



GENERAL AVIATION EDUCATION & USER PERSPECTIVES

2015 IN-FLIGHT USERS TECHNICAL INTERCHANGE MEETING

PAUL DERES
DIRECTOR of EDUCATION

Who We Are



- Established in 1950
- World's largest and most trusted source of free safety education for general aviation (GA)
- A division of the AOPI Foundation, Inc.
 - 501(c)(3) nonprofit, charitable organization
 - Funded by generous donations

What We Do

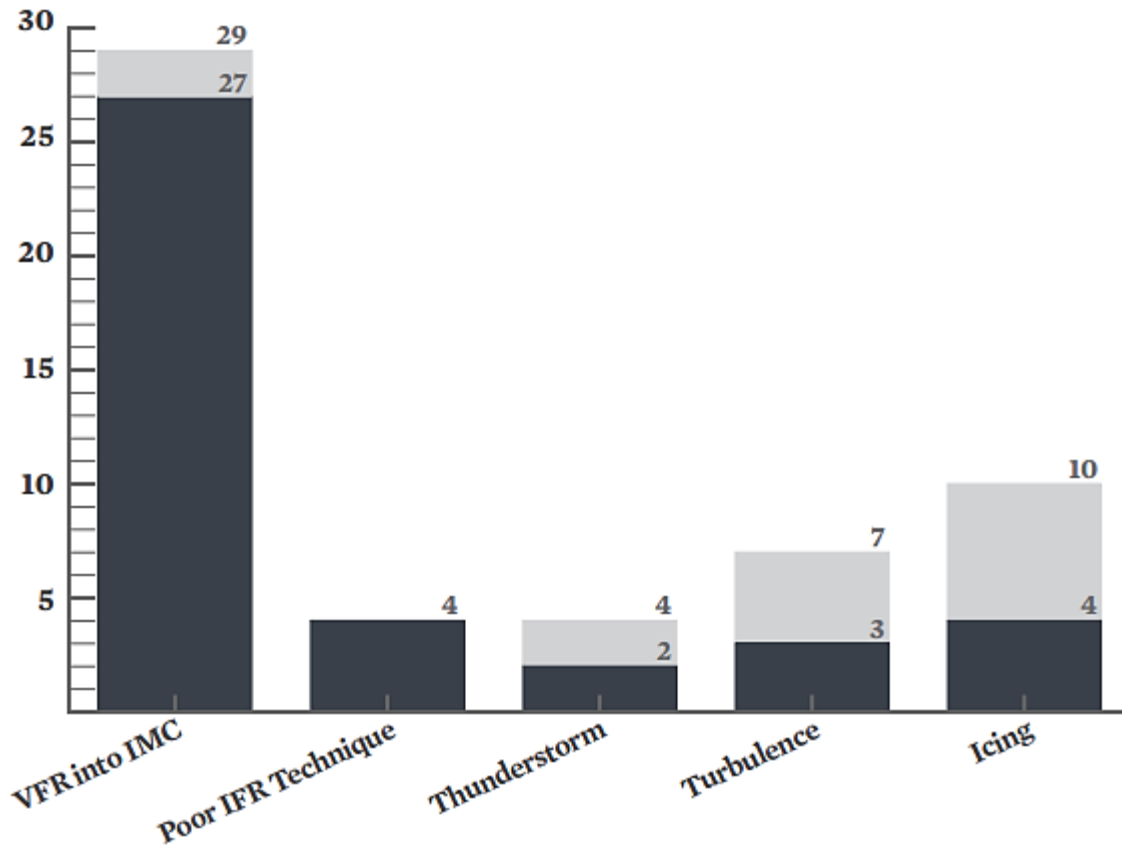


- Provide free safety education to pilots worldwide
 - Online Courses, Seminars, Videos, Quizzes, Publications
- Accident analysis, research, and reports
- Flight instructor renewals
- Over 2,000,000 views of our programs last year
- Foster a “safety culture” – Collaborate with government, industry, and academia

Icing Education / Outreach



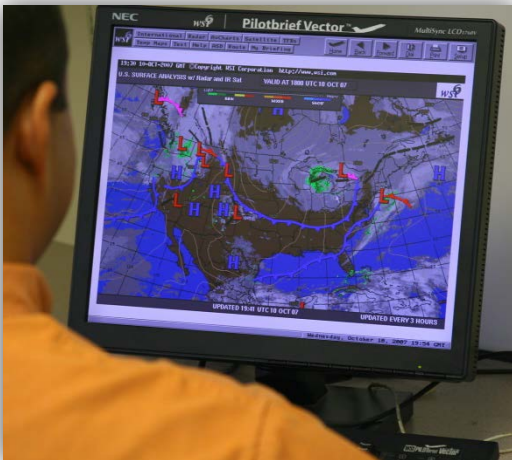
Figure 21: Types of Weather Accidents



Trends



- 2003 – 2012: 121 icing accidents / 46 fatal (fixed-wing & helicopters less than 12,500 lb.)
 - Inadequate planning
 - Aircraft not equipped—and going anyway
 - Aircraft equipped—but not escaping after encounter



Icing Education / Outreach



- “Ice Week” educational theme
 - Webinar with NWS/AWC
 - Safety videos
 - Safety quizzes
 - Safety articles
 - Blogs
 - Etc...



Icing Education / Outreach



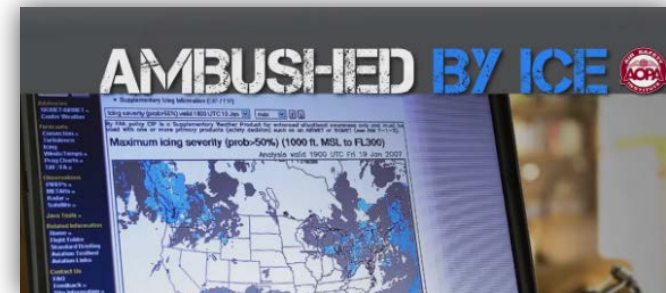
- Safety Videos
- Real Pilot Stories (videos)
- Pilot Safety Announcement
- Safety Quizzes
- Publications
- Webinars

Air Safety Institute Safety Quiz:

In-flight Icing



For light GA aircraft, structural icing is one of the greatest hazards of winter flying. Ice can accumulate quickly, decreasing lift and increasing drag to the point where continued flight is impossible. Learn how to avoid icing conditions (and what to do if you fly into them unexpectedly) with this ASI Safety Quiz.



SAFETY ADVISOR

AIR SAFETY INSTITUTE | 421 AVIATION WAY, FREDERICK, MD 21701 | 800.638.3101 | AIRSAFETYINSTITUTE.ORG

COLD FACTS:

WING CONTAMINATION

Icing Education / Outreach



- Online Course
 - Basic theory
 - Hazards
 - Tips on avoiding
 - Exit strategies

WEATHER-WISE
PRECIPITATION & ICING

Can you hear the rain shower?

Enable sound for the best experience

Satisfactory completion of this course qualifies for AOPA Accident Forgiveness and the FAA Wings program

Too many pilots underestimate the dangers of precipitation and icing.
And an alarming number become accident statistics as a result. Learn how to recognize the hazards of precipitation and ice, develop a strategy for avoidance, and react appropriately if you encounter unexpected conditions.

Disclaimer: This course is designed for pilots who fly light general aviation aircraft that are not certified for flight into known icing conditions.

Writers
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Sponsored by
NOAA
Mark Jon Bluth
The Slick Family Foundation

An interactive course brought to you by the Air Safety Institute

Begin Course ▶

Icing Education / Outreach



- Accident Case Study: Airframe Icing
 - SR22, structural icing
 - Ice Protection System, but not approved for FIKI
 - No AIRMETS, SIGMETS, or PIREPs along intended route
 - Pilot flew into clouds with temps near freezing
 - Pilot didn't declare urgency/emergency
 - NTSB cited NWS's inaccurate icing forecast as a factor
 - NWS algorithm showed low probability of icing when conditions showed severe

A screenshot of an online course interface. The title bar at the top reads 'Accident Case Study: Airframe Icing' and includes the AOPA logo. The main content area features a background of a flight chart with a circular inset showing a white SR22 aircraft. Below the chart are two small video thumbnails: the left one shows a white SR22 on a runway with a timestamp of '05:50 p.m.', and the right one shows a close-up of an aircraft's wing with a timestamp of '06:15 p.m.'. To the right of the thumbnails is a text box with the following content:

By examining general aviation accidents in detail, we can learn from the mistakes of others—and make better decisions as a result.

Structural ice can form rapidly on light GA aircraft. In a matter of minutes, continued flight can become impossible—and tragedy unavoidable. Examine the chain of events that led to this actual airframe icing accident and see the lessons we can learn from it.

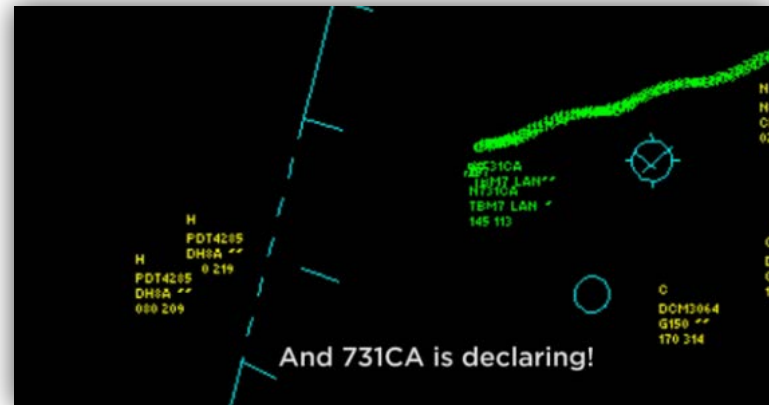
Writer: Carl Peterson
Project Manager: Miranda Skonie
Flight Simulator Footage: Brian D. Peterson

Below the text box is a blue button with the text 'Begin Course'. A small speaker icon and the text 'Enable SOUND for the best experience.' are also visible.

Icing Education / Outreach



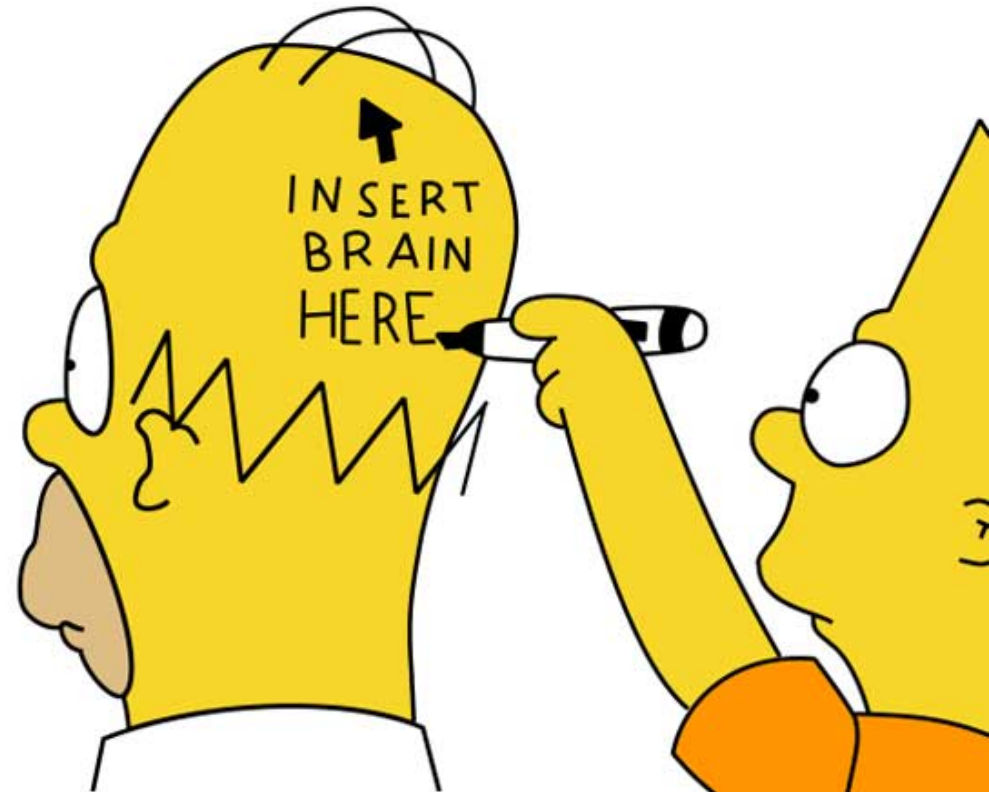
- Accident Case Study: Delayed Reaction
 - AIRMET for mod. icing – crying wolf? Been there, done that?
 - No evidence of weather briefing
 - Aircraft not certificated for flight in severe icing
 - No icing in Area Forecast
 - Numerous PIREPs and several Urgent PIREPs reported icing
 - Inertial Separator - OFF



The Unreachable?



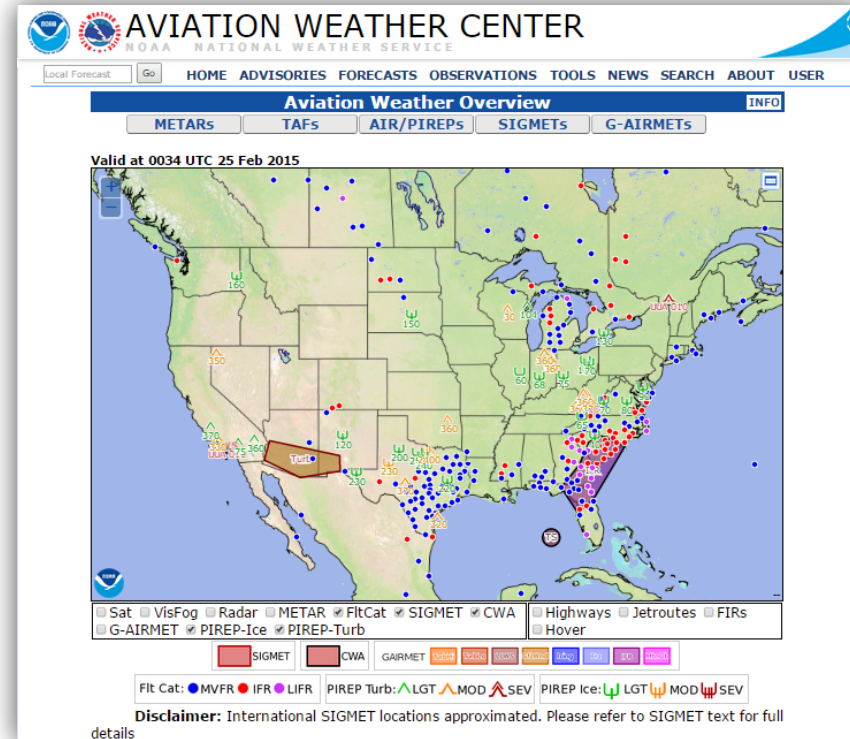
- Pilots that NEED our education aren't participating
- Still value in teaching the reachable



AOPA Recommendations



- AWC site
 - Information overload?
 - Point of entry – Filter by day/time/altitude/route
 - Pilot gets recommended tools for flight, including PIREP overlay for his/her altitude
 - Slow loading: Leave boxes “unchecked” by default
 - All tools: Change UTC to local

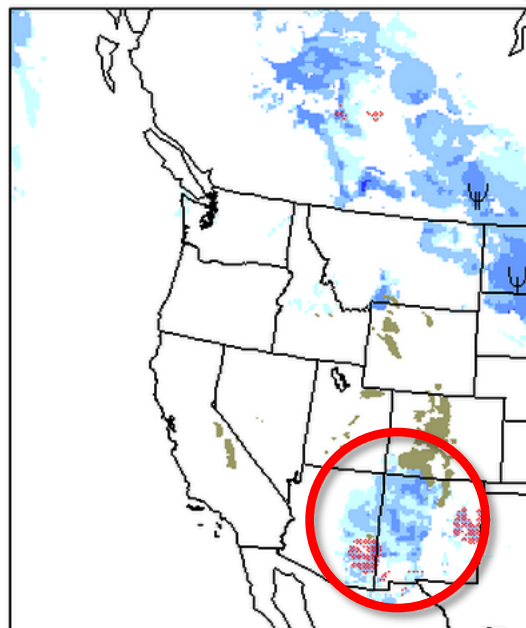


AOPA Recommendations

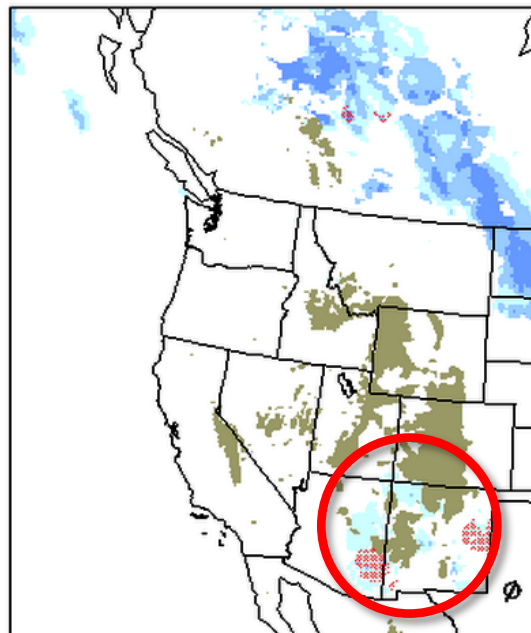


- Icing in mountainous areas?

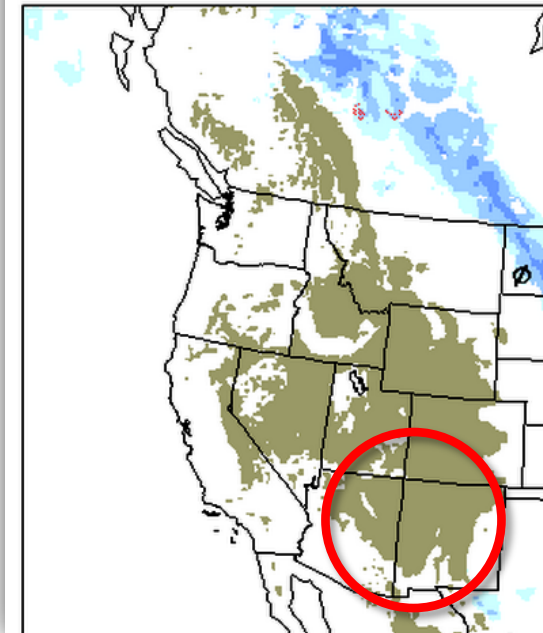
Icing severity at 9000 ft. MSL



Icing severity at 7000 ft. MSL



Icing severity at 5000 ft. MSL



AOPA Recommendations



- CIP/FIP are great tools – continue to improve, actively promote user feedback
 - Need better, faster integration of PIREPs into forecast system
- Continue implementation of dual polarization radar to help detect SLD
- Consider lack of icing forecasts in mountainous terrain
 - Need indication that forecasts not available
- Keep AOPA informed, and we'll educate
 - NOAA/NWS-funded education grant