AOPA

AOPA 2017 Weather Survey: How is Alaska different?

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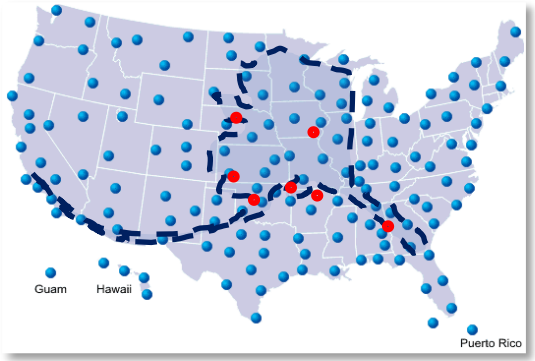
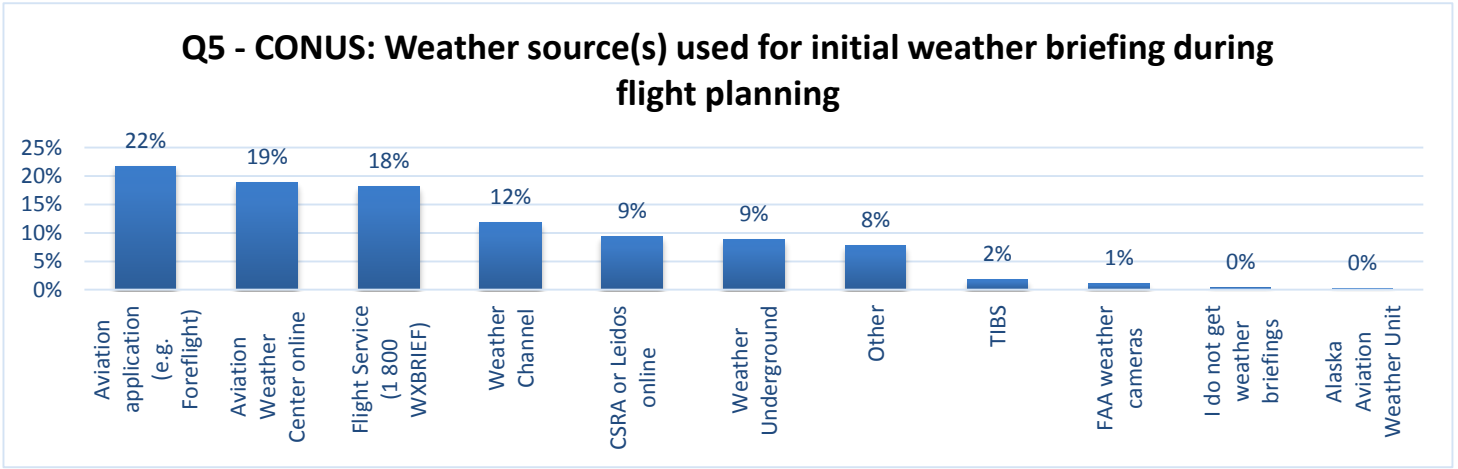
Aircraft Owners & Pilots Association

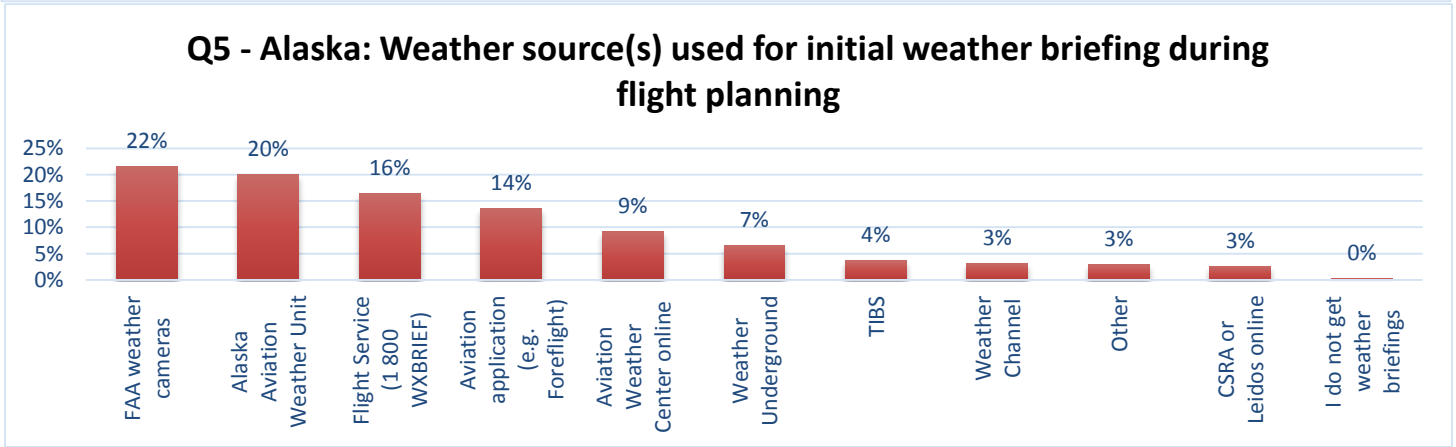
Survey Overview

- National survey, conducted over three weeks in June 2017
- 378 pilots responded: 103 Alaska and 275 CONUS
- Responses from cross-section of pilots, most held pilot certificates for over 20 years, 64% IFR rated
- Separated Alaskan responses from CONUS responses for some questions

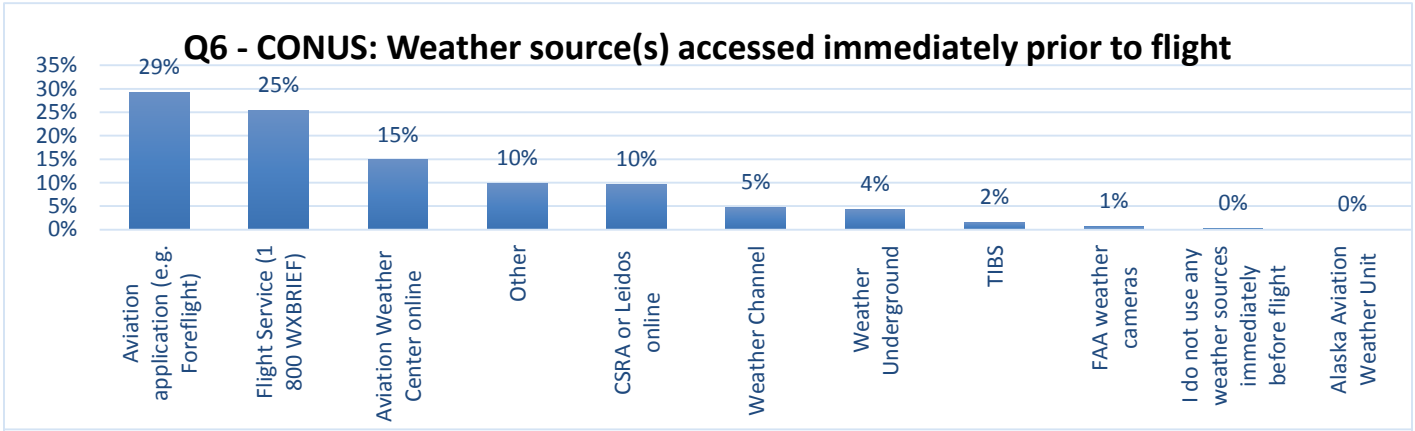


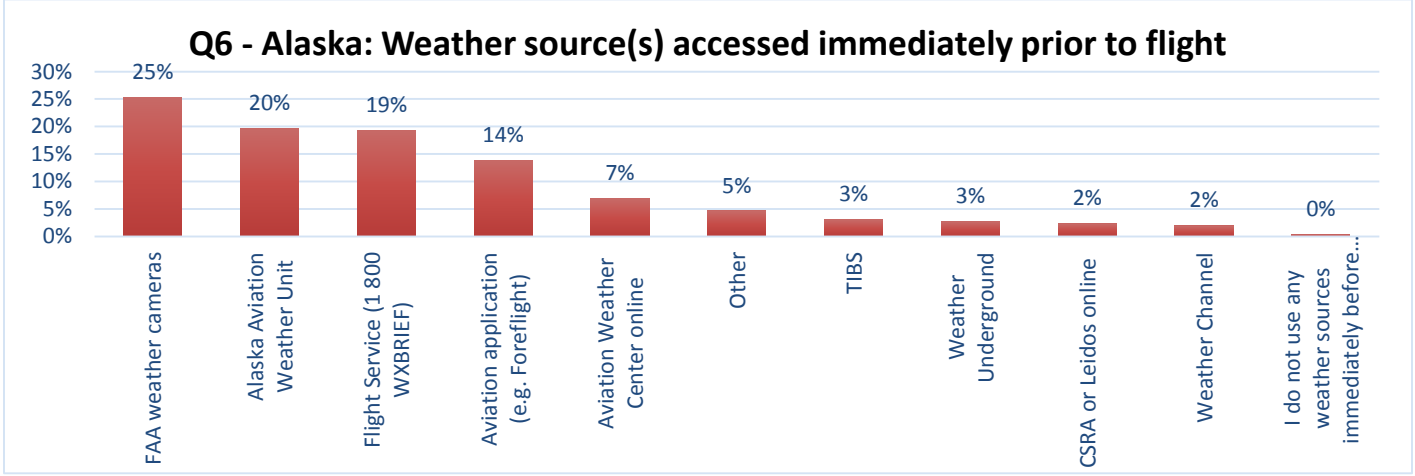
Flight planning: Initial brief



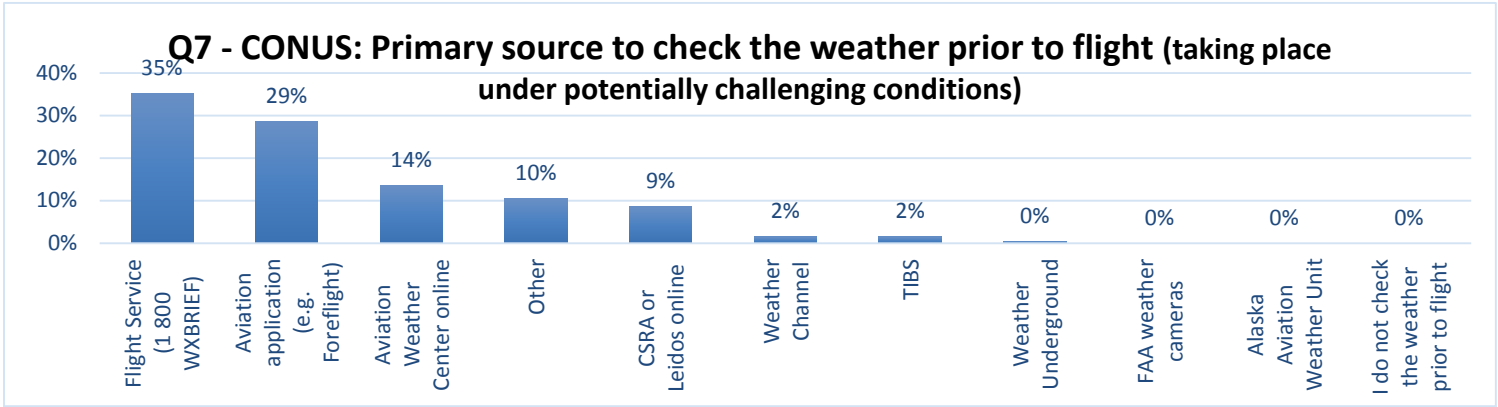


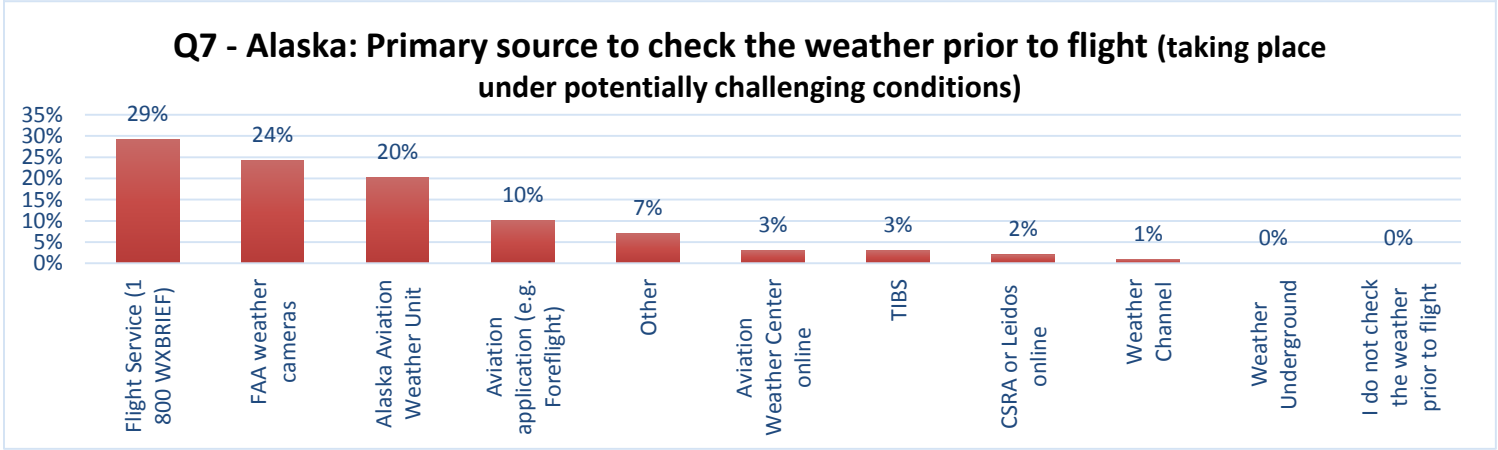
Weather sourced immediately prior to flight



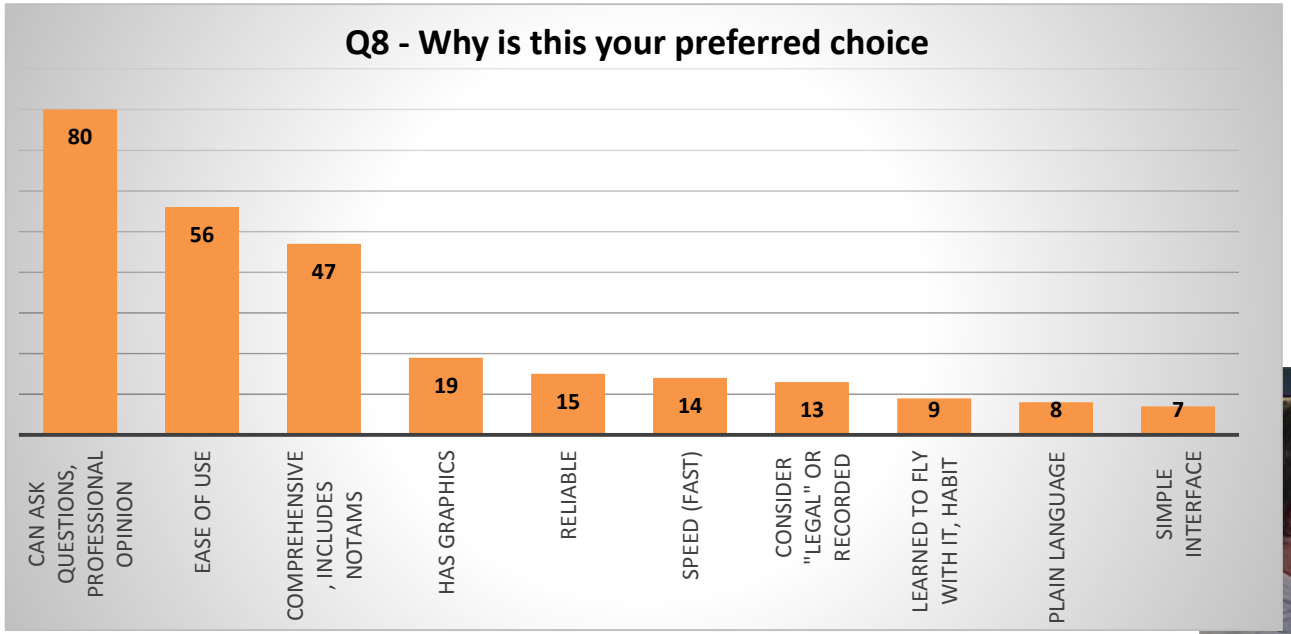


Primary weather source: Challenging conditions

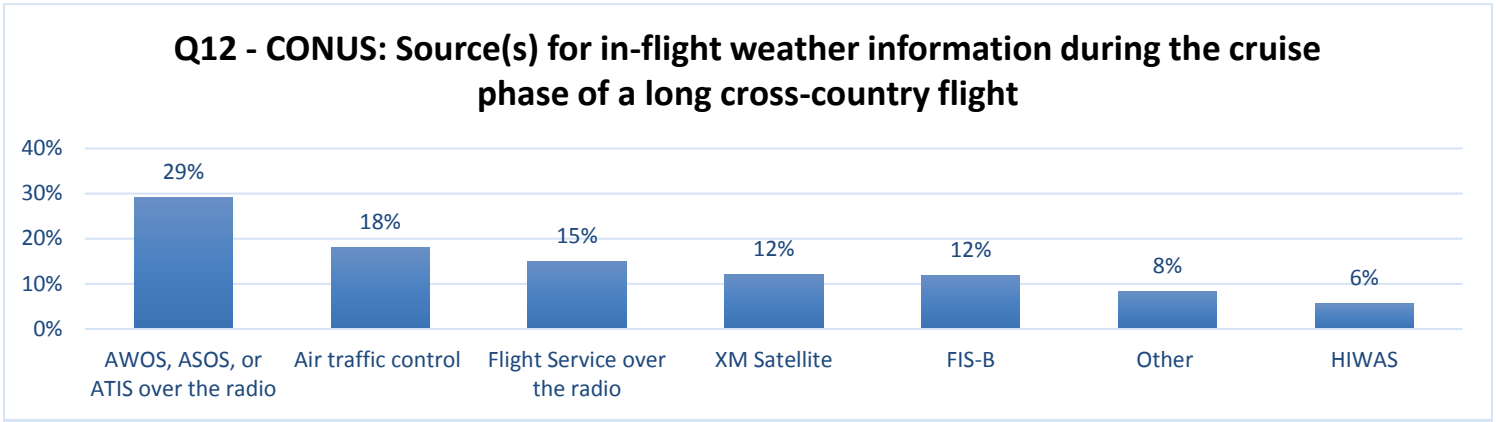


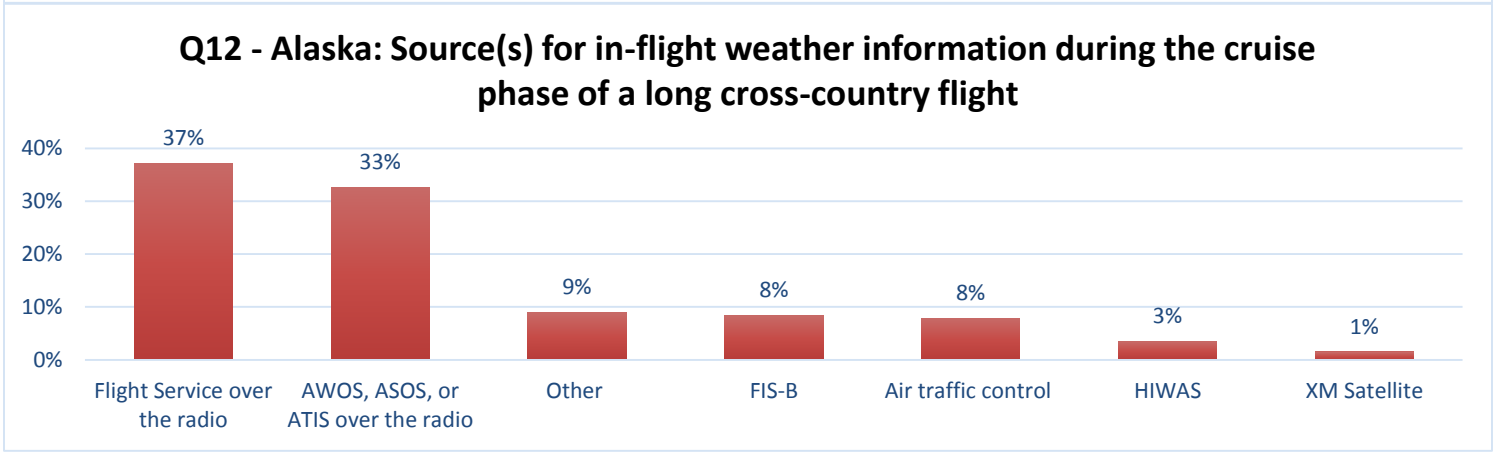


Why was that your choice?

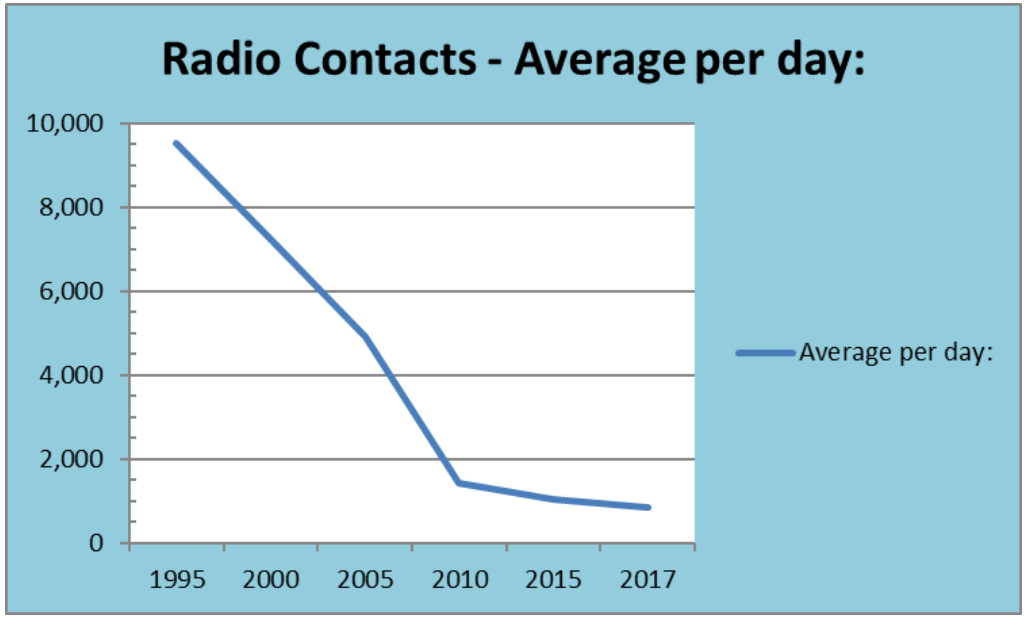


Inflight weather sources





CONUS Changing demand for inflight weather sources

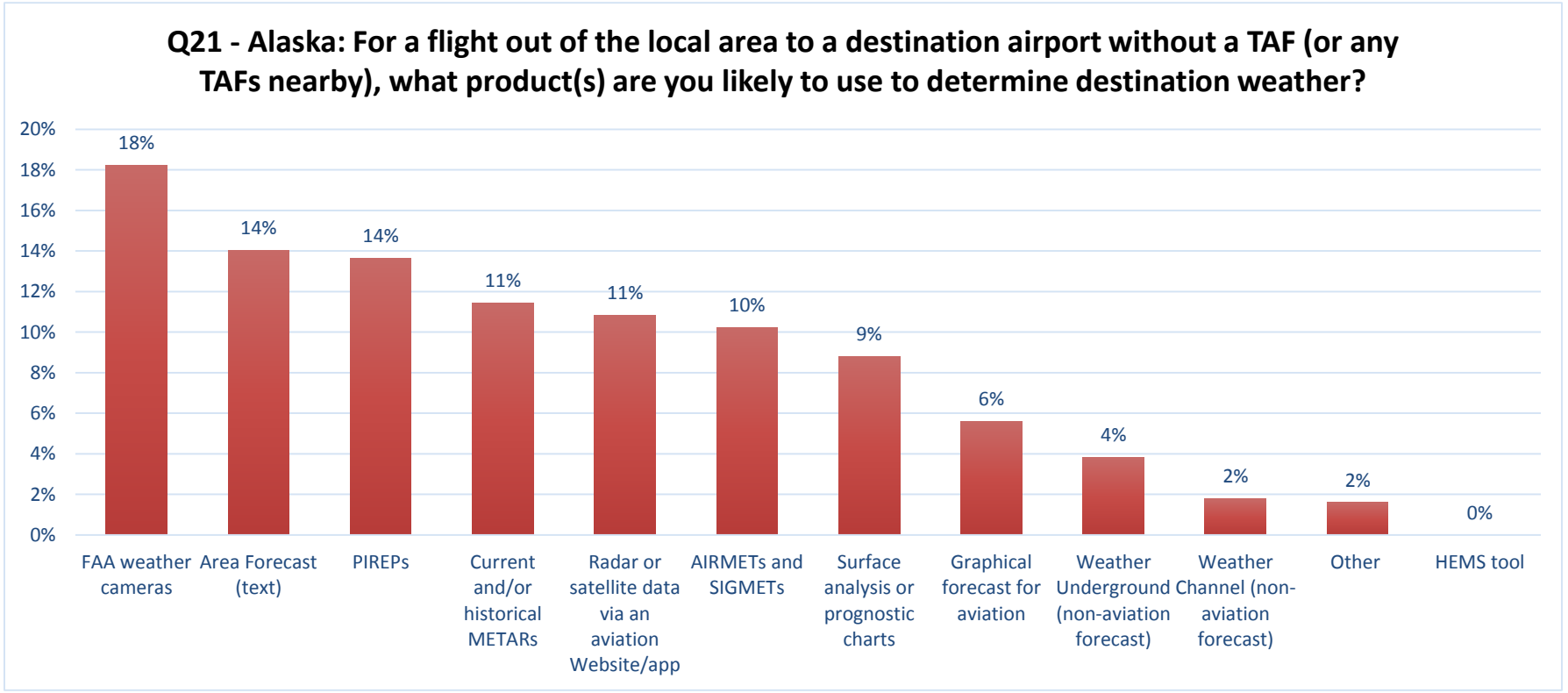


	1995	2000	2005	2010	2015	2017
Average per day:	9,537	7,224	4,910	1,413	1,030	850

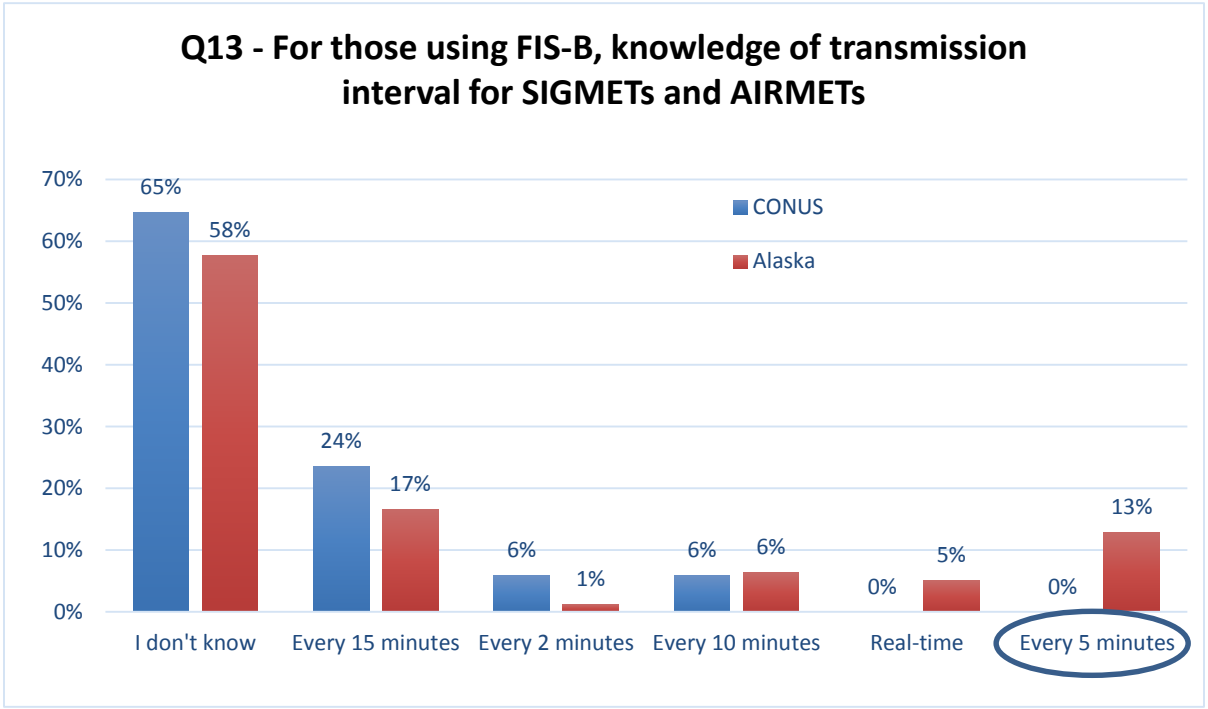
Encouraging growth of FIS-B

- 69% of respondents use FIS-B (different AOPA survey)
- 18% plan to use FIS-B
- Over 80% of pilots routinely fly with an EFB

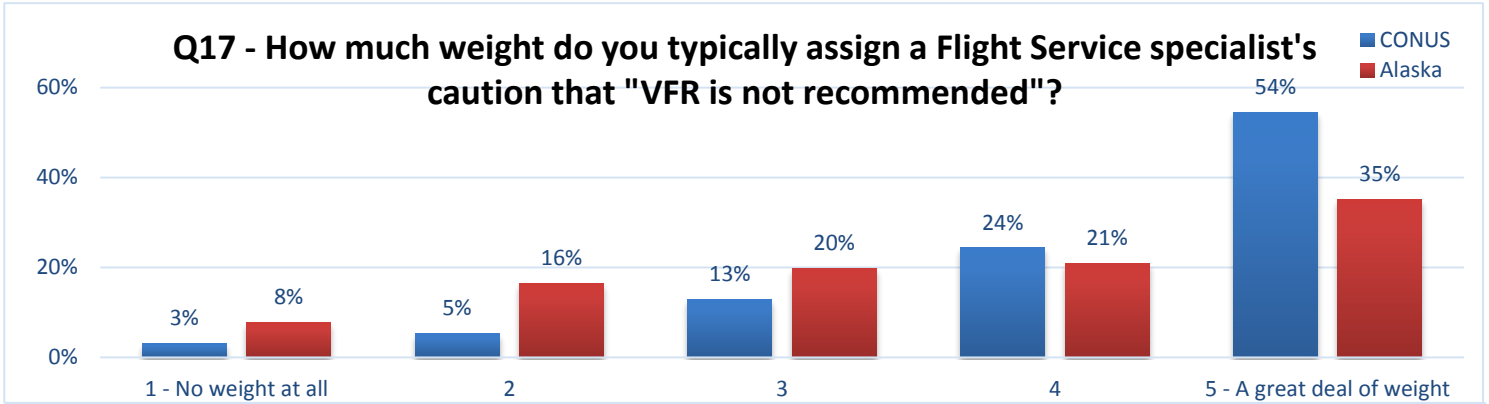
Flights to destinations without a TAF

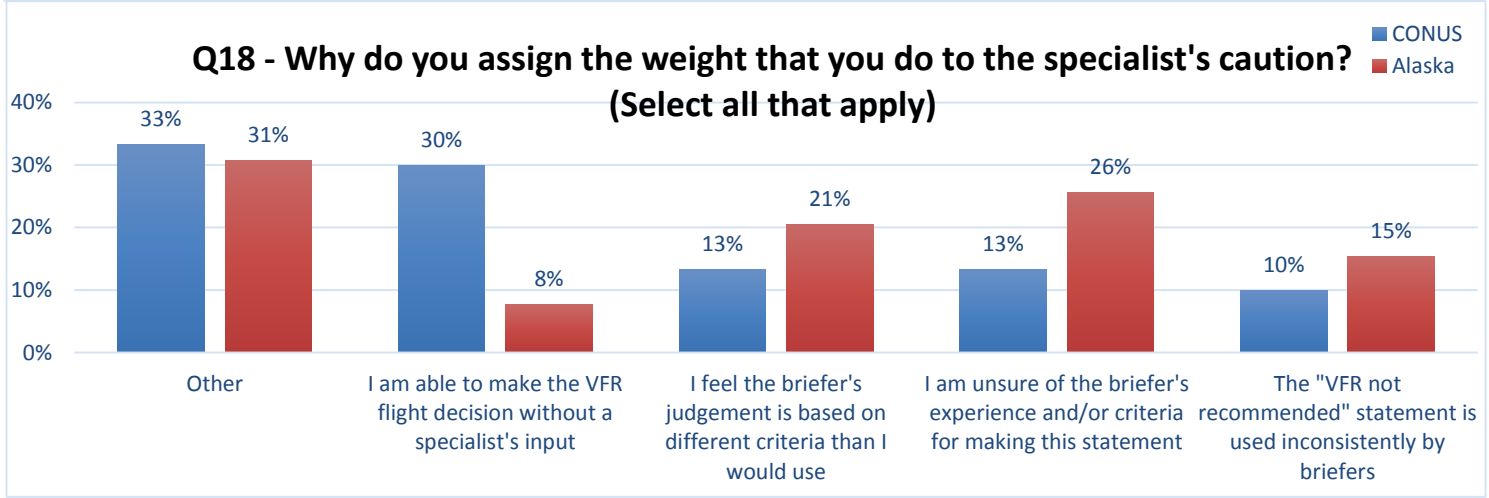


Understanding ADS-B In data

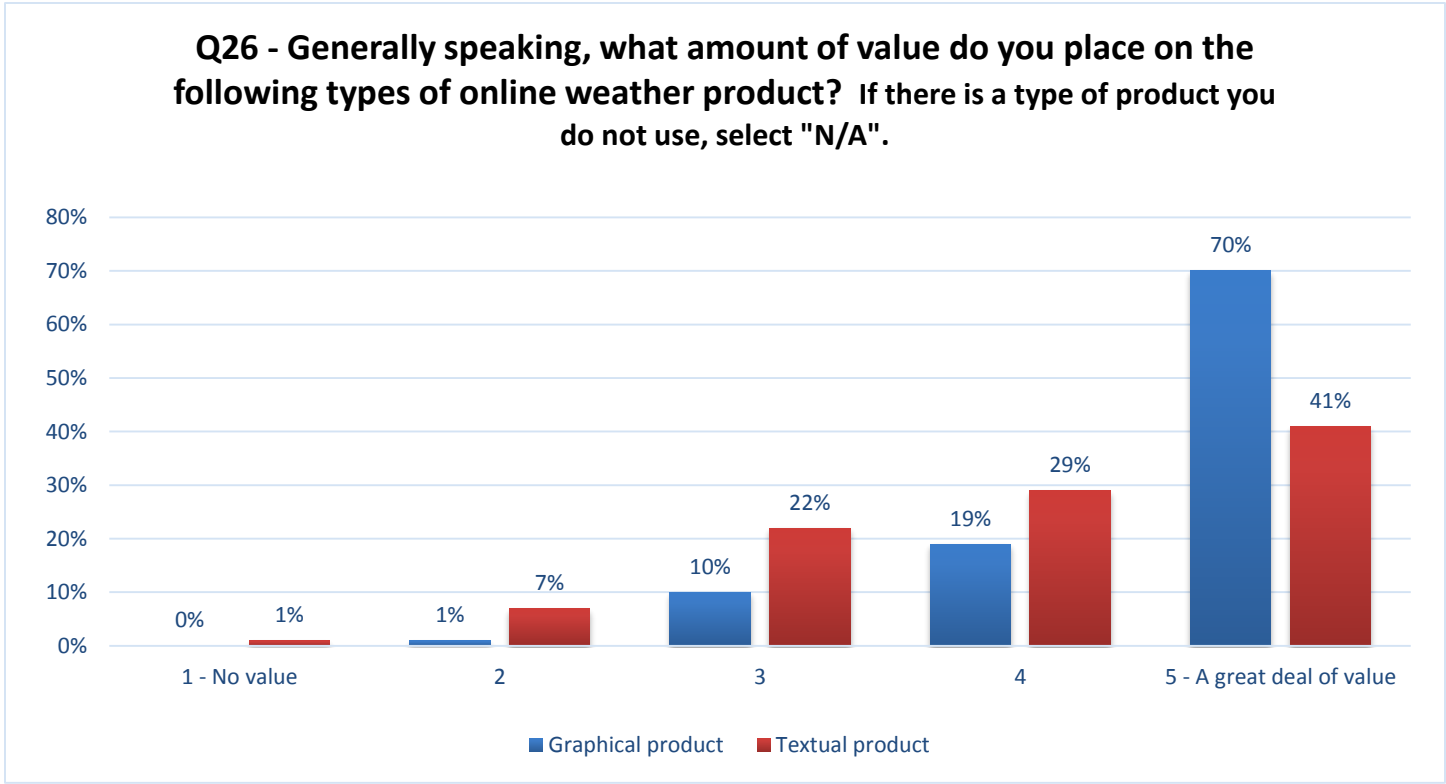


VFR not recommended

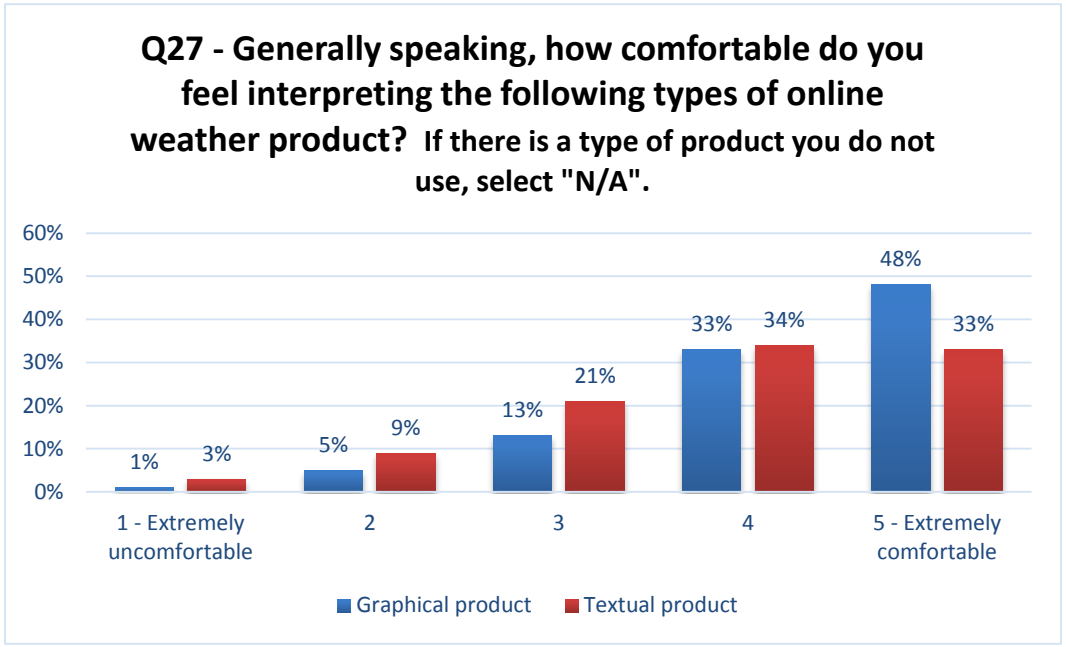


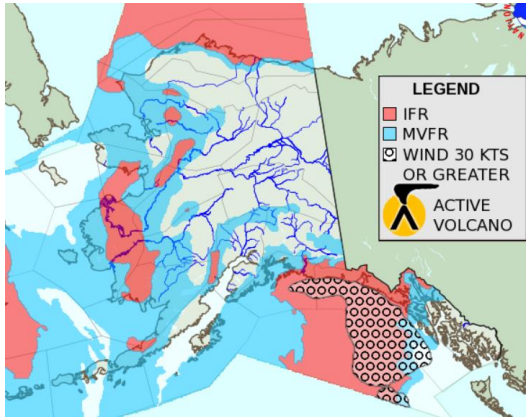


Graphical versus textual weather products



Interpreting graphic versus text





Tanana Valley

```
TANANA VLY FC...VALID UNTIL 040800
...CLOUDS/WX...
***AIRMET MT OBSC***AFT 03Z AK RANGE ISABEL PASS W OCNL OBSC
IN CLDS/PCPN. NC...
SCT040 BKN070 LYRD TO 250.
AFT 03Z ALG AK RANGE ISABEL PASS W OCNL BKN050 VIS 5SM -RASN.
OTLK VALID 040800-041400...VFR.
PASSES...
ISABEL...VFR. AFT 04Z MVFR CIG SHSN.
MENTASTA...VFR.
...TURB...
TIL 05Z VCY PABI ISOL MOD TURB BLW 060.
...ICE AND FZLVL...
AFT 02Z VCY AK RANGE E PAIN ISOL MOD ICEIC 060-120. FZLVL 060.
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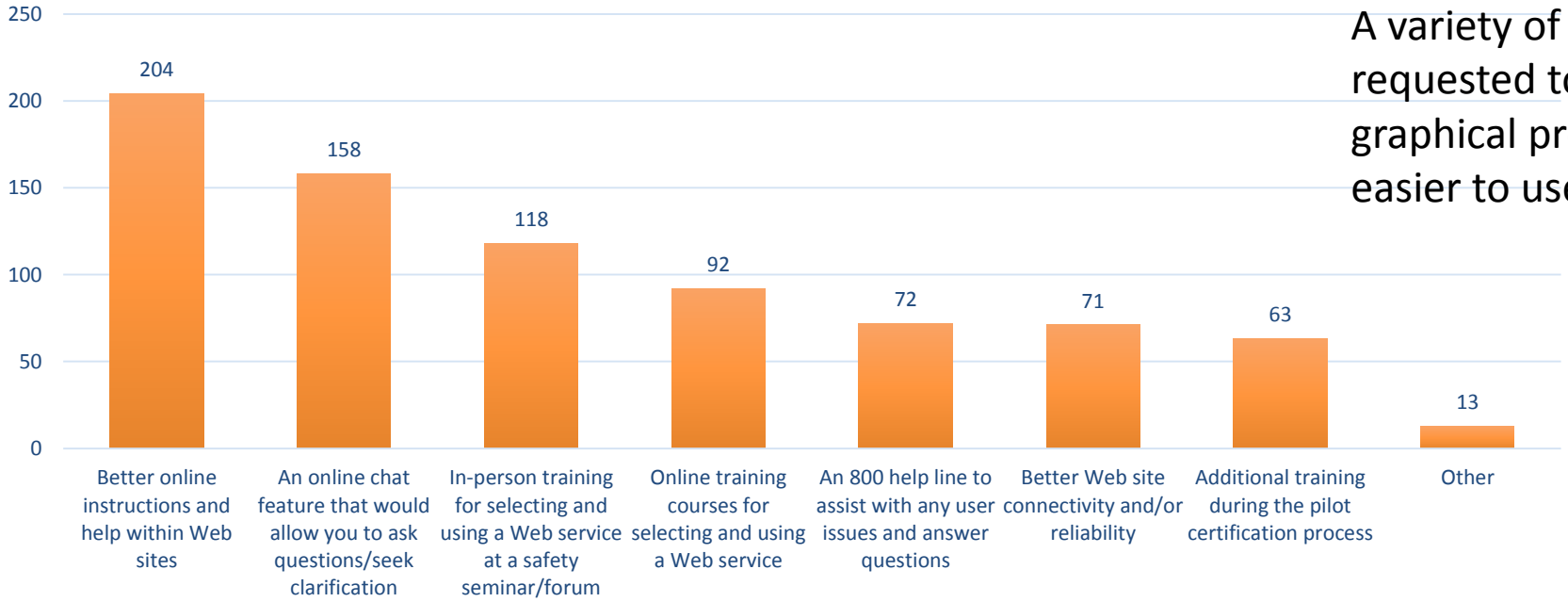
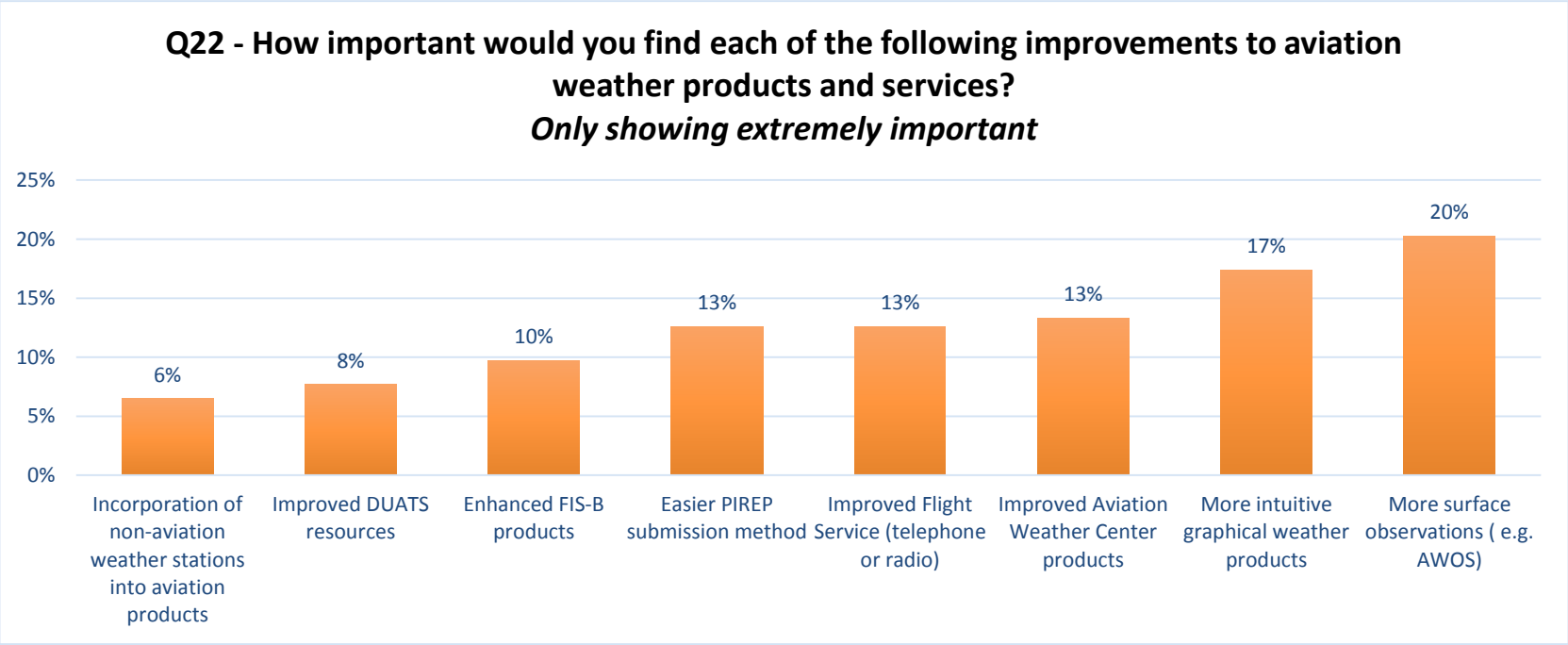
Understanding graphical products

Q28 - Which of the following would make interpreting graphical weather products provided via online pilot weather briefing services (such as DUATS) more useful for you? (Select all that apply)



A variety of tools requested to make graphical products easier to use

Weather improvements



Fill in the blank space

___

- Insufficient number of surface observations leaves gaps for situational awareness when flight planning
  - Offer tools to allow a pilot to build a picture
  - GFA and HEMS tool; RTMA

- Must do more on unintentional VFR flight into IMC
  - Make more WX observations available for no-go decisions
  - August 2017 joint letter from industry on AWOS/MAWS

- Weather websites focused on aviation should have an aeronautical design
  - Offer aeronautical chart layers – Improve user friendliness
  - Include human factors in design

August 22, 2017

Mr. Vaughn Turner
Vice President, Technical Operations
Federal Aviation Administration
800 Independence Avenue SW
Washington, DC 20591

RE: Surface Weather Observation Policy

Dear Mr. Turner,

We are writing today to express our frustration at the lack of inclusion of valid surface weather observation sites in the FAA's Weather Message Switching Center Replacement (WMSCR). The lack of surface observations is a widespread safety issue as general aviation aircraft, air ambulance services, and a significant number of commercial operators fly under Visual Flight Rules (VFR). These aviators need to know that they can maintain the requisite cloud clearance and visibility to complete their mission. Unfortunately, there are hundreds of weather observation systems currently operational in the United States that can provide adequate aviation weather reports that are not visible to pilots.

Attempts to fly by visual references in instrument conditions, also known as unintentional VFR into Instrument Meteorological Conditions (IMC), is a leading cause of fatal general aviation accidents and the leading cause of weather-related accidents. Although increased weather

Zooming out

One survey objective was to establish a baseline, to monitor future improvements

Alaska Aviation Weather Unit website changes were not explored (hadn't happened yet)

Looked for themes from questions and comments:

- Access to graphical weather products valued by pilots
- Ensure websites are mobile friendly and usable on touchscreens
- Ability to talk to Flight Service valued
- FIS-B is valued: more infrastructure needed, particularly in Alaska
- FAA weather cameras: highly valued—more are desired

Links to download complete reports:

AOPA 2017 Weather Survey

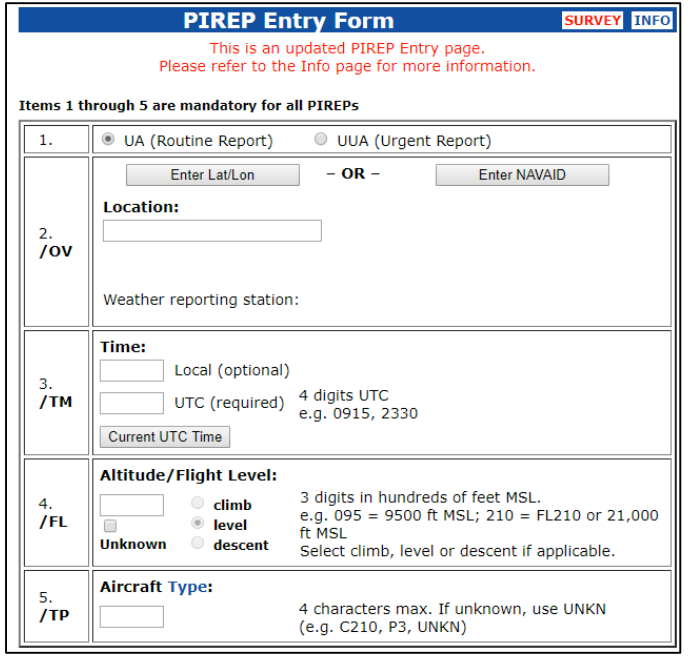
AOPA 2016 Pilot Report Survey

Pilot Education

- Informed consumers – Aware of best practices
- Training requirements – Consider knowledge exam changes
- Utilizing technology to make smart decisions
- Know before you go mentality is important – becoming competent and confident prior to flying with advanced equipment
- Understanding limitations, latency, and constraints of your specific equipment and plan accordingly
- Never become distracted by technology – Flying always comes first

PIREP Submission Integration

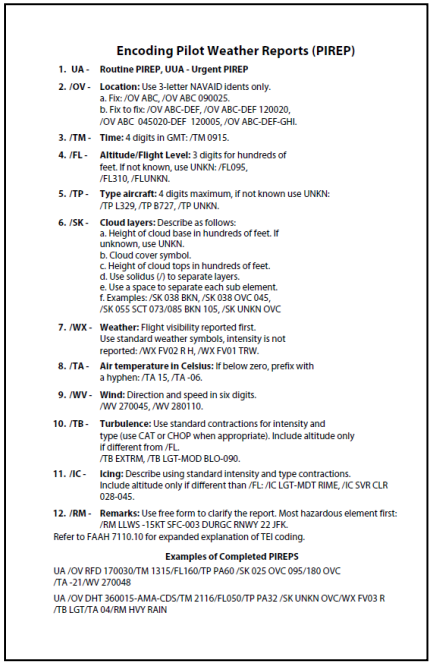
- AOPA conducted PIREP survey in 2016 in support of NTSB's PIREP Special Investigation Report
- Better automation/technology would improve submittal rate
  - Integrate into apps/avionics
  - Include GPS provided position
- Simplify process/form for inflight transactions



AWC PIREP submission form

Seeking Other Changes

PIREP quick reference guide added to all Chart Supplements – 1 Feb



Encoding Pilot Weather Reports (PIREP)

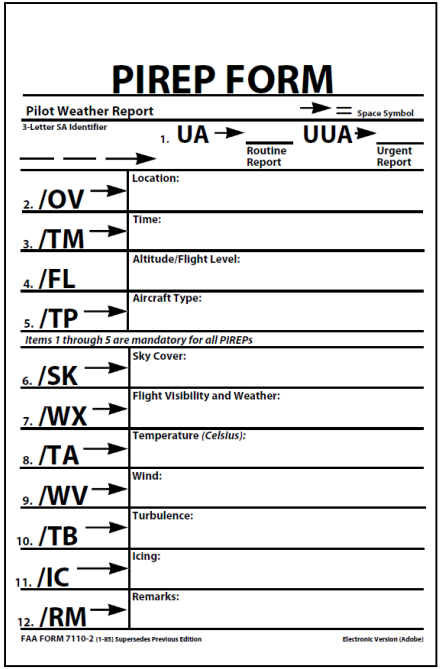
1. **UA -** **Routine PIREP, UUA - Urgent PIREP**
2. **/OV -** **Location:** Use 3-letter NAVAID idents only.
   a. Fix: /OV ABC, /OV ABC 090025.
   b. Fix to fix: /OV ABC-DEF, /OV ABC-DEF 120020, /OV ABC 045020-DEF 120005, /OV ABC-DEF-GHI.
3. **/TM -** **Time:** 4 digits in GMT: /TM 0915.
4. **/FL -** **Altitude/Flight Level:** 3 digits for hundreds of feet. If not known, use UNKN: /FL095, /FL310, /FLUNKN.
5. **/TP -** **Type aircraft:** 4 digits maximum, if not known use UNKN: /TP L329, /TP B727, /TP UNKN.
6. **/SK -** **Cloud layers:** Describe as follows:
   a. Height of cloud base in hundreds of feet. If unknown, use UNKN.
   b. Cloud cover symbol.
   c. Height of cloud tops in hundreds of feet.
   d. Use solidus (/) to separate layers.
   e. Use a space to separate each sub element.
   f. Examples: /SK 038 BKN, /SK 038 OVC 045, /SK 055 SCT 073/085 BKN 105, /SK UNKN OVC
7. **/WX -** **Weather:** Flight visibility reported first. Use standard weather symbols, intensity is not reported: /WX FV02 R H, /WX FV01 TRW.
8. **/TA -** **Air temperature in Celsius:** If below zero, prefix with a hyphen: /TA 15, /TA -06.
9. **/WV -** **Wind:** Direction and speed in six digits. /WV 270045, /WV 280110.
10. **/TB -** **Turbulence:** Use standard contractions for intensity and type (use CAT or CHOP when appropriate). Include altitude only if different from /FL. /TB EXTRM, /TB LGT-MOD BLO-090.
11. **/IC -** **Icing:** Describe using standard intensity and type contractions. Include altitude only if different than /FL: /IC LGT-MDT RIME, /IC SVR CLR 028-045.
12. **/RM -** **Remarks:** Use free form to clarify the report. Most hazardous element first: /RM LLWS -15KT SFC-003 DURGC RNWY 22 JFK.

Refer to FAAH 7110.10 for expanded explanation of TEI coding.

Examples of Completed PIREPS

UA /OV RFD 170030/TM 1315/FL160/TP PA60 /SK 025 OVC 095/180 OVC /TA -21/WV 270048

UA /OV DHT 360015-AMA-CDS/TM 2116/FL050/TP PA32 /SK UNKN OVC/WX FV03 R /TB LGT/TA 04/RM HVY RAIN



PIREP FORM

Pilot Weather Report — → = Space Symbol

3-Letter SA Identifier

1. UA → Routine Report — UUA → Urgent Report

2. /OV →	Location:
3. /TM →	Time:
4. /FL	Altitude/Flight Level:
5. /TP →	Aircraft Type:
Items 1 through 5 are mandatory for all PIREPs	
6. /SK →	Sky Cover:
7. /WX →	Flight Visibility and Weather:
8. /TA →	Temperature *(Celsius):*
9. /WV →	Wind:
10. /TB →	Turbulence:
11. /IC →	Icing:
12. /RM →	Remarks:

FAA FORM 7110-2 (1-85) Supersedes Previous Edition — Electronic Version (Adobe)

AOPA Next Steps

Planning an Alaska focused Flight Service survey in support of the *Alaska Flight Service Modernization* effort

Repeating our 2017 weather survey – welcome inputs and suggested questions

Continued advocacy for weather infrastructure and research to support safe and efficient Alaskan flight operations –

- Alaska Ceiling and Visibility research
- Low-light sensors for weather cameras
- VFR weather station standard
- PIREPs

Collaboration with FAA and AWC on weather products and user interface

AOPA

your freedom to *fly*

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Thank you!