TAFWarn provides forecasters in the Canadian Meteorological Aviation Centre (CMAC) in Edmonton and Montreal with an easy to interpret, high glance value tool to monitor Terminal Aerodrome Forecast (TAF) sites. It incorporates current problems, current information, future problems and a TAF health score.

Future Plans

Version 2.X

• Revise/update the health routines
• Include the influence of continuing problems
• Incorporate poor use of TEMPOs
• Show BECMGs that have already occurred
• Show graph of health for last 3 hours

Version 3.X

• Incorporate model/climatology guidance for projecting a future health based on an ensemble approach
• Incorporate alerting/warning directly into operational workstation and monitoring tools
• Incorporate Health into pre-transmission checks

TAFHealth

Using fuzzy logic methods, the TAF is compared to the current observation. It uses 3 factors: Wind (WND), Category including ceiling and visibility (CAT), and weather (WX). Each factor is given a % (reduced to 0-9 for summary table). Overall health calculated as a product of all 3 factors.

Wind health is based upon a vector difference between forecast and observed wind vectors. Adjusts wind speed to include gusts (average of sustained and gusts).

Category health is based on linear interpolation between main and tempo conditions (as well as max cig/vis and min cig/vis pairings). Uses weighting scheme to give more importance to low ceilings and visibilities.

Weather health is based upon occurring/not occurring logic. Uses a weighting scheme to give more importance to significant weather types (FZRA, TSGR).

Heads-up : Future TAF problems

TAFWarn shows a list of TAFs that do not conform to the observations based upon the Canadian manual of standards and procedures for Aviation Weather Forecasts (MMNAR). There are 3 reasons a TAF may not be in compliance: Wind (WND), Category (CTGY), Weather/Obscurations (WX). The reason(s) for the inconsistency are given in the summary table.

TAFWarn uses persistence to forecast future problems with current TAFs. If the observations don’t change, your TAF will go bust at XXZ. Method works very good for forecast changes in weather that may not occur. Examples: clearing of fog (see right) or frontal passages. Less useful for non-forecast changes.

Placing the mouse over the problem (image bottom right this panel) the forecaster can easily see what problem is and what part of TAF is causing problem.