NTSB PIREP SIR Timeline

- Since 2012 more than 20 accident/incident investigations revealed PIREP and/or weather dissemination issues
- Started formal SIR process in Alaska in 2015
- Held PIREP Forum in summer 2016
- Numerous stakeholders
- PIREP SIR released spring 2017
Various Weather Related Accidents

- Thunderstorm encounter in SC
- Icing/IMC/mtn wv in AZ (2)
- Icing in AK
- Icing/IMC in TN
- Thunderstorm/IMC in WV
- VFR into IMC in AK
- VFR into IMC in GA
- Thunderstorm encounter in NE
- Wind in CA
- VFR into IMC in CA (2)
- Thunderstorm encounter in FL
- Convective encounter in OR
ANC14MA008
Cessna 208B
St. Mary’s, Alaska
November 2013

- VFR flight plan
- Part 135 commuter flight
- Bethel to Mountain Village
- Got top of the hour METARs, but no official wx briefing
- 4 fatalities/6 injuries

PASM 300316Z AUTO 23006KT 3SM OVC003 M08/M32 A3035 RMK AO1=
ANC14MA008

- Only AIRMET for mountain obscuration out
- AAWU and CWSU forecasters review/monitor weather cameras
  - Changes in weather on cameras no alerting
- However, PIREPS alert or pop up on screen
- FC/FF went home at 1700 AKST
- Ways to improve for all….
• What about Part 121/135/91 operators/pilots freely sharing PIREP information? FF/FC/Village agent PIREPS?

• Want to improve IMC/Icing forecast, need PIREPs for weather developers…
ANC15FA049
Cessna 207A
Juneau, Alaska
July 2015

- VFR flight plan
- Part 135 commuter flight
- Juneau to Hoonah
- Told of poor wx conditions, but unknown if checked any other weather information
- 1 Fatal/4 Serious

PAOH 172056Z AUTO 00000KT 10SM FEW024
OVC034 18/16A3021 RMK AO2 TSNO 55001
T01770155 OVC V BKN SLP232 $=

NTSB 50
Making Transportation Safer
YESTERDAY ★ TODAY ★ TOMORROW
ANC15FA049

- AIRMET for mountain obscuration out
- On line between MVFR to IFR in AAWU flying wx graphic
- FC/FF briefed accident pilot that every morning flight had cancelled due to weather (one tried and turned around)
- FC/FF told accident pilot to discuss weather with pilot who turned around (no verification that discussion took place)
- Accident pilot said would look at weather cameras before departure
- New FC/FF on shift and never verified accident pilot did the above (only pilot responsible to signoff)
ANC15FA049

• What about FC/FF providing PIREPs? One pilot turned back due to weather earlier… no PIREP
• No PIREPs from flights going ahead or behind accident flight
• Want to improve IMC/Icing forecast, need PIREPs for weather forecasters/developers…
NTSB Learned: Perspectives

2018 Alaska Weather and Aviation Connection Workshop

- Pilots/operators/educators
- ATC
- FSS
PIREPs: Importance, Uses

Fairly universal awareness:

• Valuable source of in-situ info about actual weather conditions
• Strategic and tactical uses in NAS
  • Pilots, dispatchers: route planning
  • ATC: traffic routing, free up airspace
PIREPs: Importance, Uses

Less awareness among pilots, operators, ATC personnel:

- Impact on weather products
  - Essential for forecast verification
  - Critical for accuracy of global forecast models, add value to icing and turbulence product algorithms
  - Both adverse and fair weather PIREPs
PIREPs: Importance, Uses

• Bottom line: More, better PIREPs = more accurate weather forecasts and advisory products
• “Life or death” for general aviation
• Relevant for transport-category: Avoid turbulence injuries, damage
PIREPs: Submission, Solicitation, and Dissemination

• Need better quality, quantity, variety submitted from pilots, operators
• Need effective dissemination by ATC, FSS, dispatchers/FC/FF
• Specific time limit requirements prohibitive?
• What ways can technology aid ATC/pilots?
PIREPs: Training, Education, and Operations

• AOPA PIREP Survey
  • Little emphasis in initial training on PIREPs (rarely/never brought up again after initial)
  • Rarely provided PIREPs to ATC/FSS w/o request
  • Only 38% believed their PIREPs would make into NAS if provided
PIREP SIR Recommendations/Responses

- To AOPA to update PIREP course content
  - AOPA working on course content
  - No response yet

- To AABI, NAFI, SAFE to encourage PIREP training during various stages of learning
  - FAA using data from AOPA survey and then conducting another survey to both pilots and ATC
  - Next update summer 2018
• To FAA on enforcement action

NTSB response, in part: “… it does not explain your enforcement policies related to PIREPs nor the potential protections that ASRS can provide…

…that pilots fear enforcement action against their certificates if they file a PIREP for an inadvertent encounter with adverse conditions for which either the pilot is not rated to fly…

We believe that these concerns illustrate the need for FAA clarification on these issues, which would ease pilots’ fears of enforcement action… including issuing response in a notice that does not expire…
PIREP SIR Recommendations/Responses

• To FAA/NATCA develop best practices and distribute
• To FAA to provide ATC with automated PIREP data - collection tool
• To FAA to review/revise ATC training
• To FAA/NWS revise guidance

FAA working on it... part of survey
and distribute

FAA working on it... establishing a team and will follow up

FAA/NWS working together and will follow up
<table>
<thead>
<tr>
<th>Recommendation/Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>To FAA provide reliable means of electronically submitting PIREPs</td>
</tr>
<tr>
<td>To FAA to remove age limit on PIREPs</td>
</tr>
<tr>
<td>To FAA to maintain PIREP database</td>
</tr>
<tr>
<td>To Cargo Airline Association (CAA) to submit more PIREPs, especially during overnight hours</td>
</tr>
</tbody>
</table>

FAA working on it... establishing a team and will follow up.

CAA distributed PIREP SIR and part of FAA working groups.
Places in which the PIREP is entered into a system as text for further dissemination.

*Beginning March 1, 2016 ATC discontinued forwarding PIREPs to LMFS (procedures for using FSS in Alaska remained unchanged).
FF/FC/Village Agent issue PIREPs

- GAM UA /OV GAM /TM 1715 /FL000 /TP MAN /RM RWY 16/34 100 PRCTFROST..6FT BERM 15FT OUTSIDE THE LGT W SIDE TWD OCEAN
- SVA UA /OV SVA /TM 1741 /FL000 /TP MAN /RM RWY IN GOOD SHAPE BARE
- OME UA /OV OME /TM 1640 /FL000 /TP MAN /RM PAEW RWY 10/28 OMEPICKING UP FREEZING DRIZZLE ON WINDSHIELDS
- PAQ UA /OV PAQ280005 /TM 1700 /FL000 /TP MAN /WV 04020G30KT /RM MATANUSKA WIND

- Data would be invaluable and would help flight briefers not always say, “VFR not recommended…”
AWC PIREP Submit Form

1. Register as a user on [www.aviationweather.gov](http://www.aviationweather.gov)

2. Email [ncep.awcweb@noaa.gov](mailto:ncep.awcweb@noaa.gov) to request access to the PIREP Submit Form. Once access is approved, the PIREP Submit link will appear under the TOOLS menu.

3. Start submitting PIREPs using either the Full or the Dispatcher form.
AWC PIREP Submit Form

• Pilots, operators, dispatchers may submit PIREPs electronically

• Just like all PIREPs, these are integrated into the AAWU/CWSU forecast production process

• Will be automatically formatted, distributed, and displayed graphically on:
  • www.AviationWeather.gov
  • www.weather.gov/aawu
  • http://avcams.faa.gov/

Other electronic submission avenues
Automated submission...

Places in which the PIREP is entered into a system as text for further dissemination.
*Beginning March 1, 2016 ATC discontinued forwarding PIREPs to LMFS (procedures for using FSS in Alaska remained unchanged).
FAA SWIM

- Process to input PIREPs via FAA SWIM almost complete
- Undergoing testing at WSI February to April and will likely go operational after that
- Other part 121/135 operations could easily follow and more automate the PIREP submission process
Technology aiding ATC?

- PIREP
- ACARS
- PED Application
- Company/Dispatch
- Private Weather Vendor
- Not Disseminated
- Flight Data
- CWSU
- Flight* Service
- Data Input Systems
- AWC Web Tool
- SWIM
- NAS/PublicDomain (via WMSGR)

Places in which the PIREP is entered into a system as text for further dissemination.

*Beginning March 1, 2016 ATC discontinued forwarding PIREPs to LMFS (procedures for using FSS in Alaska remained unchanged).
No more “… VFR not recommended…”
Any Questions?

Email: paul.suffern@ntsb.gov
Making Transportation Safer

Yesterday, Today, Tomorrow.