

# PERiLS Damage Surveys: High Resolution Data

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# Data Collection High-Resolution Imagery

Platform	Sensor	Utility	Spatial Resolution	Spectral Bands	Data Format	Data Products
Skydio 2	Sony IMX577	Video storm damage; determine path extent; access remote or impassable areas	< 3 cm	Blue, Green, Red	Mp4, Irv (visible)	Video, Still
Trinity F90+	Sony UMC-R10C, Micasense RedEdgeMX	Map storm damage (visible, multispectral)	3 cm (visible) 8 cm (multispectral)	Blue, Green, Red, Red-Edge, NIR	Tiff (visible, multispectral)	Orthomosaic, Point Clouds, Digital Surface Models
SkySat (satellite)	PlanetScope series	High-resolution imagery of entire tornado track	50 cm	Blue, Green, Red, NIR	Tiff (visible, multispectral)	Orthomosaic (visible, multispectral)

# Systems: UAS Platforms Equipment



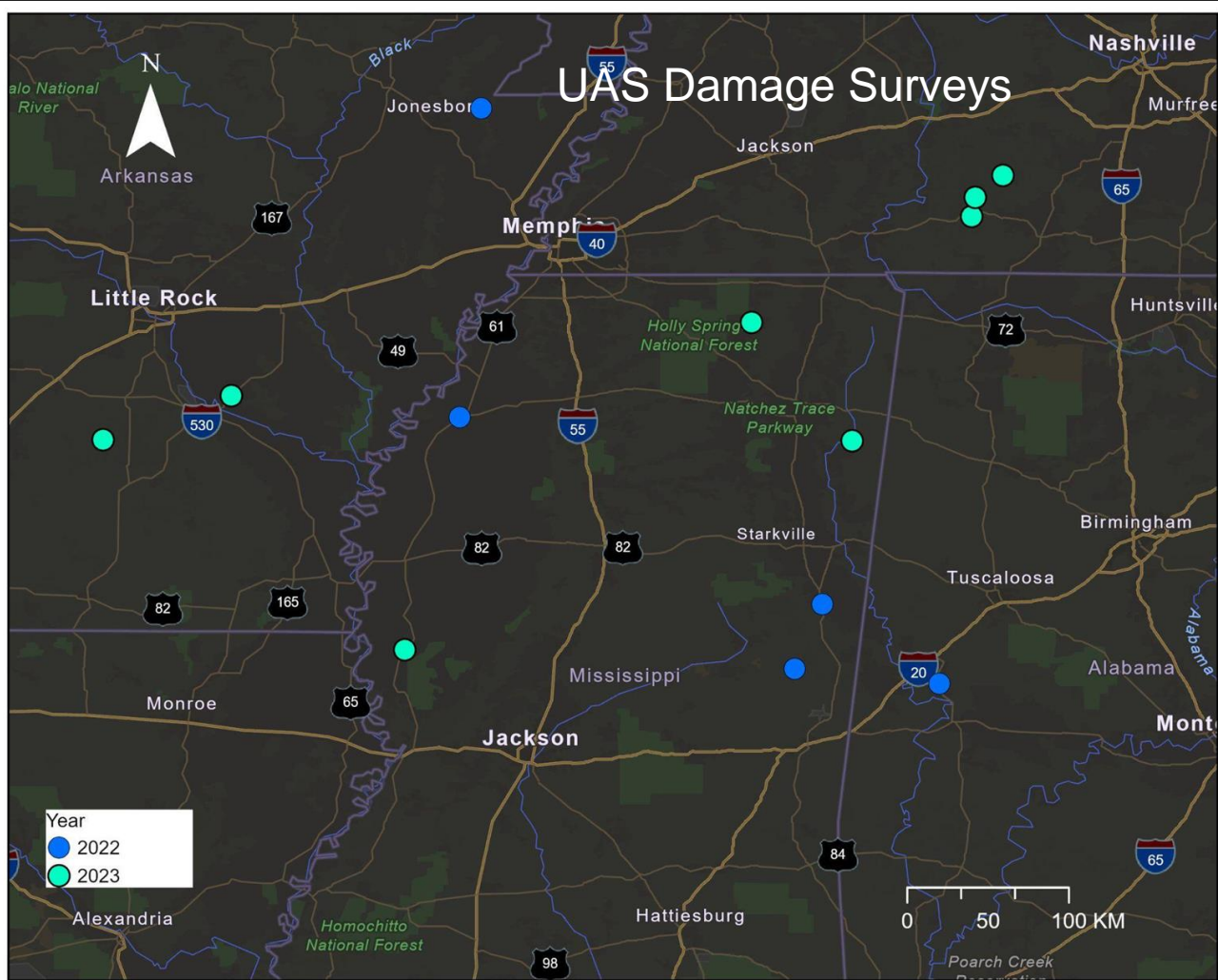
Trinity F90+



Skydio 2

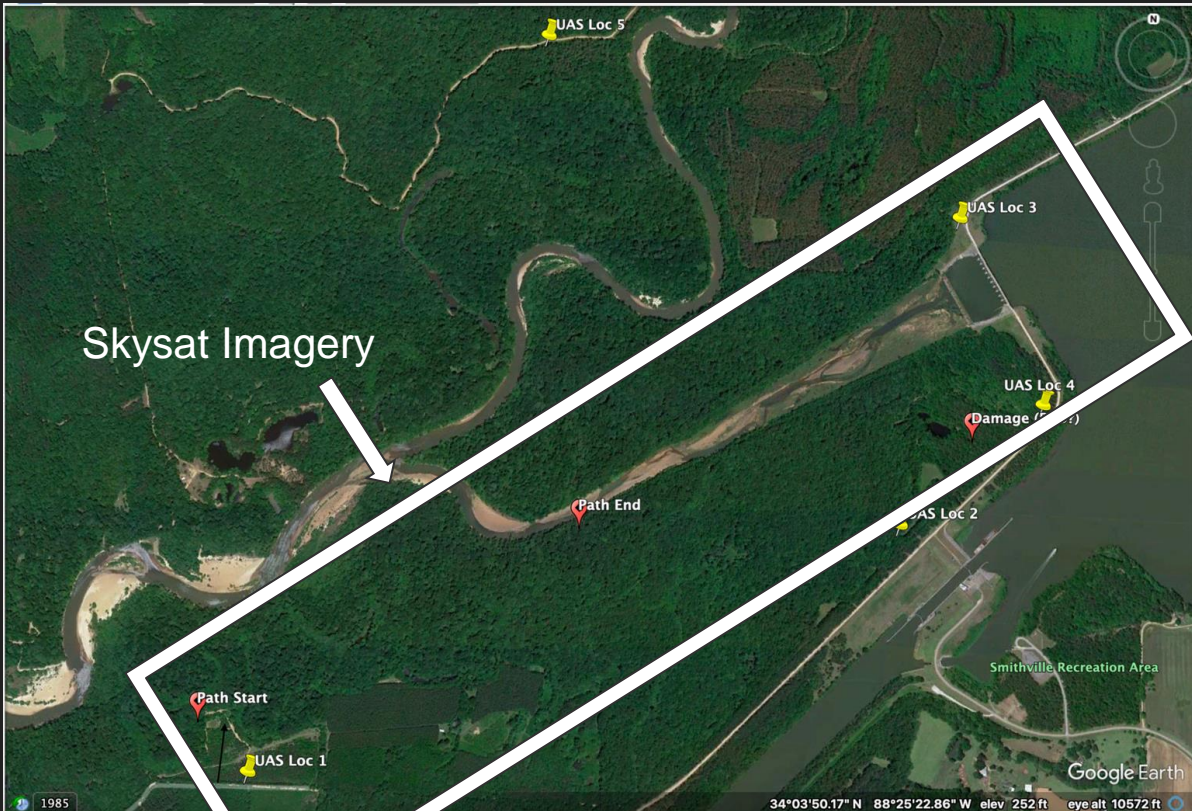
UAS	Platform Type	Sensor	Utility	Data Type	Data Format	Flight Time	Wind Tolerance	Range
Skydio 2	Quadcopter	Sony IMX577	Video storm damage; determine path extent; access remote areas	4K Video, Stills	mp4	23 min	11.2 m/s	3.5 km
Quantum Trinity F90+	Fixed-wing (VTOL)	Sony UMC-R10C Micasense RedEdgeMX	Map storm damage (visible, multispectral)	Orthos, Point Clouds, DSM	Tiff, las, jpg	90 min	12 m/s	7.5 km

# UAS Damage Surveys



# PERiLS 2023 IOP 1 - Smithville MS (& Ripley, MS)

UAS Videos  
(No Mapping)  
Skysat Imagery



# PERiLS 2023 IOP 2 - Alzheimer and Carthage AR

**Data:** UAS videos (Skydio 4K resolution), UAS Mapping, satellite (Skysat) imagery

**Locations:** Carthage, AR; Alzheimer, AR

**Land Cover Characteristics:** Forest (logging/natural), trees (breaks), open fields (agricultural), rural structures

## **Notes:**

Alzheimer, AR: minimal damage observed mostly in tree breaks. Mapped one section (multispectral data).

Carthage, AR: tree damage (breaks and falls) observed in logged/forested area (satellite imagery and UAS videos)

# PERiLS IOP 3 Rolling Fork, MS

Focused on open fields

'Ground Scours'

Land Cover transitions

← Skysat Imagery

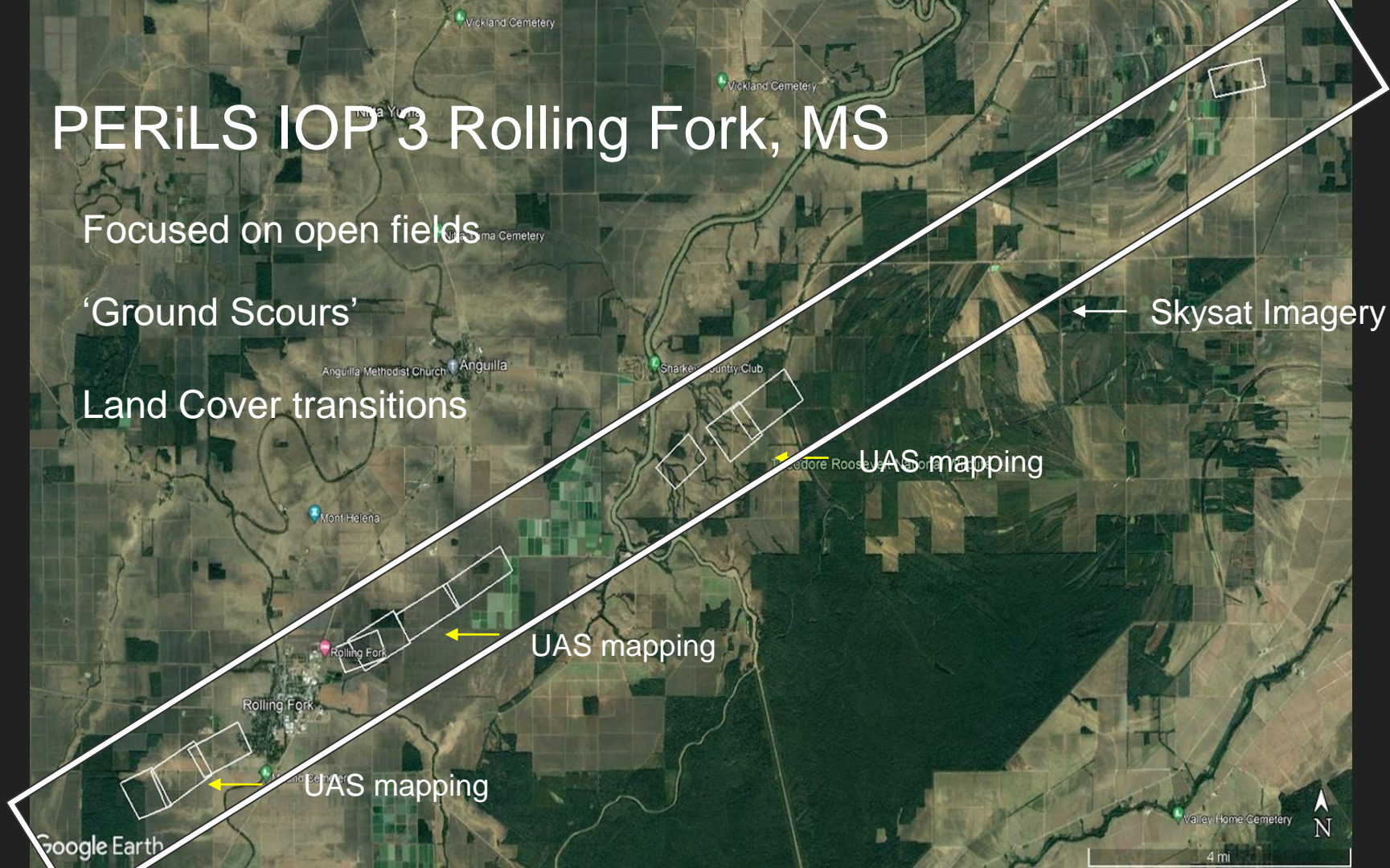
← UAS mapping

← UAS mapping

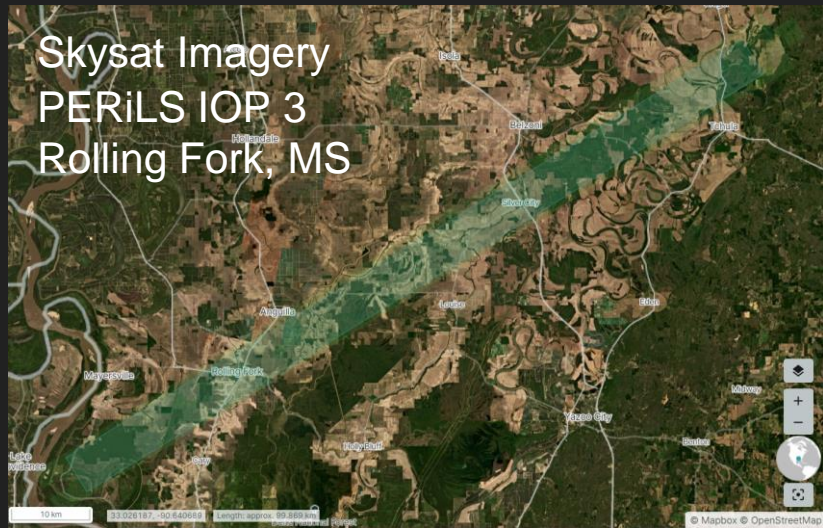
← UAS mapping

Google Earth

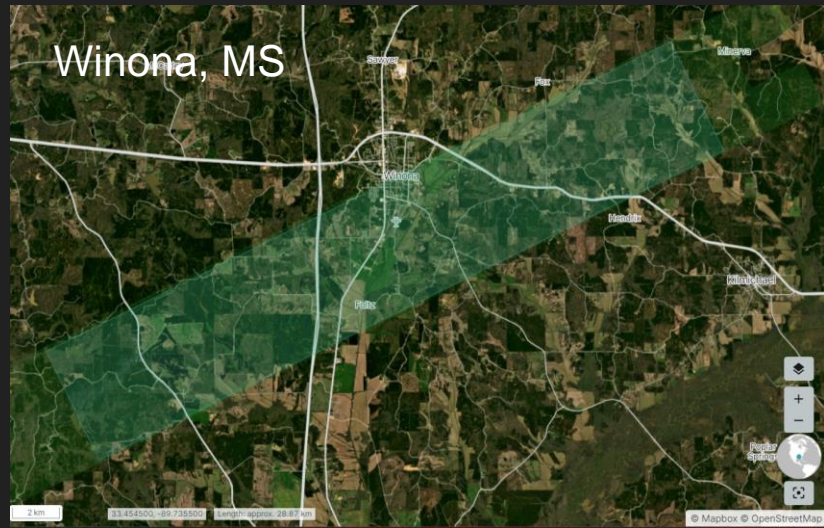
4 mi



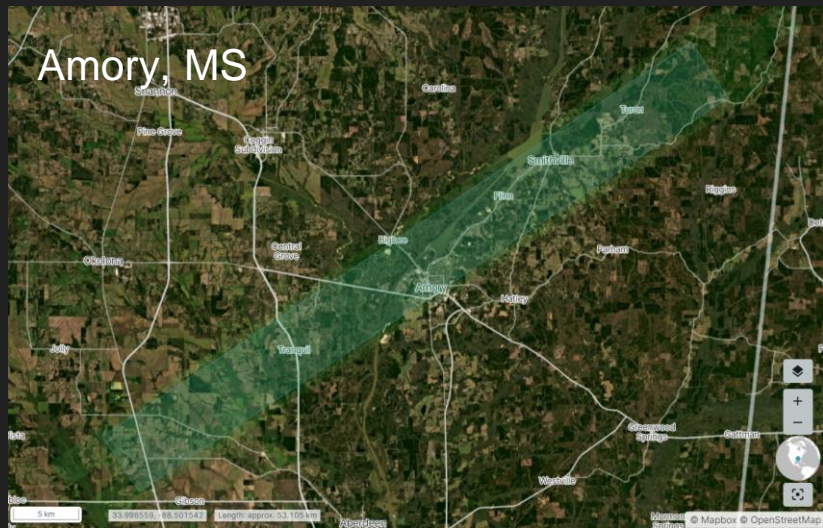
# Skysat Imagery PERiLS IOP 3 Rolling Fork, MS



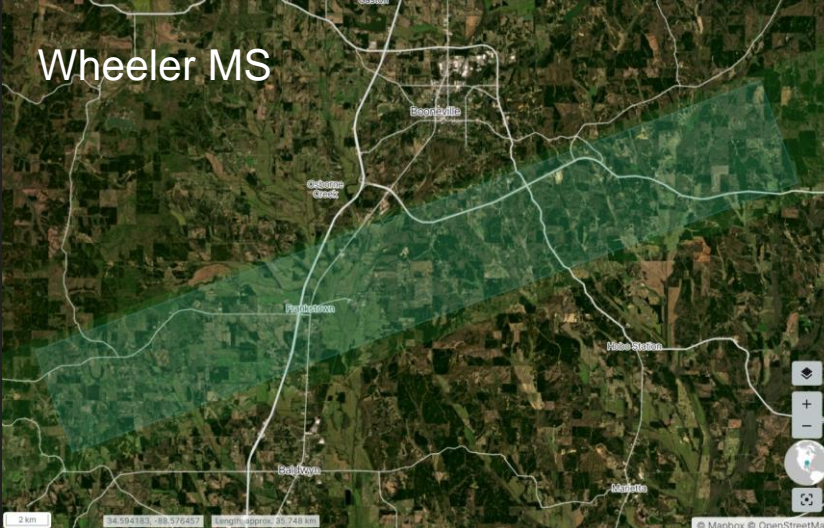
# Winona, MS



# Amory, MS

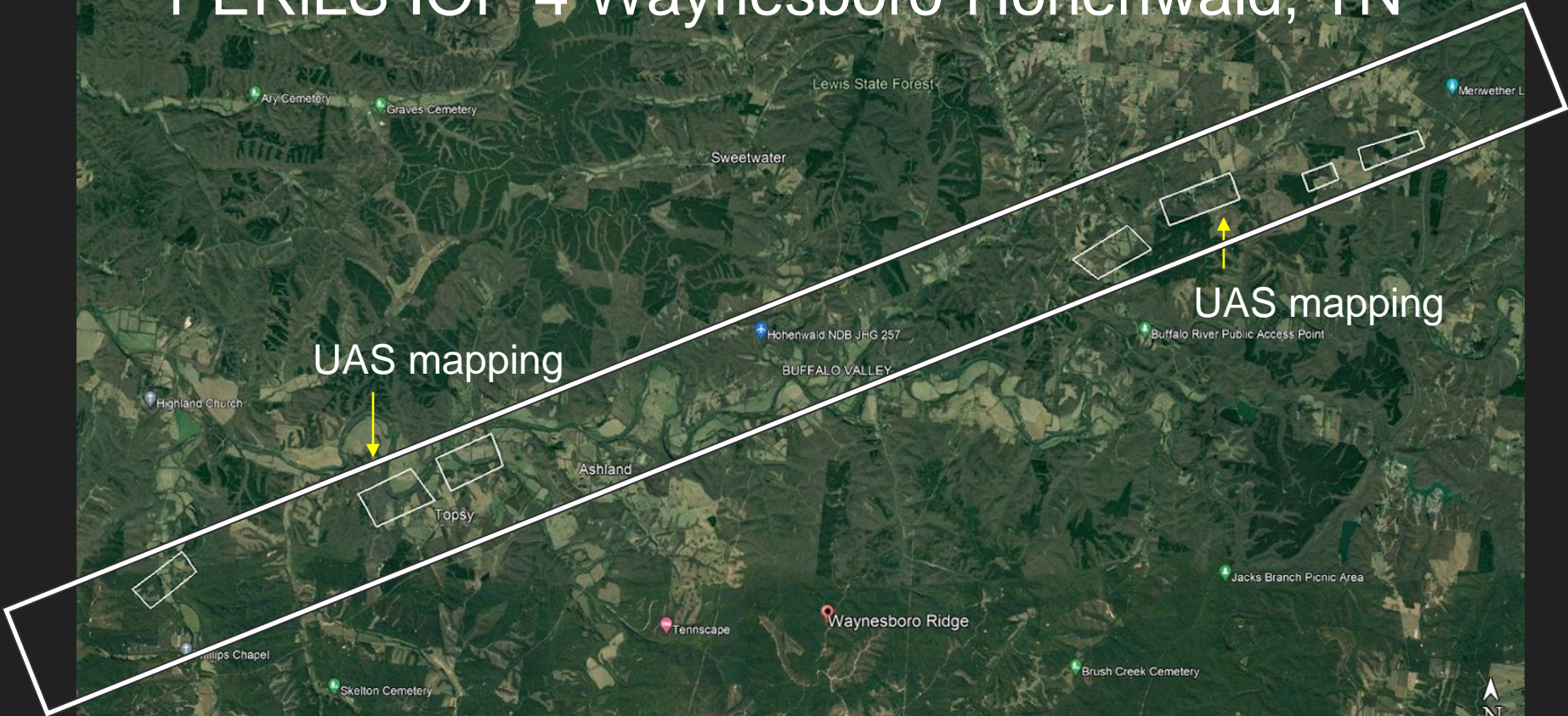


# Wheeler MS





# PERiLS IOP 4 Waynesboro-Hohenwald, TN

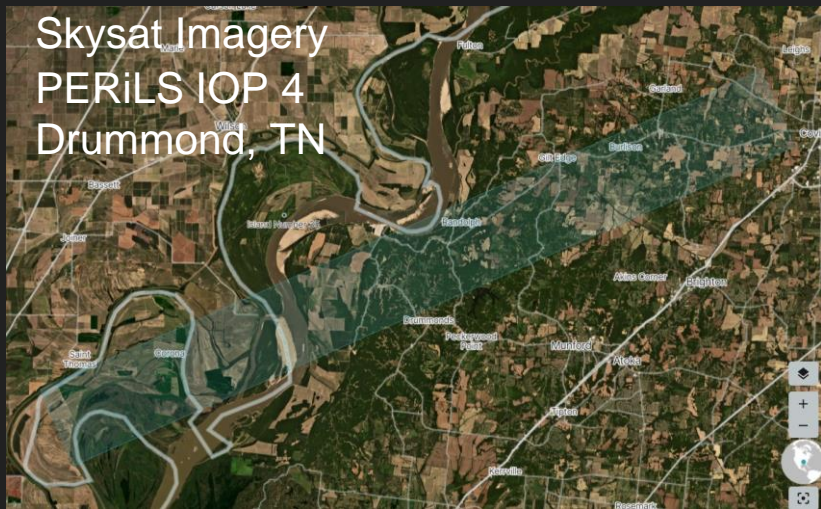


UAS mapping

UAS mapping



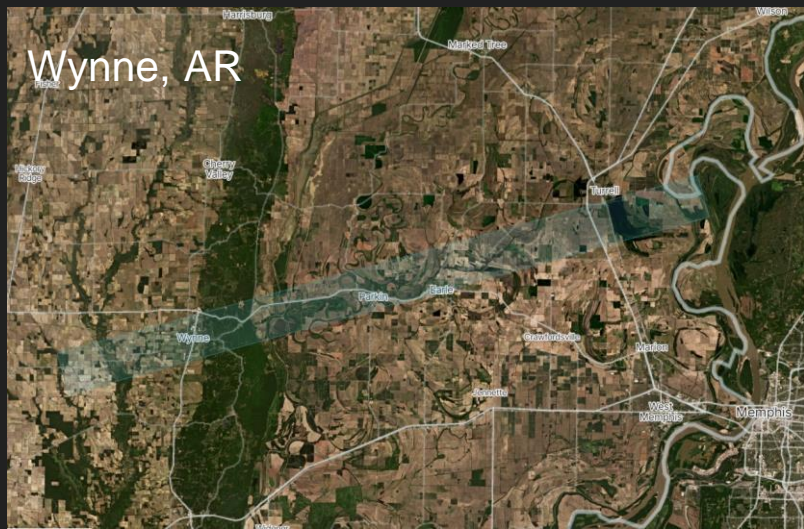
# Skysat Imagery PERiLS IOP 4 Drummond, TN



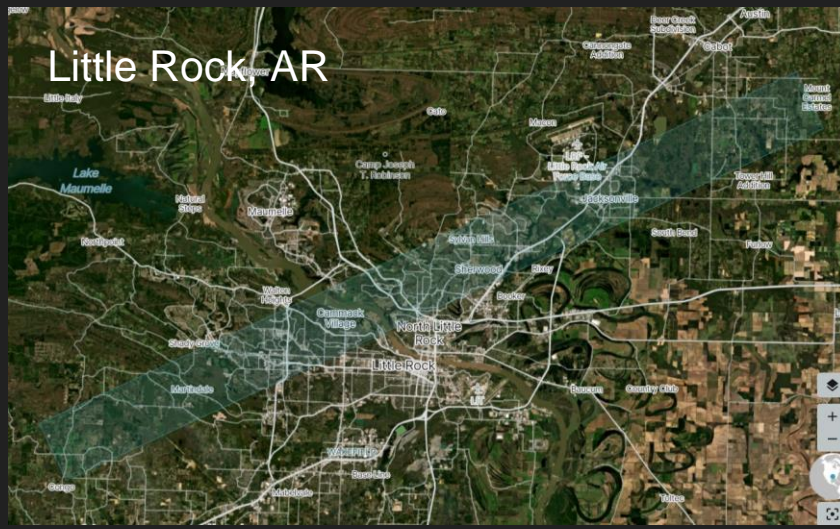
# Waynesboro-Hohenwald, TN



# Wynne, AR



# Little Rock, AR



# Data Availability

Data processed - Quality Control

Exploring best methods for archival & sharing per NOAA data policies (large datasets)

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Higgins Hollow TN - PERiLS IOP 4