

In English, please

ARE YOU WEATHER-BRAINED?

OR DO YOU THINK VIRGA IS JUST ANOTHER ASTROLOGICAL SIGN?

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The month of May is Eliot's favorite time to fly. It is the month that definitely heralds the start of the flying season. During winter, days are shorter and obviously more prone to bad weather. With spring, daylight flight time is on the increase. The weather can still be a problem, of course. It always can be, whatever the time of year. But to cover that particular issue, Eliot has taken full advantage of the slower pace of the previous months in aviation-related activities. He has brushed up his knowledge on aeronautical meteorology and has practiced decoding weather charts and messages.



ries : forecasts, observations, and advisories.

Forecasts

The TEMSI chart is a significant weather prognostic chart. It indicates hazardous weather phenomena and cloud systems. It has a validity period of three hours and is published four hours before the beginning of its validity. The WINTEM chart is a chart of expected winds and temperatures at different flight levels. Both charts are available on line for France (TEMSI and WINTEM FRANCE) or for all of Western Europe (TEMSI and WINTEM EUROC).

A GAFOR is a General Aviation FOREcast. The GAFFO, or General Aviation French Forecast, is its French counterpart. They are available on Aeroweb, at the VFR forecast page. The GAFOR is entirely coded but the GAFFO has two parts, with the first part in plain language. Only the second part is coded, GAFOR-like, with one of four letters (O,D,M,X) assigned to a predetermined VFR area. Each letter is associated to a visibility and height of cloud conditions, and indicates if the area is passable for VFR flights. The coding ranges from O, for open, to X, for closed, with M standing for "critical" and D for "difficult". At first, Eliot is rather baffled by the aspect of the message, but with some help from a Meteo France guide (3) he manages to understand what 30 33 X FG LOC M3 BCMG 0810 O LOC D2 stands for.

A TAF, or terminal aerodrome forecast, reports the foreseeable meteorological conditions at an aerodrome for a period of time. Long TAF are issued every six hours with a validity period of thirty hours. Short TAF are issued every three hours with a validity period of nine hours. Following is an example of a long (and complicated!) TAF: LFPG 041700Z 0418/0524 3006KT 8000 BKN030 TEMPO 0500/0509 VRB02KT 2500 BR PROB40 TEMPO 0502/0507 0500 BCFG BKN005 BECMG 0509/0511 SCT010 BECMG 0512/0514 9999 SCT020 BECMG 0517/0519

05006KT CAVOK TX16/0515Z TN04/0506Z.

Observations

A METAR is a meteorological aerodrome report. It is a scheduled message issued every hour or half-hour and describes the meteorological elements observed at an airport at a precise time. A METAR AUTO is created and issued automatically.

A SPECI, or special weather report, is released when there is a significant deterioration or improvement in airport weather conditions. SPECIs and METARs have the same format. They are differentiated by their identifier at the beginning of the message. A METAR also includes a trend section, indicating the forecast for the next two hours.

Reading one can be very simple : LFBF 081800Z 26005KT 9999 FEW023 BKN100 13/09 Q1019 NOSIG. Or not so simple: 221000Z LFPG 10010KT 0000 R19R/0050V0250D R06/0000U +SN +BLSN FZFG VV001 M01/M01 Q0999 BECMG FM1100 VRB15G25KT 5000 SHSN BKN005CB. The runway condition can be appended at the end of the METAR: 77459292. Fun, isn't it?

Advisories

SIGMETs are messages issued when there is a high degree of probability that thunderstorms, severe turbulence, severe icing and/or volcanic ash clouds are going to occur in a specified Flight Information Region. A SIGMET is only valid for a short period of time. It reads as follows : 1307 LFBF SIGMET 3 VALID 151315/151715 LFBF - LFBF BORDEAUX FIR/UIR SEV TURB FCST E OF E00130 and S OF N4530 BTN SFC/FL070 STNR WKN =

GAMETs and AIRMETs are also area forecasts for a Flight Information Region. They are messages warning of occurrence, or expected occurrence, of en-route weather phenomena hazardous to low-level flights. GAMETs and AIRMETs are published abroad. In France the information that appears in GAMETs or AIRMETs messages is available on TEMSI FRANCE charts. ●

Back to basics

In his private pilot manual, Eliot takes the time to get reacquainted with elementary weather theory, weather hazards, the different ways to get information, and how to interpret weather data. He rediscovers slightly poetic words such as the Coriolis force or a katabatic wind, and more back to earth (pun intended) concepts like gusts, windshears, and microbursts. On the internet, he comes across an educational software program (1) on the most frequently used aeronautical weather messages. There he can refresh his knowledge on codes in use in these messages. He also rediscovers a few subtleties, for example the difference between CAVOK, SKC, NSC, and NCD.

To prepare a flight, Eliot always logs in to Aeroweb, the Meteo France internet site section dedicated to aeronautical services (2). There he finds everything he needs to know about the weather. He divides aviation-oriented meteorological material into three categories :

More vocabulary

TO BE BAFFLED	.....être perplexé
TO BE PRONE TO	.....être sujet à
TO BRUSH UP	.....réviser
FORESEEABLE	.....prévisible
A GUST	.....une rafale
TO HERALD	.....annoncer
A MICROBURST	.....une rafale descendante
PASSABLE	.....praticable
VOLCANIC ASH	.....des cendres volcaniques
A WINDSHEAR	.....un cisaillement du vent

(1) <http://aerodidact.enm.meteo.fr> (2) <https://aviation.meteo.fr>
(3) https://aviation.meteo.fr/vfrdoc/guide_gaffo-gafor.pdf