



CAP National Radar Analysis Team (NRAT)

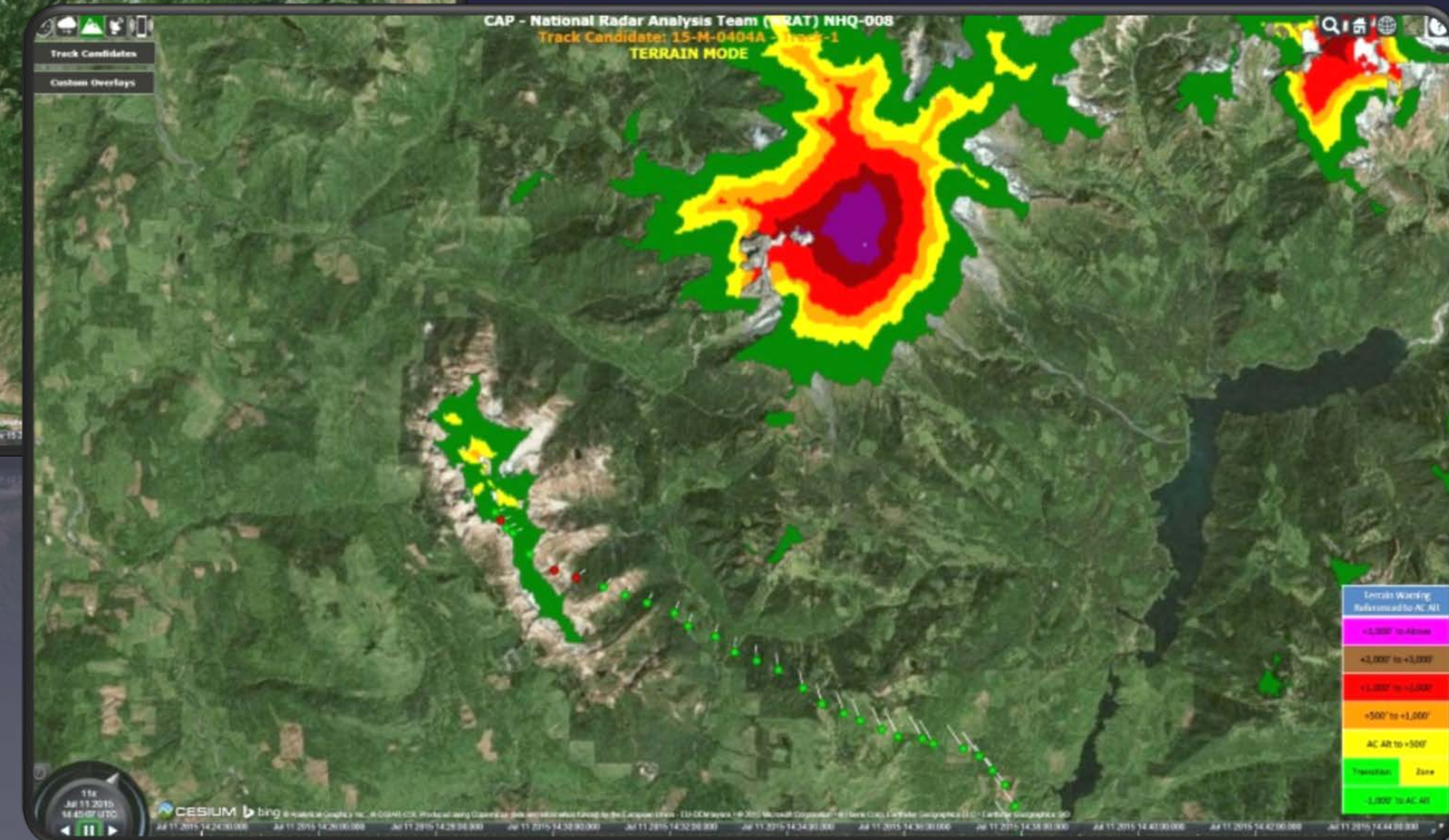
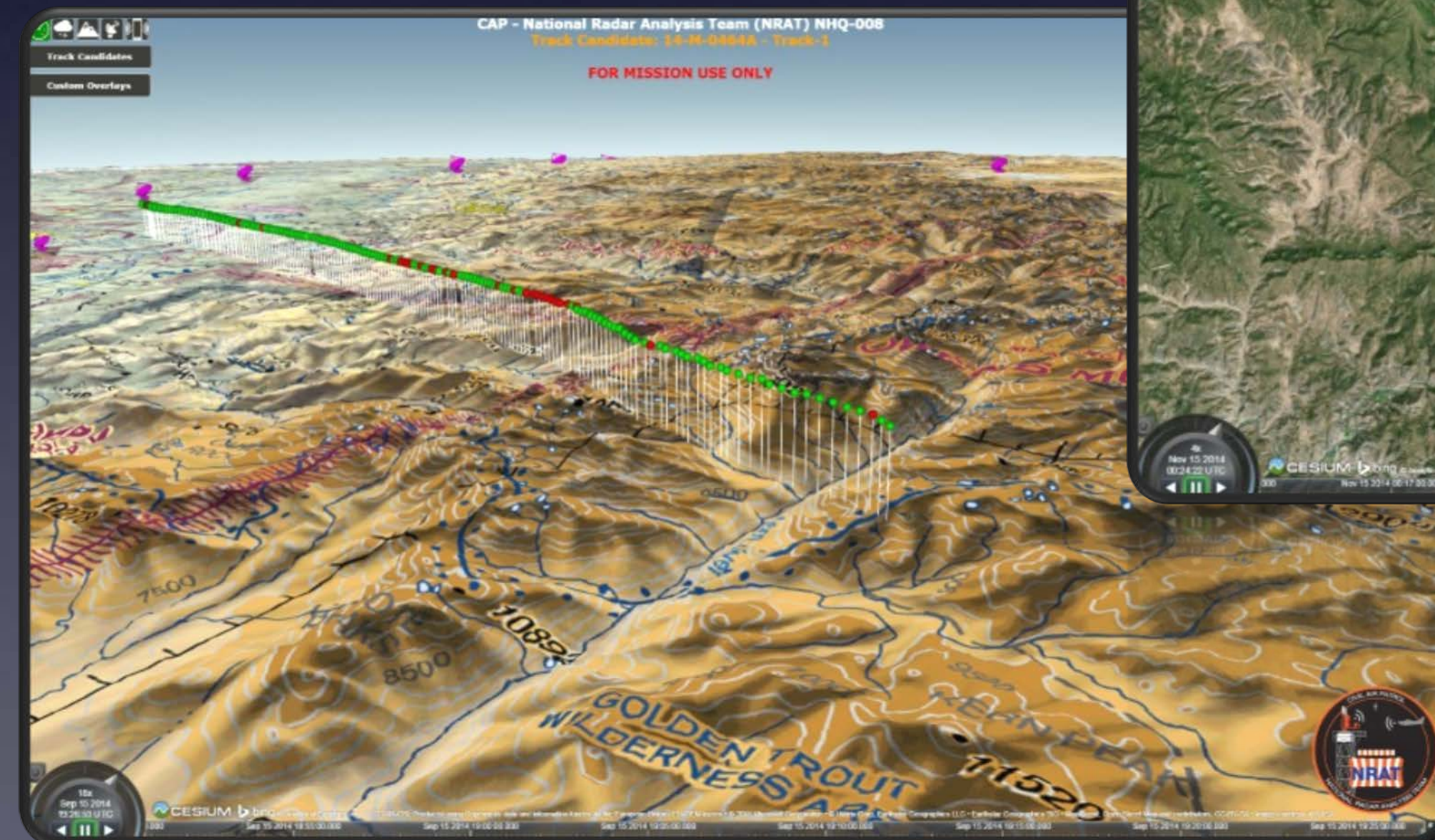
NHQ-008

Saving Lives Through Innovation

2017 Update

Presented By:
LtCol. John Henderson

- The Team Goals
- Accomplishments
- The Way Ahead





CAP National Radar Analysis Team (NRAT)

What the Team is All About

Save More Lives - Reduce the “Crash to Rescue” Time

Team Goals

- 1) Create the SAR radar forensics “A” team
 - The best radar data analysts
 - Software development team with very unique skill sets
- 2) Develop enhanced SAR analysis tools
 - Fast access to radar data and environmental data - Dedicated CAP feeds
 - Advanced track analysis and briefing tools – **Mission SandBox and Flight Plan System**
- 3) Crash Detection System - (ICARUS) - **In Final Stages of Development**
 - Alerts of possible crashes within minutes of impact
 - Generation of alert analysis package



CAP National Radar Analysis Team (NRAT)

The Team

LtCol. John Henderson
Vice-Commander
Radar Data Analyst
Software Developer
AF/CAP Experience - 36 Years
SAR Missions - 600+

2Lt. Mark Keene
Radar Data Analyst
AF/CAP Experience - 16 Years

2Lt. Argon Helm
Software Programmer
AF/CAP Experience - 26 Years

Maj. Mark Young
ADSB Data Specialist
CAP Experience - 15 Years

2Lt. Joe Berry
Radar Data Analyst
AF/CAP Experience - 29 Years

2Lt. Joe Ashworth
Radar Data Analyst
FAA/CAP Experience - 19 Years

SM. Rick Austin
Radar Data Analyst
FAA/CAP Experience - 21 Years

2Lt. Robert Roane
Radar Data Analyst - Advisor
FAA/CAP Experience - 21 Years

Col. Greg Cortum
Commander
CAP Experience - 17 Years

Capt. Joshua Beder
AFRCC Liaison
AF/CAP Experience - 8 years

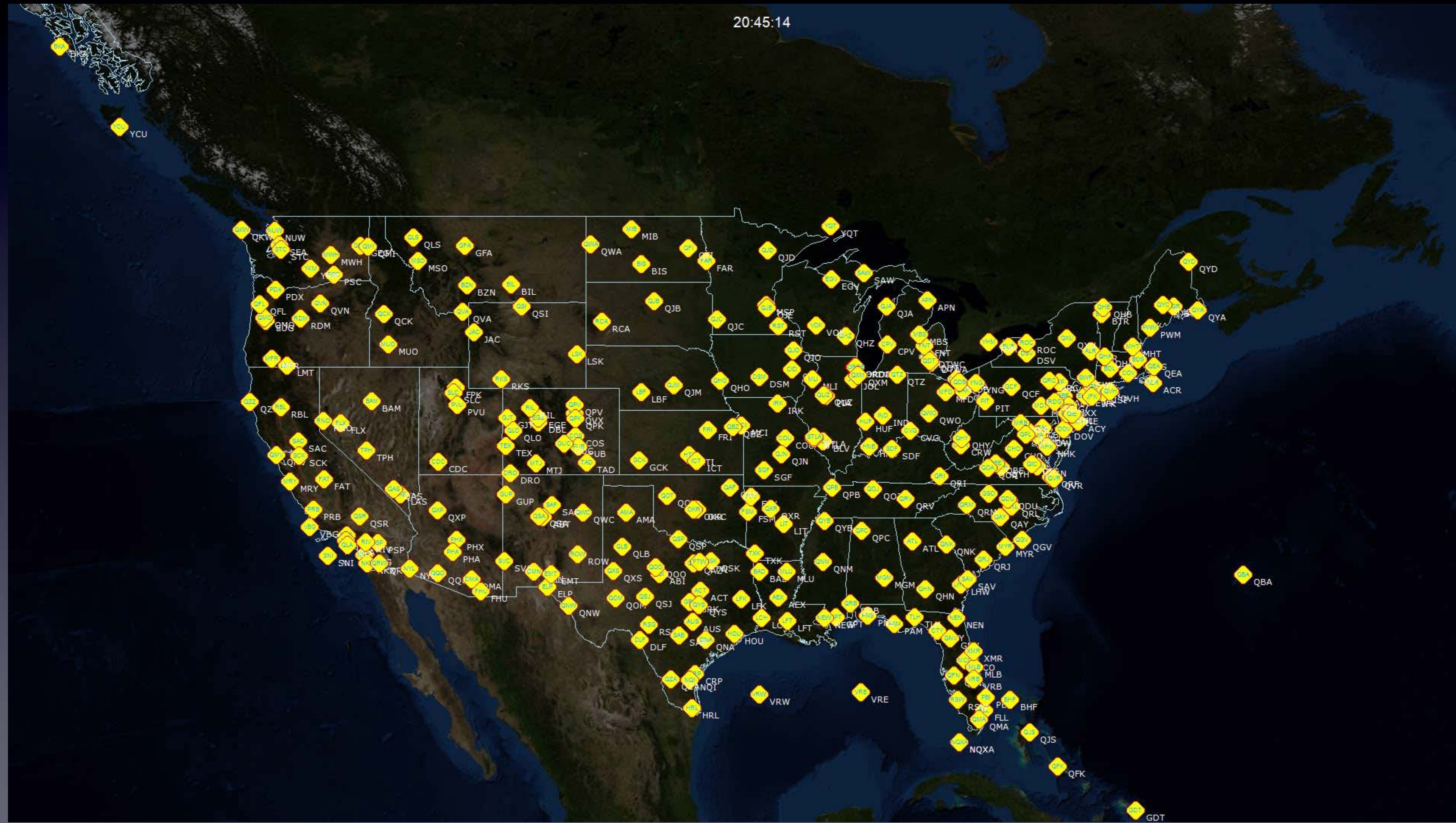
Capt. Guy Loughridge
Radar Data Analyst
Software Programmer
CAP Experience - 13 Years
SAR Missions - 500+



CAP National Radar Analysis Team (NRAT)

Team Accomplishments

CONUS Rader Data

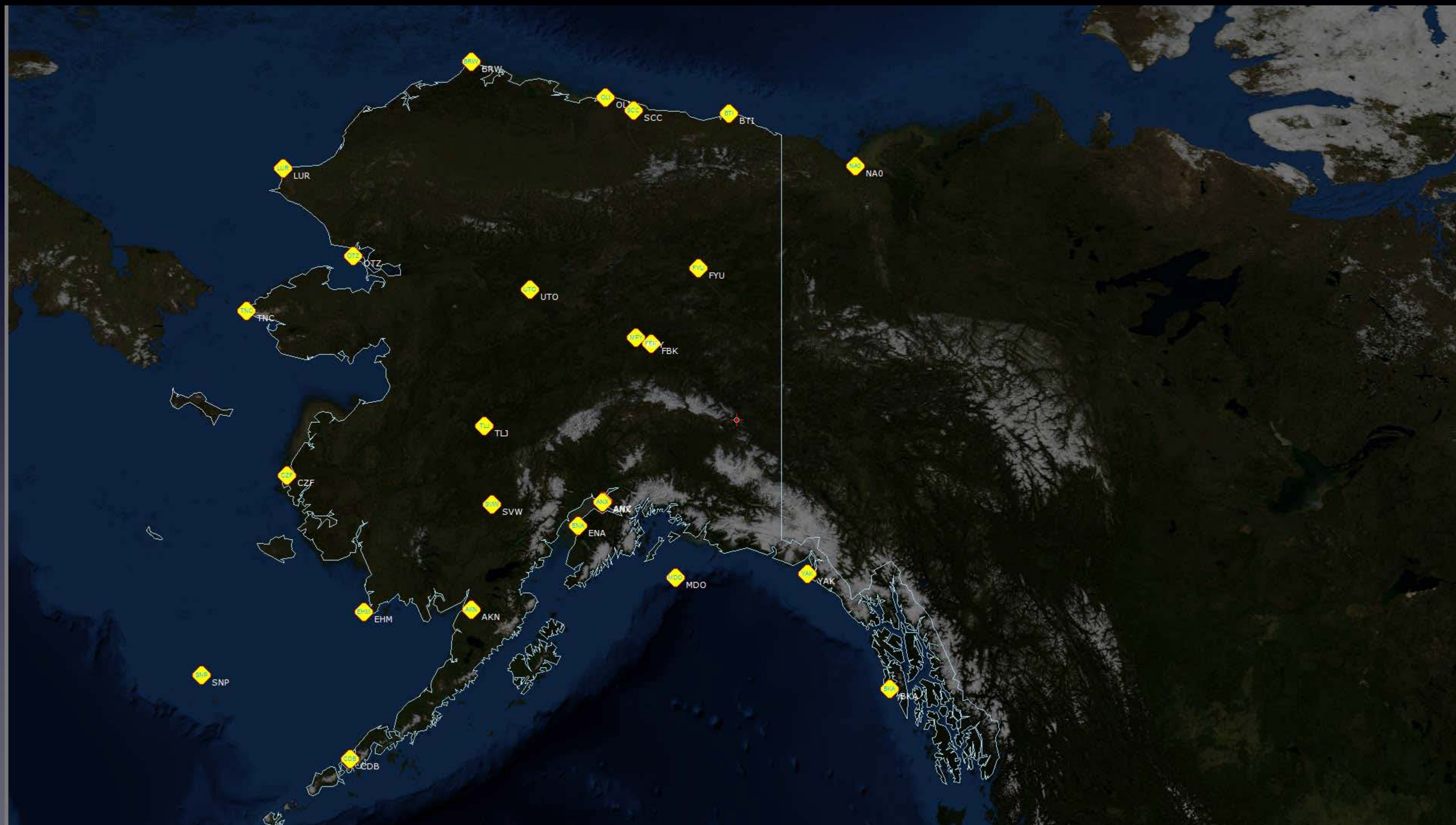




CAP National Radar Analysis Team (NRAT)

Team Accomplishments

Alaska Rader Data





CAP National Radar Analysis Team (NRAT)

Team Accomplishments

Hawaii Rader Data





CAP National Radar Analysis Team (NRAT)

Conventional Analysis vs. Current NRAT

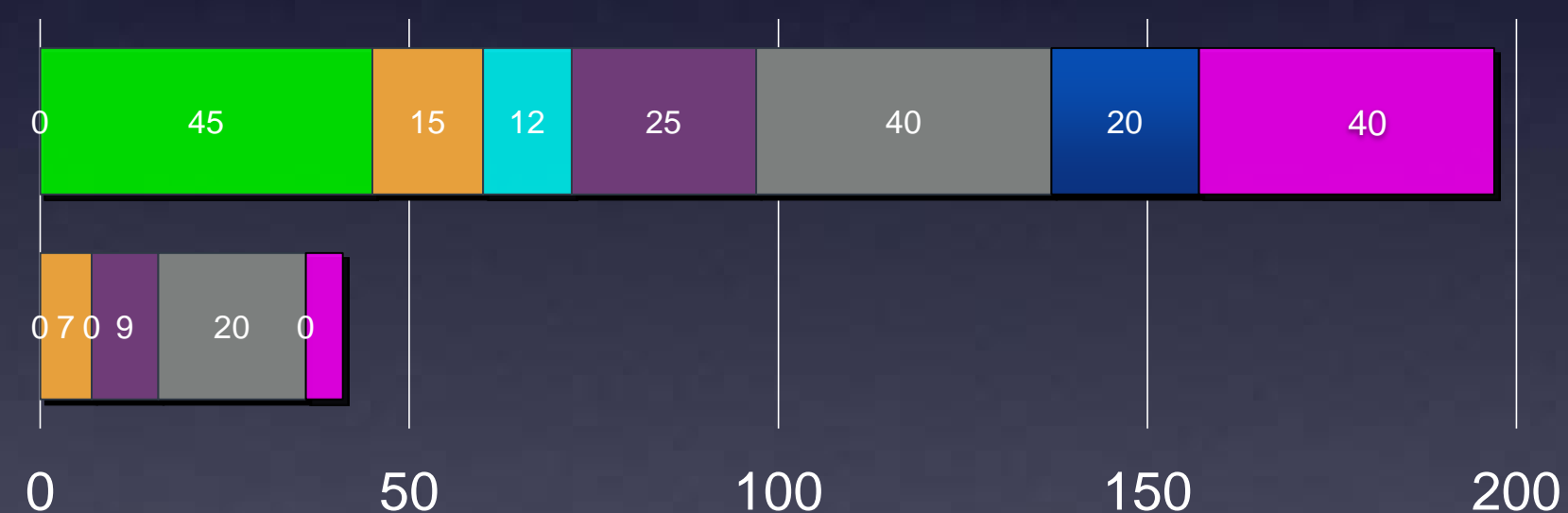
■ Unaware ■ Driving ■ Acquire ■ Convert ■ Transmit ■ Analyze ■ Weather Data ■ Brief

Notification

Conventional Analysis

NRAT Analysis

Minutes:



3:17
Total Time

0:40
Total Time

Times based on CAP averages



CAP National Radar Analysis Team (NRAT)

Mission Success – Since Team Formation

AFRCC – Credited – 1 Jan 2009 to 01 Aug 2017	
Aircraft SAR Missions -	498
Finds -	215
Saves -	31
Exercises -	3

AFRCC – Credited - 2017	
Aircraft SAR Missions -	56
Finds -	30
Saves -	6
Exercises -	2

Mission SandBox



Mission SandBox

(H) Track Id: 13820539

Track Id 13820539
Callsign
Mode 3/A 1452
Time 01:26:39 GMT
Latitude 27° 01' 54 N
Longitude 82° 03' 52 W
Altitude 28100 (ft)
Heading 290°
Speed 477 (kts)
Rate of Climb 542 (ft/min)
Coast Count 0

(S) Track Id: 13820539

Track Id 13820539
Callsign
Mode 3/A 1452
Time 01:26:51 GMT
Latitude 27° 02' 18 N
Longitude 82° 05' 35 W
Altitude 28200 (ft)
Heading 285°
Speed 481 (kts)
Rate of Climb 761 (ft/min)
Coast Count 0



CESIUM

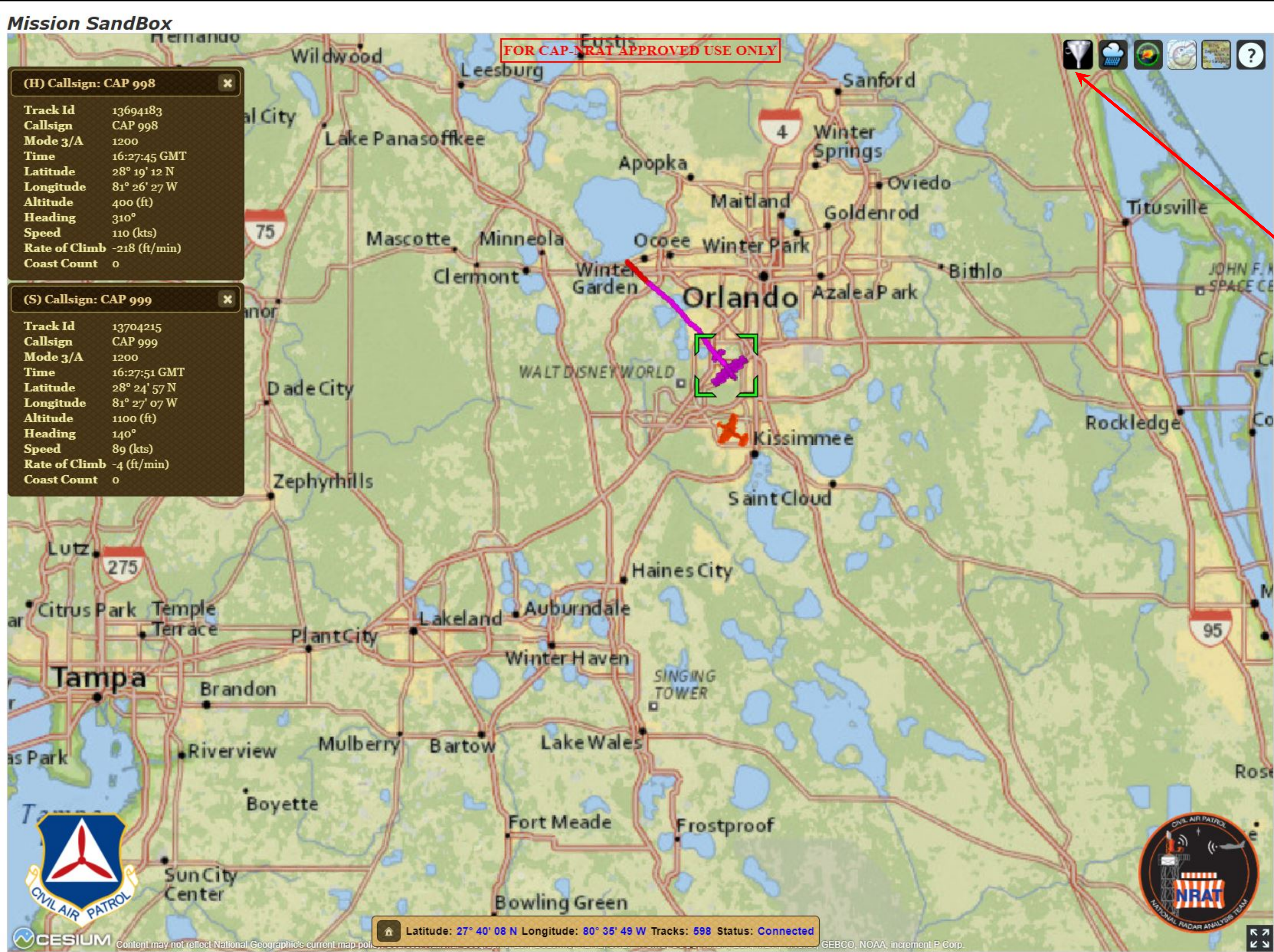
Content may not reflect National Geographic's current map policy. Source: NOAA, increment P Corp.

Latitude: 30° 50' 39 N Longitude: 86° 07' 29 W Tracks: 229 Status: Connected

BCO, NOAA, increment P Corp.



Mission SandBox – Track Isolation



Mission SandBox – METAR Weather Data



Mission SandBox

(H) Track Id: 13675142	
Track Id	13675142
Callsign	
Mode 3/A	2725
Time	16:52:51 GMT
Latitude	28° 50' 34 N
Longitude	81° 48' 45 W
Altitude	9400 (ft)
Heading	106°
Speed	296 (kts)
Rate of Climb	-1416 (ft/min)
Coast Count	0

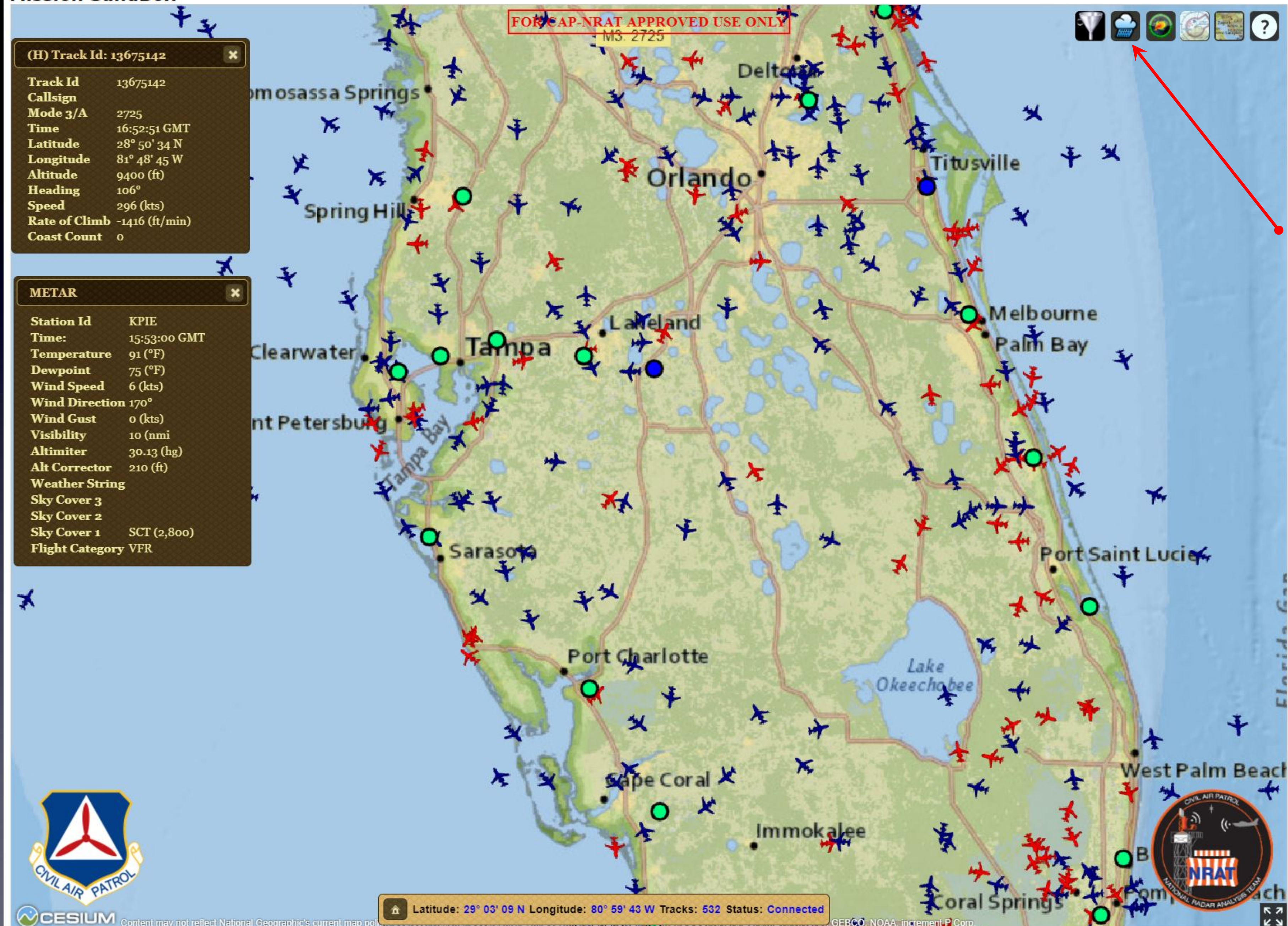
METAR	
Station Id	KPIE
Time:	15:53:00 GMT
Temperature	91 (°F)
Dewpoint	75 (°F)
Wind Speed	6 (kts)
Wind Direction	170°
Wind Gust	0 (kts)
Visibility	10 (nmi)
Altimeter	30.13 (hg)
Alt Corrector	210 (ft)
Weather String	
Sky Cover 3	
Sky Cover 2	
Sky Cover 1	SCT (2,800)
Flight Category	VFR



Content may not reflect National Geographic's current map policy.

Latitude: 29° 03' 09 N Longitude: 80° 59' 43 W Tracks: 532 Status: Connected

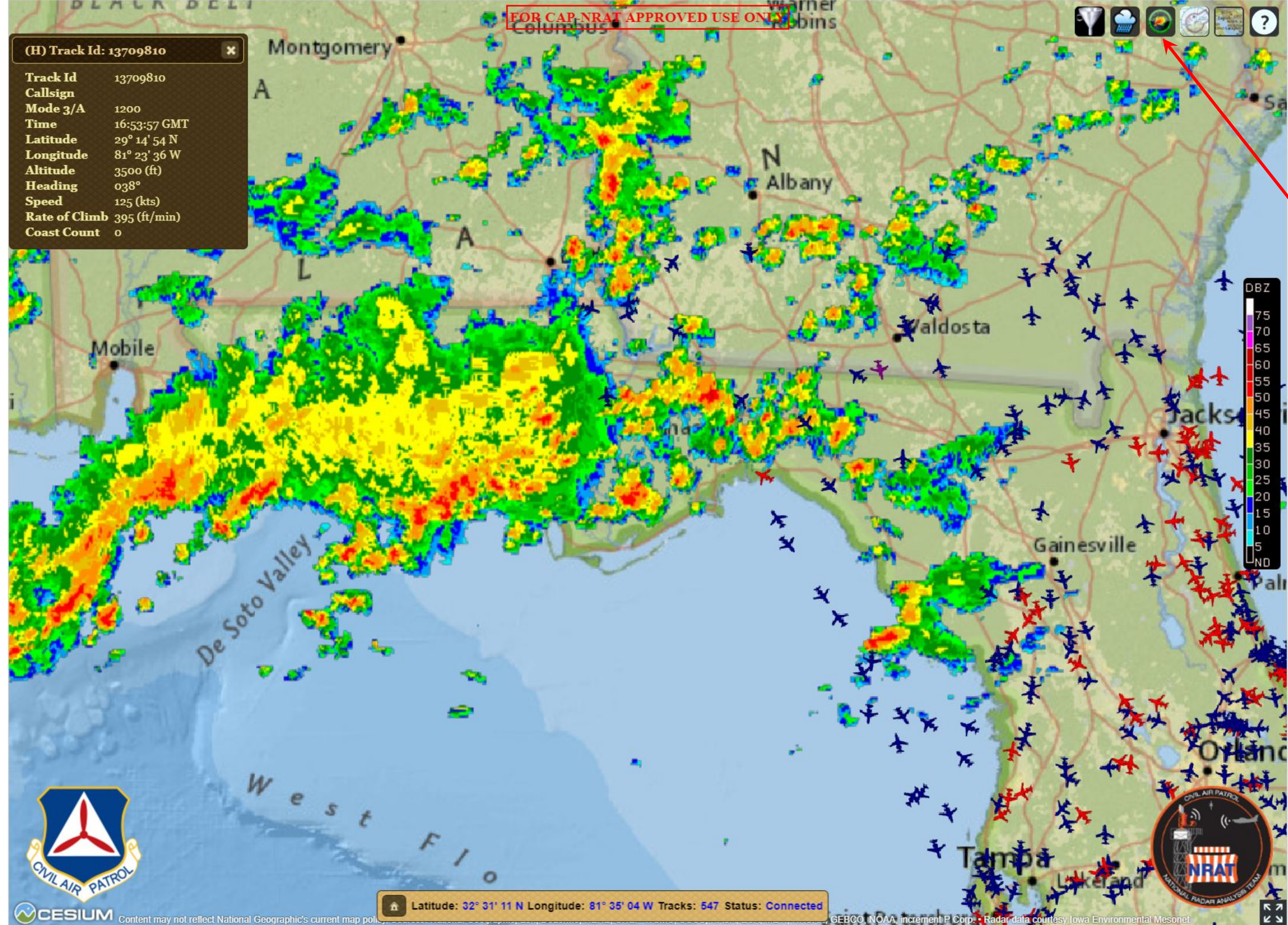
GEBCO, NOAA, increment P Corp.



Mission SandBox – NEXRAD Weather Data



Mission SandBox





Mission SandBox – Sectional Overlay



Mission SandBox – Satellite Imagery



Mission SandBox

(H) Callsign: CAP 999

Track Id	13704215
Callsign	CAP 999
Mode 3/A	1200
Time	16:31:39 GMT
Latitude	28° 21' 00 N
Longitude	81° 22' 16 W
Altitude	600 (ft)
Heading	128°
Speed	84 (kts)
Rate of Climb	-54 (ft/min)
Coast Count	0

(S) Callsign: CAP 999

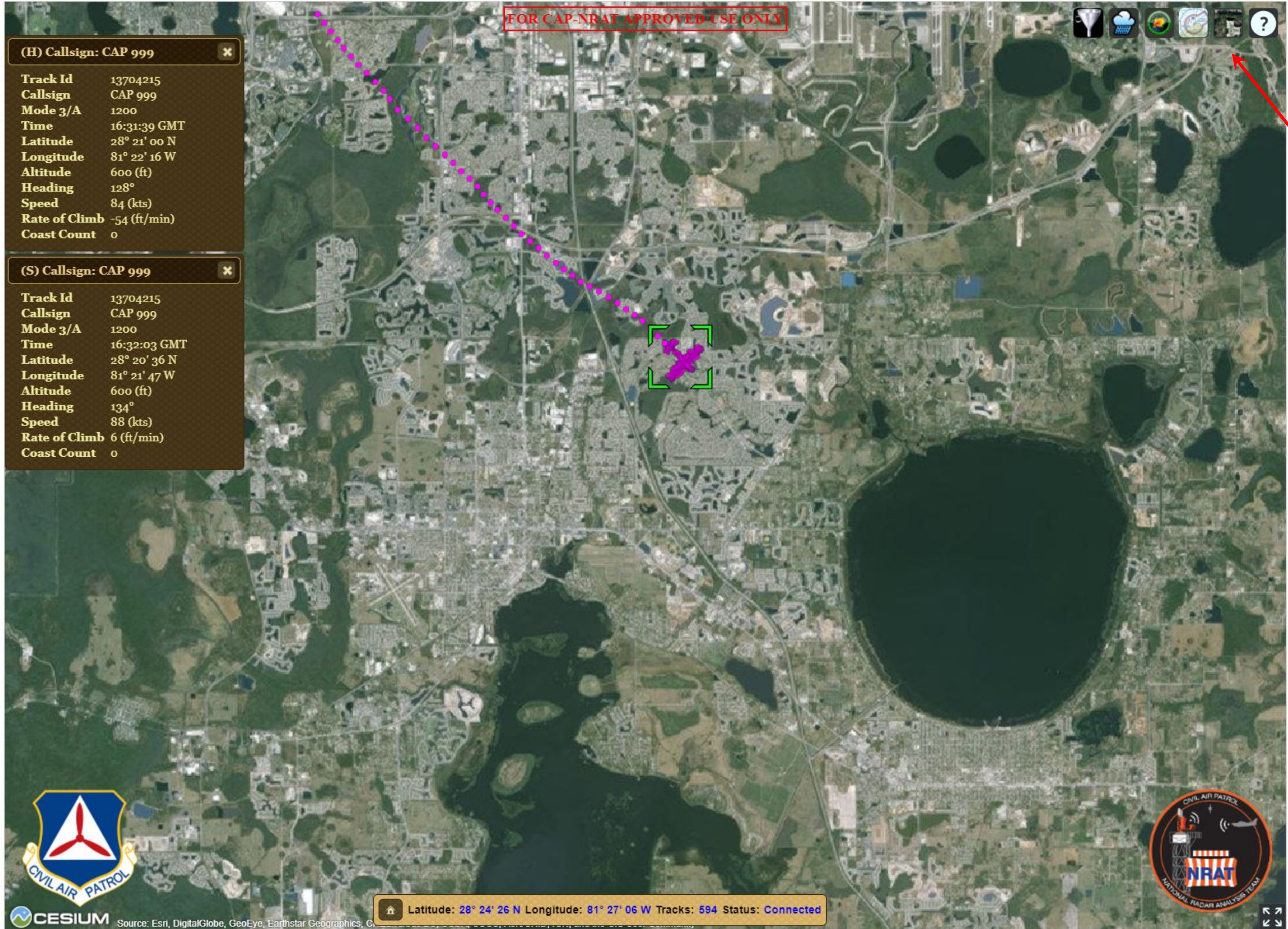
Track Id	13704215
Callsign	CAP 999
Mode 3/A	1200
Time	16:32:03 GMT
Latitude	28° 20' 36 N
Longitude	81° 21' 47 W
Altitude	600 (ft)
Heading	134°
Speed	88 (kts)
Rate of Climb	6 (ft/min)
Coast Count	0



CESIUM

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, G

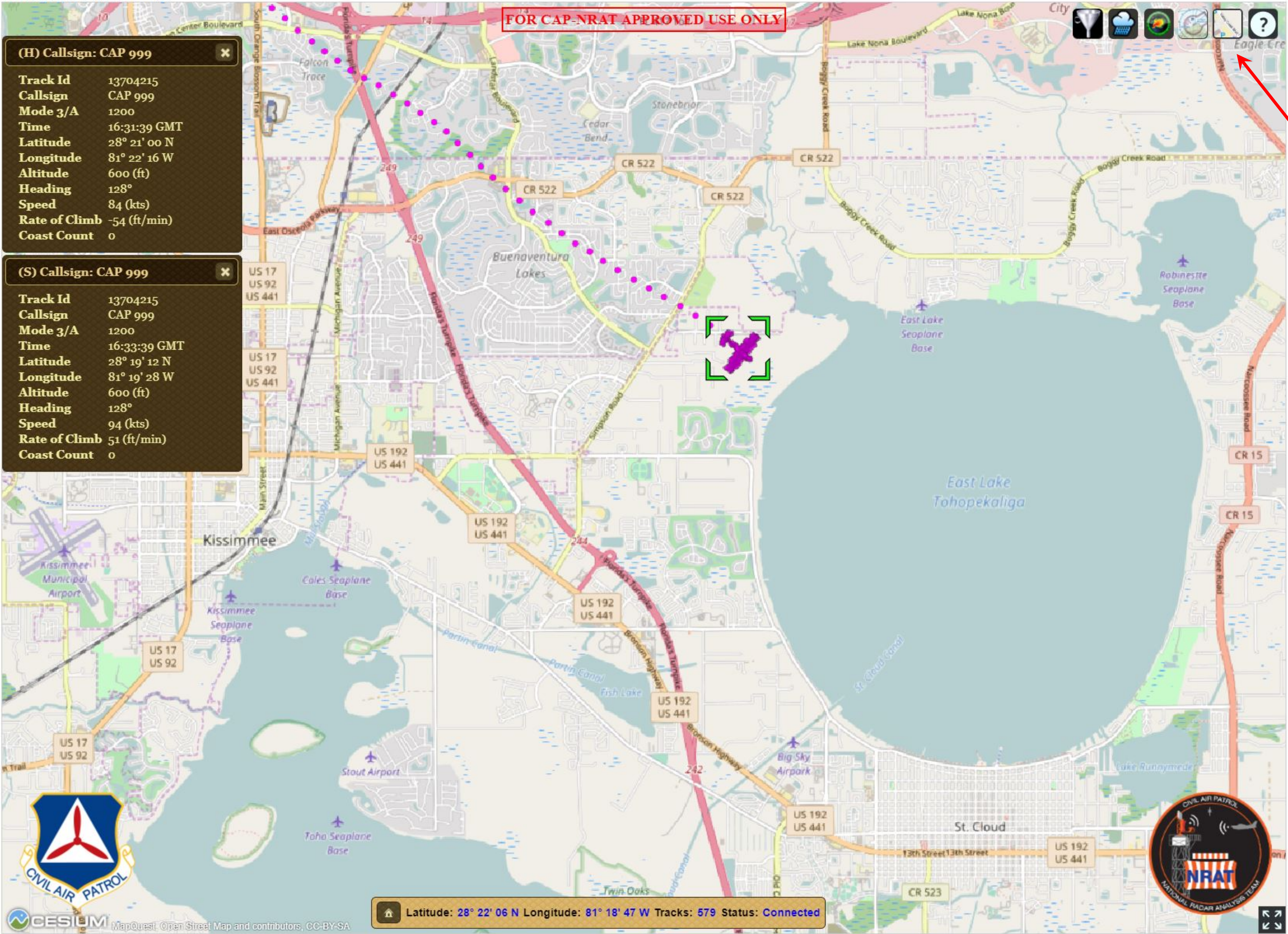
Latitude: 28° 24' 26 N Longitude: 81° 27' 06 W Tracks: 594 Status: Connected





Mission SandBox – Street Map

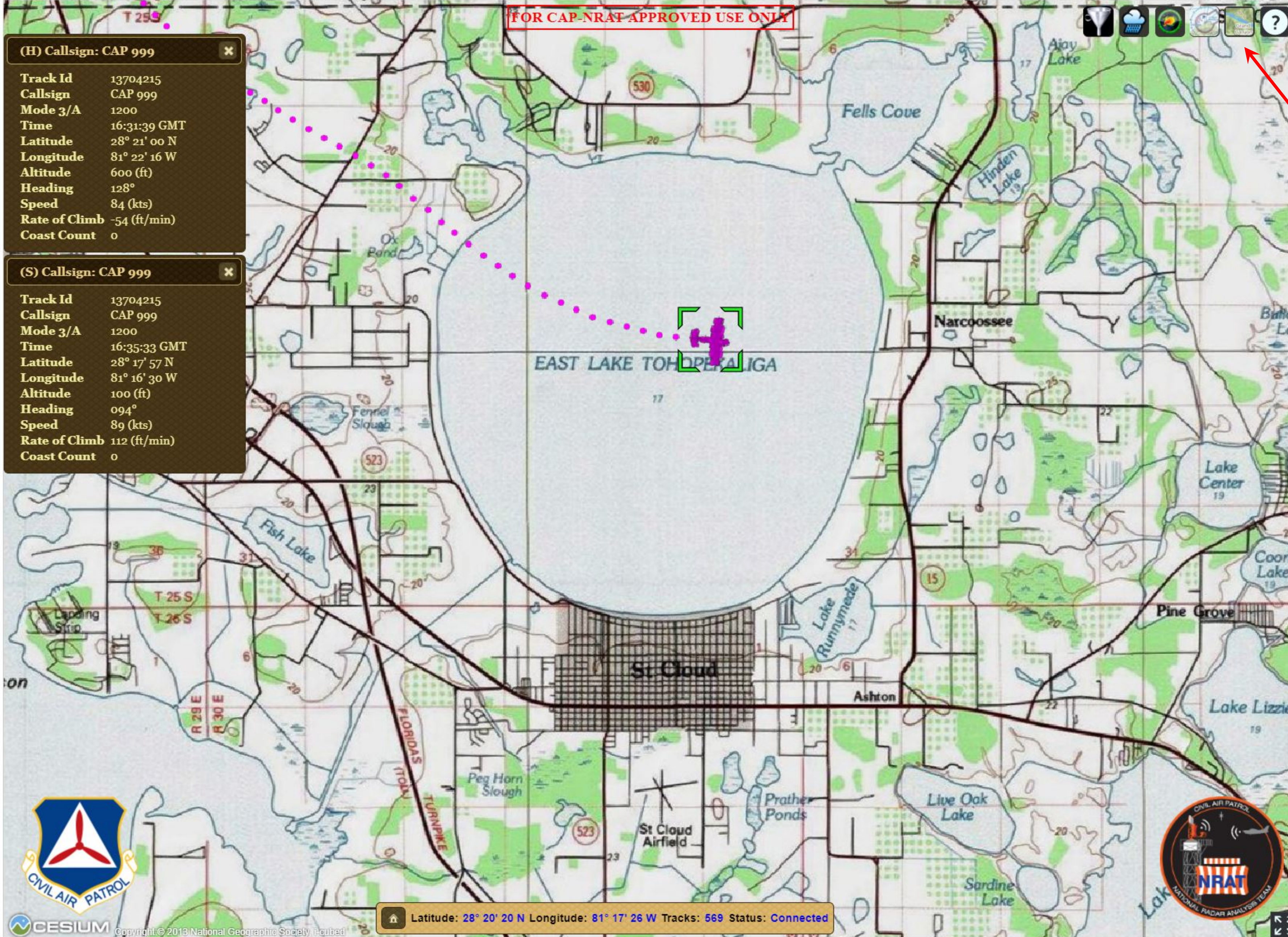
Mission SandBox



Mission SandBox – Topo Map




Mission SandBox



Mission SandBox – Mission Page Entry Point





National Radar Analysis Team
Civil Air Patrol

Log out ▾

HomeMission - Tools ▾Mission ChatMissions ▾Mission Archive ▾Team Info ▾

Menu

Logged In Now

3 online users


- ✉ IC-W-26_480783
- ✉ IC-T-01_766808
- ✉ John Henderson

Last Visitors

!!!

Items found: 1

OverviewPre-BriefChatChat ArchiveTrack BriefSandBoxFilesBigBlueButtonNo Tabs



Cirrus - SR22

Mission: 17-M-0019A
Mission Date: 2017-01-07 17:17 Z

AFRCC Controller: TSgt. Jacquelyne Huie
NRAT Primary Analyst: Mark Keene
Mission Status: Open **Found Status:** Found

Aircraft Information
N Number: N7VK
Manufacture: Cirrus
Model: Cirrus - SR22
FAA Model: SR22
Aircraft Year: 2003
Cruise Speed: 180 KTS
Rate of Climb - Sea Level: 1,270 FPM **Rate of Climb - 10,000':** 650 FPM
Service Ceiling: 17,500 Feet
Range: 1,049 NM

Souls on Board: 2 **Survivors:** 2

Quick Edit a Wiki Page

Create/Edit

Search

SearchTitles

Last-Visited Pages

- Current SAR Missions
- CAP-NRAT HomePage

Newest Blog Posts

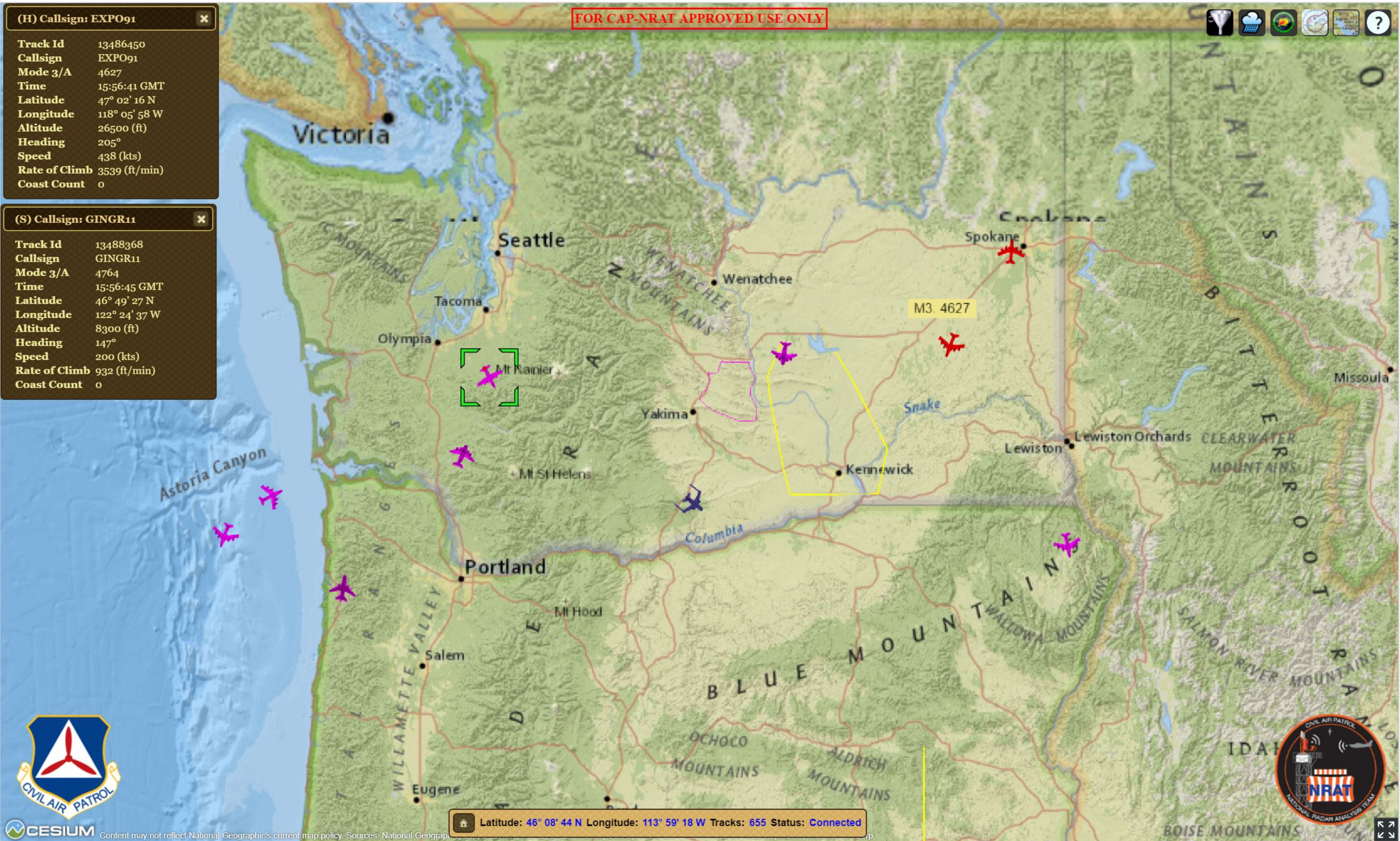
No records to display



Mission SandBox – Mobility Guardian Support

SandBox - Exercise Mobility Guardian

Exercise Mobility Guardian - Unclassified Air Picture





Flight Plan Archive System

Number of rows: 25 ▼

Filter rows:

+ Options

type	time ▼ 1	aircraft_id	beacon_code	aircraft_type	departure_airport	arrival_airport	route	ETD	ETA
FP	2017-08-04 15:13:17	N2278C		C172	KFMY	KISM	KFMY..ROGAN..LAL..KISM/0109	2017-08-04 20:34:00	2017-08-04 21:36:49
BC	2017-08-04 14:44:00	N2278C	5560		KISM	ISM		NULL	NULL
FP	2017-08-04 13:55:57	N2278C		C172	KISM	ISM	KISM..VIZTA..OCF..ISM/0230	2017-08-04 15:46:00	2017-08-04 17:02:05
BC	2017-08-04 13:14:00	N2278C	3434		KISM	ISM		NULL	NULL

Number of rows: 25 ▼

Filter rows:



CAP National Radar Analysis Team (NRAT)

Briefing Summary

- World Class Team
 - Most Experienced SAR Radar Forensics Team in the World
 - Forensics Software Development Group
- Updated Tools and Procedures
 - Faster Access to Enhanced Radar Data
 - Software Assistance in Blending Many Sources of Information
 - Comprehensive Analysis Results Briefing Packages
- The Future - ICARUS - Aircraft Crash Detection and Alerting
 - Near-Real-Time System
 - Designed to shorten "Crash to Rescue" Time - More Saved Lives

Civil Air Patrol

**Please complete the 2017
survey online for a chance
to have your conference
registration fee refunded**

<https://www.surveymonkey.com/r/17NatCon>

A nighttime photograph of the Anaheim Marriott hotel. The hotel's facade is illuminated with warm lights, and a prominent red neon sign with the word "Marriott" is visible on the upper left. In the foreground, a large, curved fountain with multiple tiers of water is lit up. The surrounding area includes palm trees and other landscaping. The sky is dark blue.

Save the Date
23-25 August
2018

**National Conference &
Command Council**

Anaheim Marriott Anaheim,
California

Online Registration Opens April 2018