Data Collection & Product Report for 2022 Seed Project: Understanding the Vegetation-Sediment-Flow Interplay in Deltaic Wetlands

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Data Collection Summary:

Collection Dates, Flights:	1 flight on September 20, 2023 (DOY 263)
Aircraft, Equipment:	Piper PA-31 Navajo (C-GJMT), Optech Titan (14SEN340)
Nominal Flight Parameters:	Flying Height: 450 m AGL, Speed: 125 kt, Overlap: 50%
Nominal Equipment Parameters:	Pulse Rate: 100 kHz, Scan Rate: 26 Hz, Scan Angle: ± 30°
Collected Area:	60.2 km²

GNSS Reference Station Summary:

Station Name	Operating Agency	Coordinates (ITRF2014 Epoch 2023.720 / Ellipsoid)
KGAO	NCALM	29°26'32.06098" N, 90°15'50.80759" W, -24.134 m

Data Processing Summary:

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Scan Angle Cutoff:	± 1°
Intensity Normalization:	450 m
Data Adjustments:	N/A
Ground Classification:	1 iteration of moderate ground determination, manual classification of misclassified ground
Elevation Model Generation:	Kriging

Data Accuracy Summary:

Strip-to-Strip Average:	0.042 m
GCP Residual RMS:	N/A

Data Product Summary:

Horizontal / Vertical Datum:	NAD83(2011) epoch 2010.000 / NAVD88 (GEOID12B)
Projection / Units:	UTM Zone 16N / meters
Point Cloud Tiles:	1000-m × 1000-m tiles in LAS format (Version 1.4) with non-ground (1), ground (2), low point (7), and high point (18) returns
Bare-Earth Elevation Model:	GeoTIFF @ 1-m resolution from classified ground
First-Surface Elevation Model:	GeoTIFF @ 1-m resolution with canopy and buildings included

Area of Interest:
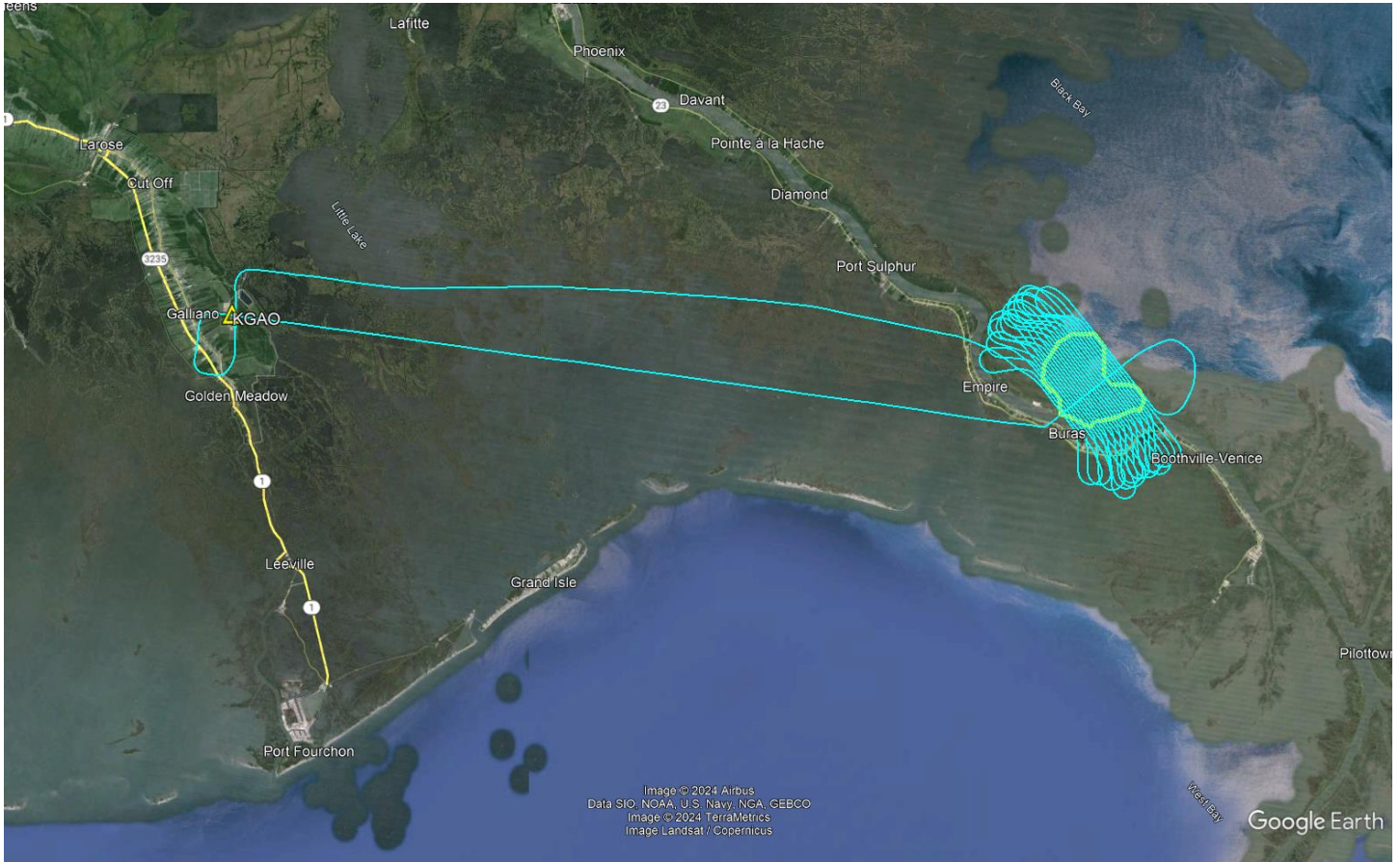
Location of survey polygon, aircraft trajectory, and GNSS reference station

The requested survey area consisted of one polygon located southeast of New Orleans, LA, over Quarantine Bay. The polygon enclosed approximately 40.0 km^2 (15.5 mi^2).