Meteorology

5.10 TAFs

References:

FTGU pages 160-163

AWWS: www.flightplanning.navcanada.ca

Review

- SPECI For CYNM on 25th of the month at 1739 Z Automatic report, wind is 300 at 15 knots gusting to 21 knots, visibility is 9 sm, light rain, cloud cover is few at 1500 feet, 2000 feet scattered,2600 feet overcast,
- temperature is 4 C and dew point is 2 C, Altimeter setting is 29.86 in Hg, remarks SLP is 1012.7 mb and Max winds of 290 degrees at 23 knots recorded at 1707Z
- Decode the following METAR
  - METAR CYMO 251700Z AUTO 31017G24KT 9SM OVC035 05/M02 A2994 RMK SLP139 MAX WND 30026KT AT 1615Z=
  - SPECI CYNM 251739Z AUTO 30015G21KT 9SM -RA FEW015 SCT020 OVC026 04/02 A2986 RMK SLP127 MAX WND 29023KT AT 1707Z=

5.10 TAFs

- MTPs:
  - Terminal Area Forecasts
  - Decoding TAFs
    - What we already know from METARs
    - What is new

Terminal Area Forecasts

- A Terminal Area Forecast **(TAF)** is a coded prediction of the surface weather expected that will affect landing and take-off at the aerodrome;

- It gives the same information as in a METAR except it does not forecast temperature, dewpoint, altimeter setting, type of clouds, or sea level pressure

Terminal Area Forecasts

- Much of the coding used in the TAF is the same as in a METAR

- **TAF CYQQ 251130Z 2512/2612 30003KT P6SM FEW005 FEW030 FM251800 VRB03KT P6SM FEW030 BECMG 2604/2606 14010KT SCT030 BKN150 OVC250 BECMG 2609/2611 14020KT RMK NXT FCST BY 251800Z=**

Decoding TAFs

Let's figure out what we know….

- Type of report: METAR or TAF
- Airport Identifier: represented the same way

METAR CYKF 251800Z AUTO 28011G17KT 9SM -RA BKN044 BKN055 OVC073 09/05 A3010 RMK SLP200 MAX WND 26017KT AT 1753Z=

TAF CYQQ 251130Z 2512/2612 30003KT P6SM FEW005 FEW030 FM251800 VRB03KT P6SM FEW030 BECMG 2604/2606 14010KT SCT030 BKN150 OVC250 BECMG 2609/2611 14020KT RMK NXT FCST BY 251800Z=

Decoding TAFs

Forecasted winds

- Calm wind forecasted as 00000KT
- Wind speeds of 3KTs or less may be encoded as variable direction e.g. VRB03KT.

TAF CYQQ 251130Z 2512/2612 30003KT P6SM FEW005 FEW030 FM251800 VRB03KT P6SM FEW030 BECMG 2604/2606 14010KT SCT030 BKN150 OVC250 BECMG 2609/2611 14020KT RMK NXT FCST BY 251800Z=

Decoding TAFs

Forecasted Visibility

- Prevailing visibility is forecast in statute miles (SM) and fractions up to 3 miles, then in whole miles up to 6 miles.
- *however, when visibilities are forecasted to be greater than 6 SMs, will be coded as P6SM.*

TAF CYQQ 251130Z 2512/2612 30003KT P6SM FEW005 FEW030 FM251800 VRB03KT P6SM FEW030 BECMG 2604/2606 14010KT SCT030 BKN150 OVC250 BECMG 2609/2611 14020KT RMK NXT FCST BY 251800Z=

Decoding TAFs

Forecasted Weather and Clouds

- same abbreviations/codes for weather phenomena as in METARs

- however, NSC (no significant cloud) and CAVOK (ceiling and visibility OK) not used in TAFs in Canada

TAF CYQQ 251130Z 2512/2612 30003KT P6SM -RA FEW005 FEW030 FM251800 VRB03KT P6SM -SHRA FEW030 BECMG 2604/2606 14010KT SCT030 BKN150 OVC250 BECMG 2609/2611 14020KT RMK NXT FCST BY 251800Z=

Decoding TAFs

- What's New?

Issued time and validity time

  - TAFs are issued 4 times a day often 20 minutes before it become valid
  - They are usually valid for 12 to 24 hours
  - Read in date and hour format

251130Z 2512/2612 : Issued on the 25th day at 1130 Zulu

Valid from the 25th at 12Z to the 26th at 12Z

TAF CYQQ 251130Z 2512/2612 30003KT P6SM -RA FEW005 FEW030 FM251800 VRB03KT P6SM -SHRA FEW030 BECMG 2604/2606 14010KT SCT030 BKN150 OVC250 BECMG 2609/2611 14020KT RMK NXT FCST BY 251800Z=

Confirmation

When are the following TAFs issued and valid?

4 Time per day – Issue time then Valid time

- 130530Z 1306/1318

  Issued 13th at 530Z Valid 13th 0600Z to 13th 1800Z

- 061730Z 0618/0718

  Issued 6th at 1730Z Valid 6th 1800Z to 7th 1800Z

- 102330Z 1100/1200

  Issued 10th at 2330Z Valid 11th 0000Z to 12th 0000Z

Decoding TAFs

Part Periods

- weather does not stay the same during a 12 or 24 hour forecast period
- the valid period of the forecast may therefore be divided into several self-contained “part periods”
- Terms used are:
  - FM – from, indicates a permanent change
  - BECMG – becoming, indicates change in some elements
  - TEMPO – temporarily, indicates fluctuation for a brief time
  - PROB – probability (either 30 or 40%)

TAF CYQQ 251130Z 2512/2612 30003KT P6SM -RA FEW005 FEW030 FM251800 VRB03KT P6SM -SHRA FEW030 BECMG 2604/2606 14010KT SCT030 BKN150 OVC250 BECMG 2609/2611 14020KT RMK NXT FCST BY 251800Z=

Decoding TAFs

From: FM

- **FM** indicates ***a permanent change in all weather*** to occur ***rapidly***

FM251800: The weather will change starting on the 25th day at 1800Z

TAF CYQQ 251130Z 2512/2612 30003KT P6SM -RA FEW005 FEW030 FM251800 VRB03KT P6SM -SHRA FEW030 BECMG 2604/2606 14010KT SCT030 BKN150 OVC250 BECMG 2609/2611 14020KT RMK NXT FCST BY 251800Z=

Decoding TAFs

Becoming: BECMG

- indicates ***a gradual and permanent change*** from one condition to another in **some** of the elements

BECMG 2604/2606 : Becoming on the 26th day at 0400Z to the 26th day at 0600Z

BECMG 2609/2611: Becoming on the 26th day at 0900Z to the 26th day at 1100Z

TAF CYQQ 251130Z 2512/2612 30003KT P6SM -RA FEW005 FEW030 FM251800 VRB03KT P6SM -SHRA FEW030 BECMG 2604/2606 14010KT SCT030 BKN150 OVC250 BECMG 2609/2611 14020KT RMK NXT FCST BY 251800Z=

Decoding TAFs

Temporarily: TEMPO

- indicates fluctuation in the forecast are to occur between the times indicated to some of the weather elements

TEMPO 2519/2602 : Temporarily from the 25th day at 1900Z to the 26th day at 0200Z

TAF CYKF 251343Z 2514/2602 21005KT P6SM SCT050 FM251600 26008KT P6SM BKN050 FM251900 28012KT P6SM -SHRA SCT020 OVC050 TEMPO 2519/2602 5SM -SHRA BR BKN020 BECMG 2519/2521 33005KT RMK FCST BASED ON AUTO OBS. NXT FCST BY 252000Z=

Decoding TAFs

Probability: PROB30 or PROB40

- Used with aviation hazards like thunderstorms, freezing rain, low level wind shear below 1500ft AGL; or ceiling and visibility values important to aircraft operations

PROB30 2513/2516: There is a 30% probability that between the 25th day at 1300Z and the 25th day at 1600Z (that there will be….)

TAF CYQD 251238Z 2513/2601 VRB03KT P6SM SCT010 SCT040 TEMPO 2513/2516 BKN010 PROB30 2513/2516 1SM BR OVC003 RMK NXT FCST BY 251900Z=

Decoding TAFs

Remarks: RMK

- Remark give extra information. Often when the next forecast will be given
- AUTO OBS indicates forecast based on observations from an automatic weather station (AWOS) data
- RMK FCST BY 251900Z: Remark, next forecast will be on the 25th day at 1900Z

TAF CYKF 251343Z 2514/2602 21005KT P6SM SCT050 FM251600 26008KT P6SM BKN050 FM251900 28012KT P6SM -SHRA SCT020 OVC050 RMK FCST BASED ON AUTO OBS. NXT FCST BY 251900Z=

TAF CYQD 251238Z 2513/2601 VRB03KT P6SM SCT010 SCT040 TEMPO 2513/2516 BKN010 PROB30 2513/2516 1SM BR OVC003 RMK NXT FCST BY 251900Z=

Confirmation

- **Decode the following TAFs:**
- TAF For CYZU issued on 25th of the month at 1410 Z Valid from 25th 1400Z to 25th 2300Z, From 25th 1700Z to 25th 1900Z becoming - wind is 290 at 10 knots gusting 20 knots, Remarks Next forecast by 25th 1900Z
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Resources

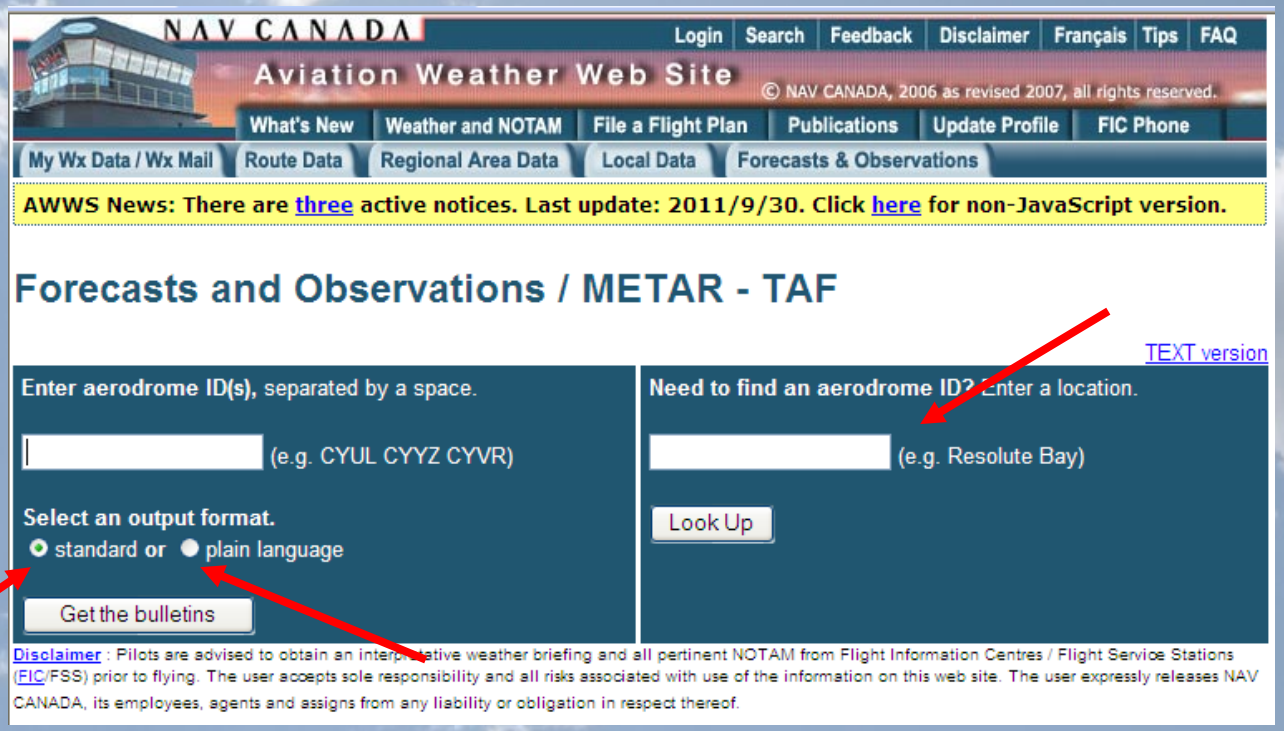
For more practise:

- Look in the FTGU pg 160-163
- Check out the aviation weather website

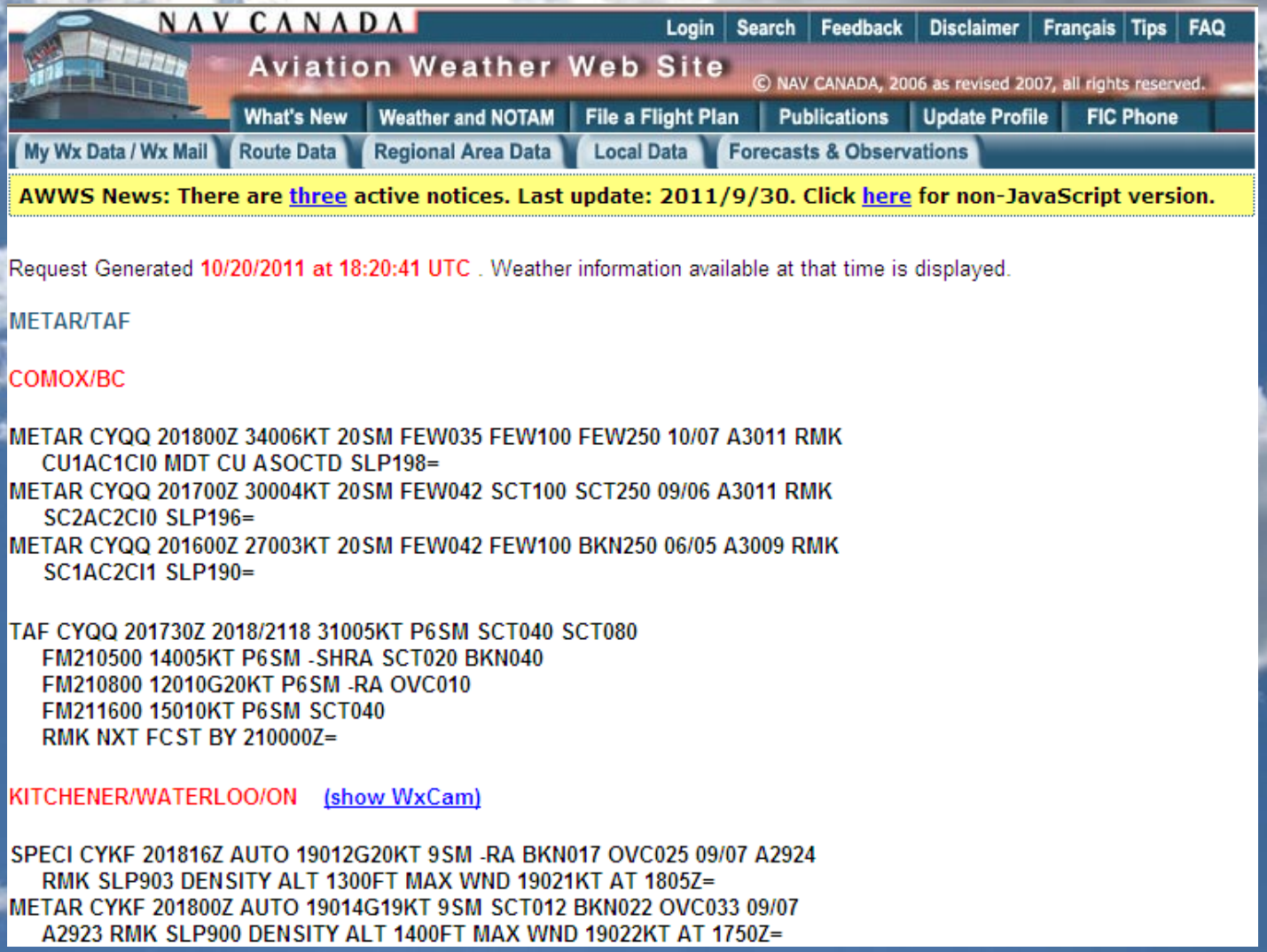
www.flightplanning.navcanada.ca (google AWWS)

Resources

- Type in the airport identifier or search for it
- Then select for it to be in standard METAR language or text. Do both to help you learn.



Resources



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Aviation Weather Web Site

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AWWS News: There are three active notices. Last update: 2011/9/30. Click here for non-JavaScript version.

Request Generated 10/20/2011 at 18:20:41 UTC . Weather information available at that time is displayed.

METAR/TAF

COMOX/BC

METAR CYQQ 201800Z 34006KT 20SM FEW035 FEW100 FEW250 10/07 A3011 RMK
CU1AC1CI0 MDT CU ASOCTD SLP198=
METAR CYQQ 201700Z 30004KT 20SM FEW042 SCT100 SCT250 09/06 A3011 RMK
SC2AC2CI0 SLP196=
METAR CYQQ 201600Z 27003KT 20SM FEW042 FEW100 BKN250 06/05 A3009 RMK
SC1AC2CI1 SLP190=

TAF CYQQ 201730Z 2018/2118 31005KT P6SM SCT040 SCT080
FM210500 14005KT P6SM -SHRA SCT020 BKN040
FM210800 12010G20KT P6SM -RA OVC010
FM211600 15010KT P6SM SCT040
RMK NXT FCST BY 210000Z=

KITCHENER/WATERLOO/ON (show WxCam)

SPECI CYKF 201816Z AUTO 19012G20KT 9SM -RA BKN017 OVC025 09/07 A2924
RMK SLP903 DENSITY ALT 1300FT MAX WND 19021KT AT 1805Z=
METAR CYKF 201800Z AUTO 19014G19KT 9SM SCT012 BKN022 OVC033 09/07
A2923 RMK SLP900 DENSITY ALT 1400FT MAX WND 19022KT AT 1750Z=

Lockheed Martin F-35 Drop Test