

VFR2IMC

A **DEADLY** trap for aviators

Coping with weather is a vital skill for any pilot. And VFR2IMC is one of the most challenging situations you'll face.

WHAT IS VFR2IMC?

When a pilot operating under Visual Flight Rules (VFR) flies into Instrument Meteorological Conditions (IMC).

When this happens you lose all visual references. This makes it very difficult to fly safely. The workload and sensations will make aviating especially hard and navigating or communicating nearly impossible.



A CLEAR DANGER

Both VFR and instrument-rated pilots can fall victim to the VFR into IMC trap – 75% of all weather related accidents in Europe result in a fatal outcome.

A DEADLY SCENARIO

VFR into IMC sadly remains the leading cause of fatal weather-related accidents in General Aviation.



“IT’S NOT ONLY VFR PILOTS WHO GET FATALLY TRAPPED — ABOUT ONE-THIRD OF THESE ACCIDENTS INVOLVE INSTRUMENTED PILOTS WHO MISJUDGED THE SEVERITY OF THE SITUATION.”

THE DANGER ZONE

Continuing VFR flight when losing outside reference to the horizon puts you in the danger zone.

SPATIAL DISORIENTATION

Clouds, darkness or deteriorating visibility lead to you losing visual cues and can cause you to experience spatial disorientation. This often leads to loss of control and almost always has tragic consequences.





BEWARE

of the **RISKS**
of VFR to IMC.



"VFR INTO IMC IS POTENTIALLY THE MOST LETHAL KIND OF SITUATION YOU CAN GET INTO AS A PILOT. IT'S ALSO THE MOST AVOIDABLE."

- ✓ Add an **Instrument Rating** or **BIR** to your pilot toolbox
- ✓ **Avoiding VFR2IMC** is your first line of defence
- ✓ **Be brave:** it takes courage to **rethink your plan** instead of continuing into worsening conditions
- ✓ **Don't underestimate VFR2IMC** – it can be deadly





Planning to **AVOID**

VFR INTO IMC

"AS A PILOT, SOONER OR LATER YOU'LL FACE THE CHALLENGE OF DEALING WITH MARGINAL WEATHER. YOUR DECISION-MAKING SKILLS WILL THEN BE PUT TO THE ULTIMATE TEST"

- ✓ **Stay flexible: go or no-go?** What about earlier or later?
- ✓ **Planning for an out** in any situation is a habit of a good aviator
- ✓ **Recognising the signs** of get-there-itis are the first steps to resisting your own temptation or peer-pressure to go or to continue





DON'T FLY

if the conditions
are below
your personal
minimums.

"DECIDING WHETHER TO FLY OR NOT SHOULD BE A WELL-CONSIDERED DECISION. NEVER FLY IF THE CONDITIONS ARE BELOW YOUR MINIMUMS"



Establish and then stick to **personal weather minimums** - these should be more conservative than legal requirements to ensure a safe margin.



Include **minimum visibility** and **cloud clearance** levels.



If the conditions aren't right for your level of proficiency - **stay on the ground** or **replan** so that you can live to fly another day.





RECOGNISE and RETURN

to VMC safely –

ESCAPE from IMC conditions.



"IF WEATHER CONDITIONS BEGIN TO DETERIORATE OR YOU FIND YOURSELF INADVERTENTLY ENTERING IMC, TAKE A DEEP BREATH AND REMAIN CALM"



Stay alert to changing conditions along your route.



Keep your wings level and try to make a **180-degree turn** to return to VMC conditions.



Don't be afraid to **declare an emergency** and get help from Air Traffic Control (ATC) or Flight Information Service (FIS).



REMAIN CALM!

SLOW DOWN!

You've **GOT** this!

When everything starts getting complicated, the golden rule for any pilot is **AVIATE, NAVIGATE, COMMUNICATE** – in that order. This means first focus on flying the aircraft above anything else. Then decide where its going and finally, once you have the capacity, talk to someone else (usually ATC).

DID YOU KNOW?

The word **AVIATE** was apparently first used by Jules Verne in his 1886 book *Robur the Conqueror* (sometimes called *The Clipper of the Clouds*) which shows a fictional flying machine called the Albatross. The book explores the nature of flight, its effects on humanity, and the general sense of public awe in the early days of flying machines.



AVIATE, NAVIGATE, COMMUNICATE

AVIATE

CONTROL THE AIRCRAFT by keeping your wings level. Only focus on your attitude indicator. Trim for level flight, power setting, and airplane configuration.

ENGAGE AUTOPILOT if one is available. Centre the heading bug straight ahead. Use the Altitude Hold (ALT) and Heading Hold (HDG) modes.

NAVIGATE

EXIT IMC by performing a 180-degree, standard-rate turn until visual references return.

If autopilot is engaged, slowly turn heading bug 180 degrees.

COMMUNICATE

TALK to ATC/FIS immediately and declare an emergency. State that you have entered IMC. If you haven't already made a 180-degree turn, consider asking for vectors to the nearest visual conditions. Although ATC can only see precipitation on their scopes, they can quickly scan weather conditions for nearby airports. Only do one thing at a time (e.g. do not talk to ATC while executing turns).

DO NOT HESITATE to make this life saving call. They are there to help you!

CHECK

OBSERVE the situation. Check to see if conditions are getting better or worse.

Is there VMC close by? Do you need more help from ATC? Will you need to make an off-airport landing?

COMPOSE

RELAX! Don't succumb to spatial disorientation or hyperventilation. Keep cool and scan your instruments. Make minor adjustments and ensure you are not departing controlled flight.



The best strategy is to **AVOID VFR2IMC** altogether!

1. THOROUGH PRE-FLIGHT PLANNING:

- ❑ Use a personal minimums checklist and make informed decisions before you fly.
- ❑ Check weather forecasts and updates.
- ❑ Plan alternate routes and destinations.

2. WEATHER MONITORING:

- ❑ Continuously monitor weather conditions en route.
- ❑ Use onboard weather tools (e.g. ADS-B, XM Weather, Iridium).
- ❑ Stay updated with (en-route) ATIS, Pilot reports (PIREPs) and Flight Information.

3. DECISION-MAKING:

- ❑ Be prepared to divert or turn back if weather deteriorates – before it gets worse and before the situation has deteriorated.
- ❑ Do not underestimate the power of “get-there-itis”

4. IN-FLIGHT ACTIONS:

- ❑ Maintain VFR cloud clearance and visibility requirements.
- ❑ Communicate with ATC for weather updates and assistance.



WHEN YOU **SUDDENLY** FIND YOURSELF IN IMC

1. **REMAIN CALM.** Do not panic. Take a deep breath.

AVIATE

2. **EYES INSIDE!** No Sudden Head Movements! Switch to Instruments: WINGS LEVEL and Focus on the Attitude Indicator
3. **MAINTAIN LEVEL FLIGHT:** Use trim, power and configuration for level flight.
4. (When applicable) **USE AUTOPILOT:** Use Altitude Hold (ALT) and Heading Hold (HDG) modes

NAVIGATE

5. (When able) **DO A 180!** Perform a 180-degree, standard-rate turn to VMC conditions on instruments.

COMMUNICATE

6. **DECLARE EMERGENCY** to ATC/FIS
7. **REQUEST** assistance/radar vectors to nearest VMC out of IMC or nearest airport (REQUEST Precision Approach Radar)

REMAIN IN COMMAND OF YOUR SITUATION

8. **OBSERVE** the situation: Where can you divert to? Which general area has better weather conditions? What about fuel? Keep your options open.

