

PRIVATE PILOT GROUND SCHOOL

MODULE 2-4 — WEATHER SERVICES AND THE GO/NO-GO

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FACTS TO REMEMBER

KNOW THESE COLD

- The regulatory driver for weather briefing is 91.103: weather reports AND forecasts are required preflight information for any flight away from the airport's vicinity.

Source: 14 CFR 91.103(a)

- The two official outlets are aviationweather.gov (Aviation Weather Center) for products and Flight Service (1800wxbrief.com / 1-800-WX-BRIEF) for briefings.

Source: AIM 7-1-5; AC 91-92

- A self-briefing from official sources is regulatorily compliant — a phone call to a briefer is one way to meet 91.103, not the only way.

Source: AIM 7-1-5a; AC 91-92

- Weather can be updated in flight — Flight Service by radio and FIS-B datalink — but nothing available in flight replaces the preflight briefing.

Source: AIM 7-1-5f; AC 00-63B

- A standard briefing is the complete picture, requested closest to departure time, for any flight.

Source: AIM 7-1-5

- An abbreviated briefing updates an earlier briefing or answers specific items — it rides on top of a standard one, never in place of it.

Source: AIM 7-1-5

- An outlook briefing applies when departure is six or more hours away, and it is for planning purposes only.

Source: AIM 7-1-5d

- An outlook briefing is never a launch briefing: get a standard briefing near departure time.

Source: AIM 7-1-5d (1% material)

- A briefer (or self-brief form) needs: aircraft ID and type, VFR, departure point and time, route, altitude, destination, and ETE.

Source: AC 91-92

- A briefing is weather plus aeronautical information: NOTAMs and TFRs ride in it, so a blue-sky day can still be a no-go on a runway closure or a TFR.

Source: AC 91-92

- "VFR flight not recommended" is advisory in nature; the go/no-go decision rests solely with the pilot — it is a strong data point, not an order.

Source: AIM 7-1-5b

- The self-brief runs in a fixed order: synopsis, then hazards, then current weather, then forecasts, then winds, then decide and document.

Source: AC 91-92 (Erick doctrine, depth std.)

- A METAR is a routine surface observation, typically hourly: it is history, not forecast.

Source: AWH FAA-H-8083-28

- A SPECI is an unscheduled special observation: its existence alone says something changed fast.

Source: AWH FAA-H-8083-28

- METAR wind reads dddffKT in degrees true and knots; G marks gusts, VRB variable, 00000KT calm.

Source: AWH FAA-H-8083-28

- METAR visibility is in statute miles, including fractions (1 1/2SM).

Source: AWH FAA-H-8083-28

- Weather codes carry an intensity prefix: minus is light, none is moderate, plus is heavy — and the letter pairs are learnable (RA rain, SN snow, BR mist, FG fog, HZ haze, TS thunderstorm).

Source: AWH FAA-H-8083-28

- Sky condition comes in eighths: FEW 1–2, SCT 3–4, BKN 5–7, OVC 8, with heights in hundreds of feet AGL.

Source: AWH FAA-H-8083-28

- A ceiling is the lowest broken or overcast layer (or vertical visibility); scattered is not a ceiling.

Source: AWH FAA-H-8083-28

- Temperature and dewpoint report in whole degrees Celsius; an M prefix means below zero.

Source: AWH FAA-H-8083-28

- A closing temperature–dewpoint spread across successive METARs is the fog warning: a small spread on a clear, calm evening reads "expect fog by morning."

Source: AWH FAA-H-8083-28 (mechanism -> 3-3)

- The altimeter group (A2992 = 29.92 inHg) is set before flight, and the altimeter should then read field elevation.

Source: AWH FAA-H-8083-28

- The briefing covers stations along the whole route, not just the endpoints: en route METARs are where the surprise lives.

Source: AC 91-92

- A TAF is an aerodrome forecast for the area within 5 SM of the airport — it says nothing about the en route segment.

Source: AWH FAA-H-8083-28

- TAFs issue four times daily on the 6-hour cycle, valid 24 hours (30 at some airports).

Source: aviationweather.gov TAF docs

- TAF groups read day-plus-hour Zulu: the header carries issuance time and a ddhh/ddhh validity window.

Source: AWH FAA-H-8083-28

- FM means a rapid change to a new prevailing condition at that time.

Source: AWH FAA-H-8083-28

- BECMG means a gradual change spread across the stated window.

Source: AWH FAA-H-8083-28

- TEMPO means temporary fluctuations, each lasting less than an hour and covering less than half the period.

Source: AWH FAA-H-8083-28

- PROB30 marks a 30-percent chance of the bracketed conditions in that window — low odds, real enough to plan around.

Source: AWH FAA-H-8083-28

- The flight-category quick look: VFR is ceiling above 3,000 and visibility above 5; MVFR 1,000–3,000 and/or 3–5; IFR 500 to below 1,000 and/or 1 to below 3; LIFR below 500 and/or below 1.

Source: AIM 7-1-7

- MVFR is a decision zone, not a green light: legal VFR can still sit below personal minimums.

Source: AIM 7-1-7; personal minimums doctrine

- The briefing's adverse-conditions section is the no-go trigger list: known or forecast icing or turbulence aloft, or convection, in a non-deiced trainer reads "no" — before any product decoding.

Source: AC 91-92; AWH FAA-H-8083-28

- Winds aloft from the briefing feed the nav log, and a strong disagreement between winds aloft and surface wind warns of shear and turbulence in the climb and descent.

Source: AWH FAA-H-8083-28 (decode -> 3-4)

- Personal weather minimums are written numbers — ceiling, visibility, wind and crosswind — set before flight, sitting above the legal minimums.

Source: AC 91-92 §8.2; NA Personal Minimums Sheet

- The personal-minimums comparison is mechanical: forecast versus the written number; the number does not renegotiate on the ramp.

Source: NA Personal Minimums Sheet (internal)

- Weather worse than briefed and trending below personal minimums IS the circumstance that makes diversion prudent — recognizing it is 2-4's job; flying the diversion is 1-16's.

Source: AC 91-92

- Every product has an age: a METAR is minutes to an hour old, and a forecast's confidence decays through its period — check issue times, not just contents.

Source: AWH FAA-H-8083-28

- The go/no-go is stated as a conclusion falling out of the framework — brief, compare, decide, document — never as a feeling about the sky.

Source: AC 91-92 (Erick doctrine, depth std.)

GOING DEEPER

- EFB weather is aggregated NWS/FAA data: convenient, but when the app's summary and the raw product disagree, the product is the authority.

Source: AC 91-92 (1% material)

- The source hierarchy: the Aviation Weather Center makes the products; Flight Service delivers and logs briefings; EFBs repackage both.

Source: AIM 7-1-5; AC 91-92 (1% material)

- Briefings taken through a Flight Service account are recorded to that account — documentation that the 91.103 weather requirement was met.

Source: Leidos 1800wxbrief (non-FAA; pin)

- Flight Watch (122.0) and HIWAS are gone; the current AIM no longer mentions either, and materials still teaching them are out of date.

Source: AIM (verified absence, 2026-07-12)

- The briefing cadence: outlook early, standard close to departure, abbreviated again if the picture is over an hour old or the weather is questionable.

Source: AC 91-92 §8.1

- VV (vertical visibility) means the sky is obscured: an indefinite ceiling with no layer base to sneak under.

Source: AWH FAA-H-8083-28

- AO2 in remarks means an automated station with a precipitation discriminator; automated stations can miss what a human observer would catch, like a distant thunderstorm.

Source: AWH FAA-H-8083-28

- An amended TAF (TAF AMD) supersedes and cancels the previous TAF the moment it issues — planning never continues on the old one.

Source: aviationweather.gov TAF docs (verbatim, 2026-07-12)

- CB is the only cloud type a TAF names; its appearance is a convective warning for that window.

Source: AWH FAA-H-8083-28

- The continue/divert decision point is set before launch: the place, plus the conditions there that trigger the divert.

Source: AC 91-92 (Erick doctrine, depth std.)

- About two-thirds of GA accidents in reduced-visibility weather are fatal: the go/no-go call is the highest-leverage safety decision a private pilot makes.

Source: NTSB SA-020

THE REGULATIONS BEHIND THIS MODULE

14 CFR 91.103(a) – Preflight action

For a flight not in the vicinity of an airport, the pilot in command must become familiar with weather reports and forecasts before beginning the flight.

Where it goes deeper: This module, in the first Leg.