March 11, 2025

NORTH
TO THE FUTURE

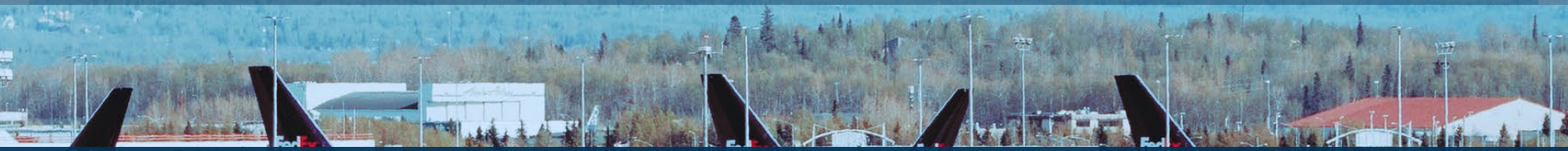
House Transportation Committee

Aviation Weather Systems

Automated Weather Observing System (AWOS) and Automated Surface Observing System (ASOS)

Alaska Department of Transportation & Public Facilities

Troy LaRue, Division Operations Manager, Statewide Aviation



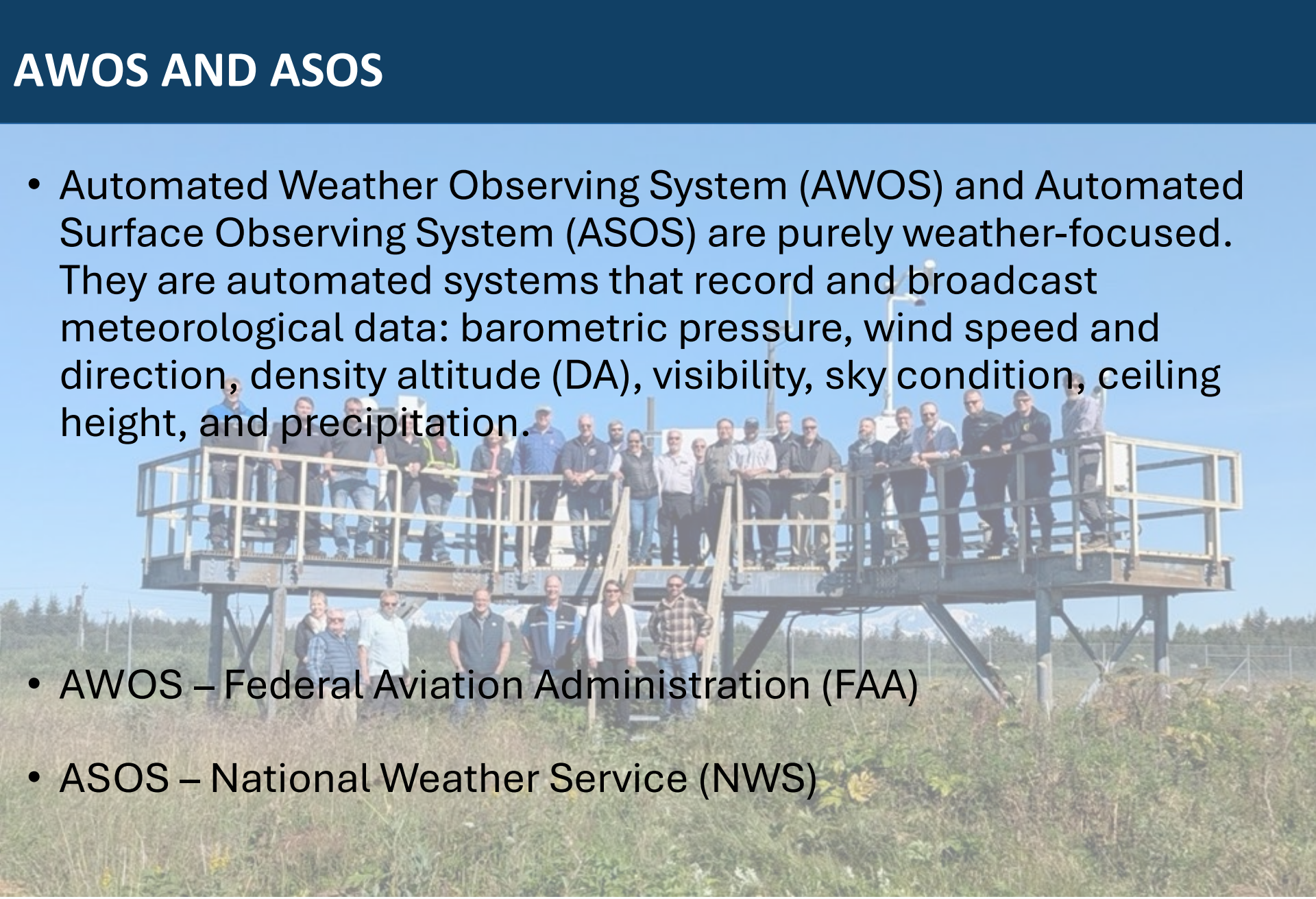
STATEWIDE AVIATION

Division Responsibilities

- Airport Capital Improvement Program (ACIP)
- Alaska Aviation System Plan (AASP)
- Aviation Policy Planning & FAA Reauthorization Coordination
- Airport Geographic Information System (GIS)
- Per- and polyfluoroalkyl substances (PFAS)
- Rural Airport Safety & Security
- Remote Sensing Lab (RSL)
- Technology & Innovation
- Statewide Airport Leasing

AWOS AND ASOS

- Automated Weather Observing System (AWOS) and Automated Surface Observing System (ASOS) are purely weather-focused. They are automated systems that record and broadcast meteorological data: barometric pressure, wind speed and direction, density altitude (DA), visibility, sky condition, ceiling height, and precipitation.



- AWOS – Federal Aviation Administration (FAA)
- ASOS – National Weather Service (NWS)

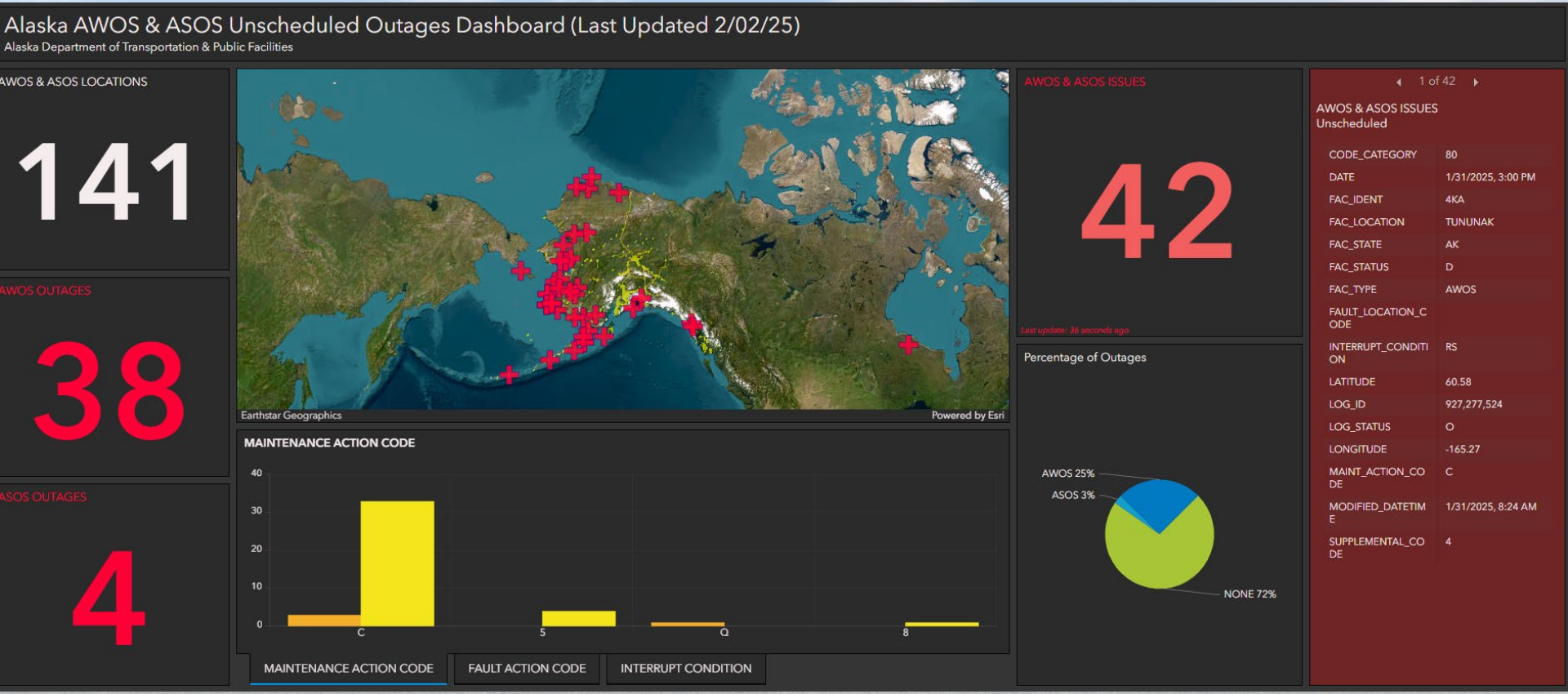
NEW AWOS INSTALLATIONS

8 New AWOS Locations

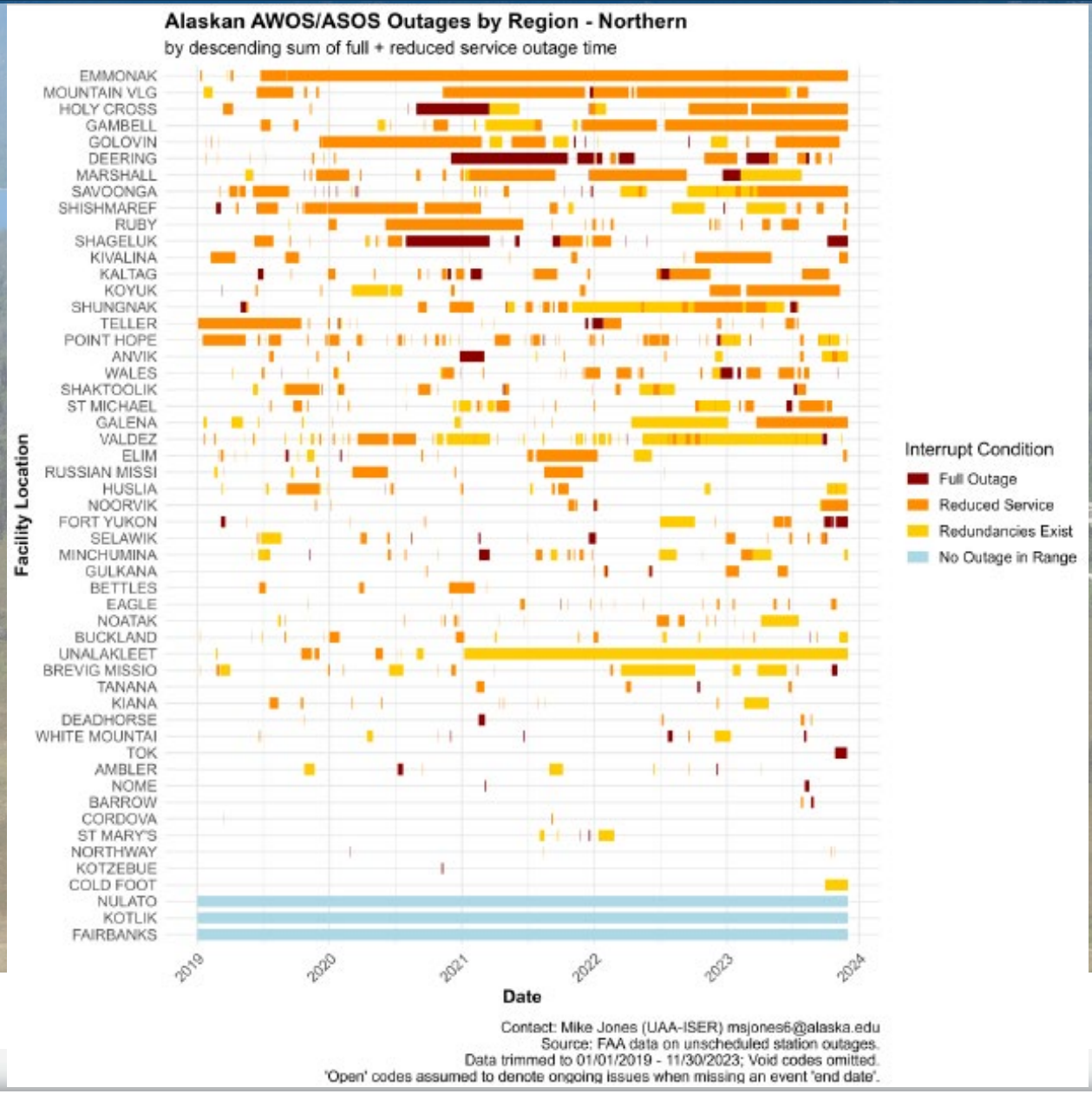
- 2018 FAA Reauthorization funded eight new locations, which were turned over to FAA for operation in 2023 and 2024 through a coordinated effort between DOT&PF and FAA.
- First State to do this!

AASP AWOS DASHBOARD

AWOS & ASOS DASHBOARD



AWOS & ASOS OUTAGES (NORTHERN REGION) 2019-2024



AWOS AND ASOS OUTAGE TYPES

- FL=Full
  - If an interruption is between the ADAS and ASOS (aka Data Compute and Process (DCP) for field equipment) it is not reporting to anyone so it would be called FL
- RE=Reduced Redundancy
  - You can't have a Reduced Redundancy (RE) outage if there is no backup system
- RS=Reduced Service
  - When the system does not communicate with the outside world it can be called RS since it can still report via radio. This is notable for AWOS outages since they communicate out three different ways. VHF radio transmission, Service A automated data, and dial-up voice lines.
- IN=Intermittent
  - They can be informational IN (intermittent) since they do not add data just comment on existing outage

- 60 series codes are for scheduled outages
- 80 series codes are for unscheduled
  - Code 81 is for telco outages non-FAA
  - 87 is unknown outage
  - 88 is related to something else
  - 85 is weather events
  - 89 is technician or operator error

FAA REAUTHORIZATION

- **The State of Alaska was mentioned 37 times.**
- **Sec. 339. Improved safety in rural areas**

  This section repeals section 322 of the FAA Reauthorization Act of 2018 (49 U.S.C. 44720 note) and replaces the section with new language authorizing the FAA to permit an air carrier operating pursuant to part 135 of title 14, Code of Federal Regulations to conduct an instrument approach at a destination in a noncontiguous state without a Meteorological Aerodrome Report so long as the destination has a current area forecast supplemented by noncertified weather observations, among other requirements. The FAA is required to develop an application template to enable FAA inspectors to objectively evaluate an application submitted by an air carrier. Pursuant to this section, rejected applicants must be informed of the specific criteria that were the cause for rejection.

FAA REAUTHORIZATION

- **Sec 342 Started at the FAA Alaska Aviation Safety Initiative and is now the Don Young Alaska Safety Initiative (DYASI)**
  - Reduce the rate of fatal accidents by 90% by 2033
  - Install weather instruments and develop alternatives
  - Report annually to Congress on the DYASI progress
  - This section prohibits the FAA from restricting funding from being used at an airport in Alaska to rehabilitate, resurface or reconstruct the full length and width of an existing runway.

FAA REAUTHORIZATION

- **Sec. 317. Government Accountability Office (GAO) Study on Expansion of the FAA Weather Camera Program**
  - Evaluates the impact of FAA weather cameras, widely used in Alaska, on improving safety and operations.

- **Sec. 332 ASOS/AWOS service report dashboard**
  - The FAA will make a real time public dashboard to provide the status of weather instruments.

FAA REAUTHORIZATION

- **AIP Handbook review**
  - Sec. 733 requires the FAA to update the AIP handbook to account for legislative changes to the program and for the unique circumstances in Alaska. It also requires the FAA to release a draft handbook for public comment.
  - Key Areas
    - (1) Snow Removal Equipment Building size and configuration.
    - (2) Expansion of lease areas.
    - (3) Shared governmental use of airport equipment and facilities in remote locations.
    - (4) Ensuring the resurfacing or reconstruction of legacy runways to support—
      - (A) aircraft necessary to support critical health needs of a community;
      - (B) remote fuel deliveries; and
      - (C) firefighting response.
    - (5) The use of runway end identifier lights at airports in Alaska.

AIRPORT ENVIRONMENT

Challenges

- Warming climate impacting coastal erosion, precipitation patterns, airport surface stability
- Increase in freezing rain / ice events
- Equipment utilization is more complicated
- Higher aircraft performance requirements

Solutions

- Chemical / deicing programs
- Weather prediction / RWS utilization (road weather stations)
- Surface stabilization solutions

Thank you. Questions?

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