

Factual Report – Attachment 18
2021 Alaska Preseason Air Safety Meeting

OPERATIONAL FACTORS

ANC21FA069

Weather Camera Program Update

Program Update

Presented by Walter Combs

Weather Camera Program Manager

FAA SYS OPS_AJR-B200

Presented to: 2021 Spring Air Safety Meeting

March 25, 2021



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Weather Camera Program



Our Mission

Improve Aviation Safety and Efficiency in the NAS

Goals

- Reduce weather-related aviation accidents
- Reduce weather-related flight interruptions
- Improve aviation flight decision making



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FAA Weather Cameras: Needs-Driven Innovation

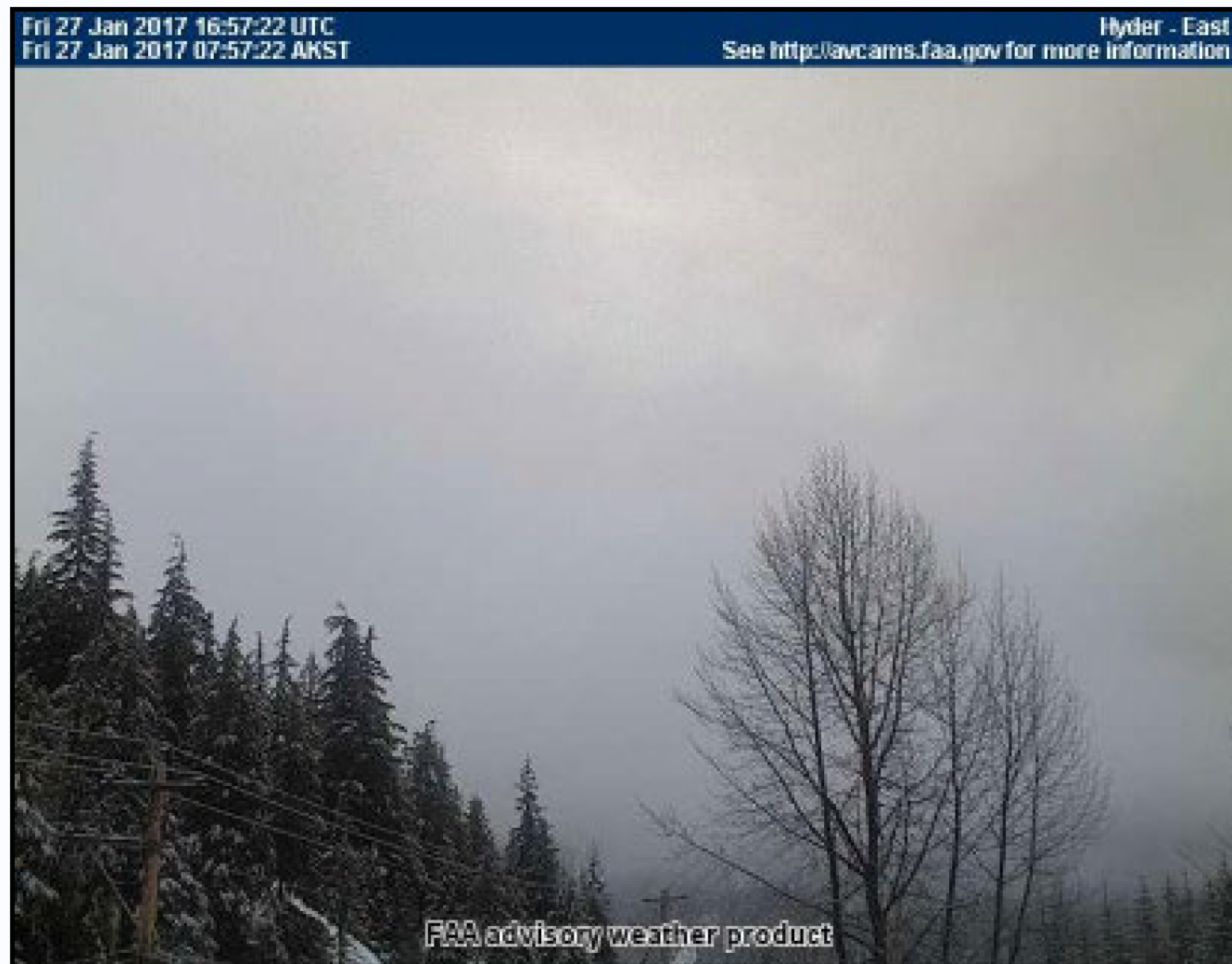


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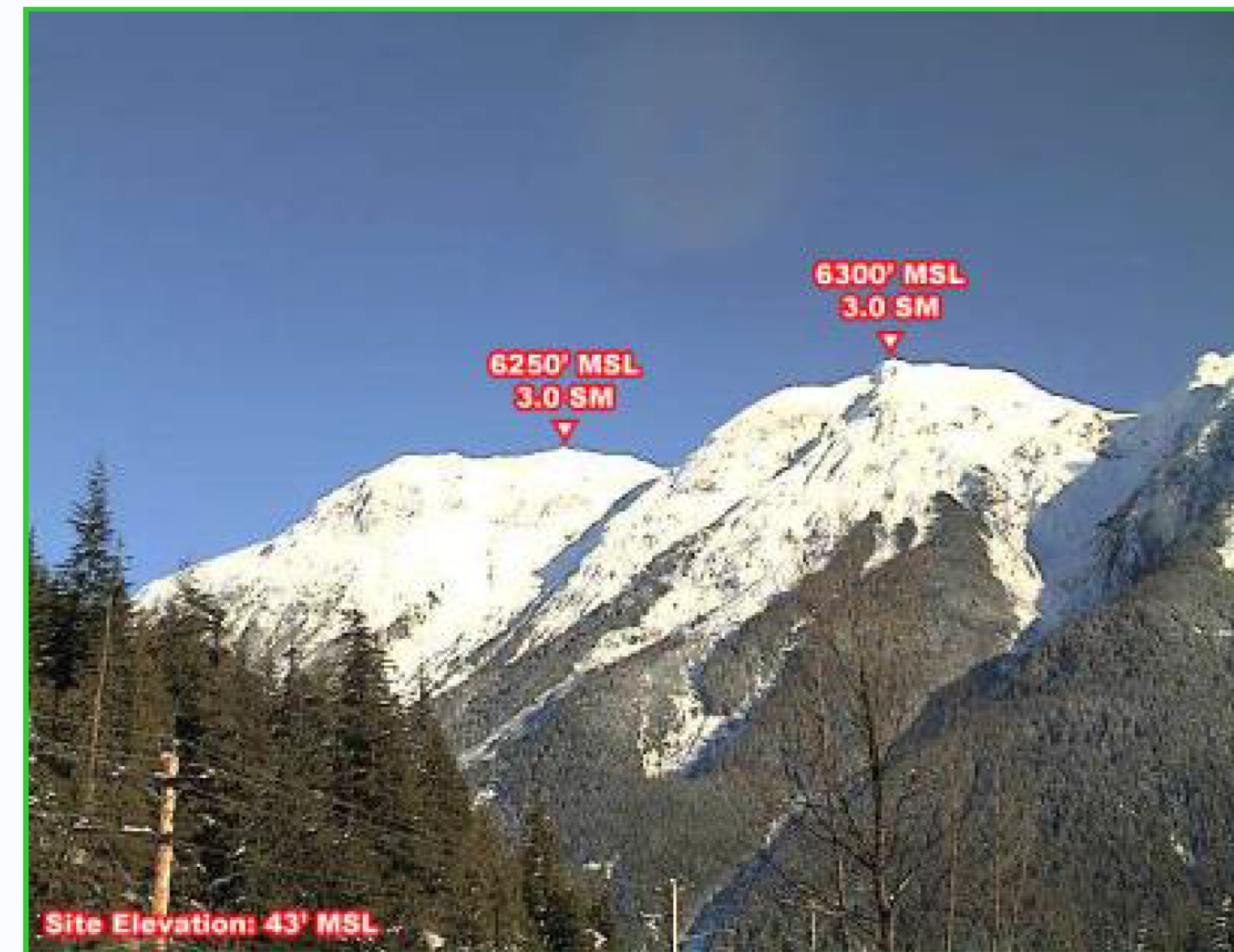
◀ Look Before you Fly, versus Fly out and take a look!

FlightService
ATO SysOps

- Improves Pilot Self-Briefing, Pre-flight and “Go/No-Go decision making”
- Reduces accidents, fatalities, and weather-related flight interruptions



(Current Image)



(Clear-Day Image)



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Weather Camera Program

➤ Camera Sites

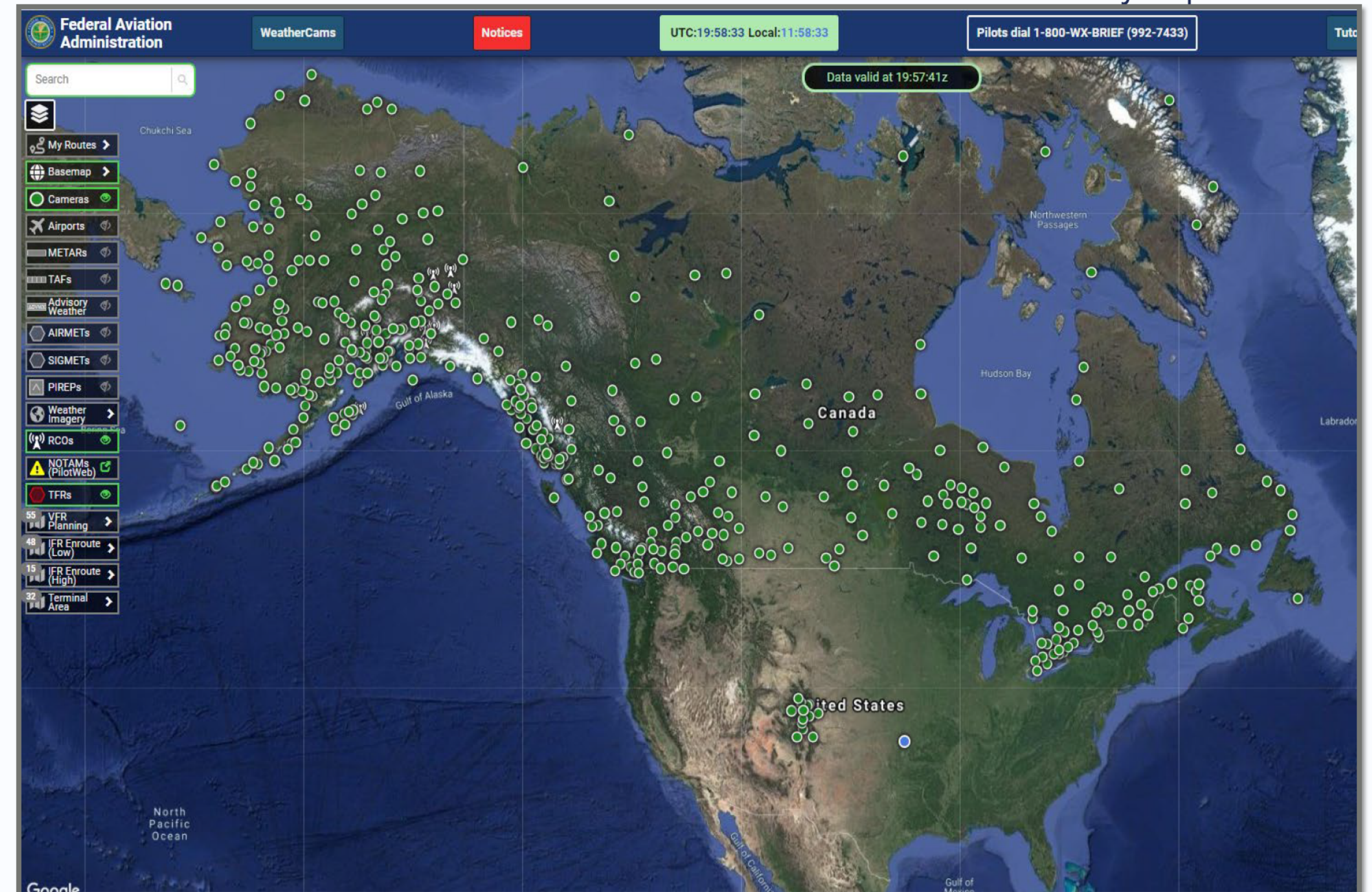
- 230 Alaska FAA Camera Sites
- 215 NAV Canada 'Hosted' Sites
- 13 Colorado Dot 'Hosted' Sites

➤ Website Data Sets

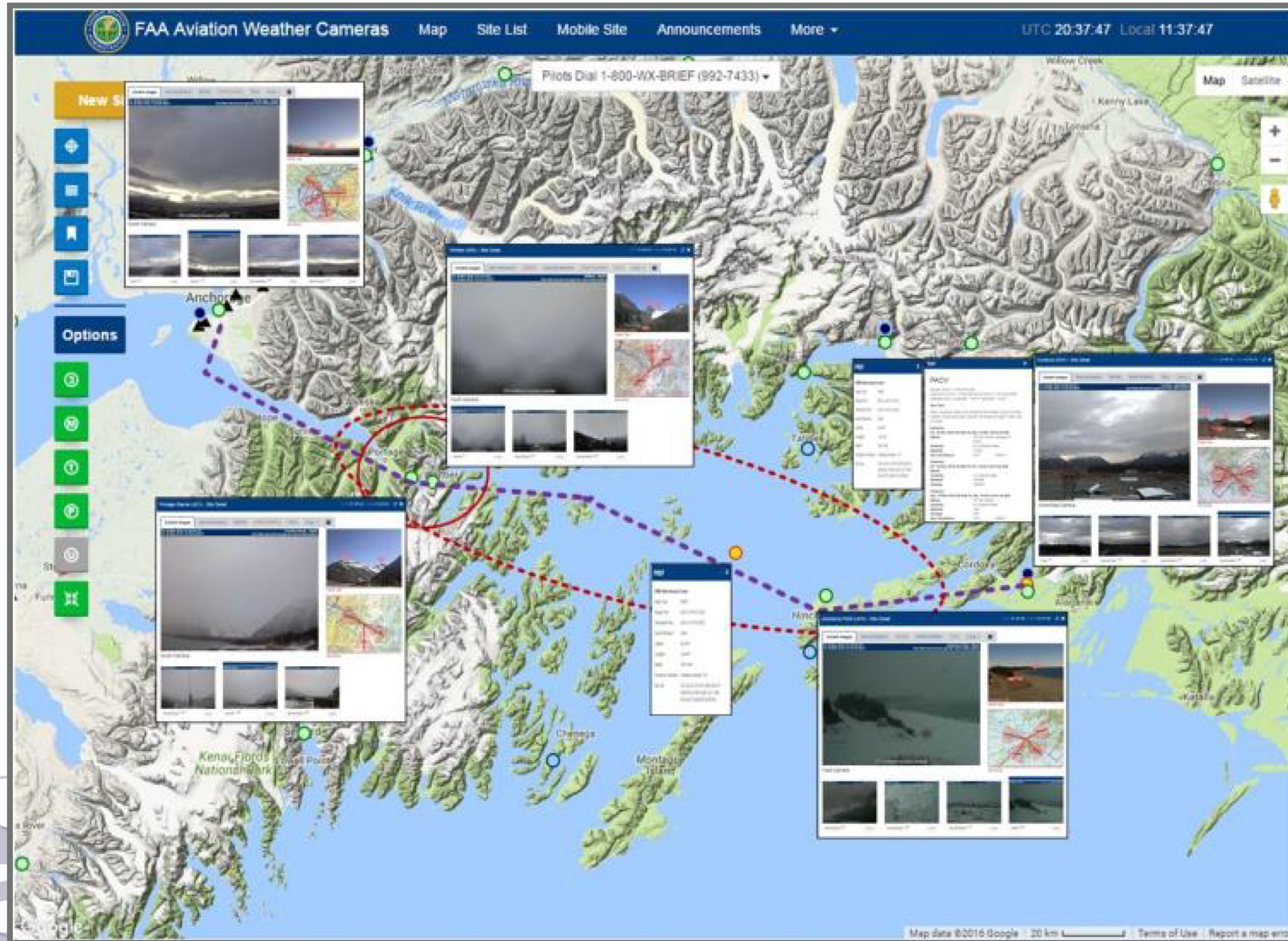
- <https://weathercams.faa.gov>
- Images, METARS, TAFS, PIREPS
- Satellite, RADAR, RCO/RCAGs
- Airports, Sectionals, NOTAMs, & more.

➤ Wide Range of Users

- GA, Part 121/135/91
- Helicopter, EMS, SAR, Military
- NOAA / NWS, Marine, R&D, NextGen Development

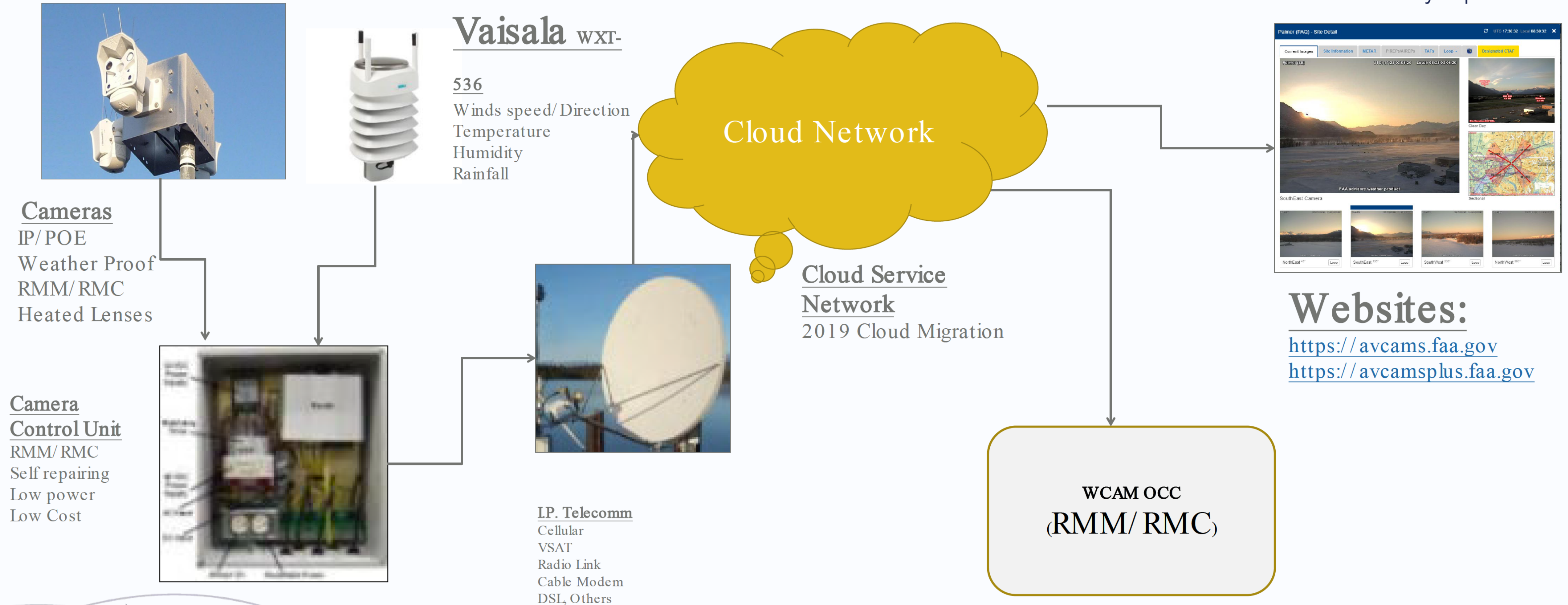


Route-based Flight Decision Making



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Weather Camera System Architecture







Cape Spencer Lighthouse, Alaska



Misty Fjords



Grave Point, Alaska



Baseline Program Performance Metrics

➤ Safety: Reduction of Weather-Related Aviation Accidents

(2007 Accident **Baseline = 0.28** weather-related accidents per 100,000 hours of operations)

- 2008 Target = 0.24 Actual = 0.21
 - 2009 Target = 0.22 Actual = 0.21
 - 2010 Target = 0.20 Actual = 0.17
 - 2011 Target = 0.18 Actual = 0.13
 - 2012 Target = 0.17 Actual = 0.17
 - 2013 Target = 0.16 Actual = 0.13
 - 2014 Target = 0.15 Actual = 0.04
- (85% reduction 2007 - 2014)

➤ Efficiency: Reduction of Weather-Related Flight Interruption hours

(2007 **Baseline = 15,374** hours of weather-related flight disruptions)

- 2008 Target = 11,327 Actual = 13,588
 - 2009 Target = 9,748 Actual = 8,709
 - 2010 Target = 8,370 Actual = 8,149
 - 2011 Target = 7,941 Actual = 5,533
 - 2012 Target = 7,724 Actual = 5,442
 - 2013 Target = 7,503 Actual = 5,286
 - 2014 Target = 7,369 Actual = 5,129
- (69% reduction 2007 - 2014)



August 2013: NTSB Safety Recommendations

- ▶ **A-13-025** – Establish WCAM Service in Hawaii
- ▶ **A-13-026** – Establish WCAM Services in CONUS
- ▶ **A-13-027** – Enable Flight Service Specialists to brief images as a part of pilot weather briefings.



April 15, 2020, FAA Joint Resources Council approves camera services outside of Alaska

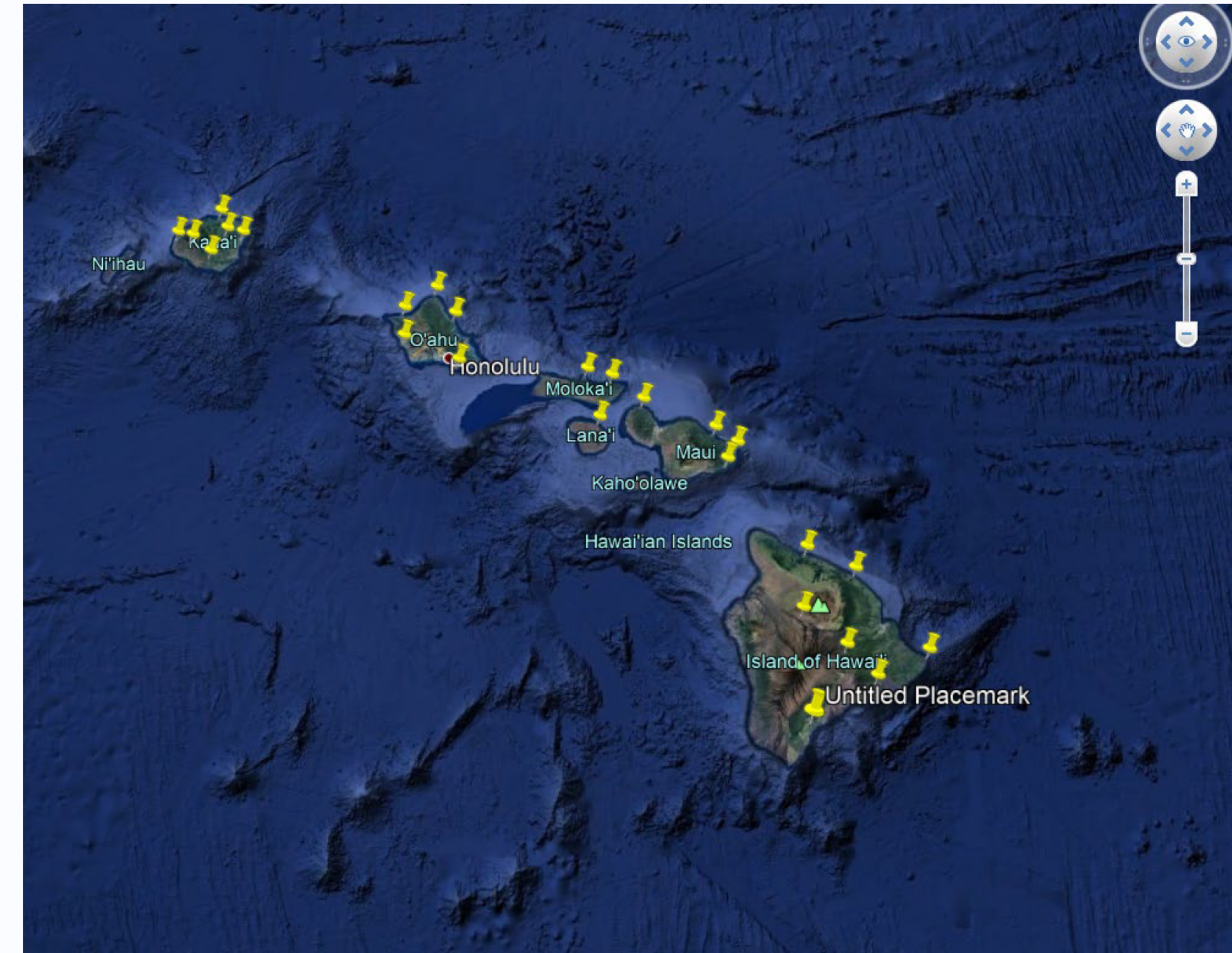
1. **Hawaii:** Implement FAA-owned camera systems
2. **CONUS:** Implement Image Hosting Partnership with State DOT's, Airports, and Municipalities
3. **Future Expansion:** Conduct Acquisition Business Case Analysis to fund additional systems in Alaska and CONUS



▶ Hawaii Camera Installations

23 FAA Camera Facilities

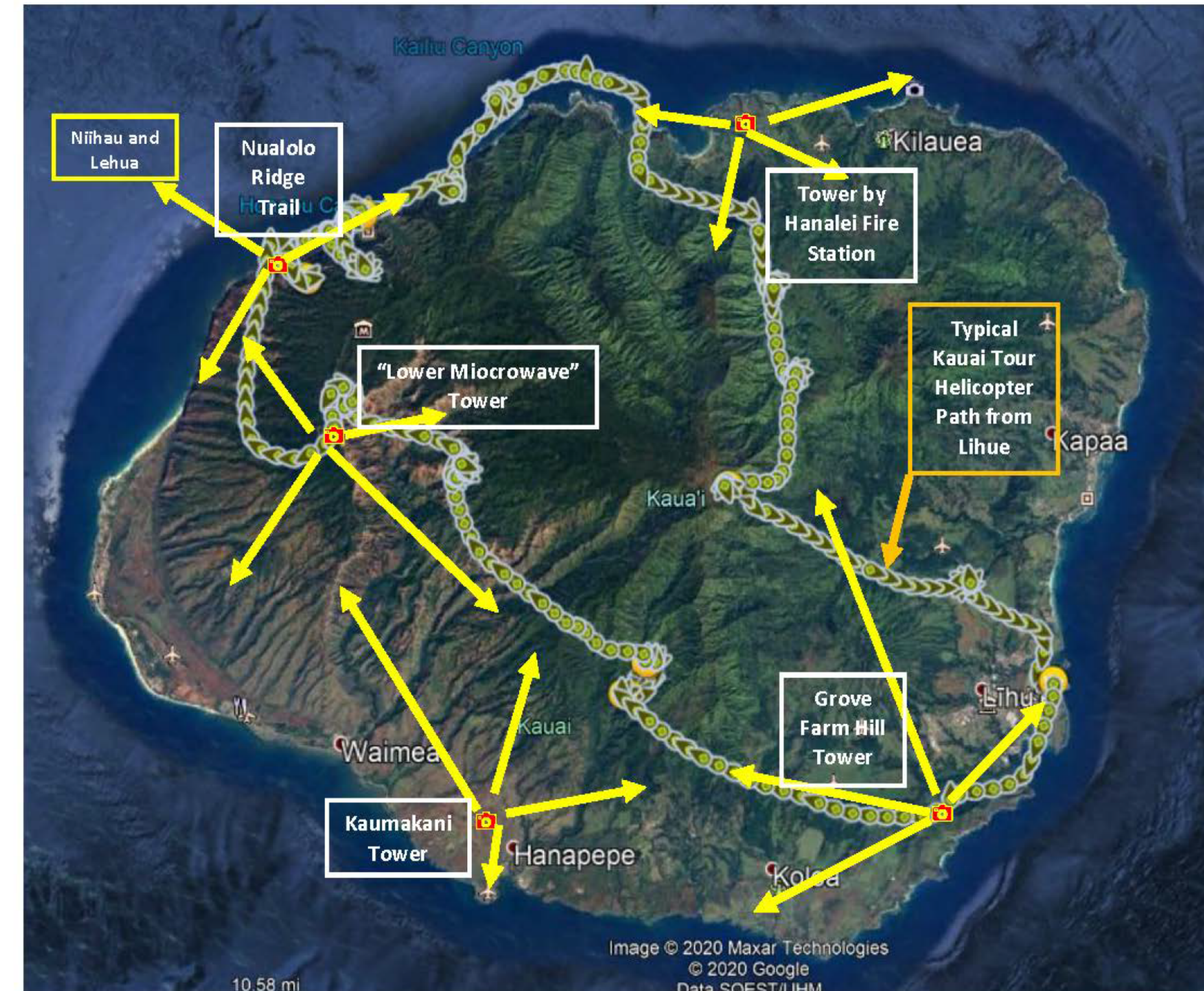
- FAA Owned and Maintained
- Jan 18, 2020 - Engineering Surveys completed on Kauai, Maui, Molokai, Lanai.
- Remaining Island surveys TBD
- Construction/Installs start April 2021
- Estimated completion Sep 2022



▶ Baseline Program Performance Metrics

Camera Siting Methodology

- Direct coordination with user community SME's
- Route-Based Camera Service Areas Defined
- Site Surveys/Selections determine best-fit locations
- User inputs determine camera view-angles
- Gap fillers identified and filled



Enables State DOT's to participate in the FAA Weather Camera Program and Benefits

- State DOT's own and maintain camera systems
- FAA shares designs/technologies for installation and operations
- FAA retrieves, formats and integrates images onto its website:
<https://weathercams.faa.gov>



✔ Colorado DOT Cameras

13 Mountain Pass WCAMs

- Transfer FAA Technology and Robust Camera Capability
- FAA assisted with initial installs
- Images Integrated in WCAM Website
- Ten additional installs planned in 2021



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◀ Other WCAM Projects of Interest

New Business Case FY21-23, expand cameras services in Alaska & CONUS

Projects Under Test and Development

- **VWOS – Visual Weather Observation System**
 - Advanced, 360 degree camera system
 - Non Certified, self-validating weather sensors
 - To be installed at Alaska and Hawaii airports where Certified Observations are not available
- **Satellite WIFI telecommunications**
- **Radio Over IP voice communications**



End

FAA supplementary weather product.



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Southeast Alaska Pilot Safety Meeting

Runway Safety In Alaska

Presented to: Alaskan Aviation Community

By: Tom Candelario

Date: March 25th, 2021



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Runway Safety In Alaska

Mission Statement:

The Alaskan Region Runway Safety Program is intended to improve runway safety by decreasing the number and severity of runway incursions, runway excursions, and other surface incidents.



Alaska's Nine Airport's with ATCT

Mission Alaska:

Anchorage International

Bethel Airport

Fairbanks International

Juneau International

King Salmon Airport

Kenai Airport

Kodiak Airport

Lake Hood Sea Plane Base

Merrill Field



Runway Safety In Alaska

Mission Alaska:

Runway Safety collaborates with Alaska Department of Transportation, Cities of Anchorage, Juneau and Kenai, and the FAA Lines of Business to reduce the occurrence of Wrong Surface Landing/Departures and Surface Events.



Runway Safety In Alaska

How we improve safety:

- ✈ **Runway Safety Action Team Meetings (Juneau Scheduled for 9/23/2021)**
 - Focus on wrong surface operations at specific locations
 - Heightening awareness with airport operators, ATC and flying community with a focus on surface safety
- ✈ **Flight Service Station Pilot Safety Meeting**
 - Heighten awareness during All-Season weather operations
 - Heighten runway safety awareness for Part 135 operations at non-towered airports
- ✈ **Partnering with FAA Safety Team's Wings Conferences**
 - Communicating FAA policy and procedures specific to surface safety



Runway Safety In Alaska

How we improve safety (cont.):

- ✈ Collaborate with Alaskan Region Airports Division
 - Runway Incursion Mitigation Program (RIM)
 - Address runway incursion risk due to runway geometry



TOP 5 MOST WANTED



Traffic
Advisories/
Safety Alerts



Altitude
Compliance



Wrong
Surface
Landings



Pilot Report
(PIREP)
Solicitation/
Dissemination



Notices to
Airmen (NOTAMs)



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Wrong Surface Landings and Approaches

10,000+

Wrong Surface
Landing/Approach Reviewed
Reports

1,353



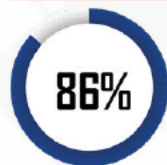
Total Wrong Surface
Landings/Approaches



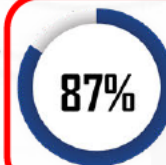
INVOLVED
GENERAL
AVIATION



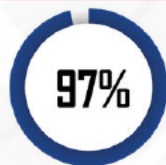
INVOLVED
COMMERCIAL
AIRCRAFT



EVENTS
OCCURRED AT
LEVEL 9 ATCT
AND LOWER



OCCURRED
DURING
DAYLIGHT
HOURS



OCCURRED WITH A
VISIBILITY OF 3
STATUTE MILES
OR GREATER



Wrong Surface Statistics

ARRIVALS & DEPARTURES



OF EVENTS DURING
FY16
FY17
FY18
FY19
FY20
FY21



TOTAL 895

OF FACILITIES WITH
THREE OR MORE EVENTS



COMMERCIAL EVENTS



GENERAL AVIATION EVENTS



% OF ATC FACILITY
LEVEL 9 OR LOWER INVOLVED



% OF EVENTS THAT
INVOLVED ANOTHER AIRCRAFT



% OF EVENTS THAT OCCURRED
DURING DAYTIME OPERATIONS



ACTUAL LAND OR DEPART



WRONG RUNWAY



WRONG TAXIWAY



WRONG AIRPORT



ATTEMPTED LAND OR DEPART



WRONG RUNWAY



WRONG TAXIWAY



WRONG AIRPORT

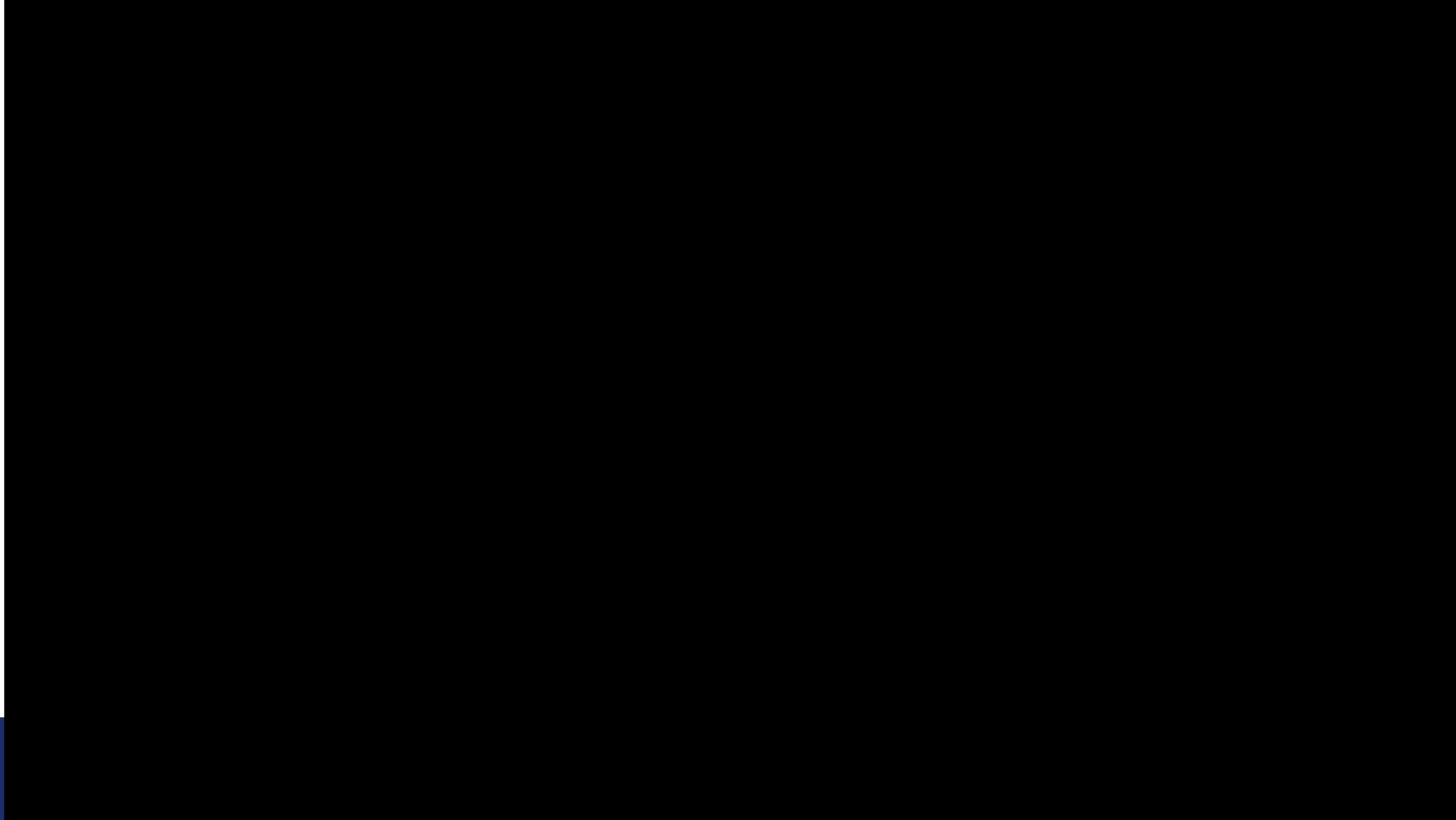


* Arrival: 13 MIL Event
Departure: 4 MIL Event

** Arrival: Assault Strip 1, Dirtroad 1, Grass 5, Gravel 1,
Helipad 3, Under Run 2, Ramp 1, Over Run 1,
Decommissioned Runway 2
Departure: Floatpond 4, Ramp 19, Waterline 7,
Sealane 1



From The Flight Deck



Wrong Surface Landing, Why?

- ✈ Airport geometry, communication and expectation bias are among the most common wrong surface landing precursors.



Cause and Effect

- ✈ Parallel and offset parallel runway configurations contribute to more WSL than any other configuration
- ✈ Pilots incorrectly proceed to the runway they typically utilize or expect, vs. the one actually assigned by ATC, even after correctly reading back the runway assignment.



Cause and Effect

- ✈ Pilots not specifically (visually) identifying or confirming their assigned runway, or misidentifying another runway for the one they are cleared for.
- ✈ Pilots not utilizing readily available geographic, visual and charted information to aid in correct runway identification.



Cause and Effect

- ✈ Pilots not planning for their arrival adequately.



Questions?



Thomas Candelario

Alaskan Region Runway Safety Office

AJI-1440, ATO



“I believe that in the future, whoever holds Alaska will hold the world.” General William (Billy) Mitchell

