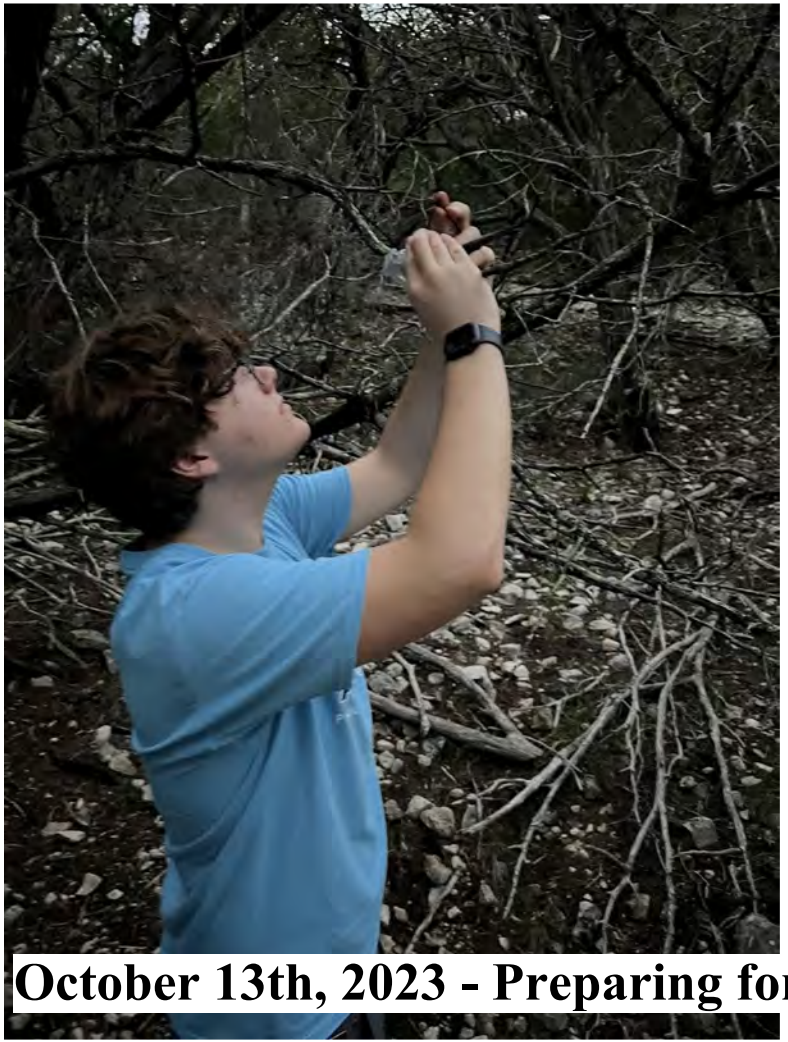
Annular Solar Eclipse Launch from October 12, 2023 - October 16, 2023

To our surprise, the University of Delaware Ballooning Team were on the same flight as us! Once we both landed in San Antonio, we took a large group photo to share with the official NEBP Instagram Account.

October 12th, 2023 - Travelling from Philadelphia, PA to San Antonio, TX

Upon our arrival at Camp Eagle, we were met by a wonderful team of staff members who gave us a quick rundown of how things operate at the camp, the types of activities we could partake in, and they guided us the large meeting yurt we would later hold team meetings in prior to our balloon launch.

October 12th, 2023 - Arriving at Camp Eagle in Rocksprings, TX

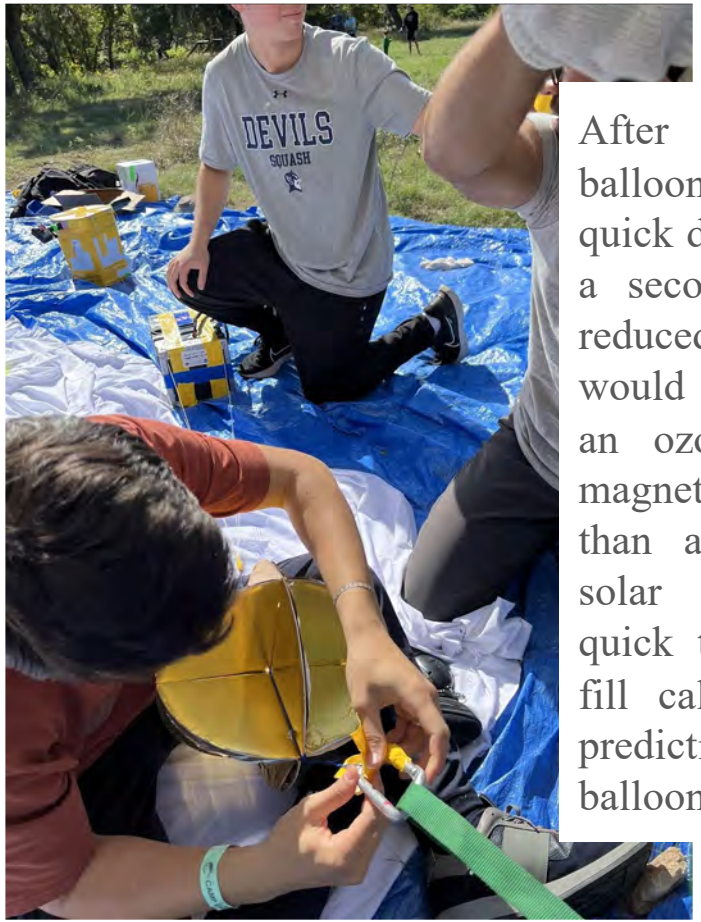


The day before the Solar Eclipse, our team needed to unload, prepare, and test all our equipment to ensure that they are all work as intended. The image to the left shows a team member, Devin, setting up a small audio recorder for the Eclipse Soundscape Project which listens for significant variations in noise frequencies before, during, and after a solar eclipse. In addition to preparing each electronic payload, the team had to calculate and discuss the final flight predictions for our balloon launch the following day.

October 13th, 2023 - Preparing for the Annular Eclipse Balloon Launch

On the day of the eclipse, the team split up into three groups: the launch team, the ground station team, and the recovery team. The pictures here show the launch team and recovery team working together to prepare a balloon for launch. However, during the team's first attempt at launch, the string that connects the electronic payloads to one another snapps - causing the balloon to fly away without our payload.

October 14th, 2023 - The First Attempt at a Balloon Launch



After losing the first balloon, the team made a quick decision of launching a second balloon with a reduced payload stack. This would consist of a camera, an ozone sensor, and a magnetometer. With less than an hour before the solar eclipse, we were quick to make the proper fill calculation and flight prediction for this new balloon.

October 14th, 2023 - The Second Attempt at a Balloon Launch

The ground station contains computers and antennae that are able to track the balloon's electronic payload. During launch, some team members stayed behind at the ground station to monitor the data that's coming through. With the help of this data, we were able to find out at what altitude the balloon burst and where it evidently landed.

October 14th, 2023 - The Ground Station

With an abundance of solar eclipse glasses, the team made sure to give them away for families who were staying at the camp that weekend. We made public announcements about our balloon launch and invited everyone to pay us a visit while we were preparing the balloon for launch. After our balloon was floating away in the sky, our team watched the Annular Solar Eclipse through eclipse glasses.

October 14th, 2023 - Public Relations and Watching the Eclipse

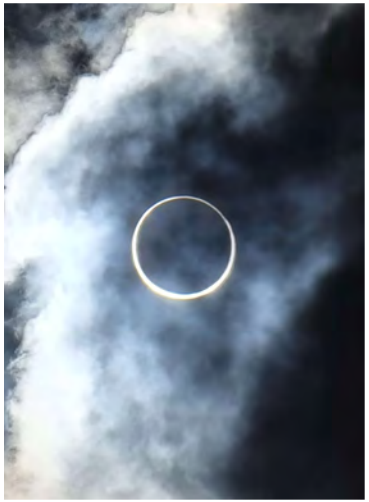
Drexel-SCH Balloon Path: Annular Eclipse October 14, 2023

Once the ground station got news that the balloon burst at an altitude of 30,000 meters, two cars were sent out to recover the fallen payload. After driving for almost 2 hours, the recovery team was able to successfully find the payload near Fredericksburg, TX.

October 14th, 2023 - Recovering the Payload

The team's adventure doesn't end after the balloon launch. During our stay at Camp Eagle, we made the most of the activities they offered us. These included hiking, caving, campfires, kayaking, and various water activities by the riverside.

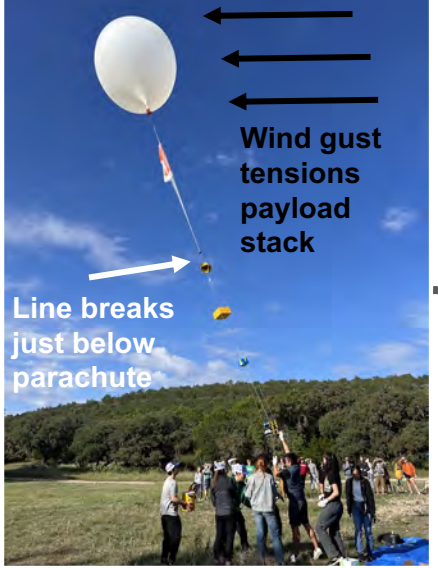
October 12-16, 2023 - Enjoying Camp Eagle (part I)

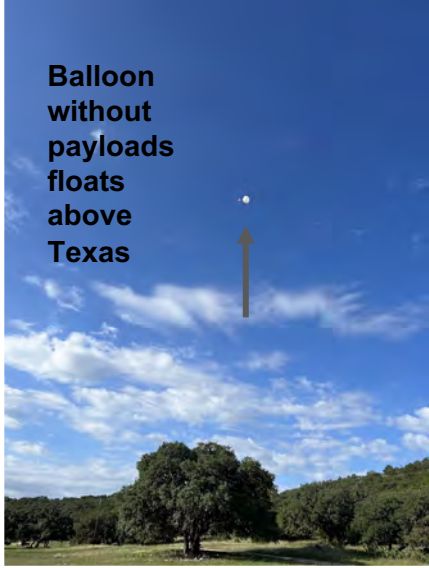


Camp Eagle's location in an area with little to no light pollution also allowed us to get amazing views of the night sky. The image in the top left was taken during the annular eclipse maximum. Unlike a total solar eclipse, an annular solar eclipse has a "ring of fire" around it because the moon does not completely block the sun.

October 12-16, 2023 - Enjoying Camp Eagle (part II)

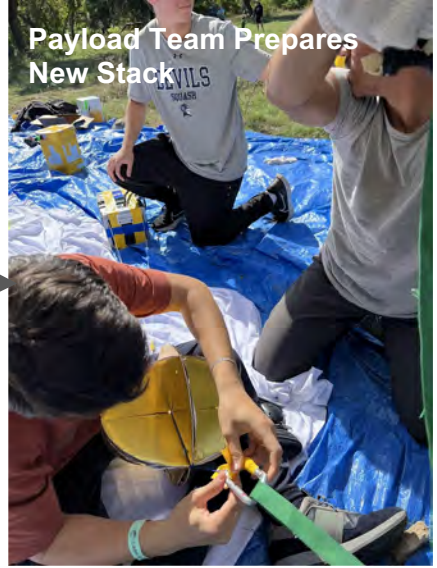
Drexel-SCH Launch Team
Ready to Launch NEBP Payload
***Annular Eclipse**: October 14, 2023*





First Launch - the agony of defeat!

Payload string broke at required weak (50 lb test) link during dynamic tension during launch and wind gust.



Second Launch - quick teamwork leads to success!

Team splits into two groups:

1. Starts filling second balloon
2. Decides which payloads are “expendable”

Second Launch - quick teamwork leads to success!

Annular Eclipse: October 14, 2023

Radar Reflector

Magnetometer Payload from UCLA

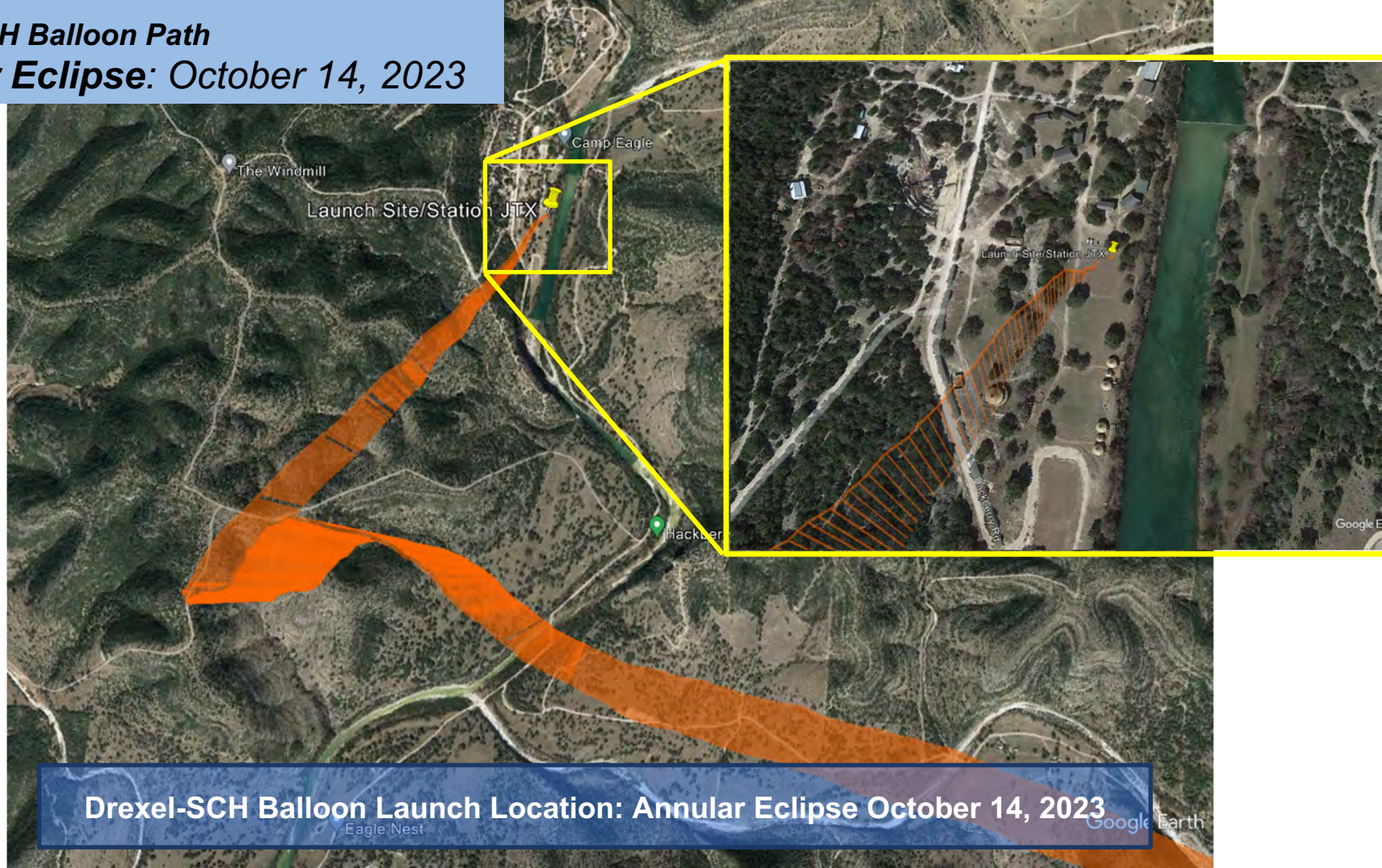
Dual 360 Cameras

RadioSonde with OzoneSonde and Spot Trace GPS tracker

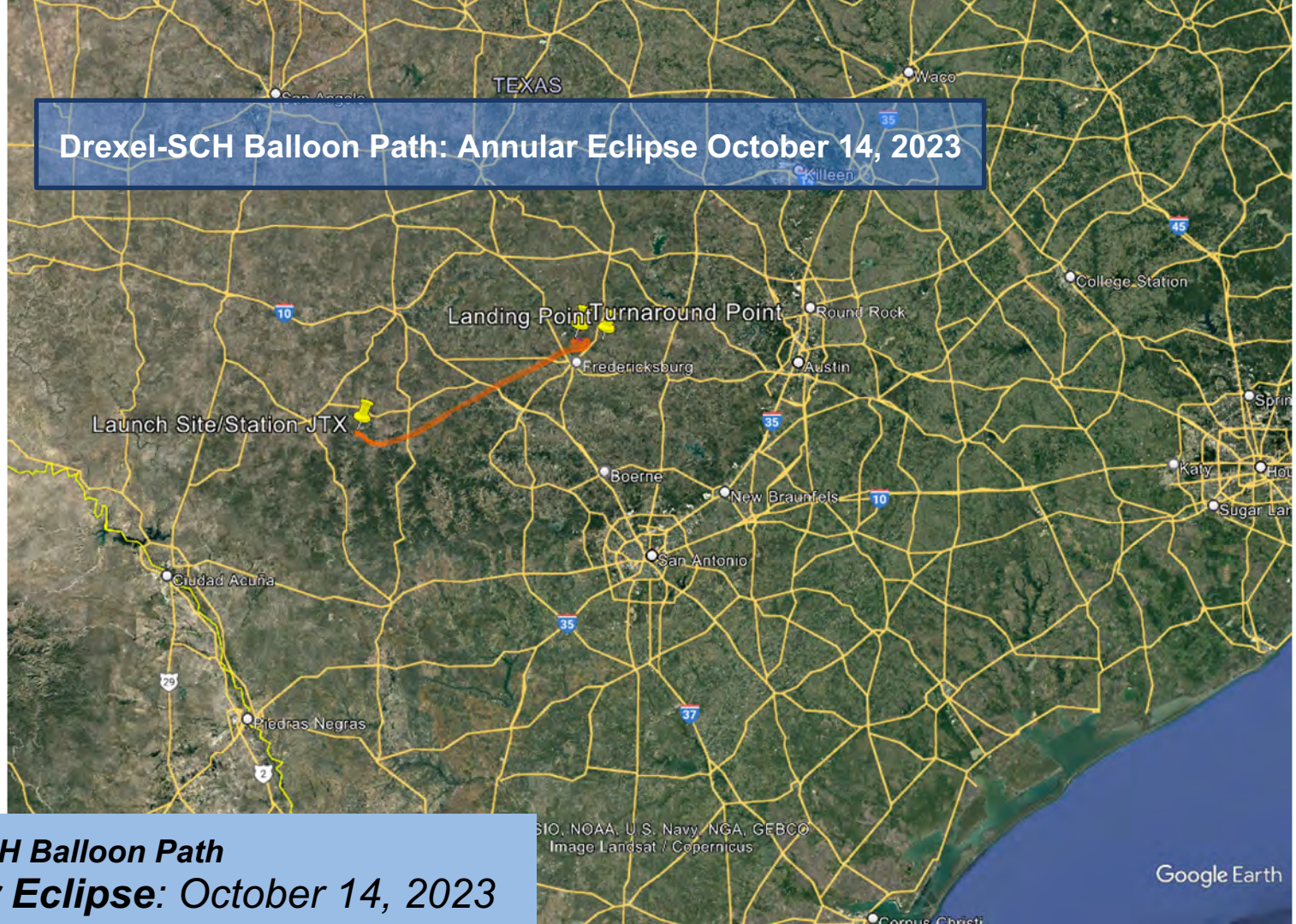
Payload Recovery

Drexel-SCH Balloon Path

***Annular Eclipse**: October 14, 2023*

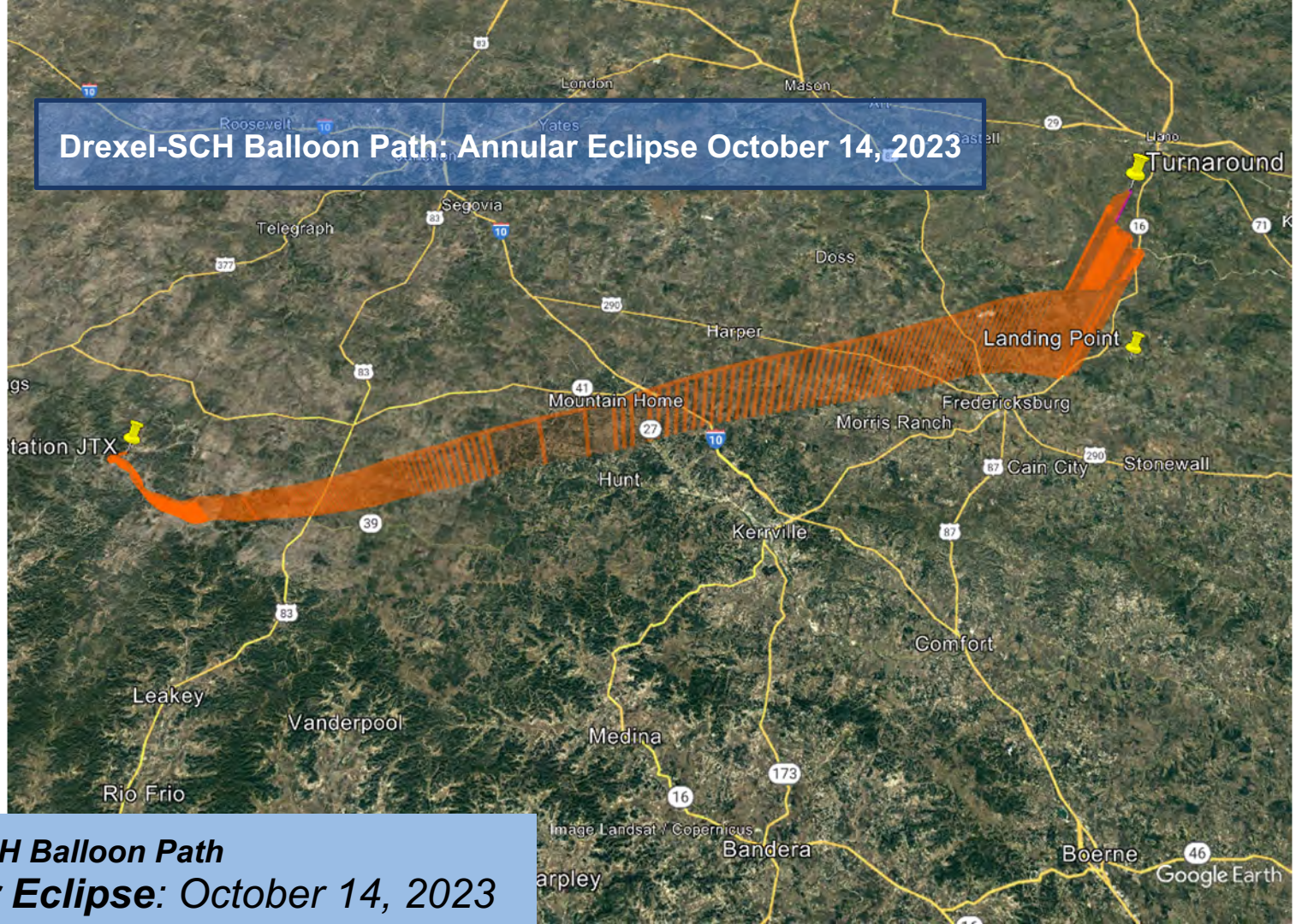


Drexel-SCH Balloon Launch Location: Annular Eclipse October 14, 2023



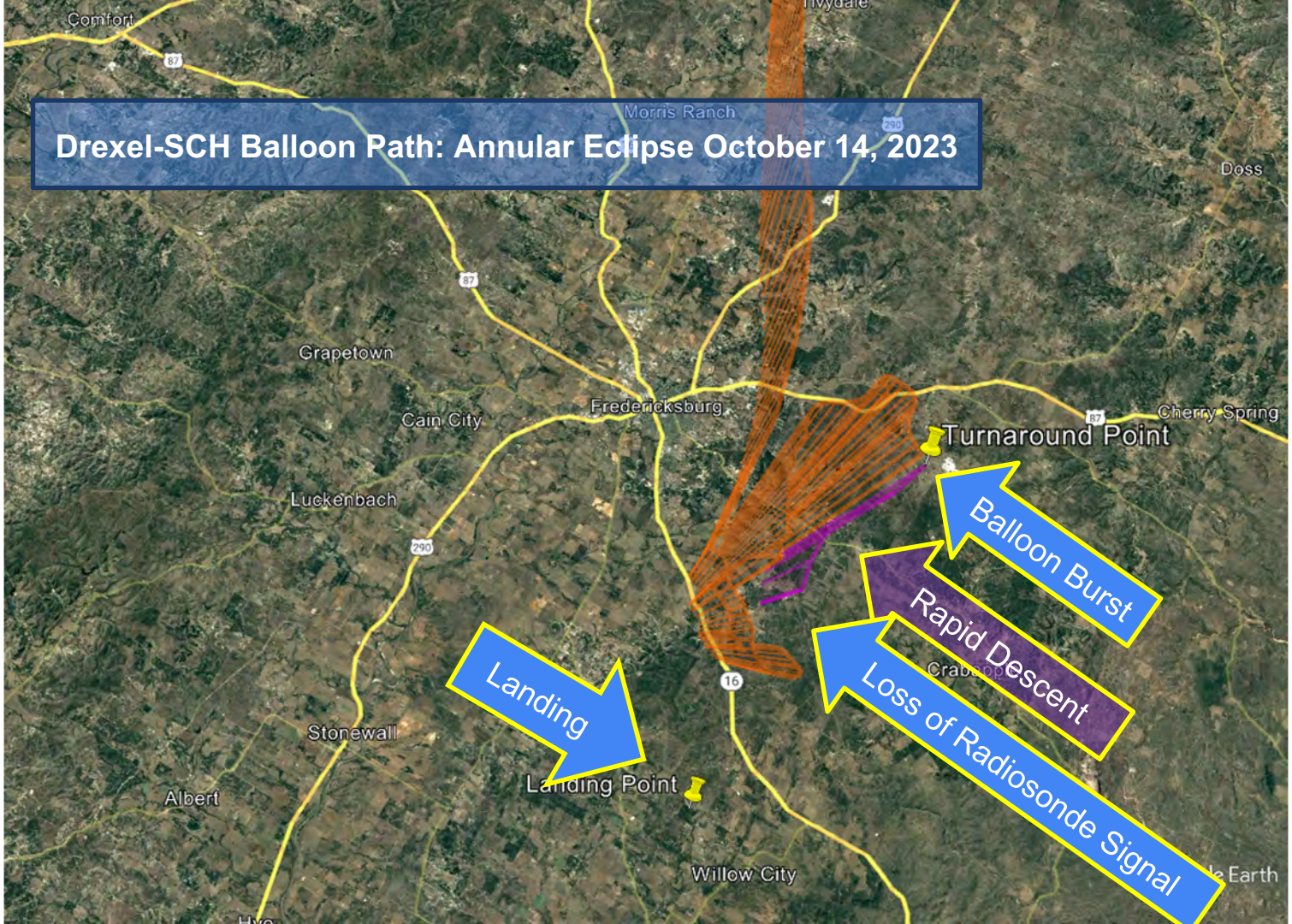
Drexel-SCH Balloon Path

***Annular Eclipse**: October 14, 2023*



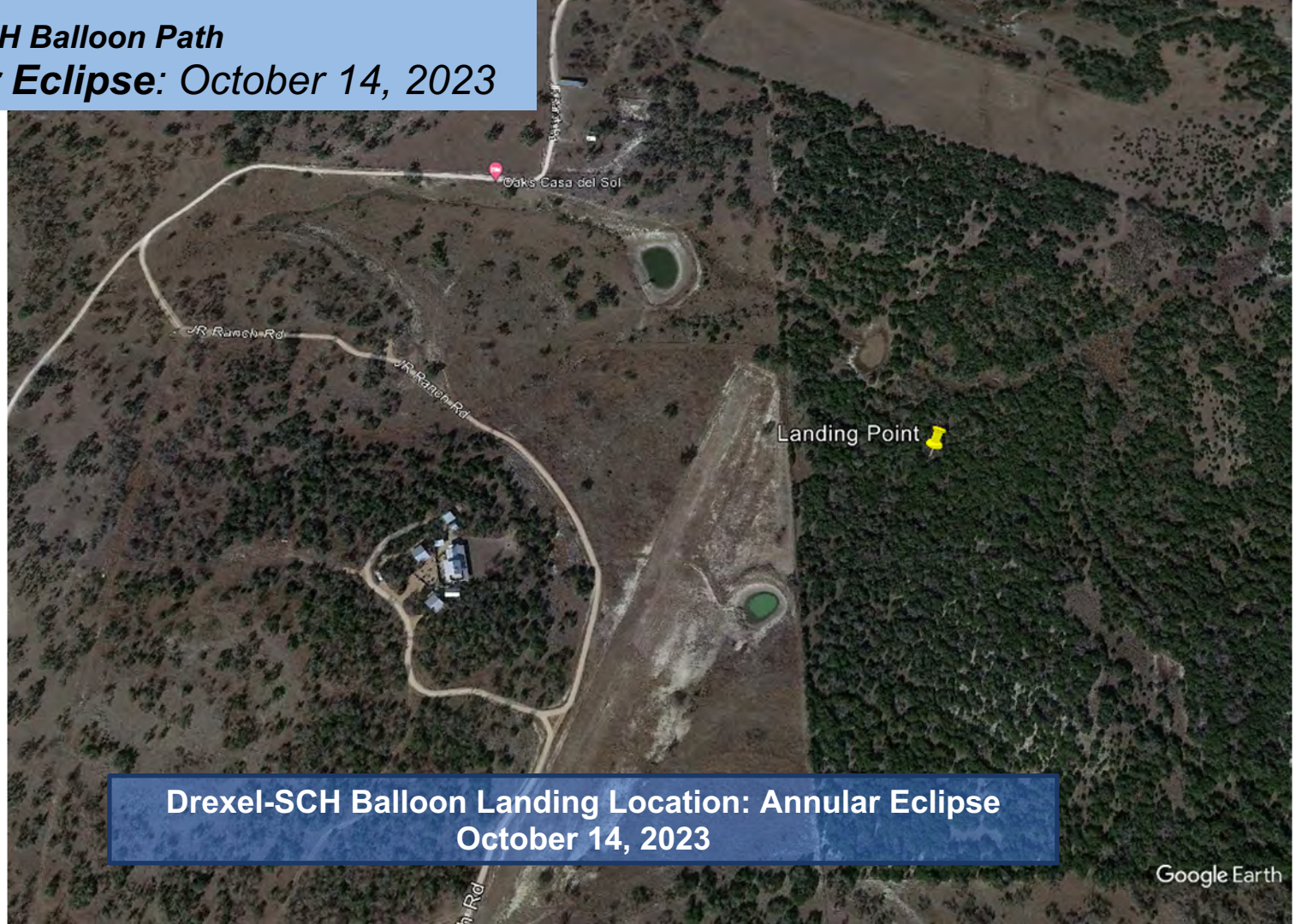
Drexel-SCH Balloon Path

***Annular Eclipse**: October 14, 2023*


Drexel-SCH Balloon Path: Annular Eclipse October 14, 2023
Comfort
Morris Ranch
Doss
Grapetown
Cain City
Fredericksburg
Cherry Spring
Turnaround Point
Luckenbach
Balloon Burst
Rapid Descent
Loss of Radiosonde Signal
Landing
Stonewall
Landing Point
Albert
Willow City

Drexel-SCH Balloon Path

***Annular Eclipse**: October 14, 2023*

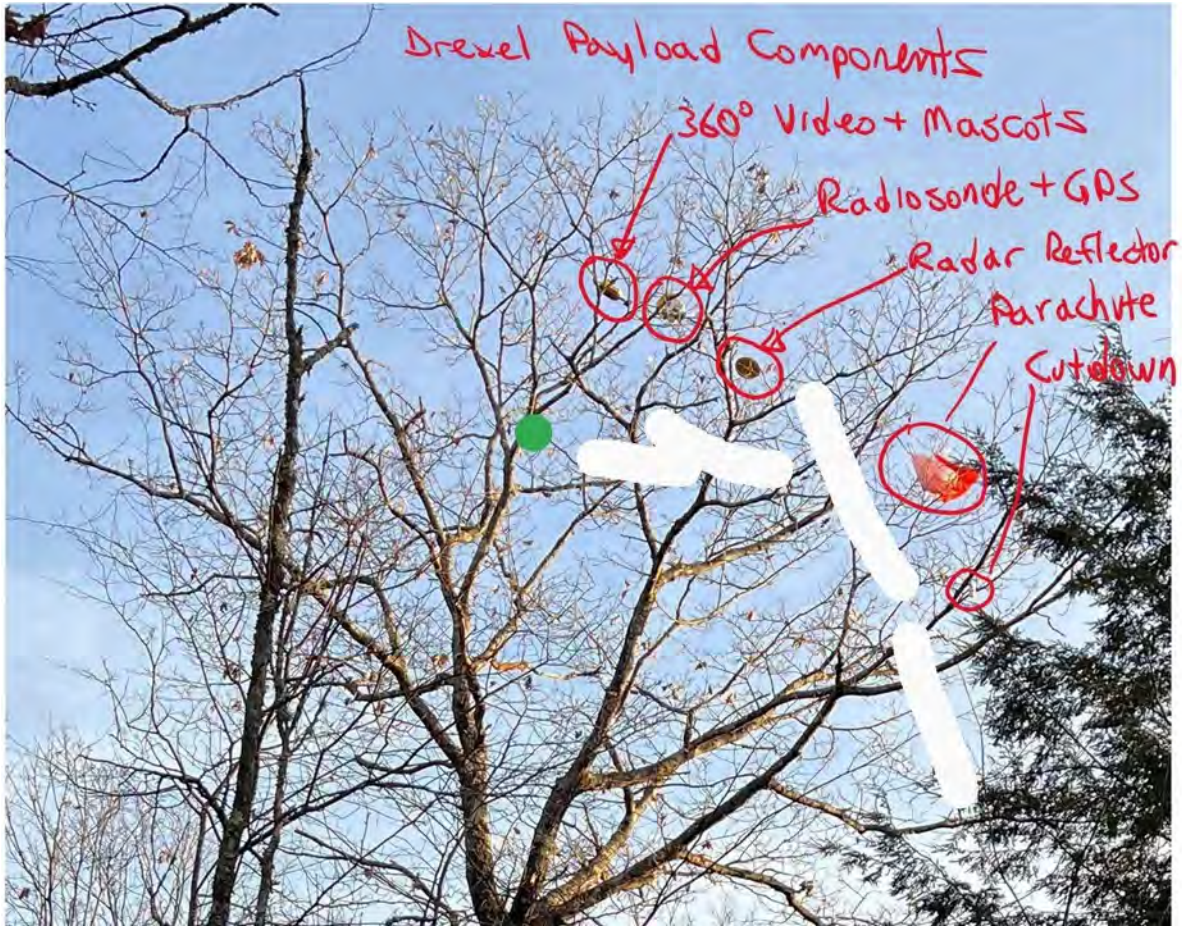


Drexel-SCH Balloon Landing Location: Annular Eclipse
October 14, 2023

Once the ground station got news that the balloon burst at an altitude of 30,000 meters, two cars were sent out to recover the fallen payload. After driving for almost 2 hours, the recovery team was able to successfully find the payload near Fredericksburg, TX.

October 14th, 2023 - Recovering the Payload

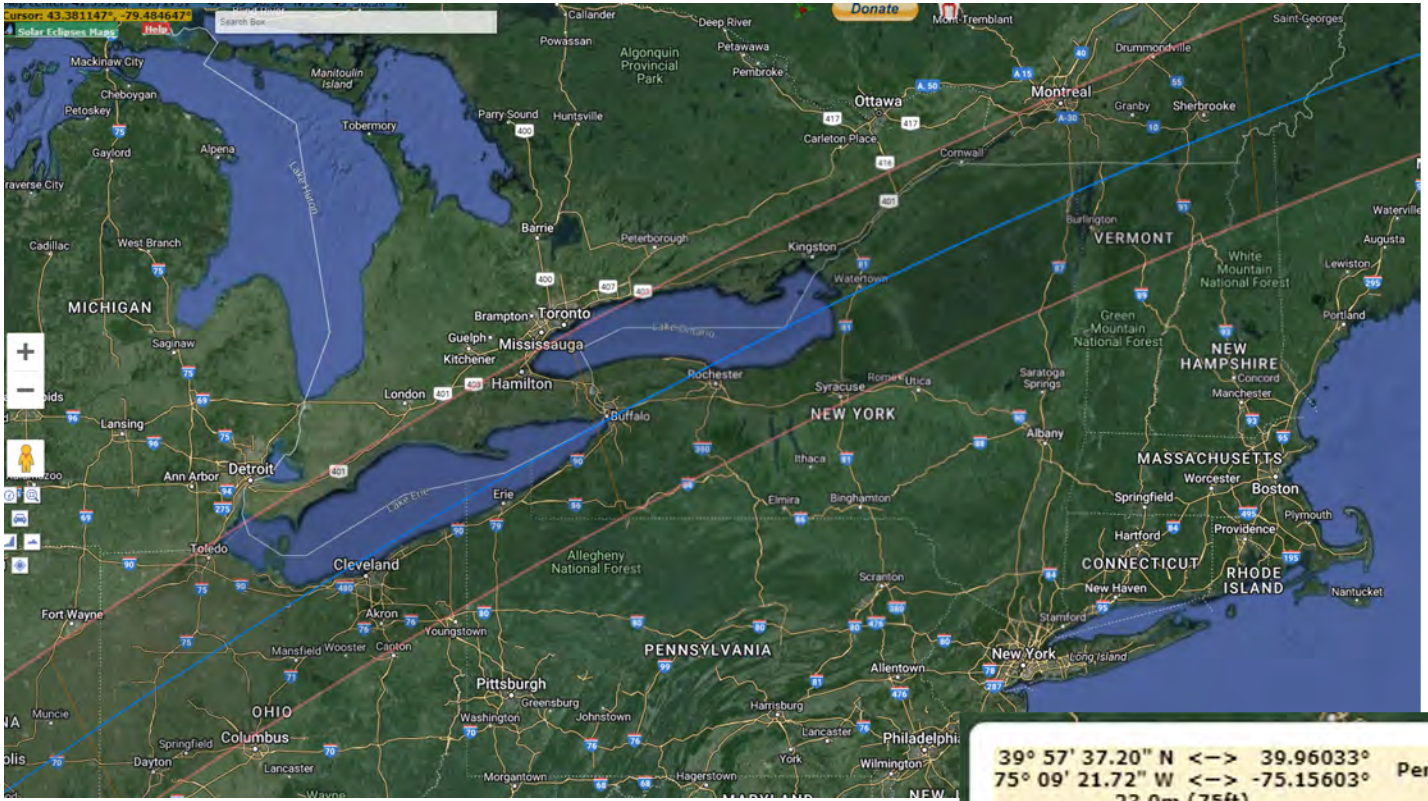
Payload from December 2023 Practice Launch - still in a tree near Lake George, NY

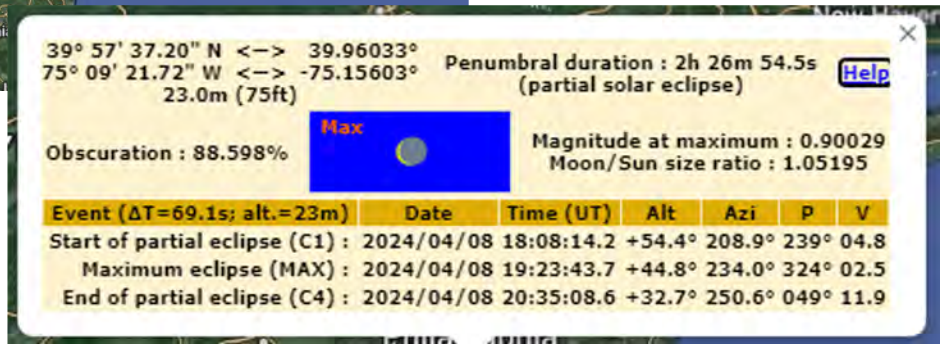


http://xjubier.free.fr/en/site_pages/solar_eclipses/TSE_2024_GoogleMapFull.html

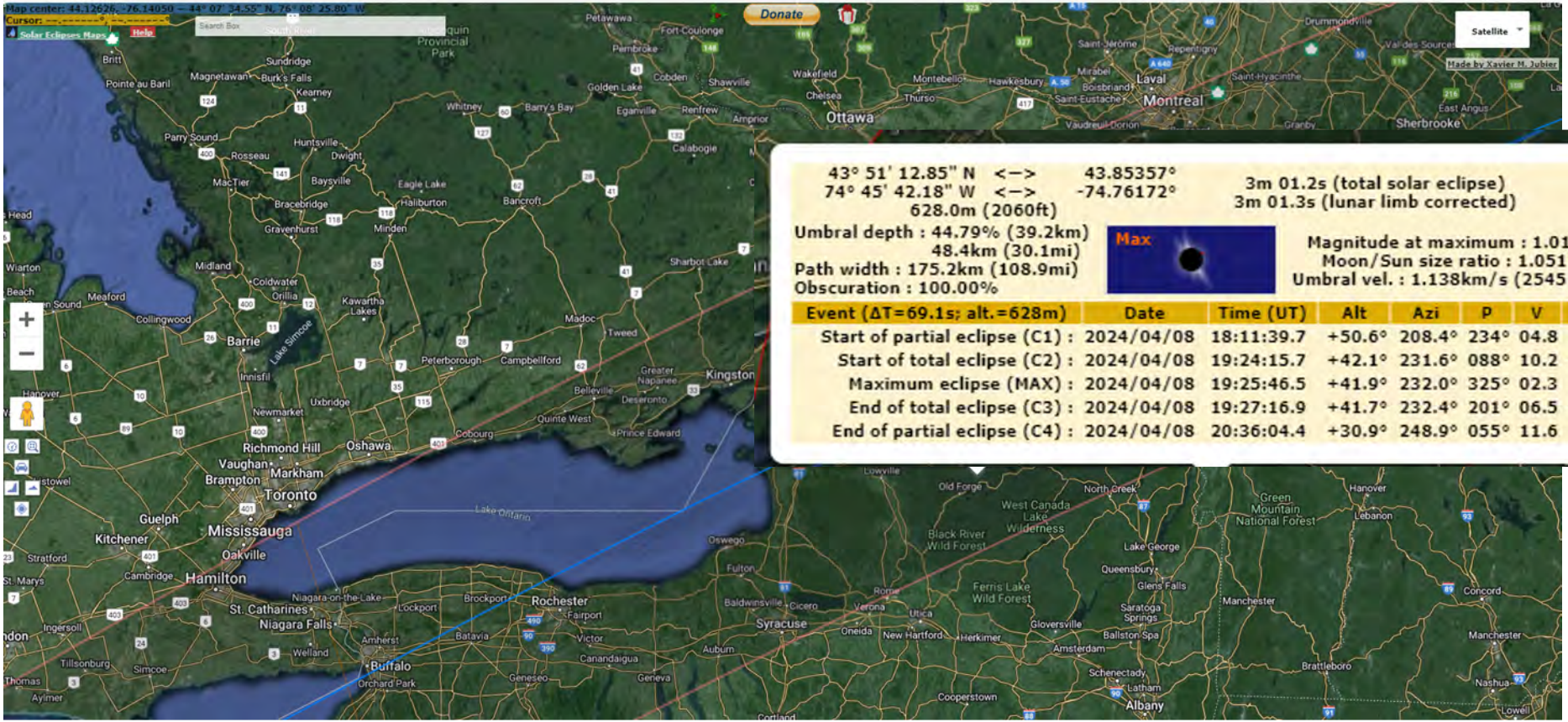
Eclipse Path for Total Eclipse on Monday April 8, 2024

Eclipse Path for Total Eclipse on Monday April 8, 2024





In Philly, **max eclipse will be 89%** at about 3:30 PM on April 8, 2024
USE Eclipse Glasses!



In **Old Forge, NY** the eclipse will be **TOTAL (100%)** at about 3:35 PM on April 8, 2024 and *will last for a little less than 3 minutes*

Launch Site for Total Eclipse - near Old Forge, NY

Launch Site for Total Eclipse - near Old Forge, NY

The Neutral Buoyancy Challenge

A celebration of engineering
From **Drexel-SCH Devil Dragons Balloon Team**
Part of Nationwide Eclipse Ballooning Project (NEBP)

An interactive activity - can you make a balloon neutrally-buoyant?
Starting at 4:45 PM - sign your team up on the board

Engineers Week 2024