



CHAPTER 430



JUNE 2024

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Upcoming Events

June 29 – General Meeting 9:30 a.m. social,
10 a.m. meeting (Sequim Valley Hangar 15)

June:

29 – General Meeting 09:30 W28 #15

July

10 – IMC/VMC 19:00 Mariner Café

13 – Young Eagles, 11:00 CLM

19 – Board of Directors 09:00 Mariner Café

27 – General Meeting 09:30 W28 #15

SAVE THE DATE for Young Eagles

July 13 – Port Angeles

September 7 11:00 OS9

September 21 – Sequim (contingent on
weather June 1)

FROM THE LEFT SEAT –RAY BALLANTYNE



Well, the summer flying season is finally upon us. I recently returned from a trip to Alaska, with Lisa, son Dan, and John Riser. We spent almost two weeks flying our three GlaStars from the Brooks Range north of the Arctic Circle all the way down to the south end of the Kenai peninsula. We also got a chance to overnight at McCarthy, then fly through the Wrangell- Saint Elias mountains to Burwash Landing, and on down to Whitehorse, YT on our way home. And I will leave shortly to fly the Idaho backcountry and Montana for a couple of weeks. As a result, I will miss the June Gathering on the 29th. Vice President Rick Vaux is more than capable of leading the meeting in my absence. I hope others are taking advantage of the good flying weather too.

I'm excited to report that our young pilot candidates are moving swiftly toward their private certification. Gunner Rogers recently passed his written exam, and Aiden Lara is getting ready to take his check ride. Way to go!

David Miller has been working to secure grant funding for additional scholarships. We recently received a request for more information and we're hopeful that we may be able to secure up to \$4000.

The Sequim Valley Airport has given us a proposed ground lease for no cost. It is not at the location we were hoping for, so the building committee will be looking into what we want to do to move forward. There will be more information in the near future.

EAA Airventure 2024 in Oshkosh, WI is coming right up at the end of the month. There are several from the chapter attending, including Lisa and me. It is always an amazing event! If you haven't been, I hope you get a chance to attend sometime.

We had a very successful Flying Start program on June 2 when seven prospective pilots received a great presentation from Dave Woodcock, Dava McNutt, and Gunner Rogers. We are still needing to provide two Eagle flights before everyone has experienced their flight.

I'll miss being at the gathering, but we're all about having fun with airplanes, and I'm making the most of it!

Blue Skies and Trailing Winds,

- Ray Ballantyne, EAA430 President

MEMBERSHIP

Hi Folks! Another month behind us. I was unable to attend last month due to a conflict. I will be at this month's gathering. If I don't have a picture of you for our membership directory, let's fix that at the gathering! Come see me at the membership table and I'll have my camera ready to go.

If you have lost or need to have your badge updated, I will have a form available for you to fill then, you can write a check or give Tracy \$10 for the replacement, or send \$10 to @eaa430 on paypal.

-ejp

178 SECONDS TO LIVE (REPRINT FROM 2017)

178 seconds to live—VFR into IMC

*from FlightSafety Australia
January 22, 2016*

Flights operating under visual flight rules (VFR) flying into instrument meteorological conditions (IMC) remains a prominent safety issue, with the [Australian Transport Safety Bureau](#) recording 111 occurrences over the last 10 years, investigating 18 serious incidents and accidents.

A decade after [publishing 178 seconds to live](#), we look back at our cover story from 2006 and the safety advice still relevant today.

It's an all too common scenario: a VFR pilot flies into IMC and needs help.

On average, Australian air traffic controllers are called upon once every 10 days to assist a pilot in deteriorating weather. Of the reported occurrences, 60 per cent are above cloud and can't get down. The remainder are either in deteriorating weather, in cloud or have reduced visibility due to smoke or haze.

It is a dangerous situation. American research shows that 76 per cent of VFR into IMC accidents involve a fatality. The dangers of flying VFR into IMC have been recognized for a long time. Yet VFR pilots still fly into deteriorating weather and IMC.

From *Flight Safety Australia* January-February 2006...



Flight Safety Australia's cover from 2006

Some of these pilots may simply underestimate the danger and overestimate their ability to cope with flight in reduced visibility. The pilots of the 24 fatal aircraft accidents involving continued flight into IMC in Australia over the 10 years from 1992 to 2002 probably thought the samething. Fifty-four lives were lost in these accidents.

At some stage in your flying you will encounter bad weather—unless you only fly on perfect weather days. Spatial disorientation is the big danger. And it can happen a lot faster than you might think—just 178 seconds on average, about the length of a commercial on TV. That estimate is based on studies in the 1990s by aviation researchers at the University of Illinois. They took 20 VFR pilots and got them to fly into IMC in specially programmed flight simulators.

All of the pilots in the study went into graveyard spirals that would have ended in uncontrolled flight into terrain or rollercoaster-like oscillations that became so intense that they would have resulted in structural failure of the aircraft. In repeated tests on the simulator the result was the same—all pilots lost control of the aircraft. The outcome differed only in the time required before control was lost which ranged from just 20 seconds to 480 seconds.

A close look at one VFR into IMC incident illustrates the dangers.

In 1999, a pilot was conducting a visual flight rules (VFR) flight from Walgett to an airstrip near Merriwa. The Piper Archer had departed from Walgett earlier in the day, but returned a short time later when it was reported that weather at the destination was not suitable for VFR flight.

However, the pilot felt under pressure to complete the flight that day. He continued to monitor the weather by telephoning for weather reports from an automatic Bureau of Meteorology outlet and by contacting a friend near the destination airfield.

The aircraft departed again at 1415. But the pilot never reached Merriwa. The aircraft's wreckage was located two days later on top of a ridge, 3880 ft above mean sea level (AMSL) slightly to the left of the direct track between Walgett and Merriwa.

The Australian Transport Safety Board (ATSB) investigation found that the Piper Archer collided with trees during a right turn, at a rate of descent of about 2500 ft/min.

A post impact fire consumed the cabin and fuselage immediately behind the cabin. The pilot and passenger escaped the wreckage; however, the pilot died from his injuries before rescuers could get to the accident site.

The pilot held a private pilot license for airplanes and a commercial helicopter license, together with a valid medical certificate. He did not hold an instrument rating and the aircraft was not approved for IMC.

Reports at the time of the accident indicated that the cloud base was 3600 ft AMSL, and that cloud was covering the ridge where the wreckage was found. The weather over lower terrain to the southwest of the accident site was suitable for VFR flight.

Once the aircraft entered cloud, the pilot was no longer able to rely on external visual references, and most likely became spatially disoriented.

Investigators noted that the pressure the pilot felt to complete the flight might have influenced him into choosing the shortest direct route over high terrain, with associated poor visibility, rather than the longer route further to the southwest, where clearer conditions prevailed.

Decisions, decisions

Just how different decision-making patterns affect safety was the subject of a recent ATSB report.

Three weather-related decision-making behaviors were compared: VFR pilots flying into IMC; a weather-related precautionary landing; and significant weather avoidance action.

The results suggest that the mid-point of the flight can be a 'psychological turning point' for pilots, regardless of the flight distance involved. The VFR into IMC group had the greatest risk of a fatality or serious injury, while the 'precautionary landing' group had the greatest risk of some form of aircraft damage.

The chance of a VFR into IMC encounter increased as the flight progressed, until it reached a peak during the final 20 per cent of the flight distance. The results highlight the danger of pilots 'pressing on' to reach their destination.

A VFR pilot may exhibit a range of behaviors when faced with adverse weather. For example, at the first hint that conditions are deteriorating, a pilot may decide to immediately return to the point of departure.

At the other extreme, a pilot may 'press on' into deteriorating weather, either unable or unwilling to see the increasing danger of their actions, until the aircraft suddenly enters IMC.

A more typical scenario might involve a pilot who, in response to deteriorating conditions, initially continues the flight as planned, but later decides to return, divert, or perhaps even carry out a precautionary landing.

Chance can play a big part in the outcome as the following two accident case histories illustrate:

In case 1, the aircraft was on a private flight from Shepparton to Moorabbin with the pilot and three passengers on board. Before departing from Shepparton, the pilot had obtained an enroute weather forecast that indicated that VFR flight via the Kilmore gap was possible but that conditions were likely to be marginal.

On departure from Shepparton, there was scattered cloud at 2500 ft with a ceiling of approximately 4000 ft. Visibility was about eight km, with occasional rain showers.

As the flight approached Mangalore, the hills to the east and southwest were shrouded in low stratus. Abeam Seymour, the weather ahead appeared to be closing in so the pilot began a left turn onto a reciprocal heading for Mangalore.

However, the weather had closed in from behind, and soon after completing the turn the aircraft was enveloped in cloud. The pilot contacted Melbourne ATC and reported that he was in cloud with nil visibility. ATC advised him to concentrate on keeping the wings level, and provided radar vectors to ensure that the aircraft remained clear of high terrain in the vicinity.

Abeam Mangalore the aircraft broke free of cloud and the pilot was able to resume navigation. The flight continued to Shepparton and a safe landing.

This pilot emerged unscathed from a VFR into IMC incident because—luckily—advice and guidance were at hand.

In contrast, the pilot involved in the next accident, while initially slow to recognize deteriorating weather, made a wise decision to carry out a precautionary landing.

In spite of this, the aircraft was destroyed and the pilot and one of his passengers were injured.

The planned flight was from Bendigo to Albury. The area forecast indicated that the weather enroute would be okay for VFR flight. A cold front was moving slowly through the region from the southwest, but was not forecast to reach the area of the planned route until after the flight. The pilot did not hold an instrument rating but had completed three hours of instrument flight training.

The aircraft departed Bendigo at 11 am with the pilot, his wife, and their two children on board. It soon became clear that the front was moving much more quickly than forecast and that the weather along the planned route could deteriorate below that required for VFR flight. The pilot decided to return to Bendigo and told ATC of his intentions.

A short time later the pilot again contacted ATC and advised that the weather had deteriorated further and that he was going to carry out a precautionary landing in the Rushworth area.

The pilot identified a suitable landing area and carried out a low speed pass to confirm the area was free of obstacles. He configured the aircraft for a precautionary landing and made a slowspeed approach to the field.

Just after touchdown the nose gear hit the bank of a ditch that was hidden by reeds and long grass. The nose gear was sheared off, and the aircraft continued for some distance before it overturned and came to rest.

The pilot and the front-seat passenger were restrained by their lap-sash seat belts, but the pilot suffered a fracture to his left arm. One of the passengers in the rear of the aircraft received minor injuries.

What happens when you enter cloud?

Our normal environment is with two feet planted firmly on the earth, clear vision of our surroundings, gravity allowing us to feel weight/pressure on our feet (with a force of 1 g), and our inner ears providing our sense of balance.

Orientation is achieved with 80 per cent of the input to your brain coming from your eyes (external visual references) and 20 per cent split between your inner ear and proprioceptive system (seat of the pants or what you feel).

When you are flying you are operating in an unnatural environment that can result in different forces.

Usually it is easy to orient yourself in VFR flight. You have visual reference to a horizon outside the aircraft, and in steady flight you only have a force of 1 g acting on you. Even pulling 2 g in a steep turn is usually not a problem as long as you can see a horizon to maintain orientation.

But when a VFR pilot enters cloud, the horizon disappears. Suddenly, 80 per cent of the input you need for orientation is lost. Worse, if your flight attitude changes, or you make any maneuver that results in forces of more than 1 g, your sense of balance will also change.

Spatial illusions and disorientation are created when the fluid of the inner ear responds to acceleration, deceleration, pitch, roll and yaw. It is very easy to find yourself in a gradual turn once you have lost the horizon. Your inner ears will simply not detect the change.

Even after a minor distraction in the cockpit, you can find that when you look back at the artificial horizon that there has been a slow, 10 or 15- degree bank angle introduced. You make control inputs to correct the turn. But without a view of the horizon you will be relying on your sense of balance provided by your inner ears. The problem is that the acceleration forces affect the fluids in your inner ears resulting in a sensation of turning in the opposite direction.

To overcome this illusion you might make a correction back to the original position. While this may feel better to you, the original turn has been reintroduced with the airspeed increasing and the altimeter unwinding rapidly.

The illusions can be so strong that many pilots will disregard their instruments, certain that they're wrong. There is a simple way to demonstrate what it feels like to experience a slight disorientation or dizziness similar to the illusions that may happen in a cockpit in cloud. Sit on a swivel office chair and tuck your feet under the seat of the chair. Close your eyes and place your head forward so your chin touches your chest. Hold onto the seat so you don't fall off and get someone to spin you around on the chair for 3 or 4 rotations (it doesn't have to be very fast).

Then lift your head up straight and open your eyes. You will feel a slight dizziness as the movement of the fluid in the inner ear was moved into another rotational plane when you moved your head. This is different to what your eyes were telling you.

If you are VFR and you find yourself in IMC you need to ignore your senses, and follow your instruments. Seek help from ATC if you can. And try to remain calm.

Some general principles of instrument flying need to be understood and followed:

- Trust the instruments and believe what they are telling you.
- Maintain a scan of the instruments.
- Do not dwell on one instrument for too long, and check the attitude indicator after you check any other instrument.
- Use smooth and gentle control inputs to get the aircraft to do what you want.

One of the keys to avoiding a VFR into IMC incident is to be able to recognize deterioration in the weather while there is still time to make a safe diversion. This is often easier said than done, but there is evidence that in-flight, weather-related decision-making can be practiced and learned.

Research by the US Federal Aviation Administration has found that experienced pilots generally use the following indicators to assess in-flight weather changes:

- Lowering cloud base.
- Rising terrain.
- Darkening clouds.
- Increasing cloud cover.
- Reducing visibility.
- Rain showers.
- Changes in wind direction and speed.

A change in three or more indicators was sufficient for the experienced pilot to initiate a diversion to an alternate or a return to the departure aerodrome.

You should monitor the weather behind your aircraft. There is no point deciding to turn back to find that the weather behind the aircraft is as bad as it is in front—or worse.

Always give yourself time to make informed decisions. If the weather appears to be getting worse, slow the aircraft down (use flaps and lower the gear). The slower speed will usually improve your forward visibility and give you more decision making time. It will also reduce your turning radius if you have to maneuver in a tight space.

The safest thing to do is to cancel a flight if the conditions look like they might become marginal. But it can be a difficult decision because you might have a lot of time and effort invested in the flight, and there may be friends and family counting on you.

Remember, your primary responsibility is your safety and the safety of your passengers.

Preparation: The key, of course, is to avoid deteriorating weather or IMC in the planning phase. Thorough weather planning and an extensive understanding of weather forecasts and meteorological conditions help pilots determine whether the weather is acceptable for VFR flight.

The weather on the TV usually gives a satellite image and a surface chart. Get to know what they mean and use them to check the weather around you even when not flying to give you an indication of how frontal passages and cloud bands evolve.

However, when you do commit to going flying make sure you get the relevant aviation forecasts you need and update them through FLIGHTWATCH.

You can also call ahead to your destination to find out actual weather or check with ATC to hear from pilots flying along the route.

When you are planning to take others on a private flight, make sure they understand the importance of the weather conditions, and tell them that you will cancel plans if the weather is not suitable. If someone has to be home by a certain time, make sure they understand this might not be possible.

Preparation is the key. Have the current maps and charts to ensure you have the latest information about airports, NAVAIDS and facilities available, including ATC frequencies.

Learn how to obtain weather and NOTAM information, and always submit a flight plan. Use ATC flight following services enroute. Call FLIGHTWATCH for updates of weather reports. And remember to always set the altimeter within 100 nm of the position of your aircraft to ensure you are flying an accurate height.

It all comes down to thorough preparation, alternate plans and timely decision-making. And decisions have to be constantly reassessed based on the current situation—looking and planning ahead is essential. Problems occur when pilots fail to make a decision. It's vital that you constantly consider your options and that you are prepared to act swiftly.

Think could I get through there—have I got an escape route? It's okay to turn around. It's okay to consider that I won't make my destination. It comes down to thorough preparation, a range of alternate plans and timely decision-making.

MAY 2024 GATHERING MINUTES

Date: May 25, 2024

- Meeting social and sign-in 0930.
- Chapter President Ray Ballantyne called the Membership Gathering to order at 1000 at Sequim Valley Airport, hangar #15.
- Ray led The Pledge of Allegiance to the Flag with 34 members and 1 guest attending.
- Guest(s): Kaylee Oldemeyer
- Emily Wescott shared about Sequim Valley Airport "Air Affaire", August 24th - Saturday only. Dave Miller and Ray Ballantyne will help to park airplanes. Popular airplane rides will be back, in a classic Travel Air biplane. Dave Woodcock will be there with his Piper L-4 warbird.
- April Gathering Minutes were approved as written.
- Guest introduction was followed by congratulations to Gunner Rogers, Ava Petersen and Nathan Nelson for their academic achievements.
- Chapter membership has climbed to 102 paid members, with the "sliding window" for new members at 15. The chapter continues to grow.
- Correspondence:
 - Dave Miller discussed the chapter's efforts, working to secure grants for scholarships and, at some point, building funds. We've already been mentoring and applying Ray Scholarship funds, as well as for our ongoing academic scholarships recipients. We're looking forward to opportunities for EAA matching funds for academic scholarships next year. We could qualify for two "matching" Ray Scholarships per year, worth a total of \$11,000 to the recipients, if the chapter provides 25% (\$2,750) of the total. A full Ray Scholarship is worth up to \$12,000 with no matching requirement. One per year.
- Barry Halsted reported that last Thursday's flyout to Forks attracted 6 airplanes and 9 folks. We can look forward to a June flyout to Friday Harbor and then to Concrete, in July.
- Gordon Tubesing took a few moments to tell us about Airport Day at Diamond Point - Saturday August 10th, from 1000 to 1700.
- The chapter treasury funds have approximately - \$6k scholarship, \$145k building, \$3.6k general.

- New Business:
 - Ray polled us to find out who was planning to attend AirVenture? An EAA member - Mike Skinner - from BC inquired about hitching a (shared expense) plane ride to KOSH. Please contact Ray if you'd like to offer a seat to Mike.
 - Barry Halsted shared that the Sequim Valley Airport tetrahedron project is nearly completed. Friend of the chapter Richard Humpreys, has undertaken design and fabrication of a brand new one - affectionately dubbed, "T-Wrecks". Barry called for volunteers to move the creation from Richard's shop onto a trailer, immediately after today's gathering. Remaining tasks are to mount the unit to the existing site at W28 and then paint it.
 - Young Eagles - our first rally will be Saturday, June 1 at Sequim Valley Airport. 8 pilots (about 15 seats) have reportedly signed up to fly about 50 kids. Please consider volunteering yourself and your airplane for this and future events.
 - Flying Start - this year's event was postponed from May until Sunday June 2, 1300, at Port Angeles. About 30 candidates have registered. Pilots are needed for Eagle Flights. Please pitch in if you can. Contact Dave Woodcock.
- Project Reports.
 - Harry Cook - Sonex Waix B, main sections of the fuselage Cleco'd together
 - James Russell - Cozy Mk IV, working on various Cozy projects for himself and others.
- Dave Woodcock - Ray and Lisa Ballantyne presented Dave with scale model of his Piper L-4
- Flying Experiences - One of our younger members, Aidan Lara, completed his FAA Private Pilot written exam with a score of 100%. Ray Scholarship recipient Gunner Rogers reported the successful completion of his long cross-country flight requirement towards his Private Pilot certificate training. Gunner's written exam is upcoming.
- Items for sale - Bud Davies pointed out several items for sale that need new homes. Please make an offer for anything you'd like. Funds will contribute to our scholarship or building fund as you direct.
- Hospitality - Co-director Charlene Tracy asked for volunteers to sign up on any of several preparation tasks that would be helpful for future gatherings. Please contact Charlene or Kevin if you'd like to pitch in.
- Hanger Opportunity - Our chapter has submitted a proposal letter to the Sequim Valley Airport board of directors to request a long term, low or no cost lease for a site on the airport where we'd most like to build our hangar.
 - Unofficial feedback, heard thus far, now appears to be somewhat less enthusiastic than what we'd initially encountered, with regard to the site - very close to where the existing single-wide trailer now sits.
 - Several exciting architectural depictions of what a possible EAA Chapter 430 facility might look like at the airport, have been prepared by chapter member Melissa Laird and incorporated into the submissions chapter president Ray Ballantyne has produced and delivered to the SVA board.
- The business portion of the gathering was adjourned at 1056.
- Presentation - Harry Cook shared an inside look and a video about his service in the U.S. Air Force as a member of the front line F-4 fighter squadron - *Black Knights*.
- Burger Bash - Yet another wonderful lunch was prepared by Kevin and Charlene Tracy, along with Dave and Joan Miller and others. Thanks to everyone who helped make it happen!!

Respectfully submitted,
Richard Howell, EAA 430 Secretary

BOARD AND DIRECTORS 2024

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