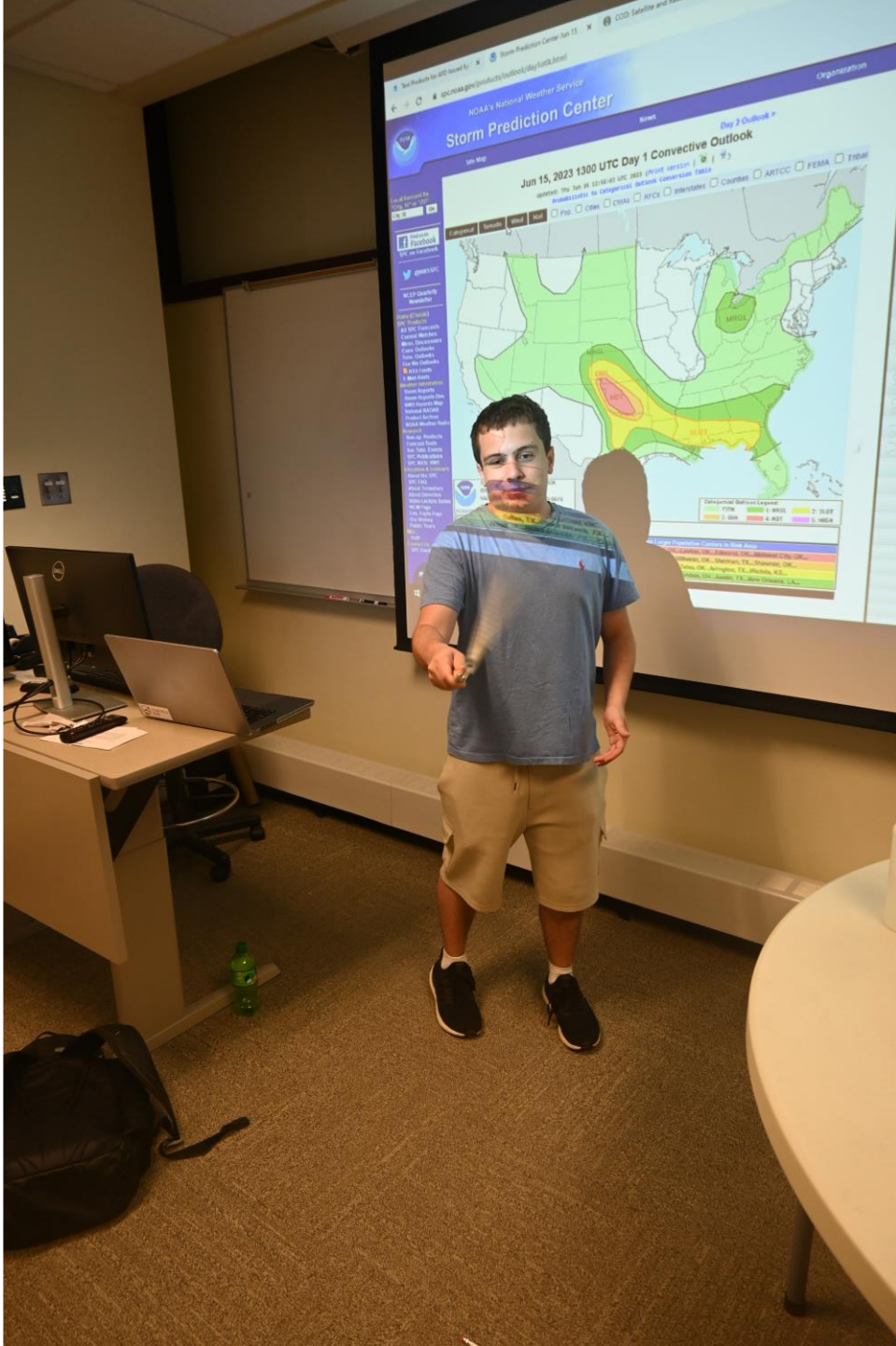




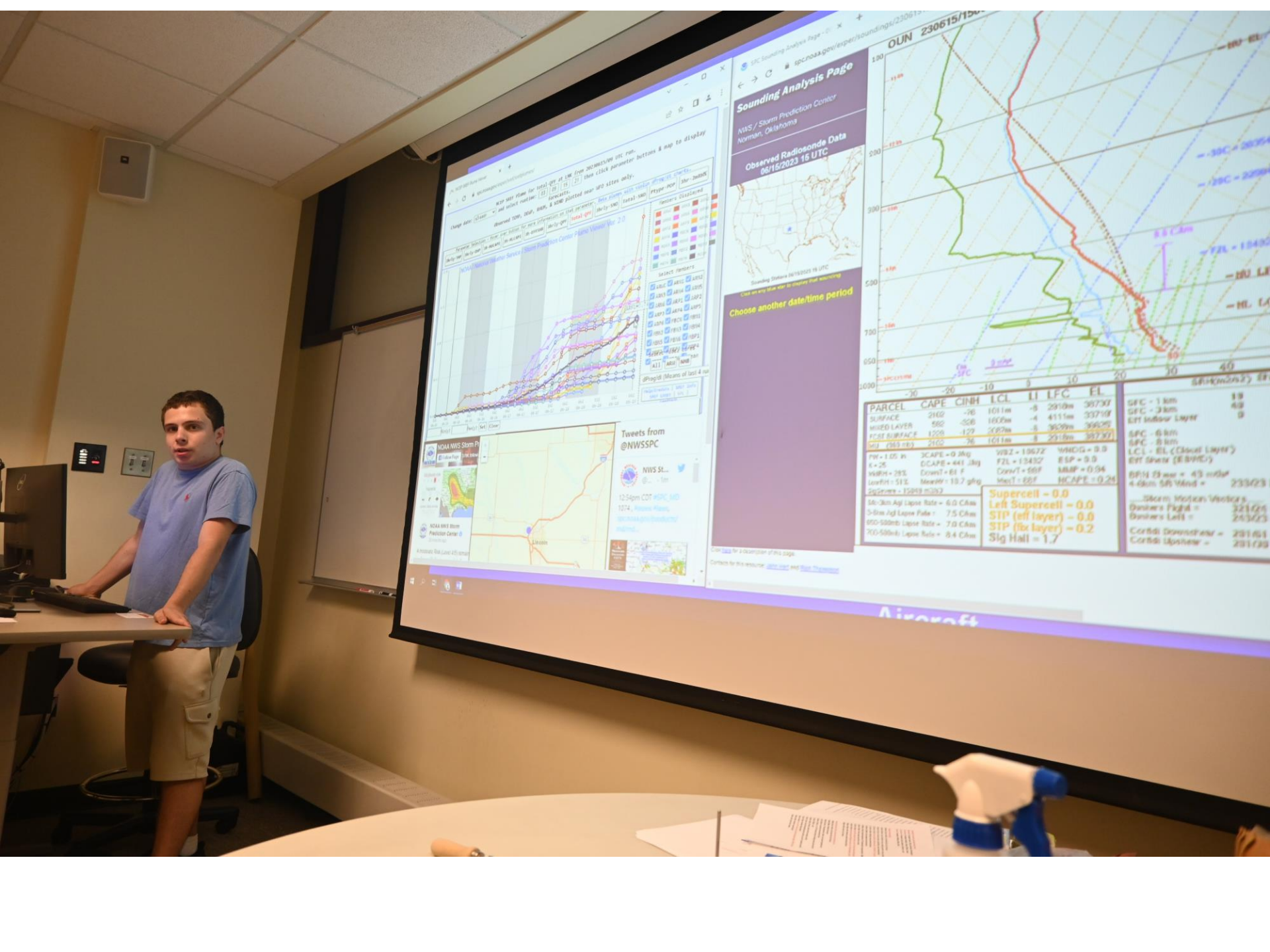




**The Weather Camp 2023 Weather Jeopardy champions are Team "Blizzards", Jaxon, Olivia, Genevieve, Remington**



**Weather discussion, severe weather is anticipated in the southern U.S.**



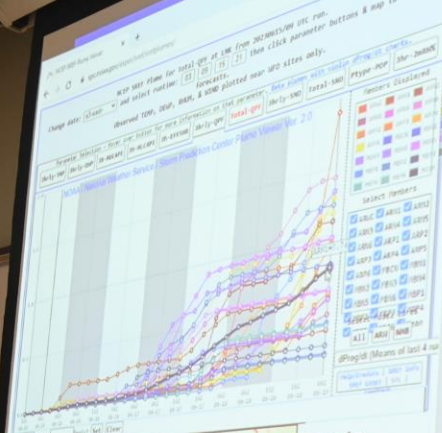
# Sounding Analysis Page

NWS / Storm Prediction Center  
Norman, Oklahoma

Observed Radiosonde Data  
08/16/2023 16 UTC

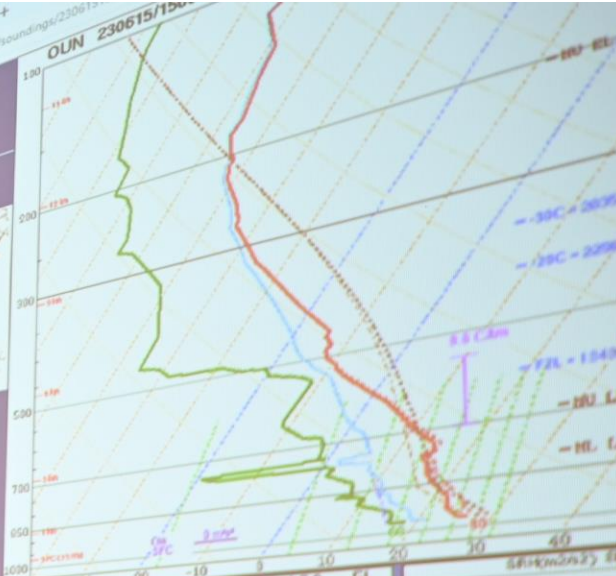


Choose another date/time period



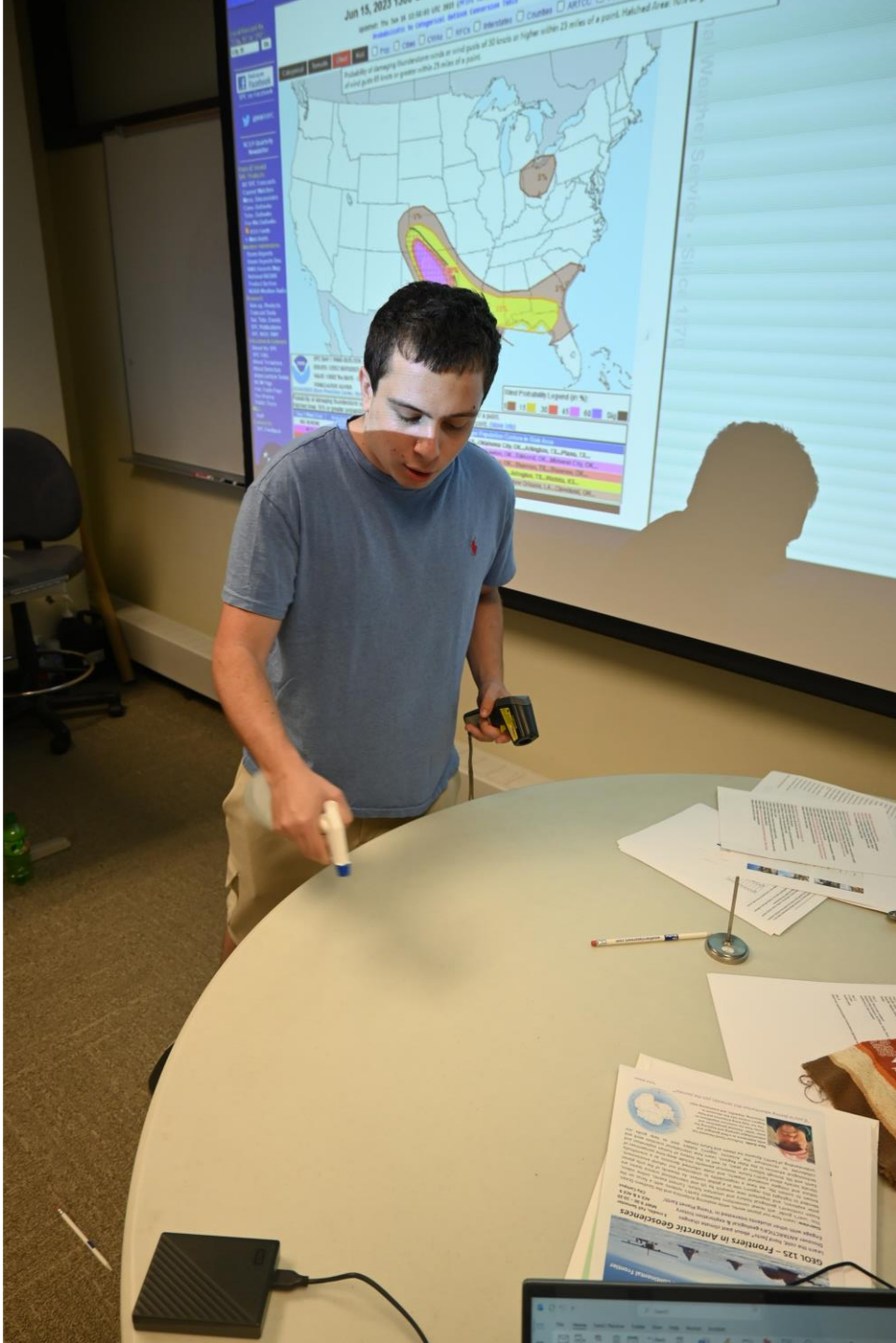
Tweets from @NWSSPC

NWS ST...  
12:55pm CDT @NWS\_SPC  
1074 - Norman, Okla.  
<https://www.govexec.com/news-features/081623/okla-convective-outbreak/>



PARAMETER	VALUE	UNIT
PARCEL	2162	-70
SURFACE	2162	-70
MIXED LAYER	860	-508
FCST SURFACE	1208	-129
QST	2583	883
PAR - 1.05 W	2	CAPE
EV-25	28%	DownT
WBRH	28%	DownT
LowRH	51%	MeanW
2gPrecip	15918	mm
50-500hPa Lapse Rate	6.0	C/km
0-500hPa Lapse Rate	7.5	C/km
850-500hPa Lapse Rate	7.0	C/km
700-500hPa Lapse Rate	8.4	C/km
WSZ	13672	
FZL	15432	
DownT	567	
MaxT	837	
WMOG	0.0	
ESP	0.0	
MMP	0.94	
HCAPF	0.21	
WMOG	0.0	
ESP	0.0	
MMP	0.94	
HCAPF	0.21	
Storm Motion Vectors		
Darbors Flight	321/25	
Darbors Lift	243/23	
Corb0 Downflow	201/61	
Corb0 Upflow	201/30	

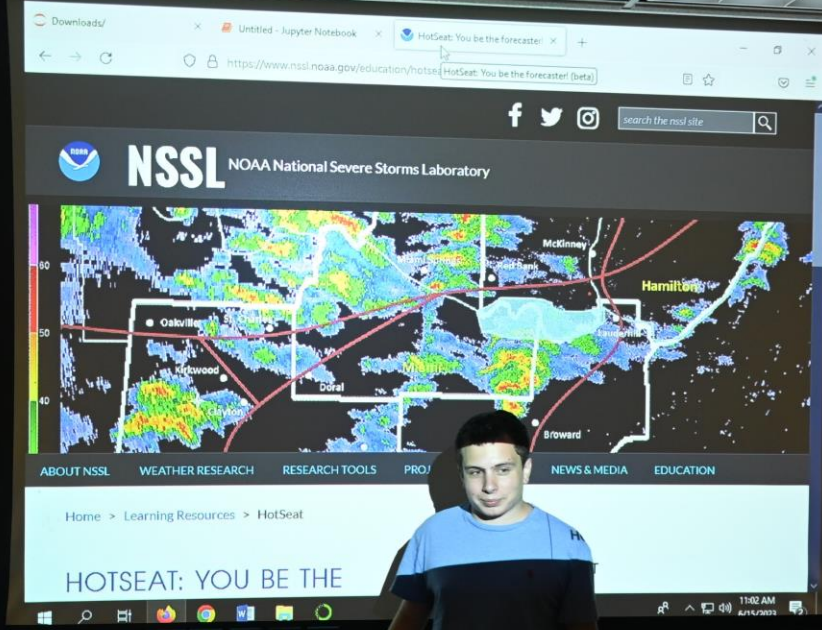
Aircraft



Instructor Ethan demonstrating the process of evaporative cooling



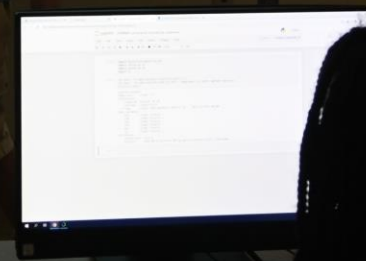
In the computer lab: The computer simulation game putting the user in the “hot seat” forecasting severe weather



### Problems logging on?

1. Are you registered for a class in our computer lab?
2. Reset your password: [http://id.nssl.edu](#)
3. Activate your account: [http://activate.nssl.edu](#)
4. Have class instructor forward your username to NSSL Computer Support

snruser  
H/H guest











DON R. THOMAS  
COUNTY ENGINEER

# SEVERE WEATHER - AERIAL IMAGERY BEFORE AND AFTER LANCASTER COUNTY, NEBRASKA

LARRY V. WORRELL  
COUNTY SURVEYOR

HALLAM, NEBRASKA  
PRE TORNADO  
APRIL 2003

HALLAM, NEBRASKA  
TORNADO DAMAGE  
MAY 2004

HALLAM, NEBRASKA  
POST TORNADO  
APRIL 2005



LANCASTER COUNTY ENGINEERING DEPARTMENT  
GIS DIVISION

Digital Orthophoto Source: Cornerstone Mapping, Inc.



	Team	Subject	Link
	1	Lincoln's Extremes	<a href="https://tinyurl.com/y6xmdfye">https://tinyurl.com/y6xmdfye</a>
	1	Lincoln's Extremes	<a href="https://tinyurl.com/y6xmdfye">https://tinyurl.com/y6xmdfye</a>
	1	Lincoln's Extremes	<a href="https://tinyurl.com/y6xmdfye">https://tinyurl.com/y6xmdfye</a>
	2	Severe Reports	<a href="https://tinyurl.com/3ep4erjws">https://tinyurl.com/3ep4erjws</a>
	2	Severe Reports	<a href="https://tinyurl.com/3ep4erjw">https://tinyurl.com/3ep4erjw</a>
	2	Severe Reports	<a href="https://tinyurl.com/3ep4erjw">https://tinyurl.com/3ep4erjw</a>
	3	London Smog	<a href="https://tinyurl.com/yf8jt56s">https://tinyurl.com/yf8jt56s</a>
	3	London Smog	<a href="https://tinyurl.com/yf8jt56s">https://tinyurl.com/yf8jt56s</a>
	3	London Smog	<a href="https://tinyurl.com/yf8jt56s">https://tinyurl.com/yf8jt56s</a>
	4	2021 Midwest Derecho	<a href="https://tinyurl.com/3dbcs29w">https://tinyurl.com/3dbcs29w</a>
	4	2021 Midwest Derecho	<a href="https://tinyurl.com/3dbcs29w">https://tinyurl.com/3dbcs29w</a>
	4	2021 Midwest Derecho	<a href="https://tinyurl.com/3dbcs29w">https://tinyurl.com/3dbcs29w</a>
	5	Storm of the Century	<a href="https://tinyurl.com/36y9mtpj">https://tinyurl.com/36y9mtpj</a>
	5	Storm of the Century	<a href="https://tinyurl.com/36y9mtpj">https://tinyurl.com/36y9mtpj</a>

The campers split into 5 research teams and were assigned various research topics





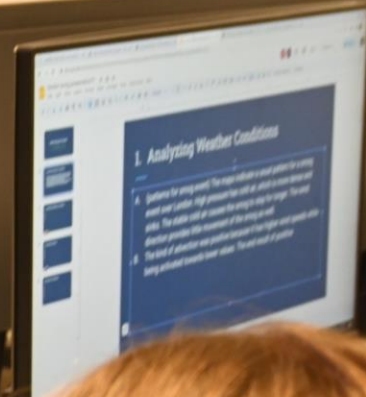
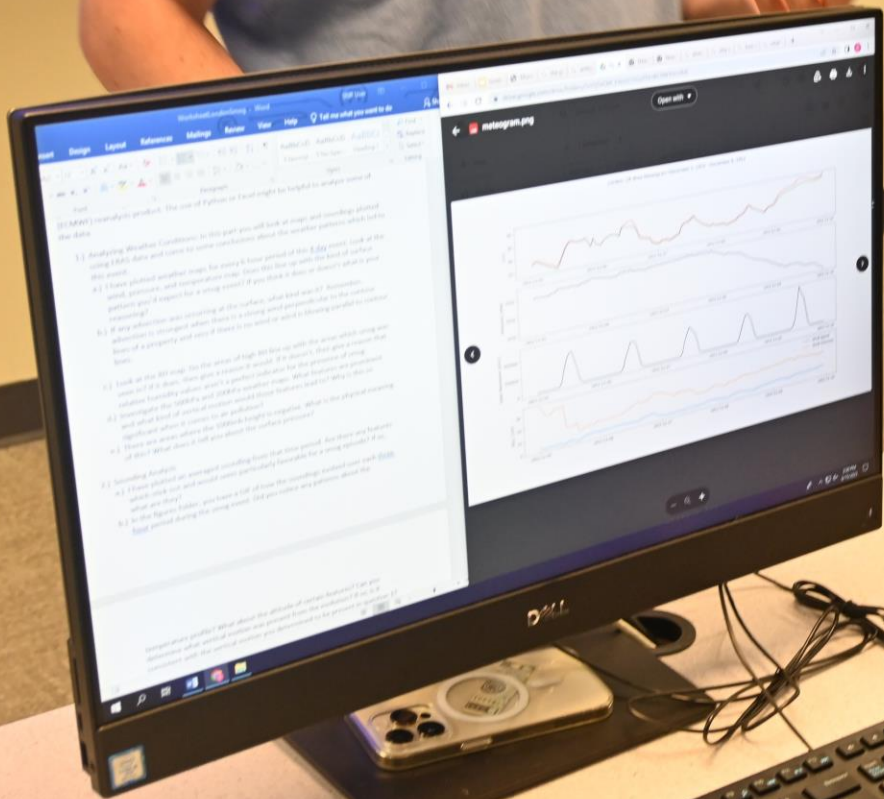




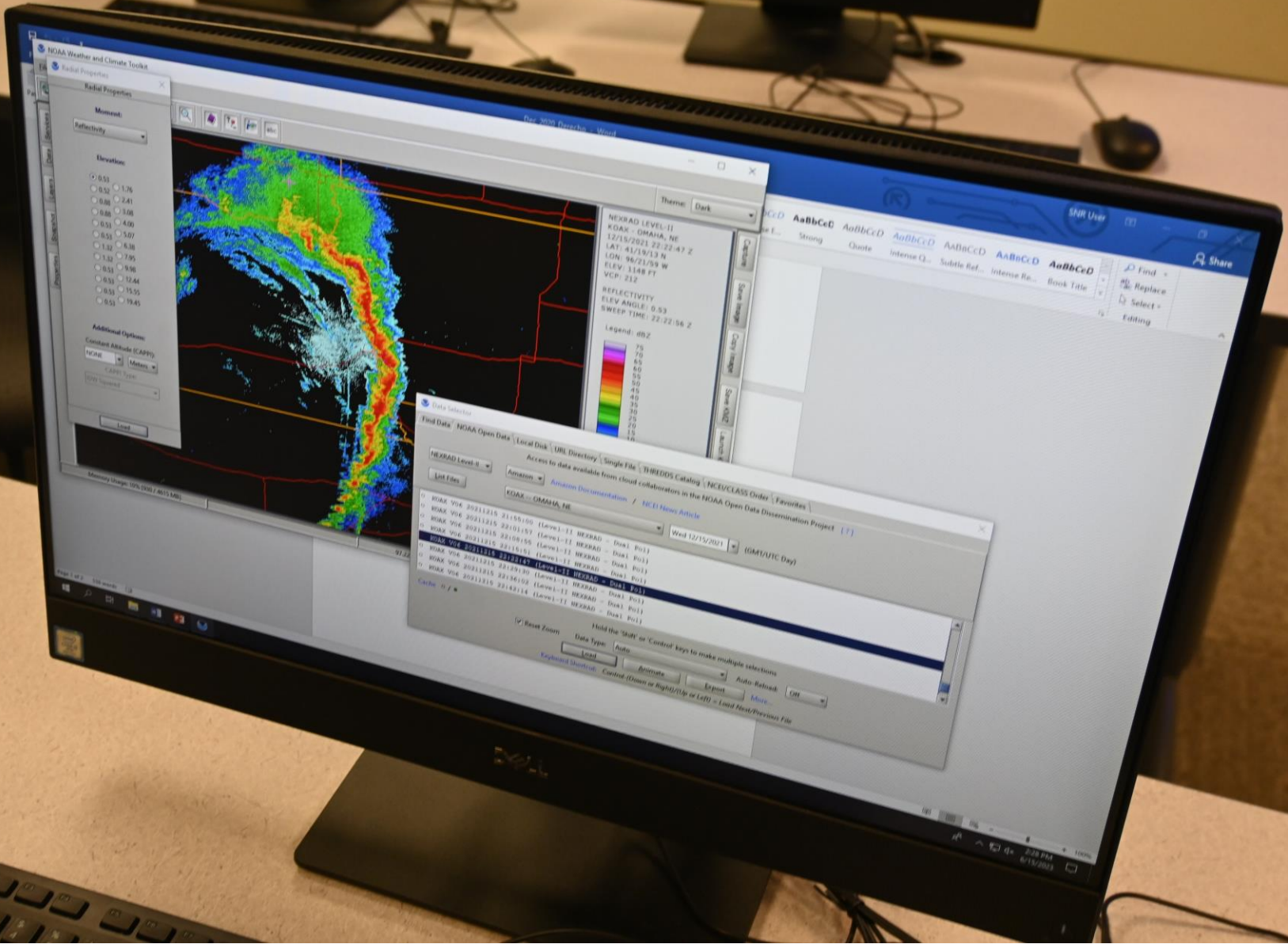












NOAA Weather and Climate Tools

Radial Properties

Moment:

Reflectivity

Elevation:

- 0.53
- 0.52
- 0.86
- 0.88
- 0.51
- 0.53
- 1.10
- 0.53
- 0.53
- 0.53
- 0.53
- 0.53
- 1.76
- 2.41
- 3.68
- 4.00
- 5.07
- 6.38
- 7.95
- 9.96
- 12.44
- 15.55
- 19.45

Additional Options:

Constant Altitude (CAPPI):

NEAR

Units: Meters

Load

Theme: Dark

NECRAD LEVEL-11  
KOAX - OMAHA, NE  
12/15/2021 22:22:47 Z  
LAT: 41.19/13 N  
LON: 96.21/99 W  
ELEV: 1148 FT  
VCP: 212

REFLECTIVITY  
ELEV ANGLE: 0.53  
SWEEP TIME: 22:22:56 Z

Legend: dBZ

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Data Selection

Find Date: NOAA Open Data | Local Disk | URL Directory | Single File | THREDDS Catalog | NCEP/CLASS Order | Favorites

Access to data available from cloud collaborators in the NOAA Open Data Dissemination Project

Amazon | Amazon Documentation | DCI News Article

KOAX - OMAHA, NE

Wed 12/15/2021 (GMT/UTC Day)

File Name	Date	Time	Level	Product
KOAX_V06_20211215_211500	20211215	21:15:00	Level-11	HRPRAD - Dual Pol1
KOAX_V06_20211215_220115Z	20211215	22:01:15Z	Level-11	HRPRAD - Dual Pol1
KOAX_V06_20211215_220915S	20211215	22:09:15S	Level-11	HRPRAD - Dual Pol1
KOAX_V06_20211215_221115S	20211215	22:11:15S	Level-11	HRPRAD - Dual Pol1
<b>KOAX_V06_20211215_221214</b>	<b>20211215</b>	<b>22:12:14</b>	<b>Level-11</b>	<b>HRPRAD - Dual Pol1</b>
KOAX_V06_20211215_221215Z	20211215	22:12:15Z	Level-11	HRPRAD - Dual Pol1
KOAX_V06_20211215_221341Z	20211215	22:13:41Z	Level-11	HRPRAD - Dual Pol1
KOAX_V06_20211215_221421Z	20211215	22:14:21Z	Level-11	HRPRAD - Dual Pol1

Cache: 0 / 8

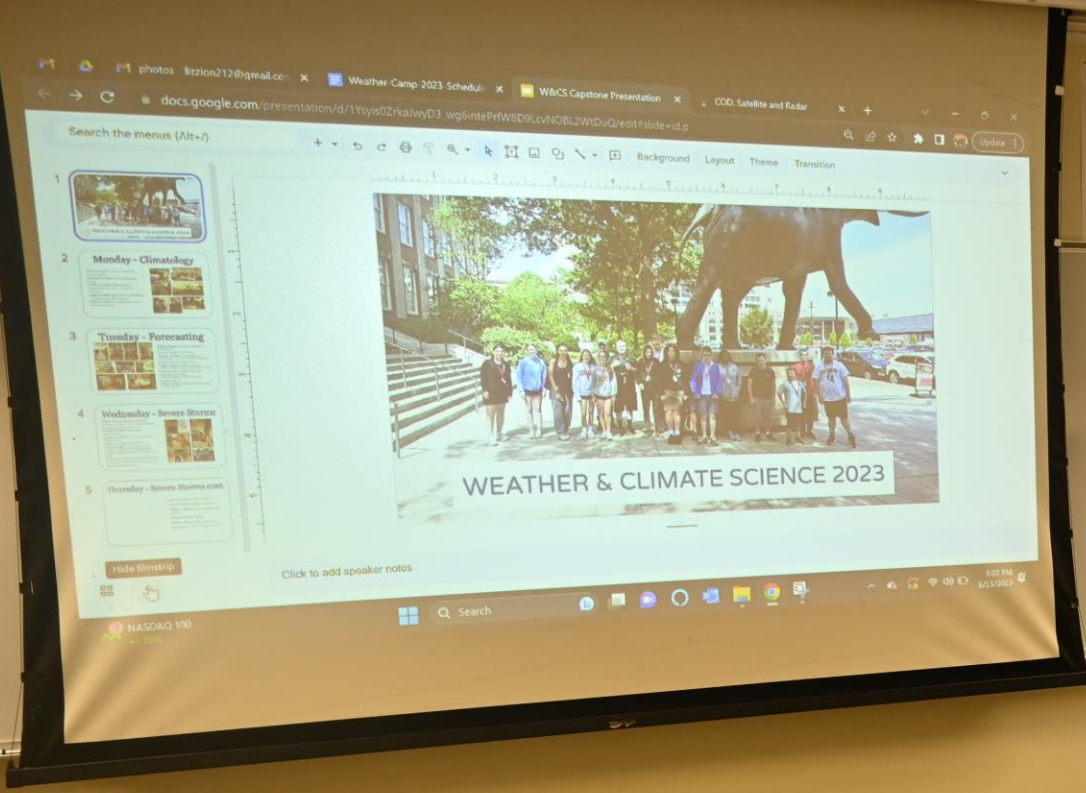
Hold the 'Shift' or 'Control' keys to make multiple selections

Load Annotate Auto-Refresh

Keyboard Shortcuts: Control (Down or Right)/Up or Left = Load Next/Previous File

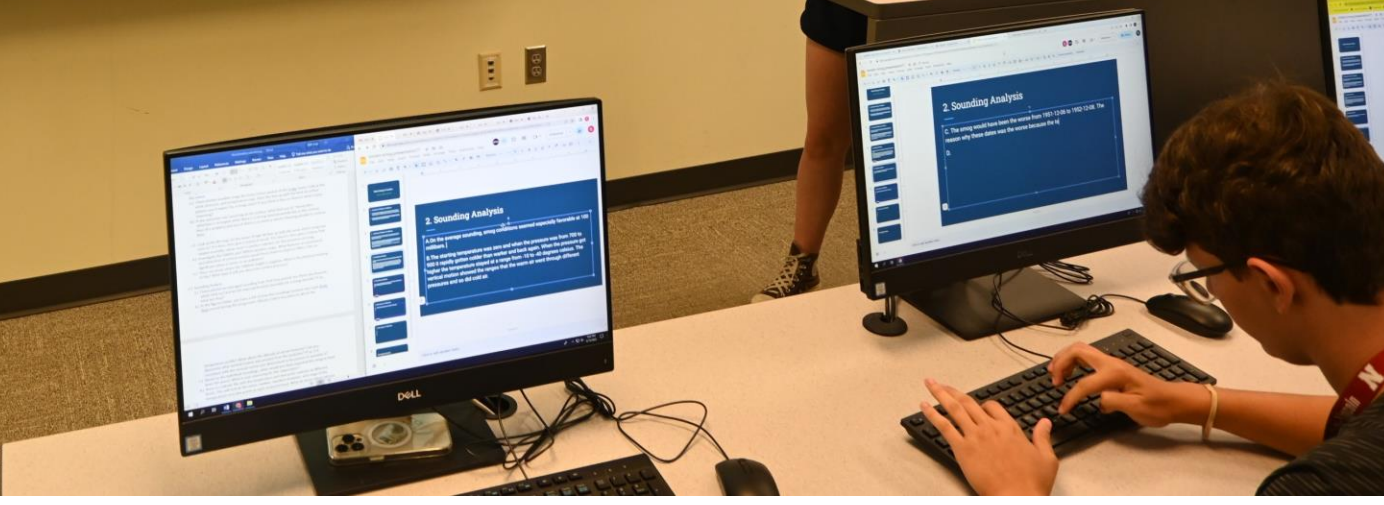
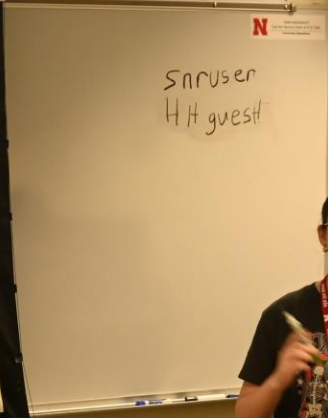
2:28 PM  
8/15/2021





**Problems logging on?**

1. Are you registered for a class in this computer lab?
2. Reset your password: <http://id.unl.edu>
3. Activate your account: <http://activation.unl.edu>
4. Have class instructor forward your username to SNR Computer Support



**Instructor Lizzie works with the weather campers to put together a summary of our camp activities to show on Friday to the parents**

Thursday - Severe Storms cont.

- 8:30am-9:15am: Weather Jeopardy
- 9:15am-10:00am: Weather discussion
- 10:00am - 10:45am: Group programming exercise
- 10:45am-11:30am: Housear
- 12:30pm-1:30pm: Weather discussion
- 1:30-4:00 pm: Capstone project work time

Problems logging on?

- 1. Are you registered for classes in the computer lab?
- 2. Reset your password: <http://id.usf.edu>
- 3. Activate your account: <http://id.usf.edu/activate>
- 4. Have class members forward your assistance to SNOG Computer Support

SARUSEN  
HH guest!

M T W Th

Why are the Dates not the same?

What maps are supposed to look like vs what they actually look like



Monday - Climatology

- 8:45am-9:45am: Intro to climate and climate change
- 10:15am-11:15am: Cherish Nebraska Exhibit
- 12:30pm-1:30pm: Dawn Kropacz Presentation and Tour → Assistant Professor
- 2:00pm-2:45pm: Mike Hayes Presentation → Professor and Climatologist
- 2:45pm-4:30pm: Instrumentation and radar observations

**Problems logging on?**

1. Are you registered for a class in this computer lab?
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3. Activate your account: <http://activation.unt.edu>
4. Have class instructor forward your username to SNR Computer Support

SRUSER  
HH guest

M T W Th



## Thursday - Severe Storms cont.

- 8:30am-9:15am: Weather Jeopardy
- 9:15am-10:00am: Weather discussion
- 10:00am - 10:45am: Group programming exercise
- 10:45am-11:30am: Hotseat
- 12:30pm-1:30pm: Weather discussion (severe weather in the South)
- 1:30-4:00 pm: Capstone research project work time

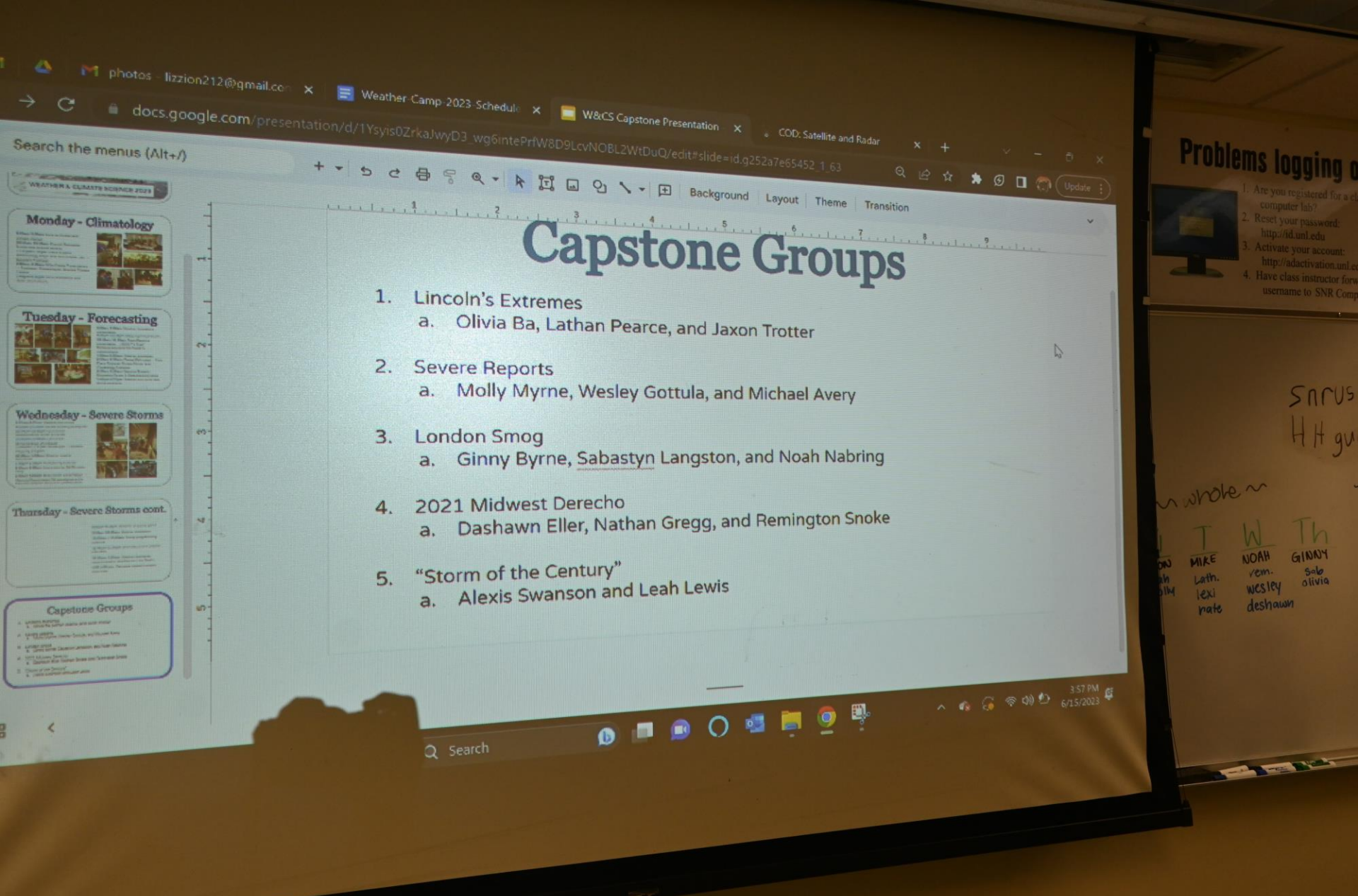


## Thursday - Severe Storms cont.

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- 10:00am - 10:45am: Group programming exercise
- 10:45am-11:30am: Hotseat
- 12:30pm-1:30pm: Weather discussion (severe weather in the South)
- 1:30-4:00 pm: Capstone research project work time



**Two of our instructors having fun late Thursday afternoon!**



# Capstone Groups

1. Lincoln's Extremes
  - a. Olivia Ba, Lathan Pearce, and Jaxon Trotter
2. Severe Reports
  - a. Molly Myrne, Wesley Gottula, and Michael Avery
3. London Smog
  - a. Ginny Byrne, Sabastyn Langston, and Noah Nabring
4. 2021 Midwest Derecho
  - a. Dashawn Eller, Nathan Gregg, and Remington Snoke
5. "Storm of the Century"
  - a. Alexis Swanson and Leah Lewis

## Problems logging on

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4. Have class instructor form username to SNR Comp

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rate	rate	Wesley	olivia
		deshawn	

**Instructor Lizzie works with the weather campers to put together a summary of their research projects to show on Friday to their parents**



**Thursday evening all of the Big Red camps gave Capstone previews**



**Our turn to show the other camp groups what we did during our weather camp week**









# Monday - Climatology

8:45am-9:45am: Intro to climate and climate change  
10:15am-11:15am: Cherish Nebraska Exhibit and science sphere  
12:30pm-1:30pm: Dawn Koplacz Meteorology Major and Tour of Met. Lab -- Assistant Professor  
2:00pm-2:45pm: Mike Hayes Presentation -- Professor, Climatologist, Applied Climate Careers  
2:45pm-4:30pm: Instrumentation and rain observations





**Tuesday - Forecasting**

- 8:30am - 9:30am: Weather forecasting presentation
- 9:30am - 10:15am: Mapping temperature
- 10:15am - 11:15am: Ruffy Dawkins presentation - RUFFY TV Chief Meteorologist and the Huber's Meteorology
- 1:00pm - 2:45pm: Weather discussion
- 2:15pm - 2:45pm: Ruffin Mahomed - High Plains Regional Climate Center and Climatology Professor
- 2:45pm - 3:45pm: National Oroglyph Interpretation Center & Waterparking game
- 3:45pm - 4:30pm: Weather discussion and intermission



## Tuesday - Forecasting

- 8:30am-9:30am: Weather Forecasting presentation
- 9:30am-10:15am: Mapping temperatures
- 10:15am-11:15am: Paddy Dawkins presentation - AI in TV Chief Meteorologist and the Meteorologist's meteorologist
- 11:00am-12:00pm: Weather Forecasting
- 2:30pm-2:45pm: Paddy Dawkins - High Plains Regional Climate Center and Forecasting
- 2:45pm-3:45pm: Forecasting
- 3:45pm-4:30pm: Paddy Dawkins and Meteorologist



## Thursday - Severe Storms cont.



- 8:30am-9:15am: Weather security game
- 9:15am-10:00am: Weather discussion
- 10:00am-10:45am: Group programming exercise
- 10:45am-12:30am: Forecast severe weather simulator
- 12:30pm-1:30pm: Weather discussion: Severe weather development in the South
- 1:30-4:00 pm: Capstone research project work time



## Capstone Groups

1. Lincoln's Extremes
  - a. Lathan Pearce, Olivia Ba, and Jaxon Trotter
2. Severe Reports
  - a. Molly Byrne, Wesley Gottula, and Michael Avery
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4. 2021 Midwest Derecho
  - a. Nathan Gregg, Dashawn Eller, and Remington Snoke
5. "Storm of the Century"
  - a. Leah Lewis and Alexis Swanson

# **FRIDAY- Capstone Day**

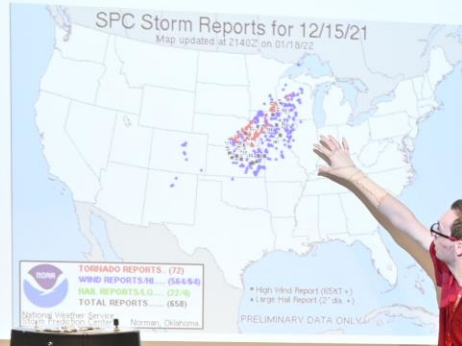
**9:30am-11:45am: Practice Capstone presentations. Another round of Weather Jeopardy. Are you a tornado expert activity? Tornado machine**

**11:45am-12:30pm: Lunch**

**1:00pm-2:00pm: All Big Red 2023 Campers and families camp closing ceremony**

**2:00pm-3:00pm: Weather Campers Capstone research presentations and certificates**

## The Event



**N** Welcome to the **N**  
**UNL WEATHER CAMP**



# Severe Weather Reports

By: Molly Byrne, Wesley Gottula,  
Michael



**N** Welcome to the  
**UNL WEATHER CAMP**

# Top Dates for Tornado, Wind, and Hail Reports

- Dates with most Tornadoes
  - 04-27-2011
  - 12-15-2021
  - 04-04-1974
- Dates with most Hail reports
  - 04-07-2006
  - 03-02-2012
  - 03-12-2006
- Dates with most Wind reports
  - 06-29-2012
  - 03-01-2017
  - 03-12-2006



**N** Welcome to the  
**UNL** WEATHER CA

# Contrasting hail events

March 2, 2012

- 569 Hail reports
- Nickel size hail

April 7, 2006

- 681 Hail reports
- Softball size hail



**N** Welcome to the  
UNL WEATHER C





**Lizzie reviews tornado facts and myths with the campers. Our weather campers are tornado experts!**













**All of the Big Red campers and families gather for a closing ceremony**



**UNL Extension 4-H provided certificate of completion that our instructors handed out to the weather campers**

CLASS OF  
**2023**  
BIG RED CAMPS

# CERTIFICATE

OF ACHIEVEMENT

This Certificate is Proudly Presented to:

**Lizzie Aurit**

For participating in the

**Discover Weather & Climate Science**

June 11 - 16, 2023



*Dr. Dawn Lindsley*

**DR. DAWN LINDSLEY**  
BIG RED CAMPS PROGRAM DIRECTOR

*Dr. Kathleen Lodl*

**DR. KATHLEEN LODL**  
NEBRASKA 4-H PROGRAM LEADER

**Example of the 4-H certificates**



**Group photo of the Weather Camp students and instructors at the all-camps closing ceremony**



**Weather campers Genevieve and Molly came from Texas and were our first ever twins attending weather camp. The photograph includes their mom.**



**A lighter moment as we get ready for the Weather Camp Capstone event**

WEATHER & CLIMATE SCIENCE 2023

**N** Welcome to the  
UNL WEATHER CAMP



# Monday - Climatology

8:45am-9:45am: Intro to climate and climate change

10:15am-11:15am: Cherish Nebraska Exhibit and science sphere

12:30pm-1:30pm: Dawn Kopacz Meteorology Major and Tour of Met. Lab -- Assistant Professor

2:00pm-2:45pm: Mike Hayes Presentation -- Professor, Climatologist, Applied Climate Careers

2:45pm-4:30pm: Instrumentation and radar observations



# Wednesday - Severe Sto

- 8:30am-9:00am: Weather discussion
- 9:00am-10:15am: Severe storms powerpoint
- 10:15am-10:30am: Convection demonstration of hail in clouds
- 10:30am-10:45am: Can crush demonstration of pressure
- 10:45am-11:30am: Severe plot → tornado mapping program
- 12:30pm-1:30pm: Weather graphs discussion
- 1:30pm-2:15pm: Forecasting exercise
- 2:15pm-2:30pm: Interviews for KLKN news story
- 2:30pm-4:30pm: Brian Smith presentation  
→ Warning Coordination Meteorologist at



# Capstone Groups

1. Lincoln's Extremes
  - a. Lathan Pearce, Olivia Ba, and Jaxon Trotter
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  - a. Molly Byrne, Wesley Gottula, and Michael Avery
3. London Smog
  - a. Sabastyn Langston, Ginny Byrne, and Noah Nabring
4. 2021 Midwest Derecho
  - a. Nathan Gregg, Dashawn Eller, and Remington Snoke
5. "Storm of the Century"
  - a. Leah Lewis and Alexis Swanson

Lizzie introduces each of the research teams and each team presented their research results



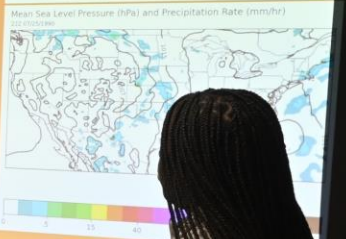
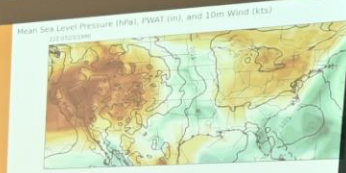
1. Lincoln's Extr  
a. Lathan Pe
2. Severe Reports  
a. Molly Byrne
3. London Smog  
a. Sabastyn La
4. 2021 Midwest De  
a. Nathan Gregg
5. "Storm of the Cent  
a. Leah Lewis and

NEBRASKA  
Welcome to the  
WEATHER CAMP

## Record Precipitation in a day for Lincoln

- ▶ The highest daily precipitation ever recorded in Lincoln was 5.42 inches on July 25, 1990.
- ▶ This rain event consisted of multiple single cell storms rather than a large cyclone, which ended up only dumping record rain on Lincoln, not the surrounding area.
- ▶ The date (during the summer) is surprising because rain is most common in Lincoln during the spring

Station	12 hours of precipitation
Wichita	5.1398730
Springdale	6.1022450
Lincoln	5.4121111
Omaha	5.0214100



Welcome to the N  
IL WEATHER CAMP





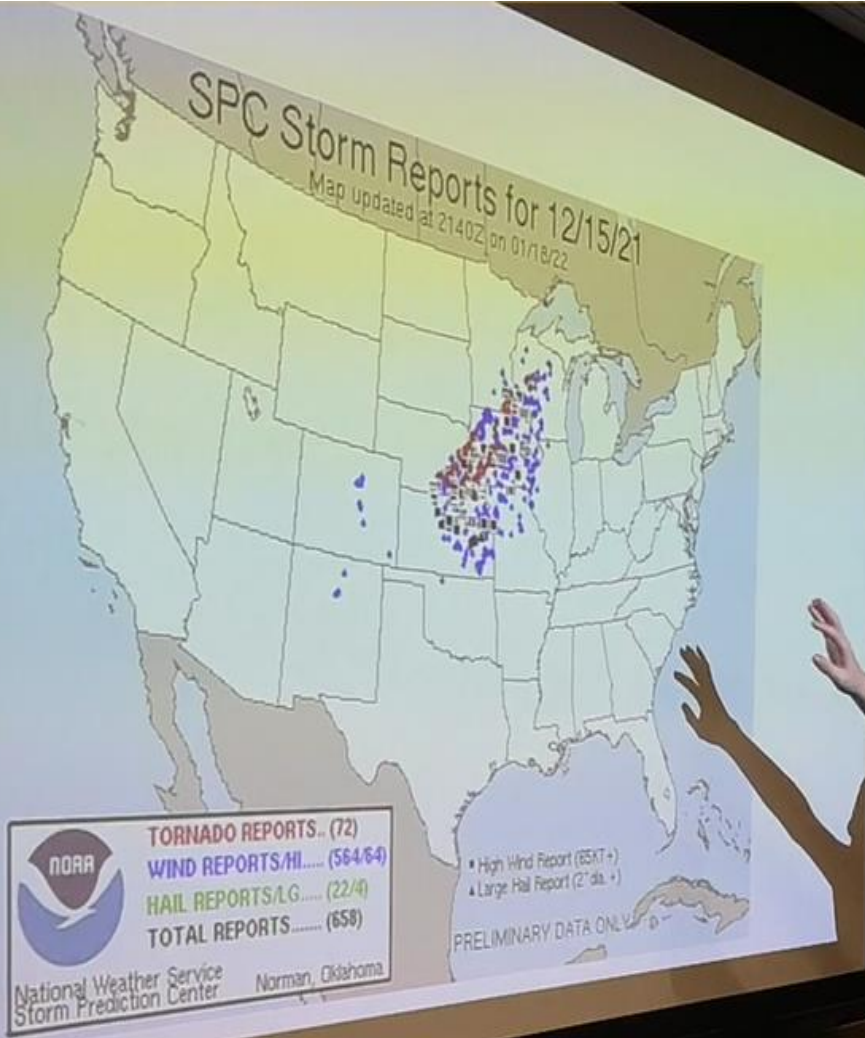
# Great Smog of London


By Ginny, Sabastyn, and Noah



# SPC Storm Reports for 12/15/21

Map updated at 2140Z on 01/18/22

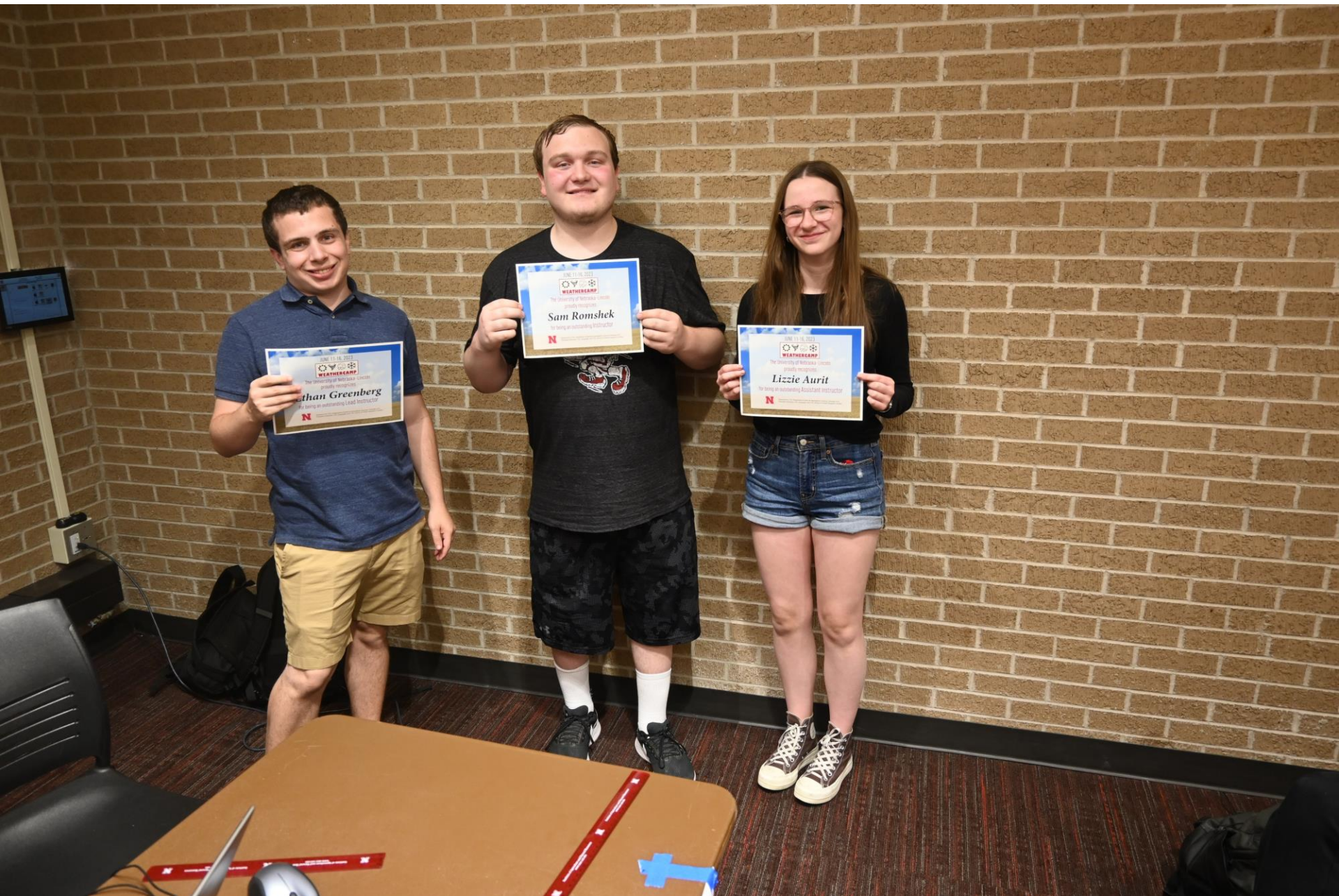


 **TORNADO REPORTS.. (72)**  
**WIND REPORTS/MI..... (564/64)**  
**HAIL REPORTS/LG..... (22/4)**  
**TOTAL REPORTS..... (658)**

National Weather Service  
Storm Prediction Center  
Norman, Oklahoma

- High Wind Report (65KT+)
  - ▲ Large Hail Report (2" dia. +)
- PRELIMINARY DATA ONLY





I presented a certificate of commendation to my three instructors, Ethan, Sam and Lizzie



JUNE 11-16, 2023



The University of Nebraska-Lincoln  
proudly recognizes

*Ethan Greenberg*

for being an outstanding Lead Instructor



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

JUNE 11-16, 2023



The University of Nebraska-Lincoln  
proudly recognizes

*Sam Romshek*

for being an outstanding Instructor



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

JUNE 11-16, 2023



The University of Nebraska-Lincoln  
proudly recognizes

*Lizzie Aurit*

for being an outstanding Assistant Instructor



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

JUNE 11-16, 2023



The University of Nebraska-Lincoln  
proudly recognizes

*Jaxon Trotter*

for being "Weather Wise"



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

Each of our weather campers received a certificate with the statement  
that UNL recognizes them as being "Weather Wise"



**Final group of the weather campers, class of 2023**

Thank you everyone and  
keep watching and enjoying  
the best free show on earth:

**THE WEATHER**