

Weather Camera Program

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FAA SYS OPS_AJR-B200

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FAA 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



FAA Weather Cameras - Needs Driven Innovation



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FAA Weather Cameras

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

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



(Current Image)



(Clear-Day Image)



WCAMs _ Aviation Data Portal

➤ **Camera Sites**

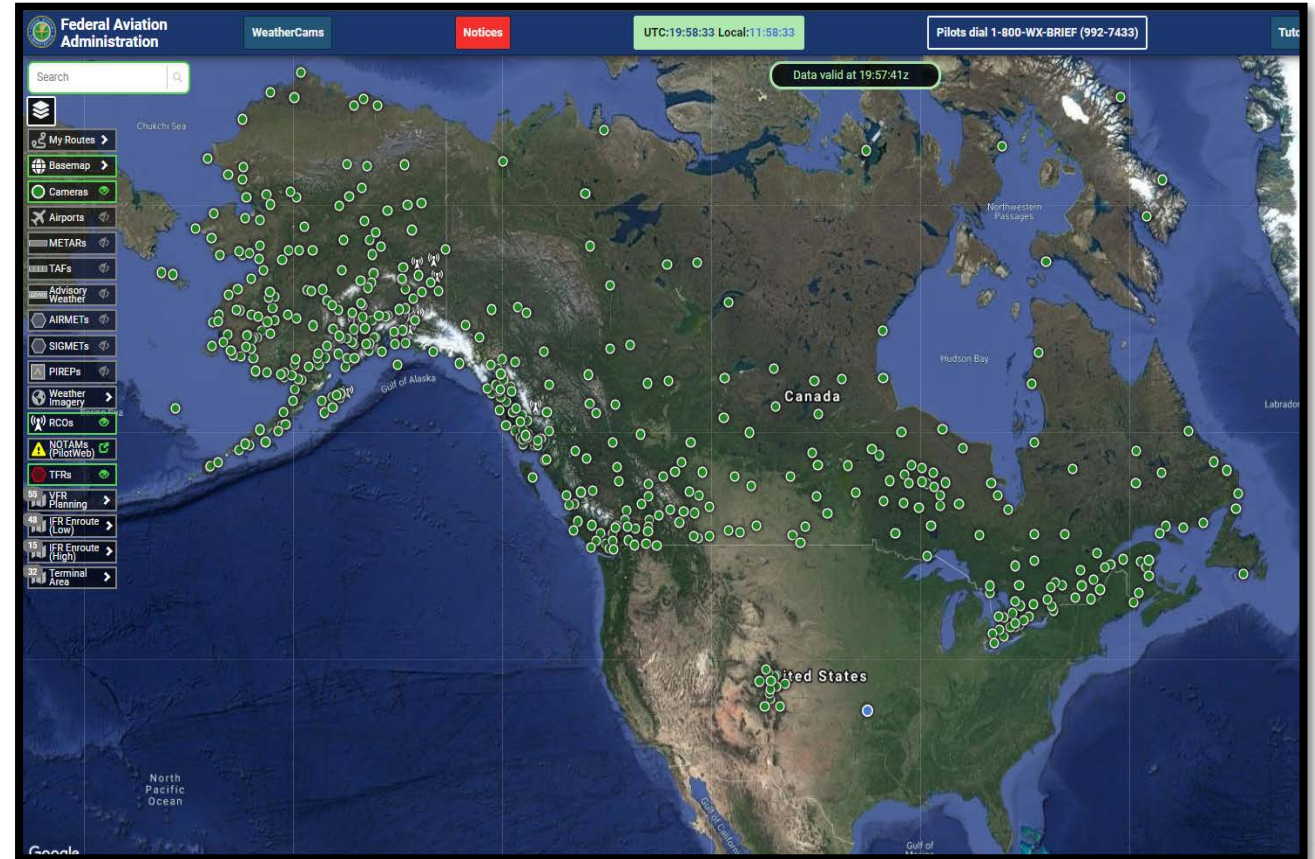
- 230 Alaska FAA Camera Sites
- 215 NAV Canada 'Hosted' Sites
- 13 Colorado Dot 'Hosted' Sites

➤ **Website Data Sets**

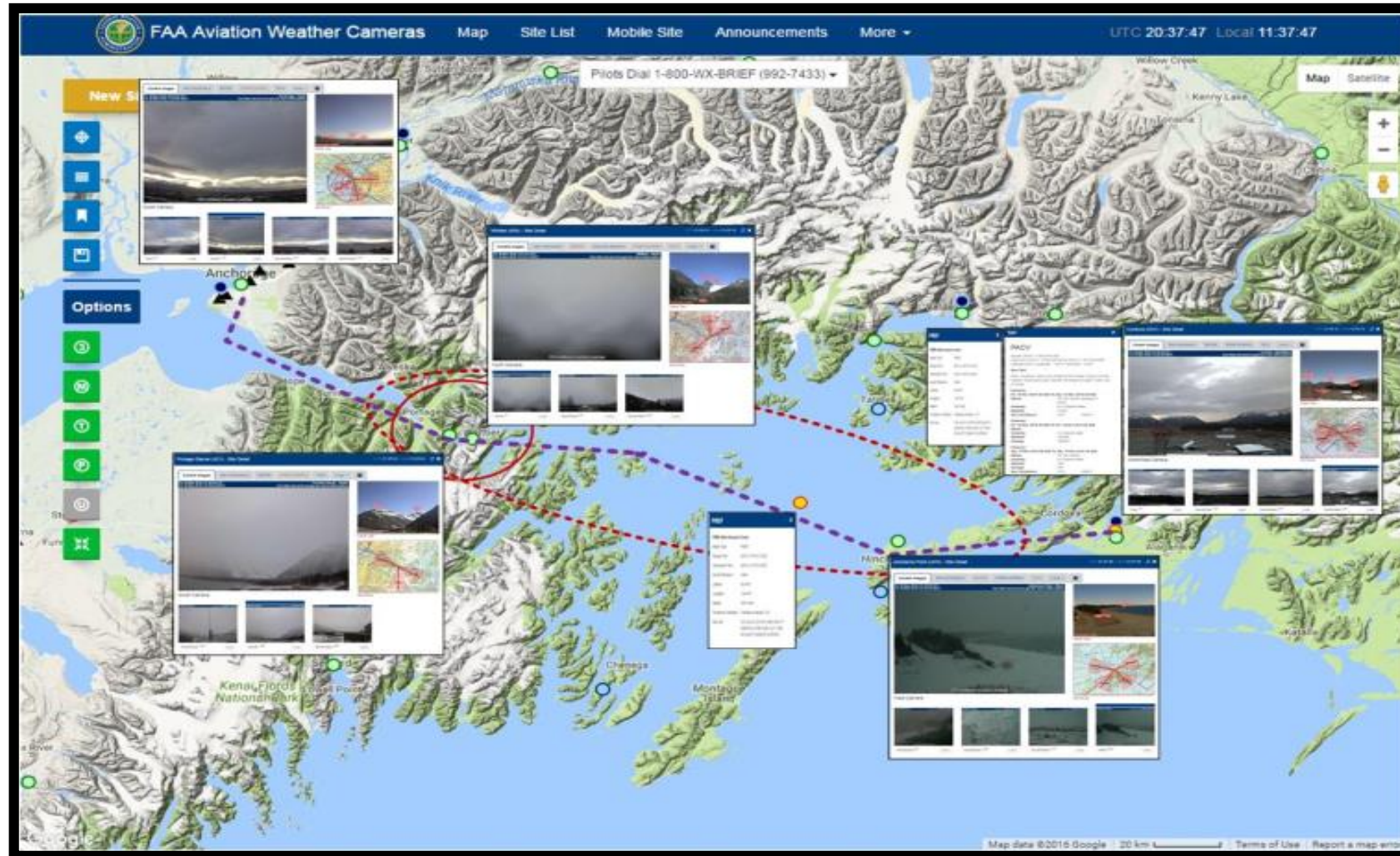
- <https://weathercams.faa.gov>
- Images, METARS, TAFS, PIREPS
- Satellite, RADAR, RCO/RCAGs
- Airports, Sectionals, NOTAMs, & more.

➤ **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

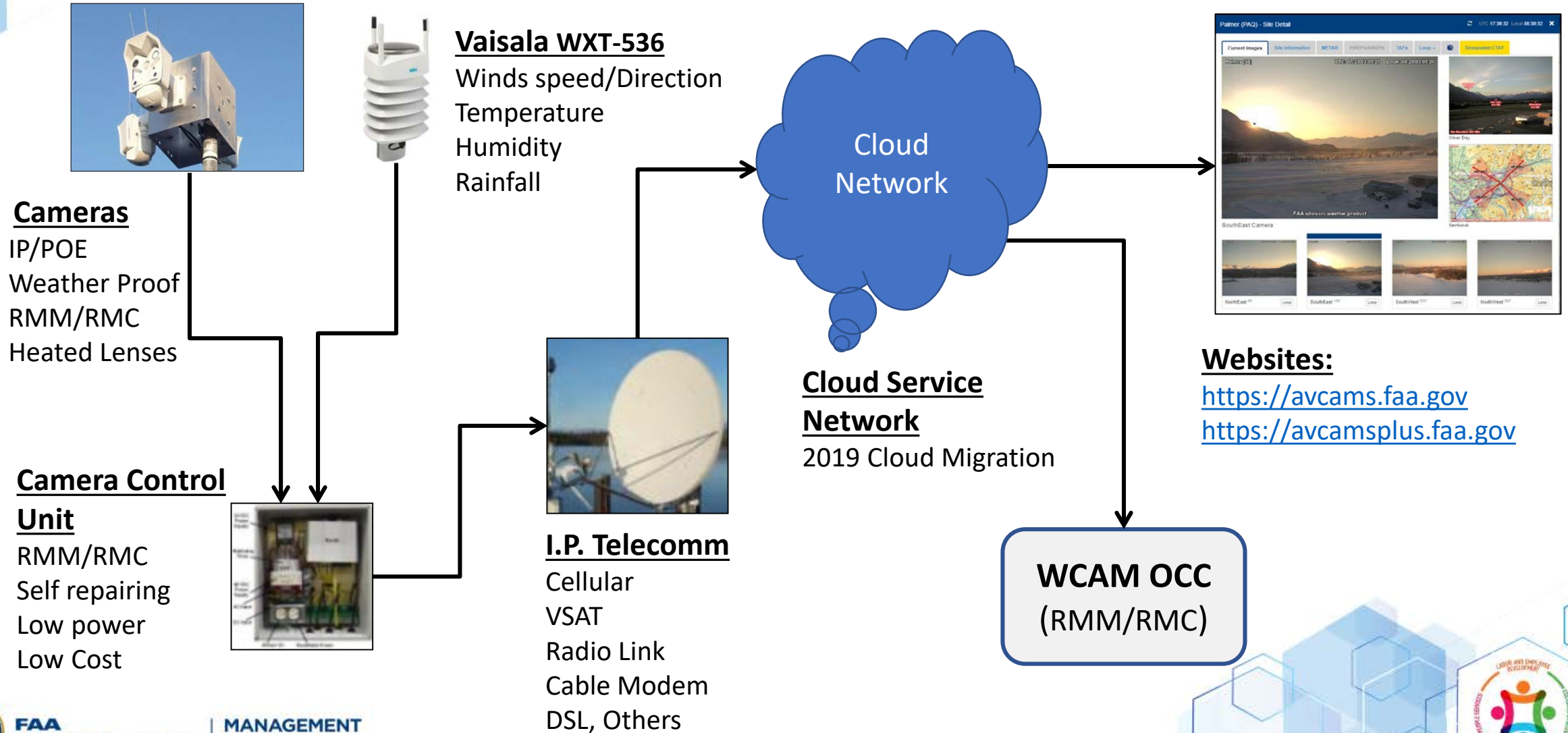


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Weather Camera System Architecture



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Cape Spencer Lighthouse, Alaska



Grave Point, Alaska



Misty Fjords



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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)



NTSB Safety Recommendations

August 2013: NTSB Safety Recommendation

- **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 2020, Approval to Expand Cameras

FAA Joint Resources Council (JRC) approved expansion of camera services to the NAS

- Image Hosting in Conus: Partnership with State DOT's, Airports and Municipalities
- Hawaii: FAA funds 23 new camera systems
- Future years return for Consideration of FAA funded sites

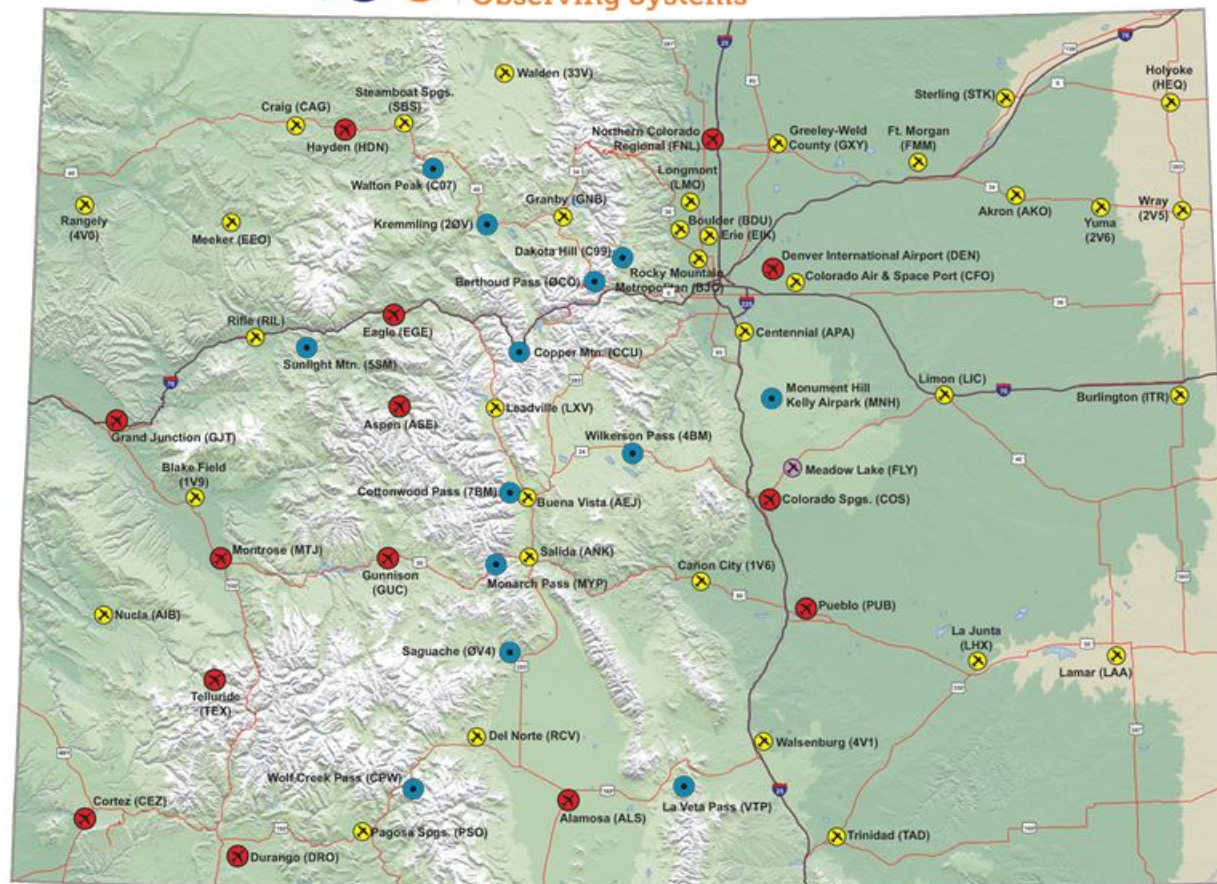


✓ Colorado Cameras Completed

- 13 Mountain AWOS-WCAMs
- Transfer FAA Technology and Robust Camera Capability to CO.
- FAA Cost Reimbursable
- Image Integration onto WCAM Website
- Additional installs planned in 2021



Colorado Automated Weather
Observing Systems



General Aviation Airport
with AWOS/ASOS

Commercial Service Airport
with AWOS/ASOS



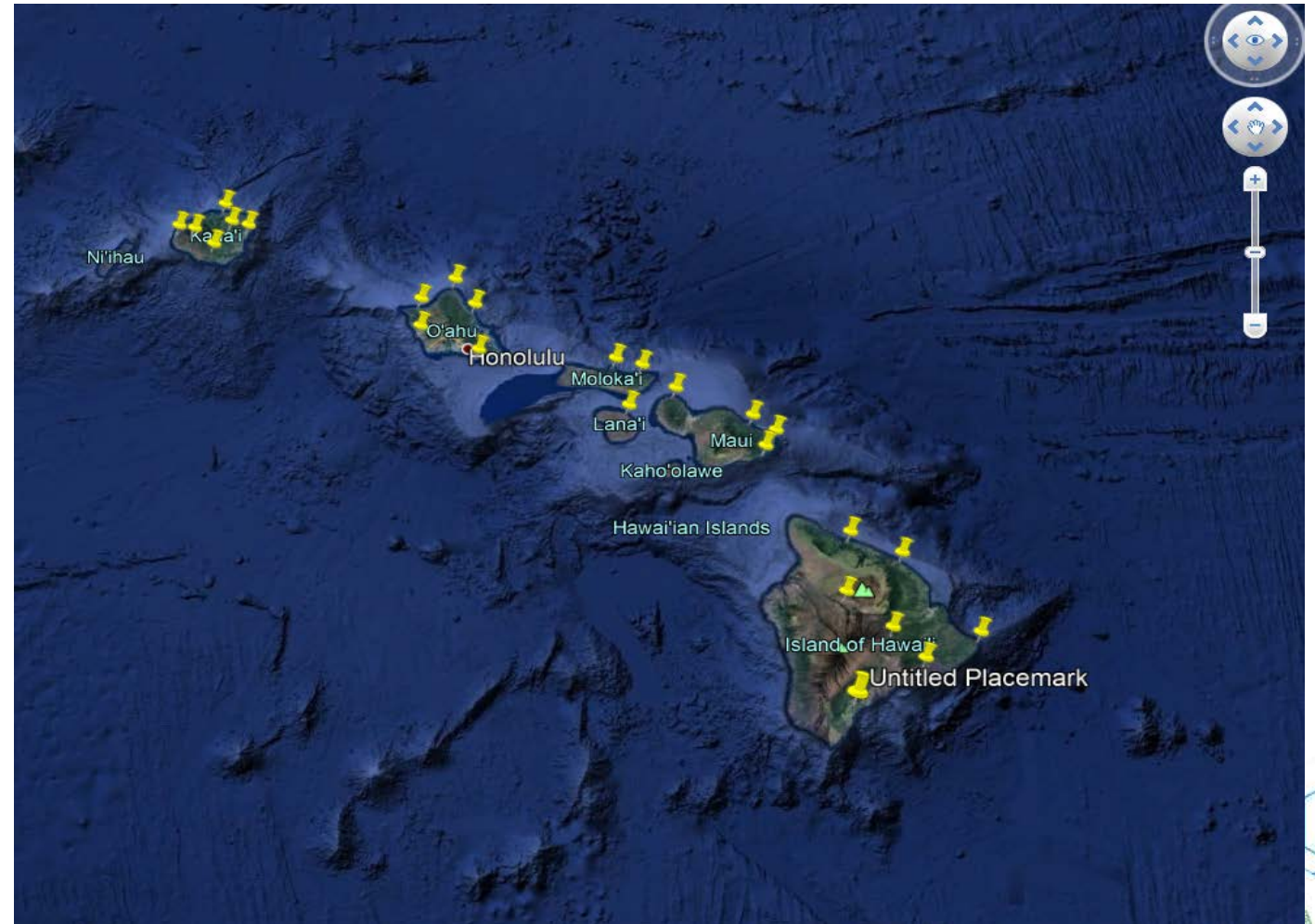
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Hawaii Camera Installations

- FAA Owned and Maintained
- Engineering Surveys begin on Kauai, Nov 15, 2020
- Construction/Installs start Jan 2021
- Estimated completion Sep 2022



Visual Weather Obs System (VWOS)

Modernized Weather Camera Data Platform

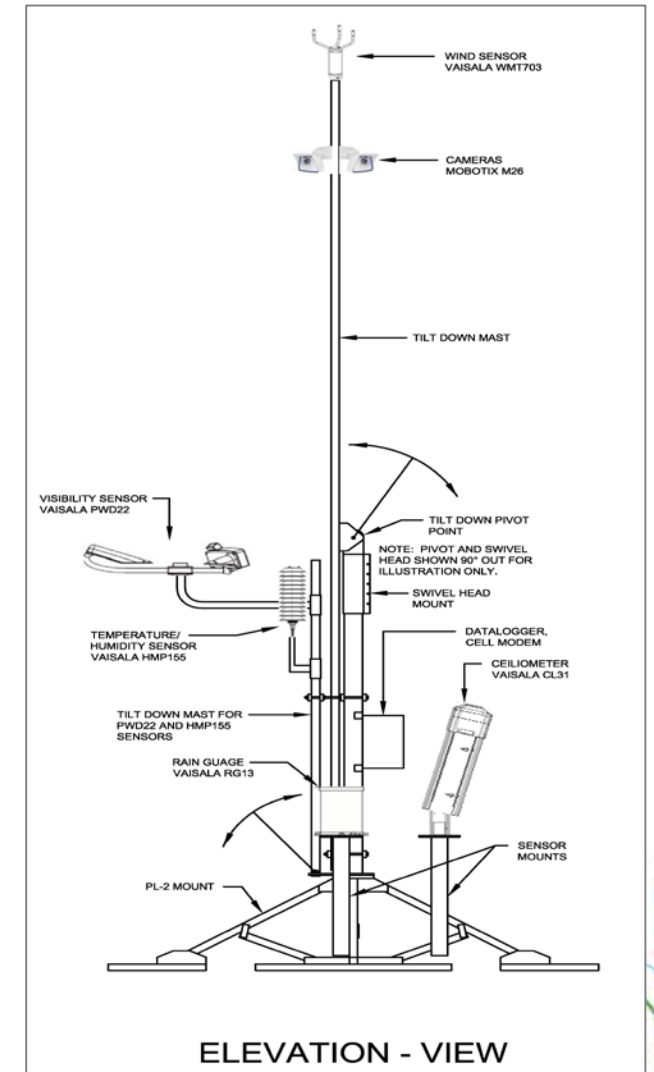
- Combines 360 cameras and wx-obs into one platform
- Provides Supplementary (Advisory) Observations
- High value to NWS Forecasts (e.g., LAMP, AAG)

Automatic self-certification

- Sensor auto-calibration, Sensor data validation, auto-reports sensor/data failures

Collaborative development

- Flight Standards and WCAMs teams
- Test and Development (R&D) Program
- Four AK airports: Palmer, Eek, Tatitlek, Healy River



PIREP Refinement Project

User Submittal Apps

- BETA's ready for Test and Demonstration

Cloud Network Infrastructure

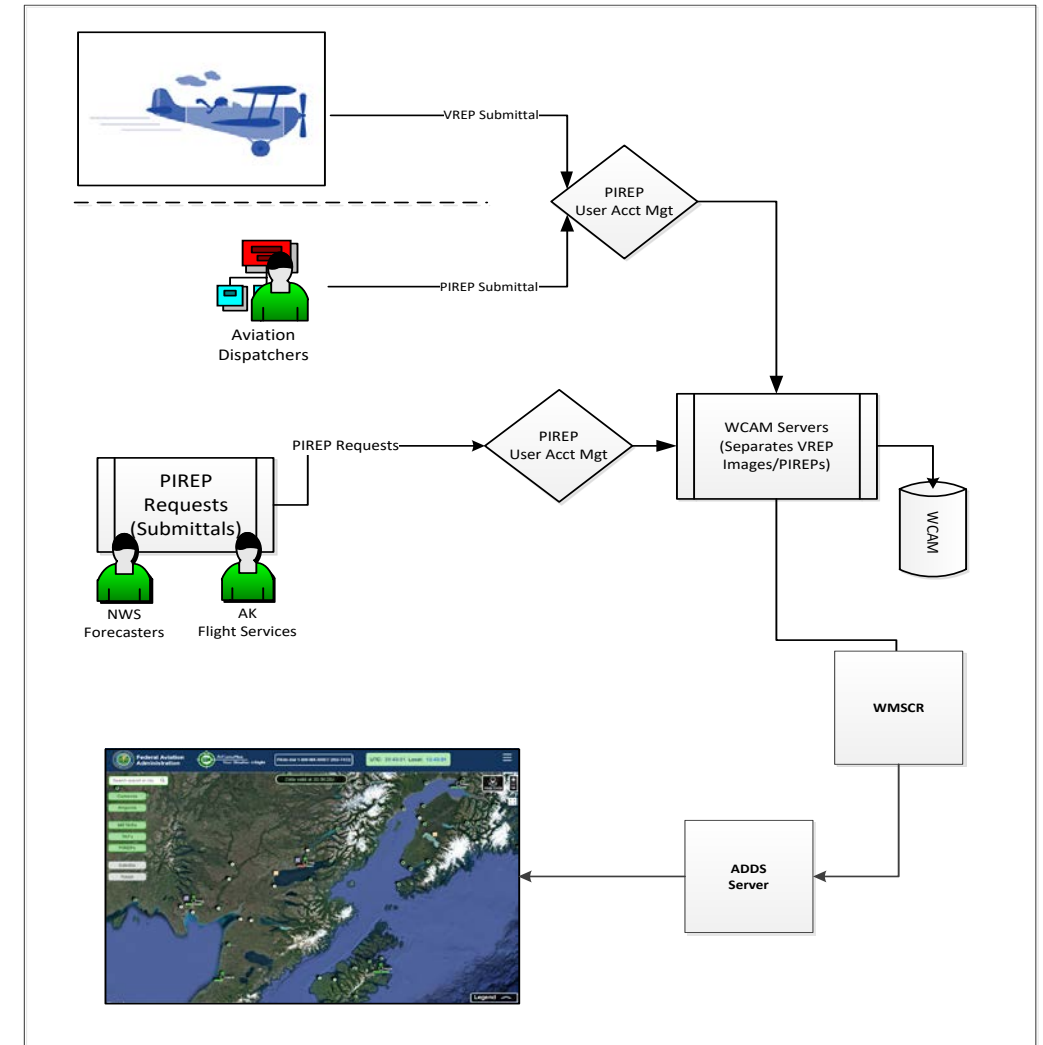
- Operational

Connection to National Distribution

- Test-WMSCR Connection still in progress
- Awaiting 'Round Robin' Test and Demo

WCAMS Website Displays

- Operational. Providing PIREPs to the public
- Ready for added data and service



Thu 19 Jun 2014 21:30:17 UTC
Thu 19 Jun 2014 13:30:17 AKDT

Eldred Rock - North
See <http://avcams.faa.gov> for more information

End

FAA supplementary weather product.



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