



# *Weather Information for GA Pilots*

FPAW – April 2024



# Understanding Weather Products



- Weather knowledge training challenges
  - Focus on knowledge test questions and FAA handbooks
  - Only as advanced and complete as CFI teaching
  - Very little after pilot certification
  - With limited exception, there is almost no training available when new products are introduced
- AWC excellent in many ways, but assumes the user already has a deeper understanding of weather than most VFR pilots

# Understanding Weather Products



- Ideas for improving pilot weather knowledge
  - Training in ways the average VFR pilot will understand:
    - Scenarios
    - Visualizations
    - YouTube or other short-format video tutorials
  - Integrate new products and weather data into products pilots are already using
  - Provide accessible, digestible, current, and ongoing training

# Weather in Remote Areas

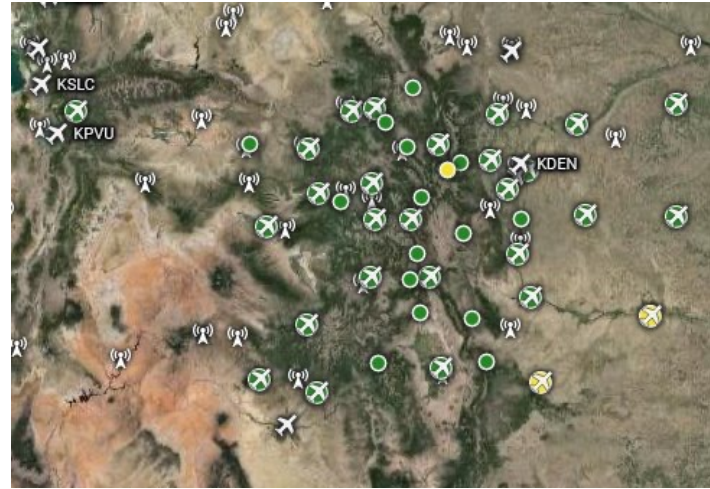


- Not enough weather reporting stations or cameras
- With limited weather knowledge and reporting stations, allowing pilots to SEE the weather (we believe) has improved safety by convincing pilots to wait for better weather
- Solutions to explore:
  - Increased number of weather cameras
  - Co-locating weather reporting stations with cameras
    - Quality of reporting?
    - Use of data?

The screenshot displays a web interface for a weather camera at Kake (PAFE). At the top, it shows the station name "Kake (PAFE)", the time in UTC (20:09) and Local (12:09), and a METAR report: "METAR PAFE 241956Z AUTO 22003KT 10SM FEW060 OVC080 09/03 A2990 RMK AO2 SLP137 T00890033". The main view is split into two panels: a live camera feed on the left and a "CLEARDAY VISUAL REFERENCE" on the right. The reference image shows a clear sky and a lake with red markers for "Buildings 1.0 SM" and "Point 3.0 SM", and a "Site Elevation: 19' MSL". Below the main view is a "Show Camera Loop" button and a row of four smaller camera views labeled "SouthEast (140°)", "South (187°)", "West (264°)", and "NorthWest (303°)". At the bottom, there is a navigation bar with buttons for "Weather Data", "Weather Trends", "PIREPs", "Sectional", "RCO", "Airport Info", and "NOTAMs (PilotWeb)".

# Weather Cameras

- Excellent tool for remote and/or mountainous areas
  - Especially with multiple camera angles at each location
- Option for 3<sup>rd</sup> party weather cameras being hosted on FAA platforms?
- Integration into EFBs and other pilot tools?

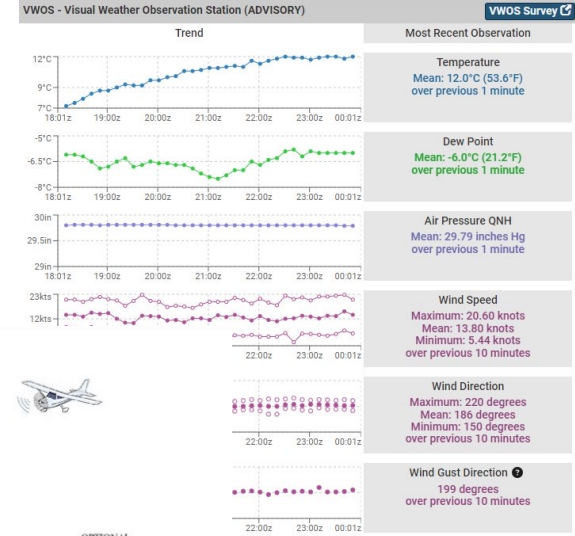


Network of 3rd party cameras  
operated by Colorado DOT

# Lower cost weather stations



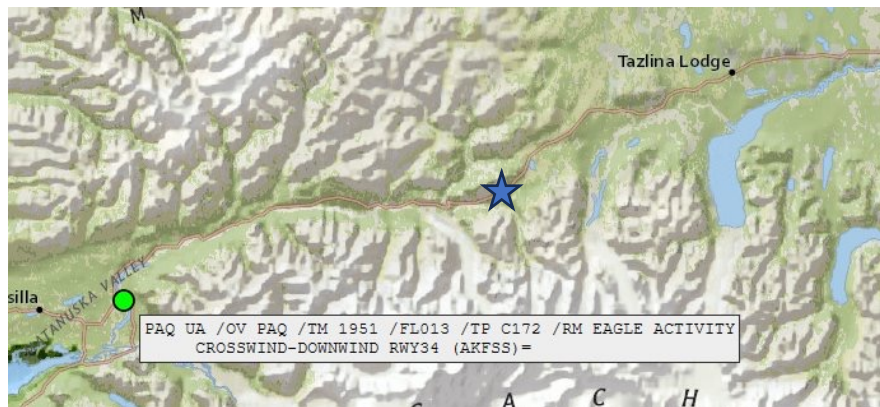
- Work being done to define aviation use of lower-cost weather stations
  - Systems include ceiling and visibility, along with other parameters
  - Anticipating ASTM standards
  - Need FAA definition of authorized uses
    - Approaches, 121/135 operations?
- At least one manufacture already has equipment available today



# PIREPs



- Only form of “real time” weather reporting between reporting stations
- Provide valuable insights for GA pilots
- More of them on a more frequent basis are needed
- Would like to see targeted PIREPs requested, in place of generic requests from Flight Service, to validate specific forecasts—benign as well as severe weather



★ Use symbol to indicate *request* for PIREP in mountain pass.



# PIREPs



- Utilize technology to solicit more PIREPs – particularly from GA aircraft
  - ADS-B to broadcast areas where more PIREPs are needed
    - Remote area, mountain areas, regions with rapidly changing weather
  - EFBs or installed flight deck technology
    - Easily fillable forms, pre-populated known information, electronic submission
  - Possibilities to use other advanced technologies such as AI voice recognition



Federal Aviation  
Administration

DOT/FAA/AM-23/37  
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**Feasibility, Utility and Usability of Pilot Reports (PIREPs)  
Submission and Retrieval Using VHF Radio, Cloud Computing and  
Artificial Intelligence Technologies  
(A Proof-of-Concept Study)**

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Proof of concept project  
report.



# Summary



- Facilitate understanding of new weather products and how they integrate with existing products
  - YouTube, Online training
- Increase number of weather cameras, including co-located low-cost weather stations
- Increase number of PIREPs submitted through the use of technology



# Questions?

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