Weather

http://www.moratech.com/aviation/metaf-abbrev.html

https://www.thoughtco.com/symbols-on-weather-maps-3444369

https://www.youtube.com/watch?v=gij4YbplY30

Reading GFA - https://www.myflighttraining.ca/gfa-graphical-area-forecast/

GFA WX Symbols - https://beta.aviationweather.gov/gfa/help.html

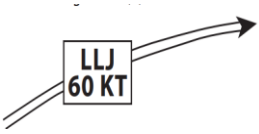
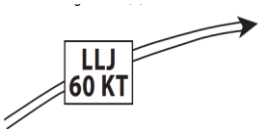
Good weather review - https://www.youtube.com/watch?v=gij4YbplY30

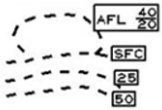
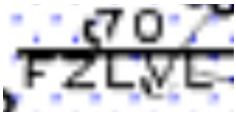
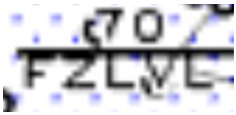
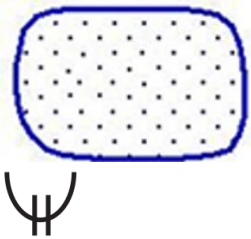
Need to review - https://tc.canada.ca/sites/default/files/2021-09/AIM-2021-2_MET-E.pdf

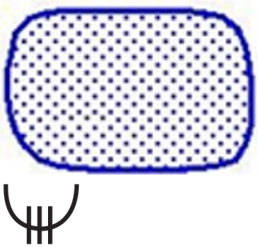
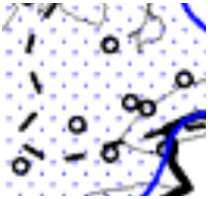
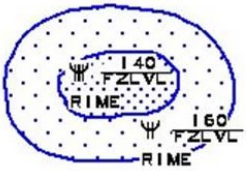
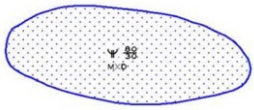
Symbol	Description
METAR	Cloud is in AGL unlike GFA is in ASL unless specified. Visibility in SM (Statute Mile): • 0-3 IFR • 3-5 MVFR • 5VFR IFR Take Off minimum visibility ½ SM (Statute Mile). IFR Landing – depending on the approach and the airport elevation. See approach chart. Visibility – overcast and broken cloud only considered.
	FU VA Smoke or volcanic ash
	HZ
	DU SA Dust or sand
	BLDU BLSA Blowing dust or Blowing sand
	PO Well-developed Dust/Sand whirls
	VCSS Sandstorm in the vicinity
	SS - Sand or dust storm.
	+SS - Strong sand or dust storm
	Volcano.
	Radioactive release

	Tropical Cyclone
	Tropical Strom
	Dust or Sand Storm
	Hurricane
	Severe Line Squall.
Fog	
	VCFG - Fog in the vicinity.
	BCFG - Patchy fog.
	MIFG - Shallow fog
	PRFG - Partial fog.
	FG – Fog.
	FZFG - Freezing fog.

Snow and misc. frozen precipitation	
 SN	-SN - Light snow
	SN - Moderate snow
	+SN - Heavy snow
	SG - Snow grains
	BLSN - Blowing snow.
	DRSN - Drifting snow.
GR	Hail
PO	Dust/Sand whirls.
SS	Sandstorm
+FC	Tornado/Waterspout
Thunderstorms	
	VCTS - Thunderstorm in the vicinity
	TS – Thunderstorm.
	TSRA Thunderstorm with light to moderate rain

	TSGR Thunderstorm, hail
	+TSRA Thunderstorm, Heavy rain
	Thunderstorm with snow
	+TSGR Heavy thunderstorm with hail
	SQ – Squalls. A sudden violent wind often with rain or snow A strong wind characterized by a sudden onset in which the wind speed increases at least 16 knots and is sustained at 22 knots or more for at least one minute.
	Severe Squall Line Steady state thunderstorms are associated with cold fronts, may form into line squalls and may last for several hours.
Icying	
	PL - Ice pellets IC – Ice Crystals
	Fraction format of icing layer, showing 20 as the numerator and SFC as the denominator.
	

	Low-level jet (LLJ)—Included on the GFA icing, turbulence and freezing level chart when it is expected to have a peak core speed of 50 kt or more. It may be included at speeds between 35 and 45 kt when significant associated turbulence or shear is expected. An LLJ is depicted as follows, with the wind being in the direction of the arrow and the speed shown being the maximum expected wind speed:
	Freezing Level
	 70 / FZLVL – meaning freezing above 7000 ASL unless specified as AGL. FZLVL / 70 – means freezing below 7000ASL unless specified as AGL.
	Mix icing due to Local Area freezing drizzle.
	Light Icing
	Continuous blue border line with light stippling Just moderate Icing

	Continuous blue border line with dense stippling Servere icing.
	IC - Ice crystals
	Dash black line – Icing starts. It could be SFC (Surface, what ever altitude written on the line).
	Oval shaped depiction of an area of icing. Outer border enclosed by a solid blue line with the inside stippled with blue dots. Inside is the coded description: a moderate icing symbol with the type of icing indicated below (RIME). Base and top of the icing layer FZLVL/160 is indicated to the right of the symbol for moderate icing. A second circular area is depicted within the first, enclosed by a solid blue line with the inside stippled more densely with blue dots. Inside is the coded description: a severe icing symbol with the type of icing indicated below (RIME). Base and top of the icing layer FZLVL/140 is indicated to the right of the symbol.
	Oval shaped depiction of an area of icing, enclosed by a solid blue line with the inside stippled with blue dots. Inside is the coded description: a moderate icing symbol with the type of icing indicated below (MXD). The base and top of the icing layer is indicated to the right of the symbol 30/80.
Cloud	
LCL	Vertical transport of heat and moisture in the atmosphere, especially by updrafts and downdrafts in an

	unstable atmosphere. The terms "convection" and "thunderstorms" often are used interchangeably, although thunderstorms are only one form of convection. Non-convective cloud Local – 25% or less
PTCHY	Non-convective cloud and shower greater than 25% up to 50%
FRQ	Non-convective cloud frequent – greather than 50%
SKC	Sky completely free of cloud.
FEW	Cumulative coverage is 1-2 oktas inclusive.
SCT	Cumulative coverage is 3-4 oktas inclusive.
BKN	Cumulative coverage is 5-7 oktas inclusive.
OVC	Cumulative coverage is 8 oktas.
	FC - Funnel cloud or tornado.
	Ridge - refers to a high-pressure area or high-pressure system. Ridges are often linked to pleasant and fair weather. They tend to bring clear skies, light winds, and minimal precipitation.
	Dryline is a boundary between moist and dry airmasses unlike a cold or warm front, one airmass is not rapidly overtaking the other. The temperature on either side of a dry line will be similar. The biggest difference in the air masses lies in the moisture content. The reason dry lines create thunderstorms is due to the difference in density of the air masses.
	Tropical Wave

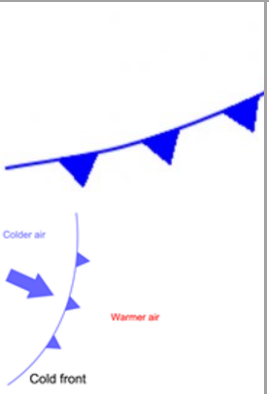
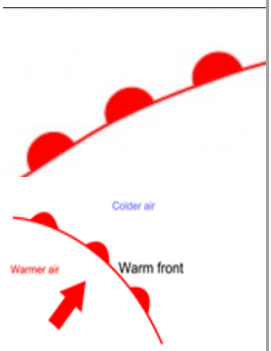
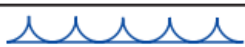
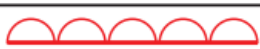
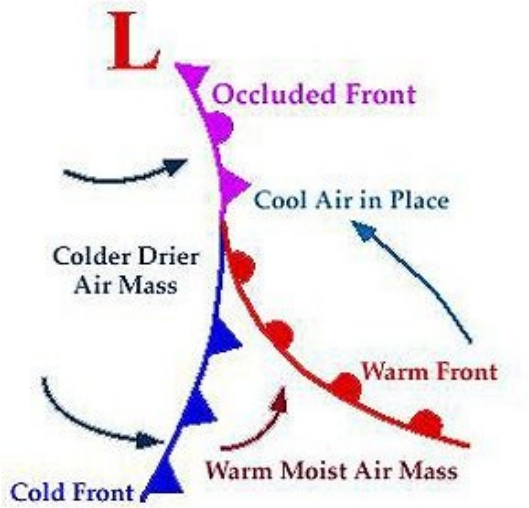
	
	Cold Front: a zone separating two air masses, of which the cooler, denser, mass is advancing and replacing the warmer. Commonly, when the cold front is passing: - Winds become gusty - There is a sudden drop in temperature - Heavy rain - Sometimes with hail, thunder, and lightning. Lifted warm air ahead of the front produces cumulus or cumulonimbus clouds and thunderstorms
	Warm front forms when a moist, warm air mass slides up and over a cold air mass. As the warm air mass rises, it condenses into a broad area of clouds. A warm front brings gentle rain or light snow, followed by warmer, milder weather. A transition zone between a mass of warm air and the cold air it is replacing. Warm fronts often bring widespread cloud cover and precipitation that's typically steady and more continuous. Rain, drizzle, or light snow are common with warm fronts. As a warm front passes, there's usually a gradual increase in temperature and a rise in humidity. The weather becomes milder and more stable. Nimbostratus and TCU(Towering cumulus) at the front.

Figure 10.1—Surface Weather Maps Legend

COLOUR	SYMBOL	DESCRIPTION
BLUE		High pressure centre
RED		Low pressure centre
BLUE		Cold front
BLUE		Cold front aloft
RED		Warm front
RED		Warm front aloft
RED / BLUE		Stationary front
PURPLE		Occluded front
BLUE		Cold frontogenesis
RED		Warm frontogenesis
RED / BLUE		Stationary frontogenesis
BLUE		Cold frontolysis
RED		Warm frontolysis
RED / BLUE		Stationary frontolysis
PURPLE		Occluded frontolysis
PURPLE		Squall line
PURPLE		Trough
BLUE / RED		Trowal

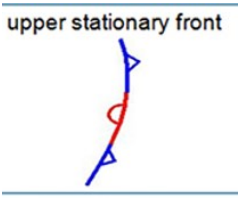
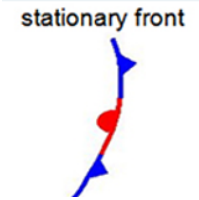
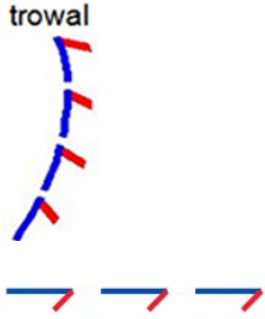


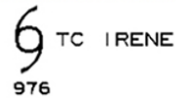
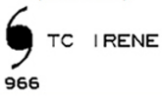
Occluded Front – a composite of two fronts, formed as a cold front overtakes a warm or quasi-stationary front. Two types of occlusions can form depending on the relative coldness of the air behind the cold front to the air ahead of the warm or stationary front. A cold occlusion results when the coldest air is behind the cold front and a warm occlusion result when the coldest air is ahead of the warm front.

Tropical Wave – a trough or cyclonic curvature maximum in the trade wind easterlies.

Trough - Purple line

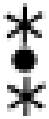
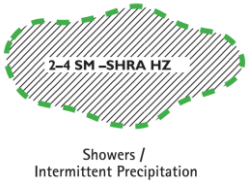
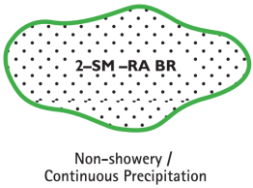
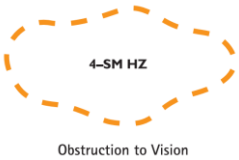
- An elongated area of relatively low atmospheric pressure; the opposite of a ridge.
- Often associated with unstable weather conditions.
- A line along which pressures are lower than in the surroundings and where the cyclonic curvature of the isobars is a maximum.
- Troughs form when the jet stream dips southward into a bowl-like shape, and are associated with colder air, low pressure aloft, and a less stable atmosphere. This tends to result in cooler and more unsettled weather conditions

upper trough 	Also called upper trough, upper-air trough, high-level trough, trough aloft.) A pressure trough existing in the upper air. This term is sometimes restricted to those troughs that are much more pronounced aloft than near the earth's surface.
upper stationary front 	A warm air mass pushes into a colder air mass (the warm front), and then another cold air mass pushes into the warm air mass (the cold front). Because cold fronts move faster, the cold front is likely to overtake the warm front.
stationary front 	A stationary front forms when a cold front or warm front stops moving. This happens when two masses of air are pushing against each other, but neither is powerful enough to move the other. Winds blowing parallel to the front instead of perpendicular can help it stay in place. A stationary front may stay put for days.
trowal 	Blue/Red TROWAL: Trough of Warm Air Aloft. Typically, trowals are located on the northwest side of intensifying mid-latitude cyclones (low-pressure systems). The descending warmer air interacts with colder surface air, leading to lifting and potentially heavy precipitation.

	Trowals are essential in weather forecasting, often associated with significant snowfall or mixed precipitation. They appear as comma-shaped cloud patterns on satellite imagery. Meteorologists use trowals to predict storm tracks and intensities. The presence of a trowal in a forecast suggests a likelihood of extended adverse weather, including heavy snow, freezing rain, or sleet, during winter weather storms and heavy precipitation
speed and direction  	
tropical cyclone (storm)  	
tropical cyclone (hurricane)  	
tropical cyclone (post)  	
	VIRGA – Virga. virga are trails of precipitation that fall from the underside of a cloud but evaporate or sublime before it can reach the earth's surface. This happens when

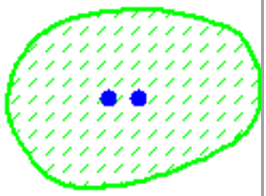
	falling rain or ice passes through an area of dry or warm air.
	BR - Mist
	VCSH - Showers in the vicinity.
	-DZ - Light drizzle.
	DZ - Moderate drizzle.
	+DZ - Heavy drizzle.
	-FZDZ - Light freezing drizzle.
	-DZRA - Light drizzle and rain.
	DZRA - Moderate to heavy drizzle and rain.
	FZDZ +FZDZ - Moderate to heavy freezing drizzle.

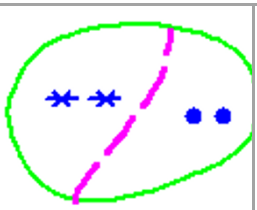
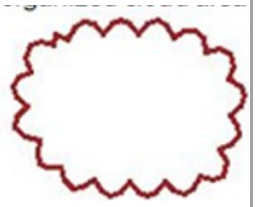
	-SHRA - Light rain showers
	SHRA +SHRA - Moderate to heavy rain showers
	SHRASN +SHRASN Moderate to heavy rain and snow showers
	-SHSN Light snow showers
	SHSN +SHSN Moderate to heavy snow showers
	-SHGR Light showers with hail
	SHGR Moderate to heavy showers with hail
	-RA - Light rain RA - Moderate rain +RA - Heavy rain
	GS – Snow Pellets SG – Snow Grains SN - Snow (light, moderate, heavy)

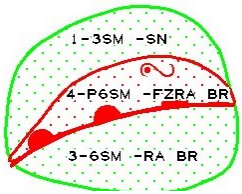
	FZRA +FZRA - Moderate to heavy freezing rain
	-RASN - Light rain and snow
	RASN +RASN - Moderate to heavy rain and snow
	Showers / Intermittent precipitation.
	Non-Showery / Continuous precipitation.
	Indicates that the visibility is 4 statute miles.

Areas of precipitation and obscuration are often defined by borderlines.

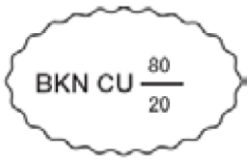
Continuous green border line	Enclose areas of continuous precipitation
Dashed green border line	Enclose areas of intermittent or showery precipitation
Dashed orange border line	Enclose areas of obscuring phenomena other than precipitation (e.g. haze).
Continuous red border line	Enclose areas of continuous freezing precipitation.
Dashed red border line	Enclose areas of intermittent freezing precipitation.

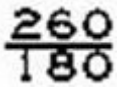
	Oval shaped area enclosed by a solid green line with the inside stippled with green dots and the coded description 1-3SM -SNRA BR. -SNRA – Snow and rain mixed.
	"Broken" light rain coverage is 50% to 100%.
	"Scattered" light snow. Coverage is 30% to 50%.

	Dashed line separates areas of snow from other precipitation types – rain, freezing rain, sleet. (Sleet is a form of precipitation consisting ice pellets, often mixed with rain or snow.
	Depiction of an area of restricted visibility and its associated ceilings. Oval shaped area is enclosed by a dashed dark orange line with coded description WTN DASHED LN XTNSV ¼ – 1SM FG/BR CIGS(Ceilings) 1-4 AGL.
	Continues red border line with the inside stippled with red dots. Enclose areas of continues freezing precipitation. Freezing rain, freezing drizzle, ice pellets.
	Dashed red border line. Enclose areas of intermittent freezing precipitation.
	Continuous brown scalloped border. Scalloped border, depicted in brown when shown in colour, encloses organized areas of clouds where the sky condition is either broken (BKN) or overcast (OVC). IFR conditions often mean ceilings below 1,000 feet AGL and visibility less than 3 statute miles.

	Circular shape featuring three layered areas – middle area is an area of freezing rain depicted by an enclosed solid red line with the inside stippled with red dots. Inside is the coded description 4-P6SM -FZRA BR. This area is depicted along and to the north of a warm front. A second area, contiguous and north of the area of freezing rain, is depicted by a solid green line with the inside stippled with green dots. Inside is the coded description (1-3SM -SN). A third area, contiguous and south of the area of freezing precipitation (south of the warm front as well) is depicted by a solid green line with the inside stippled with green dots. Inside is the coded description (3-6SM -RA BR).
P6SM	Prevailing 6 Statute Miles Visibility is expected to be greater than 6 Statute Miles.

Turbulence & Wind

	Area of BKN cumulus cloud with bases at 2000 ASL and Tops 8000 feet ASL.
	Moderate turbulence, in the form of a chevron pointing up.

	Severe turbulence, in the form of a double chevron pointing up.
	Fraction format of turbulence layer,
	Mountain Wave

Causes of Turbulence: The turbulence can be attributed to various factors, including:

Mechanical Turbulence (MECH)

Low-Level Wind Shear (LLWS)

Lee/Mountain Waves (LEE)

Clear Air Turbulence (CAT)

Significant Low-Level Jet (LLJ)

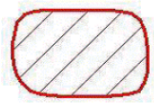
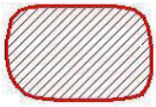
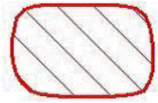
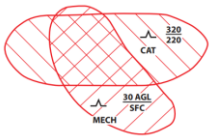
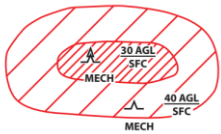
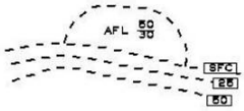
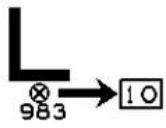
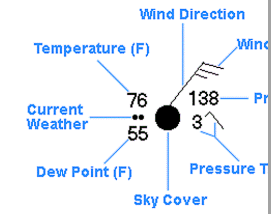
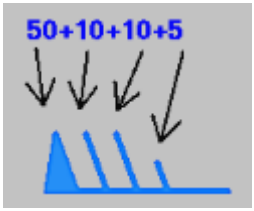
	Continuous red border line with dense light positive cross-hatching	Enclose areas of moderate low level turbulence.
	Continuous red border line with dense positive cross-hatching	Enclose areas of severe low level turbulence.
	Continuous red border line with light negative cross-hatching	Enclose areas of moderate high level turbulence.
	Continuous red border line with dense negative cross-hatching	Enclose areas of severe high level turbulence.

Figure 4.5(f)—Areas of Turbulence at Different Altitudes 	Two distinct areas of turbulence depicted as two partially overlapping ovals. First area is enclosed by a solid red line with the inside hatched by red diagonal lines with a positive slope. Inside is the coded description: a moderate turbulence symbol with the type of turbulence indicated below (MECH). Base and top of the turbulence layer SFC/30 AGL is indicated to the right of the symbol for moderate turbulence. Second area is depicted in similar fashion except for the negative slope of red diagonal lines. Inside is the coded description: a moderate turbulence symbol with the type of turbulence indicated below (CAT). The base and top of the turbulence layer 220/320 is indicated to the right of the symbol.
Figure 4.5(e)—Severe and Moderate Turb 	Severe Turbulence. **Large Oval Area (Outer):** • **Shape:** Oval • **Enclosure:** Solid red line • **Hatching Inside:** Red diagonal lines with a positive slope • **Turbulence Type:** Moderate turbulence (coded as "MECH") • **Location:** Inside the large oval area • **Base and Top of Turbulence Layer:** Surface (SFC) to 40 feet above ground level (AGL) • **Additional Information:** Enclosed by solid red line with inside hatched by red diagonal lines. **Smaller Oval Area (Inner):** • **Shape:** Oval • **Enclosure:** Solid red line • **Denser Hatching Inside:** Red diagonal lines with a positive slope

	• **Turbulence Type:** Severe turbulence (coded as "MECH") • **Location:** Within the larger oval area • **Base and Top of Turbulence Layer:** Surface (SFC) to 30 feet AGL • **Additional Information:** Enclosed by solid red line with inside hatched more densely by red diagonal lines.
	Moving to the north east at 30KT.
	Surface wind
	Double-line arrow with a solid black tip. In a box overlapping the arrow is the code for low level jet and its speed of 60KT.
	Three black dashed lines representing the height of the freezing level, with three small text boxes at the end of each line, each containing SFC, 25 and 50, from the top dashed line to the bottom. A fourth line bulges in a semicircular shape from the surface (SFC) contour. This area represents a layer where the temperature is above the freezing point. Inside the area is the coded description for above freezing level (AFL) with the base and top of the layer 30/50 presented in fraction format.
	Low pressure Centre along motion. Black arrow points to the right, indicating direction. Tip of arrow shows with the figure 10 inside, indicating speed in knots.

low / tropical depression 	
	
	
	Calm wind.
	Wind blowing from the southeast at 15kts
	Wind Blowing from the WEST at 75kts.
	Strong surface winds, where stem indicates the direction, while three feathers indicate speed. Box above the stem contains text to indicate wind gusts: G35.
GFA Samples	

Low Pressure System	Also known as a cyclone or depression, is an area in the Earth's atmosphere where the atmospheric pressure is lower compared to its surrounding areas. **Precipitation:** Low-pressure systems often bring rain or snow due to the uplift of moist air. **Winds:** They have counterclockwise (Northern Hemisphere) or clockwise (Southern Hemisphere) circulation, leading to variable winds near the center and strong winds at the periphery. **Turbulence:** Convergence of air masses can create turbulence, especially for aircraft. **Fronts:** Low-pressure systems can develop cold fronts and warm fronts, causing temperature and weather changes. **Thunderstorms:** Favorable conditions in well-developed low-pressure systems can lead to thunderstorms. **Cloud Cover:** They usually result in extensive cloud cover of varying types and altitudes. **Barometric Pressure:** The center of low-pressure systems has lower barometric pressure.
High Pressure System	Where the air pressure is higher than the surrounding areas. It is characterized by descending air, which creates stable and generally fair weather conditions. **Fair Weather**: High-pressure systems are often associated with fair and stable weather, bringing clear skies and little precipitation. **Clear Skies:** High-pressure systems suppress cloud formation, resulting in clear or mostly clear skies. **Temperature Extremes:** High-pressure areas can lead to both warm daytime temperatures and cooler nighttime temperatures due to clear skies and calm winds.

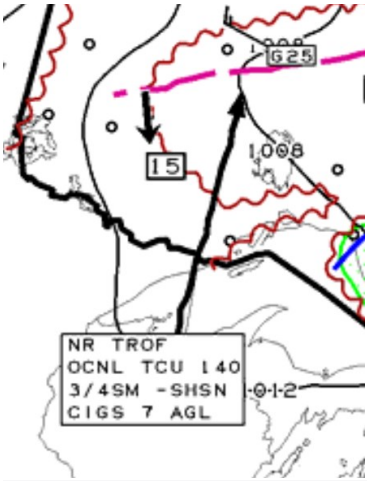
	Fog Potential: High-pressure systems, if combined with surface moisture, can lead to the development of fog, especially in valleys and coastal areas. **Duration:** High-pressure systems can persist for extended periods, potentially leading to prolonged stable weather or drought conditions. **Stability**: High pressure reduces the likelihood of severe weather events like thunderstorms and tornadoes. **Light Winds:** High-pressure systems are associated with generally light surface winds.
LCA 1/2SM -DZ FG CIGS 2 AGL	"LCA": This likely refers to Low-Level Convective Activity, indicating the presence of convective weather phenomena. "1/2SM": Visibility is reported as 1/2 statute mile. This suggests that visibility conditions are poor, with reduced visibility due to weather factors. "-DZ": This indicates light drizzle (raindrops with very small water droplets). "FG": Fog is present in the area. "CIGS 2 AGL": Cloud cover is at 2 feet above ground level. This implies very low cloud cover.
OVC LYR 120/30	"OVC": This stands for "Overcast," indicating that the sky is completely covered by clouds. "LYR": This likely refers to a "Layer" of clouds. "120/30": This part of the statement provides information about the cloud base and the thickness of the overcast layer. "120" indicates the cloud base is at 12,000 feet above ground level (AGL), and "30" suggests that the thickness or vertical extent of the overcast layer is 3,000 feet.
LCA 1 SM BR CIGS 3 AGL TOP 10 MNLY OVR ON	**LCA 1 SM BR:** This indicates that there is Light Drizzle (DZ) with a visibility of 1 statute mile (SM) in misty conditions (BR), which often implies reduced visibility due to mist or fog.

	CIGS 3 AGL: The cloud base is at an altitude of 3,000 feet Above Ground Level (AGL). This means that there's a cloud layer starting at 3,000 feet AGL. **TOP 10:** This specifies the top of the cloud layer or another atmospheric feature is at an altitude of 10,000 feet AGL. **MNLY OVR ON:** The abbreviation "MNLY" stands for mainly, and "OVR ON" means overcast over Ontario. This indicates that the mentioned weather conditions, including drizzle, low visibility, and cloud cover, are mainly occurring over the region of Ontario.
FEW 70/40 LCA 1SM BR CIGS 5 AGL TOP 10	"FEW 70/40": This part indicates cloud cover. "FEW" stands for "Few clouds," suggesting that there are only a few clouds in the sky. "70/40" provides additional information about the cloud layer. The number "70" represents the cloud base altitude at 7,000 feet above ground level (AGL), and "40" indicates the thickness or vertical extent of the cloud layer, which is 4,000 feet. This means that the cloud formation extends from 7,000 feet AGL (the base) to 11,000 feet AGL (the top) in the vertical direction. "LCA 1SM BR": This part provides information about visibility and weather conditions. "LCA" represents "Light Ceiling and Visibility" criteria. "1SM" indicates that the visibility is 1 statute mile. "BR" suggests the presence of mist or misty conditions. "CIGS 5 AGL": This portion provides details about the cloud cover. "CIGS" refers to cloud ceilings. "5" indicates that the cloud base is at 500 feet above ground level (AGL). "TOP 10": This indicates the cloud tops. "TOP" suggests that the cloud tops are being reported, and "10" indicates that the cloud top altitude is at 10,000 feet above ground level.

SCT 90/60	**SCT:** This stands for "Scattered." It describes the cloud coverage. Scattered clouds mean that the sky is partly covered with clouds, and there are breaks or open areas between them. **90:** The number "90" represents the cloud base altitude. In meteorology and aviation, this number indicates that the base of the scattered cloud layer is located at 9,000 feet above ground level (AGL). This means that the lowest part of the scattered cloud formation can be found at an altitude of 9,000 feet AGL. **60:** The number "60" indicates the thickness or vertical extent of the scattered cloud layer. In this context, it signifies that the scattered cloud layer extends vertically for a distance of 6,000 feet. Therefore, it spans from 9,000 feet AGL (the base) to 15,000 feet AGL (the top) in the vertical direction.
OCNL ACC 220	**OCNL:** This abbreviation stands for "occasional," indicating that the reported turbulence is not continuous but occurs sporadically. **ACC:** "ACC" stands for "altitude," indicating the altitude at which the turbulence is reported. **220:** The number "220" represents the altitude in hundreds of feet AGL. In this case, it signifies that the occasional turbulence is reported at an altitude of 22,000 feet AGL.
OVR SRN ON	"OVR SRN ON" typically indicates that over southern Ontario (SRN ON), specific meteorological conditions or weather phenomena are expected or reported.
NR TROF	"NR TROF" typically refers to conditions or weather phenomena near or associated with a trough (TROF). A trough is an elongated region of low pressure in the atmosphere that is often associated with certain types of weather patterns.
1 SOL CB 300	1: This number typically represents the frequency or occurrence of a particular weather phenomenon. In

	this case, it indicates that there is one occurrence of the phenomenon. SOL: "SOL" often stands for "isolated." It suggests that the mentioned weather phenomenon is isolated or occurring in a limited area, rather than being widespread. CB: "CB" is an abbreviation for "cumulonimbus" clouds. Cumulonimbus clouds are large, towering clouds associated with thunderstorms and severe weather. 300: The number "300" typically refers to the cloud base altitude or height above ground level (AGL) at which the cumulonimbus clouds are occurring. In this case, the cumulonimbus clouds are located at an altitude of 300 feet AGL.
-FZDZ	-FZDZ" suggests the presence of freezing drizzle, indicating that drizzle is falling and it may freeze upon contact with surfaces, potentially causing icing
FZFG	"FZFG" indicates freezing fog, meaning that fog is present and the water droplets in the fog are freezing on surfaces.
WKN	condition specified is expected to weaken or become less severe over time.
LCA ISM BR CIGS 5 ASL TOP 15	LCA: This could be the location or airport identifier. ISM: Likely related to weather conditions, such as mist or haze. BR: Typically stands for "mist" or "misty conditions." CIGS 5 ASL: Indicates cloud coverage, with clouds based at 5,000 feet above sea level. TOP 15: Indicates cloud tops at 15,000 feet above sea level.

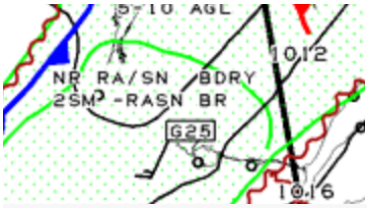
ISOL TCU 120 5 SM -SHRA BR CIGS 15 AGL	"ISOL" indicates "isolated," meaning there are isolated instances of the following conditions. "TCU" stands for "towering cumulus clouds," which are tall, fluffy clouds associated with potentially turbulent conditions. "120" specifies that these towering cumulus clouds are expected at an altitude of 12,000 feet. "5 SM" represents visibility of 5 statute miles. "-SHRA" suggests light rain showers. "BR" stands for mist or misty conditions. "CIGS" refers to the cloud ceilings. "15 AGL" specifies that the cloud base is at an altitude of 1,500 feet above ground level.



NR TROF: Likely a reference to a nearby trough of low pressure.
OCNL TCU 140: Suggests occasional towering cumulus clouds at 14,000 feet above sea level.
3/4SM: Indicates visibility is 3/4 statute miles.
-SHSN: Suggests light snow showers are occurring.
CIGS 7 AGL: Indicates cloud coverage with clouds based at 7,000 feet above ground level.

The given aviation weather report includes the following information:

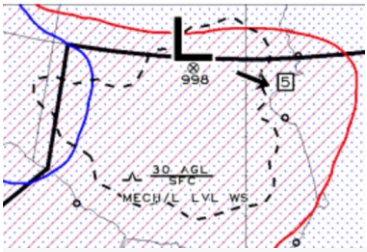
BKN LYR 140/30: Suggests broken layers of clouds with layers starting at 3,000 feet and extending up to 14,000 feet.
FRO TCU 180: Likely indicating the presence of freezing conditions and occasional towering cumulus clouds at 18,000 feet.
1/4-2SM: Indicates variable visibility ranging from 1/4 to 2 statute miles.
-SHSN / -SHSN BLSN: Suggests light snow showers with possible blowing snow.
PTCHY CIGS 8-15 AGL: Implies that there are patchy areas of cloud cover with cloud bases situated at altitudes between 8 and 15 feet above ground level.



"NR RA/SN BDRY" stands for "Near Rain/Snow Boundary." It suggests that the reported conditions are close to the transition zone between rain and snow.

"2SM" indicates a visibility of 2 statute miles, which tells you how far you can see in the reported weather conditions.

"-RASN BR" describes the precipitation and visibility conditions. "-RASN" stands for "light rain and snow," indicating that there is light precipitation in the form of rain and snow. "BR" stands for "mist" or "misty conditions," suggesting reduced visibility due to mist.

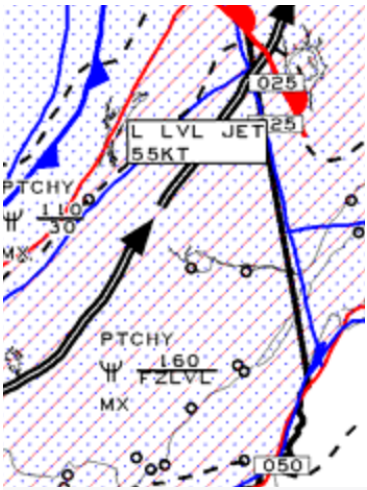


"MOD TURB" stands for "Moderate Turbulence," indicating that there are moderate turbulence conditions in the area.

"30 AGL / SFC" specifies the altitude range for the moderate turbulence. In this case, the turbulence is reported from the surface (SFC) up to 3000 feet above ground level (AGL).

"MECH/L" likely refers to "mechanical" turbulence, which can be caused by factors such as terrain or obstacles disrupting the airflow and creating turbulence.

"LVL WS" stands for "Low-Level Wind Shear," suggesting variations in wind speed and direction at low altitudes.



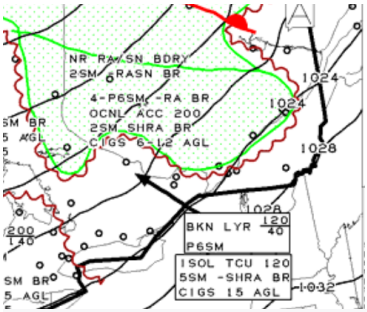
"L LVL JET" stands for "Low-Level Jet." This refers to a relatively strong horizontal wind flow in the lower levels of the atmosphere, typically within a few thousand feet above the surface.

"55KT" specifies the wind speed associated with the low-level jet. In this case, the wind is blowing at 55 knots.
"PTCHY" likely stands for "patchy." It suggests that the described weather phenomenon is not continuous but occurs intermittently or in scattered areas.

"MOD ICE" indicates "moderate ice." This suggests that there are moderate icing conditions in the described area. Pilots should exercise caution when flying through this region, as ice accumulation on the aircraft can be a safety concern.

"160/F" provides information about the temperature. It suggests that the temperature at this location is at 160 degrees Fahrenheit (approximately 71 degrees Celsius). The temperature can be important for understanding the type of icing (e.g., rime or clear ice) and its severity.

"ZL VL" likely refers to specific icing levels or conditions. The exact meaning of "ZL VL" may require further context, as it can vary depending on the weather report format. It might indicate the altitude levels where icing is expected.



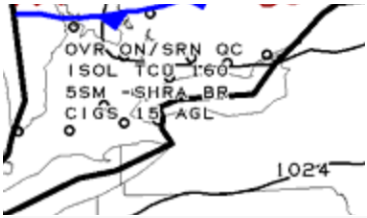
"NR RA / SN BDR" indicates that near rain and/or snow is expected with possible snow blowing or drifting.

"2SM RASN BR" translates to visibility of 2 statute miles with rain and snow, along with mist or fog.

"4 - P6SM -RA BR" suggests that the visibility is greater than 6 statute miles, and there's light rain and mist or fog.

"OCNL SHRA BR" means that there will be occasional light rain and mist or fog.

"CIGS 6-12 AGL" indicates that the cloud ceilings are expected to be at altitudes ranging from 6,000 to 12,000 feet above ground level.



OVR on / SRN QC: These abbreviations likely refer to a location or region.

1 SOL TCU 160: This indicates the presence of one solitary towering cumulus cloud at 16,000 feet above ground level. TCU stands for towering cumulus, which is a type of cloud associated with developing thunderstorms. 5SM -SHRA BR: Visibility is 5 statute miles, and there are light rain showers (SHRA) and mist (BR). CIGS 15 AGL: The cloud ceiling is at 1,500 feet above ground level.	

http://www.moratech.com/aviation/metaf-abbrev.html

A

AAF - Army Air Field
AAL - above aerodrome level
AATM - at all times
ABD – aboard
ABNDT - abundant
ABNML - abnormal
ABT - about
ABV - above
AC - altocumulus
ACARS - Aircraft communication addressing & reporting system
ACCUM - accumulate
ACFT - aircraft
ACK - acknowledge
ACL - altimeter check location
ACLD - above clouds
ACLT - accelerate
ACPT - accept
ACR - air carrier
ACRBT - acrobatic
ACRS - across
ACSL - standing lenticular altocumulus
ACT - active or activated or activity
ACTG - acting
ACTV - active
ACTVT - activate
ACYC - anticyclonic
ADA - advisory area
ADDN - addition
ADF - automatic direction finder
ADIZ - air defense identification zone
ADJ - adjacent
ADQT - adequate
ADRNDCK - adirondack
ADV - advise
ADVCTN - advection
ADVN - advance
ADVY - advisory
ADVZY - advisory
AFB - Air Force Base
AFCT - affect
AFD - Airport/Facility Directory
AFDK - after dark
AFSS - Automated Flight Service Station
AFT - after
AFTN - afternoon
AGL - above ground level
AHD - ahead
AIM - Aeronautical Information Manual
AIRMET - Airmen's Meteorological Information
ALF - aloft
ALG - along
ALGHNY - Allegheny
ALNMT - alignment
ALQDS - all quadrants
ALS - approach light system
ALSEC - all sectors
ALSF-1 - standard 2400' high-intensity approach lighting system with sequenced flashers (Category I configuration)
ALSF-2 - standard 2400' high-intensity approach lighting system with sequenced flashers (Category II configuration)
ALSTG - altimeter setting
ALT - altitude
ALTA - Alberta
ALTM - altimeter
ALTN - alternate
ALUTN - Aleutian
AM - ante meridiem
AMS - air mass
AMSL - above mean sea level
ANCPT - anticipate
ANLYS - analysis
AO1 - ASOS automated observation without precipitation

discriminator (rain/snow)
AO2 - ASOS automated observation with precipitation discriminator (rain/snow)
AOA - at or above
AOB - at or below
AOE - airport of entry
APCH - approach
APL - airport lights
APLCN - Appalachian
APN - Apron
APRNT - apparent
APROP - appropriate
APRX - approximate
ARB - Air Reserve Base
ARFOR - area forecast
ARINC - Aeronautical Radio, Incorporated
ARND - around
ARTC - air route traffic control
ARTCC - Air Route Traffic Control Center
AS - altostratus
ASAP - as soon as possible
ASDA - accelerate-stop distance available
ASL - above sea level
ASOS - automated surface observing system
ASPH - asphalt
ATA - actual time of arrival
ATIS - automatic terminal information service
ATLC - Atlantic
AURBO - Aurora Borealis
AUTH - authorized
AUTO - automatic
AVG - average
AVGAS - aviation gasoline
AWOS - automatic weather observing/reporting system
AWY - airway
AZM - azimuth

B
BACLIN - Baroclinic
BAJA - Baja California
BATROP - Barotropic
BC - British Columbia
BCH - Beach
BCKG - Backing
BCM - Become
BCMG - Becoming
BCMS - Becomes
BD - Blowing dust
BDA - Bermuda
BDRY - Boundary
BFDK - Before dark
BFR - Before
BGN - Begin
BGNG - Beginning
BGNS - Begins
BHND - Behind
BINOVC - Breaks in overcast
BKN - Broken
BLD - Build
BLDG - Building
BLDS - Builds
BLDUP - Buildup
BLKHLS - Black Hills
BLKT - Blanket
BLKTG - Blanketing
BLKTS - Blankets
BLO - Below
BLZD - Blizzard
BN - Blowing sand
BND - Bound
BNDRY - Boundary
BNDRYS - Boundaries
BNTH - Beneath
BOOTHEEL - Bootheel
BR - Branch
BRG - Branching
BRS - Branches
BRF - Brief
BRK - Break
BRKG - Breaking
BRKHIC - Breaks in higher clouds
BRKS - Breaks
BRKSHR - Berkshire
BRKSHRS - Berkshires
BRM - Barometer
BS - Blowing snow

BTWN - Between
BYD - Beyond

C
C - Celsius
CA - California
CAA - Cold Air Advection
CARIB - Caribbean
CASCDS - Cascades
CAVOK - Ceiling and visibility OK
CAVU - Ceiling and visibility unlimited
CB - Cumulonimbus
CBS - Cumulonimbi
CC - Cirrocumulus
CCLDS - Clear of clouds
CCLKWS - Counter-clockwise
CCSL - Standing lenticular cirrocumulus
CDFNT - Cold front
CDFNTL - Cold frontal
CFP - Cold front passage
CG - Cloud-to-ground
CHC - Chance
CHCS - Chances
CHG - Change
CHGD - Changed
CHGG - Changing
CHGS - Changes
CHSPK - Chesepeake
CI - Cirrus
CIG - Ceiling
CIGS - Ceilings
CLD - Cloud
CLDNS - Cloudiness
CLDS - Clouds
CLKWS - Clockwise
CLR - Clear
CLRG - Clearing
CLRS - Clears
CMPLX - Complex
CNCL - Cancel
CNCLD - Cancelled
CNCLG - Cancelling
CNCLS - Cancels
CNDN - Canadian
CNTR - Center
CNTRD - Centered
CNTRLN - Centerline
CNTRS - Centers
CNTRL - Central
CNTY - County
CNTYS - Counties
CNVG - Converge
CNVGG - Converging
CNVGNC - Convergence
CNVTN - Convection
CNVTV - Convective
CNVTVLY - Convectively
CNFDC - Confidence
CO - Colorado
COMPAR - Compare
COMPARG - Comparing
COMPARD - Compared
COMPARS - Compares
COND - Conditions
CONT - Continue
CONTD - Continued
CONTLY - Continually
CONTG - Continuing
CONTRAILS - Condensation Trails
CONTS - Continues
CONTDVD - Continental Divide
CONUS - Continental U.S.
COORD - Coordinate
COR - Correction
CPBL - Capable
CRC - Circle
CRCLC - Circulate
CRCLN - Circulation
CRNR - Corner
CRNRS- Corners
CRS- Course
CS - Cirrostratus
CSDR - Consider
CSDRBL - Considerable
CST - Coast
CSTL - Coastal
CT- Connecticut
CTGY - Category
CTSKLS - Catskills
CU - Cumulus
CUFRA - Cumulus Fractus

CVR - Cover
CVRD - Covered
CVRG - Covering
CVRS - Covers
CYC - Cyclonic
CYCLGN - Cyclogenesis

D
DABRK - Daybreak
DALGT - Day light
DBL - Double
DC - District of Columbia
DCR - Decrease
DCRD - Decreased
DCRG - Decreasing
DCRGLY - Decreasingly
DCRS - Decreases
DE - Delaware
DEG - Degree
DEGS - Degrees
DELMARVA - Delaware-Maryland-Virginia
DFCLT - Difficult
DFCLTY - Difficulty
DFNT - Definite
DFNTLY - Definitely
DFRS - Differs
DFUS - Diffuse
DGNL - Diagonal
DGNLLY - Diagonally
DIGG - Digging
DIR - Direction
DISC - Discontinue
DISCD - Discontinued
DISCG - Discontinuing
DISRE - Disregard
DISRED - Disregarded
DISREG - Disregarding
DKTS - Dakotas
DLA - Delay
DLAD - Delayed
DLT - Delete
DLTD - Deleted
DLTG - Deleting
DLY - Daily
DMG - Damage
DMGD - Damaged
DMGG - Damaging
DMNT - Dominant
DMSH - Diminish
DMSHD - Diminished
DMSHG - Diminishing
DMSHS - Diminishes
DNDFTS - Downdrafts
DNS - Dense
DNSLP - Downslope
DNSTRM - Downstream
DNWND - Down wind
DP - Deep
DPND - Deepened
DPNS - Deepens
DPR - Deeper
DPNG - Deepening
DPTH - Depth
DRFT - Drift
DRFTD - Drifted
DRFTG - Drifting
DRFTS - Drifts
DRZL - Drizzle
DSCNT - Descent
DSIPT - Dissipate
DSIPTD - Dissipated
DSIPTG - Dissipating
DSIPTN - Dissipation
DSIPTS - Dissipates
DSND - Descend
DSNDG - Descending
DSNDS - Descends
DSNT - Distant
DSTBLZ - Destabilize
DSTBLZD - Destabilized
DSTBLZG - Destabilizing
DSTBLZS - Destabilizes
DSTBLZN - Destabilization
DSTC - Distance
DTRT - Deteriorate
DTRTD - Deteriorated
DTRTG - Deteriorating
DTRTS - Deteriorates
DURG - During
DURN - Duration
DVLP - Develop
DVLPD - Developed
DVLPG - Developing
DVLPMT -

Development
DVLPS - Develops
DVRG - Diverge
DVRGG - Diverging
DVRGNC - Divergence
DVRGS - Diverges
DVV - Downward vertical velocity
DWNDFTS - Downdrafts
DWPNT - Dewpoint
DWPNTS - Dewpoints
DX - Duplex

E
E - East
EBND - East bound
EFCT - Effect
ELNGT - Elongate
ELNGTD - Elongated
ELSW - Elsewhere
EMBDD - Embedded
EMERG - Emergency
ENCTR - Encounter
ENDG - Ending
ENE - East-northeast
ENELY - East-northeasterly
ENERN - East-northeastern
ENEWD - East-northeastward
ENHNC - Enhance
ENHNCD - Enhanced
ENHNCG - Enhancing
ENHNCS - Enhances
ENHNCMNT - Enhancement
ENTR - Entire
ERN - Eastern
ERY - Early
ERYR - Earlier
ESE - East-southeast
ESELY - East-southeasterly
ESERN - East-southeastern
ESEWD - East-southeastward
ESNTL - Essential
ESTAB - Establish
ESTS - Estimates
ETA - Eta model
ETC - Et cetera
ETIM - Elapsed time
EVE - Evening
EWD - Eastward
EXCLV - Exclusive
EXCLVLY - Exclusively
EXCP - Except
EXPC - Expect
EXPCD - Expected
EXPCG - Expecting
EXTD - Extend
EXTDD - Extended
EXTDG - Extending
EXTDS - Extends
EXTN - Extension
EXTRAP - Extrapolate
EXTRAPD - Extrapolated
EXTRM - Extreme
EXTRMLY - Extremely
EXTSV - Extensive

F
F - Fahrenheit
FA - Aviation area forecast
FAH - Fahrenheit
FAM - Familiar
FCST - Forecast
FCSTD - Forecasted
FCSTG - Forecasting
FCSTR - Forecaster
FCSTS - Forecasts
FIG - Figure
FILG - Filling
FIRAV - First available
FL - Florida
FLG - Falling
FLRY - Flurry
FLRYS - Flurries
FLT - Flight
FLW - Follow
FLWG - Following
FM - From
FMT - Format
FNCTN - Function
FNT - Front
FNTL - Frontal
FNTS - Fronts
FNTGNS - Frontogenesis
FNTLYS -

Frontolysis
FORNN - Forenoon
FPM - Feet per minute
FQT - Frequent
FQTLY - Frequently
FRM - Form
FRMG - Forming
FRMN - Formation
FROPA - Frontal passage
FROSFC - Frontal surface
FRST - Frost
FRWF - Forecast wind factor
FRZ - Freeze
FRZN - Frozen
FRZG - Freezing
FT - Feet
FT - Terminal forecast
FTHR - Further
FVRBL - Favorable
FWD - Forward
FYI - For your information

G
G - Gust
GA - Georgia
GEN - General
GENLY - Generally
GEO - Geographic

GEOREF - Geographical reference
GF - Ground fog
GICG - Glaze icing
GLFALSK - Gulf of Alaska
GLFCAL - Gulf of California
GLFMEX - Gulf of Mexico
GLFSTLAWR - Gulf of St. Lawrence
GND - Ground
GNDFG - Ground fog
GRAD - Gradient
GRDL - Gradual
GRDLY - Gradually
GRT - Great
GRTLY - Greatly
GRTR - Greater
GRTST - Greatest
GRTLKS - Great Lakes
GSTS - Gusts
GSTY - Gusty
GV - Ground visibility

H
HAZ - Hazard
HCVIS - High clouds visible
HDFRZ - Hard freeze
HDSVLY - Hudson Valley
HDWND - Head wind
HGT - Height
HI - High
HIER - Higher
HIFOR - High level forecast
HLF - Half
HLTP - Hilltop
HLSTO - Hailstones
HLYR - Haze layer aloft
HND - Hundred
HR - Hour
HRS - Hours
HRZN - Horizon
HTG - Heating
HURCN - Hurricane
HUREP - Hurricane report
HV - Have
HVY - Heavy
HVYR - Heavier
HVYST - Heaviest
HWVR - However
HWY - Highway

I
IA - Iowa
IC - Ice
ICG - Icing
ICGIC - Icing in clouds
ICGIP - Icing in precipitation
ID - Idaho
IL - Illinois
IMDT - Immediate
IMDTLY - Immediately
IMPL - Impulse
IMPLS - Impulses
IMPT - Important
INCL - Include
INCLD - Included
INCLG - Including
INCLS - Includes
INCR - Increase
INCRD - Increased
INCRG - Increasing
INCRGLY -

Increasingly
INCRS - Increases
INDC - Indicate
INDCD - Indicated
INDCG - Indicating
INDCS - Indicates
INDEF - Indefinite
INFO - Information
INLD - Inland
INSTBY - Instability
INTCNTL - Intercontinental
INTL - International
INTMD - Intermediate
INTMT - Intermittent
INTMTLY - Intermittently
INTR - Interior
INTRMTRGN - Intermountain region
INTS - Intense
INTSFCN - Intensification
INTSFY - Intensify
INTSFYD - Intensified
INTSFYG - Intensifying
INTSFYS - Intensifies
INTSTY - Intensity
INTVL - Interval
INVRN - Inversion
IOVC - In overcast
INVOF - In vicinity of
IP - Ice pellets
IPV - Improve
IPVG - Improving
IR - Infrared
ISOL - Isolate
ISOLD - Isolated

J
JCTN - Junction
JTSTR - Jet stream

K
KFRST - Killing frost
KLYR - Smoke layer aloft
KOCTY - Smoke over city
KS - Kansas
KT - Knots
KY - Kentucky

L
LA - Louisiana
LABRDR - Labrador
LAT - Latitude
LCL - Local
LCLY - Locally
LCTD - Located
LCTN - Location
LCTMP - Little change in temperature
LEVEL - Level
LFM - Limited Fine Mesh Model
LFTG - Lifting
LGRNG - Long range
LGT - Light
LGTR - Lighter
LGWV - Long wave
LI - Lifted Index
LIS - Lifted indices
LK - Lake
LKS - Lakes
LKLY - Likely
LLJ - Low Level Jet
LLWS - Low Level Wind Shear
LLWAS - Low level wind shear alert system
LMTD - Limited
LMTG - Limiting
LMTS - Limits
LN - Line
LN - Lines
LO - Low
LONG - Longitude
LONGL - Longitudinal
LRG - Large
LRGLY - Largely
LRGR - Larger
LRGST - Largest
LST - Local standard time
LTD - Limited
LTG - Lightning
LTGCC - Lightning cloud-to-cloud
LTGCG - Lightning cloud-to-ground
LTGCCCG - Lightning cloud-to-cloud cloud-to-ground
LTGCW - Lightning cloud-to-water
LTGIC - Lightning in cloud
LTL - Little
LTLCG - Little change
LTR - Later
LTST - Latest
LV - Leaving
LVL - Level
LVLS - Levels
LWR - Lower
LWRD - Lowered

LWRG - Lowering
LYR - Layer
LYRD - Layered
LYRS - Layers

M
MA - Massachusetts
MAN - Manitoba
MAX - Maximum
MB - Millibars
MCD - Mesoscale discussion
MD - Maryland
MDFY - Modify
MDFYD - Modified
MDFYG - Modifying
MDL - Model
MDLS - Models
MDT - Moderate
MDTLY - Moderately
ME - Maine
MED - Medium
MEGG - Merging
MESO - Mesoscale
MET - Meteorological
METRO - Metropolitan
MEX - Mexico
MHKVLY - Mohawk Valley
MI - Michigan
MID - Middle
MIDN - Midnight
MIL - Military
MIN - Minimum
MISG - Missing
MLTLVL - Melting level
MN - Minnesota
MNLND - Mainland
MNLY - Mainly
MO - Missouri
MOGR - Moderate or greater
MOV - Move
MOVD - Moved
MOVG - Moving
MOVMT - Movement
MOVS - Moves
MPH - Miles per hour
MRGL - Marginal
MRGLLY - Marginally
MRNG - Morning
MRTM - Maritime
MS - Mississippi
MSG - Message
MSL - Mean sea level
MST - Most
MSTLY - Mostly
MSTR - Moisture
MT - Montana
MTN - Mountain
MTNS - Mountains
MULT - Multiple
MULTILVL - Multi-level
MXD - Mixed

N
N - North
NAB - Not above
NAT - North Atlantic
NATL - National
NAV - Navigation
NB - New Brunswick
NBND - Northbound
NBRHD - Neighborhood
NC - North Carolina
NCWX - No change in weather
ND - North Dakota
NE - Northeast
NEB - Nebraska
NEC - Necessary
NEG - Negative
NEGLY - Negatively
NELY - Northeasterly
NERN - Northeastern
NEWD - Northeastward
NEW ENG - New England
NFLD - Newfoundland
NGM - Nested Grid Model
NGT - Night
NH - New Hampshire
NIL - None
NJ - New Jersey
NL - No layers
NLT - Not later than
NLY - Northerly
NM - New Mexico
NMBR - Number
NMBRS - Numbers
NMC - National Meteorological Center
NML - Normal
NMRS - Numerous
NNE - North-northeast
NNELY - North-

northeasterly
NNERN - North-northeastern
NNEWD - North-northeastward
NNW - North-northwest
NNWLY - North-northwesterly
NNWRN - North-northwestern
NNWWD - North-northwestward
NNNN - End of message
NOAA - National Oceanic and Atmospheric Administration
NOPAC - Northern Pacific
NPRS - Nonpersistent
NR - Near
NRLY - Nearly
NRN - Northern
NRW - Narrow
NS - Nova Scotia
NTFY - Notify
NTFYD - Notified
NV - Nevada
NVA - Negative vorticity advection
NW - Northwest
NWD - Northward
NWLY - Northwesterly
NWRN - Northwestern
NWS - National Weather Service
NY - New York
NXT - Next

O
OAT - Outside Air Temperature OBND - Outbound
OBS - Observation
OBSC - Obscure
OBSCD - Obscured
OBSCG - Obscuring
OCFNT - Occluded front
OCLD - Occlude
OCLDS - Occludes
OCLDD - Occluded
OCLDG - Occluding
OCLN - Occlusion
OCNL - Occasional
OCNLY - Occasionally
OCR - Occur
OCRD - Occurred
OCRG - Occurring
OCRS - Occurs
OFC - Office
OFP - Occluded frontal passage
OFSHR - Offshore
OH - Ohio
OK - Oklahoma
OMTNS - Over mountains
ONSHR - On shore
OR - Oregon
ORGPHC - Orographic
ORIG - Original
OSV - Ocean station vessel
OTLK - Outlook
OTP - On top
OTR - Other
OTRW - Otherwise
OUTFLO - Outflow
OVC - Overcast
OVNGT - Overnight
OVR - Over
OVRN - Overrun
OVRNG - Overrunning
OVTK - Overtake
OVTKG - Overtaking
OVTKS - Overtakes

P
PA - Pennsylvania
PAC - Pacific
PBL - Planetary boundary layer
PCPN - Precipitation
PD - Period
PDS - Periods
PDMT - Predominant
PEN - Peninsula
PERM - Permanent
PGTSND - Puget Sound
PHYS - Physical
PIBAL - Pilot balloon observation
PIBALS - Pilot balloon reports
PIREP - Pilot weather report
PIREPS - Pilot weather reports
PLNS - Plains

PLS - Please
PLTO - Plateau
PM - Post meridian
PNHDL - Panhandle
POS - Positive
POSLY - Positively
PPINE - PPI no echoes
PPSN - Present position
PRBL - Probable
PRBLY - Probably
PRBLTY - Probability
PRECD - Precede
PRECDD - Preceded
PRECDG - Preceding
PRECDS - Precedes
PRES - Pressure
PRESFR - Pressure falling rapidly
PRESRR - Pressure rising rapidly
PRIM - Primary
PRIN - Principal
PRIND - Present indications are
PRJMP - Pressure jump
PROC - Procedure
PROD - Produce
PRODG - Producing
PROG - Forecast
PROGD - Forecasted
PROGS - Forecasts
PRSNT - Present
PRSNTLY - Presently
PRST - Persist
PRSTS - Persists
PRSTNC - Persistence
PRSTNT - Persistent
PRVD - Provide
PRVDD - Provided
PRVDG - Providing
PRVDS - Provides
PS - Plus
PSBL - Possible
PSBLY - Possibly
PSBLTY - Possibility
PSG - Passage
PSN - Position
PSND - Positioned
PTCHY - Patchy
PTLY - Partly
PTNL - Potential
PTNLY - Potentially
PTNS - Portions
PUGET - Puget Sound
PVA - Positive vorticity advection
PVL - Prevail
PVLD - Prevailed
PVLG - Prevailing
PVLS - Prevails
PVLT - Prevalent
PWR - Power

Q
QN - Question
QPFERD - NMC excessive rainfall discussion
QPFHSD - NMC heavy snow discussion
QPFSPD - NMC special precipitation discussion
QSTNRY - Quasistationary
QUAD - Quadrant
QUE - Quebec

R
R - Rain
RADAT - Radiosonde observation data
RAOB - Radiosonde observation
RAOBS - Radiosonde observations
RCH - Reach
RCHD - Reached
RCHG - Reaching
RCHS - Reaches
RCKY - Rocky
RCKYS - Rockies
RCMD - Recommend
RCMDD - Recommended
RCMDG - Recommending
RCMDS - Recommends
RCRD - Record
RCRDS - Records
RCV - Receive
RCVD - Received
RCVG - Receiving
RCVS - Receives
RDC - Reduce
RDGG - Ridging

RDR - Radar
RDVLP - Redevelop
RDVLPG - Redeveloping
RDVLPMT - Redevelopment
RE - Regard
RECON - Reconnaissance
REF - Reference
RES - Reserve
RGL - Regional Model
RGT - Right
RHINO - RHI not operative
RI - Rhode Island

RLBL - Reliable
REPL - Replace
REPLD - Replaced
REPLG - Replacing
REPLS - Replaces
REQ - Request
REQS - Requests
REQSTD - Requested
RESP - Response
RESTR - Restrict
RGD - Ragged
RGLR - Regular
RGN - Region
RGNS - Regions
RH - Relative Humidity
RIOGD - Rio Grande
RLTV - Relative
RLTVLY - Relativilymain
RMN - Remain
RMND - Remained
RMNDR - Remainder
RMNG - Remaining
RMNS - Remains
RNFL - Rainfall
ROT - Rotate
ROTD - Rotated
ROTG - Rotating
ROTS - Rotates
RPD - Rapid
RPDLY - Rapidly
RPLC - Replace
RPLCD - Replaced
RPLCG - Replacing
RPLCS - Replaces
RPRT - Report
RPRTD - Reported
RPRTG - Reporting
RPRTS - Reports
RPT - Repeat
RPTG - Repeating
RPTS - Repeats
RQR - Require
RQRD - Required
RQRG - Requiring
RQRS - Requires
RS - Receiver station
RSG - Rising
RSN - Reason
RSNG - Reasoning
RSNS - Reasons
RSTR - Restrict
RSTRD - Restricted
RSTRG - Restricting
RSTRS - Restricts
RTRN - Return
RTRND - Returned
RTRNG - Returning
RTRNS - Returns
RUF - Rough
RUFLY - Roughly
RVS - Revise
RVSD - Revised
RVSG - Revising
RVSS - Revises
RW - Rain shower

S
S - South
SA - Surface observation
SAO - Surface observation
SAOS - Surface observations
SASK - Saskatchewan
SATFY - Satisfactory
SBND - South bound
SBSD - Subside
SBSDD - Subsided
SBSDNC - Subsidence
SBSDS - Subsides
SC - South Carolina
SCND - Second
SCNDRY - Secondary
SCSL - Standing lenticular stratocumulus
SCT - Scatter
SCTD - Scattered

SCTR - Sector
SD - South Dakota
SE - Southeast
SEC - Second
SELS - Severe Local Storms Unit
SELY - Southeasterly
SEPN - Separation
SEQ - Sequence
SERN - Southeastern
SEWD - Southeastward
SFC - Surface
SFERICS - Atmospherics
SG - Snow grains
SGFNT - Significant
SGFNTLY - Significantly
SHFT - Shift
SHFTD - Shifted
SHFTG - Shifting
SHFTS - Shifts
SHLD - Shield
SHLW - Shallow
SHRT - Short
SHRTLY - Shortly
SHRTWV - Shortwave
SHRTWVS - Shortwaves
SHUD - Should
SHWR - Shower
SHWRS - Showers
SIERNEV - Sierra Nevada
SIG - Signature
SIGMET - Significant meteorological information
SIMUL - Simultaneous
SKC - Sky clear
SKED - Schedule
SLD - Solid
SLGT - Slight
SLGTLY - Slightly
SLO - Slow
SLOLY - Slowly
SLOR - Slower
SLP - Slope
SLPG - Sloping
SLT - Sleet
SLY - Southerly
SM - Statute mile
SMK - Smoke
SML - Small
SMLR - Smaller
SMRY - Summary
SMS - Synchronous meteorological satellite
SMTH - Smooth
SMTHR - Smoother
SMTHST - Smoothest
SMTM - Sometime
SMWHT - Somewhat
SNBNK - Snow bank
SND - Sand
SNFLK - Snow flake
SNGL - Single
SNOINCR - Snow increase
SNOINCRG - Snow increasing
SNST - Sunset
SNW - Snow
SNWFL - Snowfall
SOP - Standard operating procedure
SP - Snow pellets
SPCLY - Especially
SPD - Speed
SPDS - Speeds
SPENES - Satellite precipitation estimate statement
SPKL - Sprinkle
SPKLS - Sprinkles
SPLNS - Southern Plains
SPRD - Spread
SPRDG - Spreading
SPRDS - Spreads
SPRL - Spiral
SQAL - Squall
SQLN - Squall line
SR - Sunrise
SRN - Southern
SRND - Surround
SRNDD - Surrounded
SRNDG - Surrounding
SRNDS - Surrounds
SS - Sunset
SSE - South-southeast
SSELY - South-southeasterly
SSERN - South-southeastern
SSEWD - South-southeastward
SSW - South-southwest
SSWLY - South-southwesterly
SSWRN - South-southwestern
SSWWD - South-southwestward

ST - Stratus
STAGN - Stagnation
STBL - Stable
STBLTY - Stability
STD - Standard
STDY - Steady
STFR - Stratus Fractus
STFRM - Stratiform
STG - Strong
STGLY - Strongly
STGR - Stronger
STGST - Strongest
STLT - Satellite
STM - Storm
STMS - Storms
STN - Station
STNS - Stations
STNRY - Stationary
SUB - Substitute
SUBTRPCL - Subtropical
SUF - Sufficient
SUFLY - Sufficiently
SUG - Suggest
SUGG - Suggesting
SUGS - Suggests
SUP - Supply
SUPG - Supplying
SUPR - Superior
SUPS - Supplies
SUPSD - Supersede
SUPSDG - Superseding
SUPSDS - Supersedes
SVG - Serving
SVR - Severe
SVRL - Several
SW - Southwest
SWD - Southward
SWWD - Southwestward
SW- - Light snow shower
SW+ - Heavy snow shower
SWLG - Swelling
SWLY - Southwesterly
SWOMCD - SELS Mesoscale Discussion
SWRN - Southwestern
SX - Stability index
SXN - Section
SXNS - Sections
SYNOP - Synoptic
SYNS - Synopsis
SYS - System

T
T - Thunder
TCNTL - Transcontinental
TDA - Today
TEMP - Temperature
THD - Thunderhead
THDR - Thunder
THK - Thick
THKNG - Thickening
THKNS - Thickness
THKR - Thicker
THKST - Thickest
THN - Thin
THNG - Thinning
THNR - Thinner
THNST - Thinnest
THR - Threshold
THRFTR - Thereafter
THRU - Through
THRUT - Throughout
THSD - Thousand
THTN - Threaten
THTND - Threatened
THTNG - Threatening
THTNS - Threatens
TIL - Until
TMPRY - Temporary
TMPRYLY - Temporarily
TMW - Tomorrow
TN - Tennessee
TNDCY - Tendency
TNDCYS - Tendencies
TNGT - Tonight
TNTV - Tentative
TNTVLY - Tentatively
TOPS - Tops
TOVC - Top of overcast
TPG - Topping
TRBL - Trouble
TRIB - Tributary
TRKG - Tracking
TRML -Terminal
TRMT - Terminate
TRMTD - Terminated
TRMTG -

Terminating
TRMTS - Terminates
TRNSP - Transport
TRNSPG - Transporting
TROF - Trough
TROFS - Troughs
TROP - Tropopause
TRPCD - Tropical continental
TRPCL - Tropical
TRRN - Terrain
TRSN - Transition
TRW - Thunderstorm
TRW+ - Thunderstorm with heavy rain shower
TSFR - Transfer
TSFRD - Transferred
TSFRG - Transferring
TSFRS - Transfers
TSHWR - Thundershower
TSHWRS - Thundershowers
TSNT - Transient
TSQLS - Thunder squalls
TSTM - Thunderstorm
TSTMS - Thunderstorms
TS - Thunderstorm with snow
TS+ - Thunderstorm with heavy snow
TSW - Thunderstorm with snow showers
TSW+ - Thunderstorm with heavy snow showers

+TSRA Thundersto rm with heavy rain

-
TSRA Thunderstor m with light rain
TURBC - Turbulence
TURBT - Turbulent
TWD - Toward
TWDS - Towards
TWI - Twilight
TWRG - Towering
TX - Texas

U
UDDF - Up and down drafts
UN - Unable
UNAVBL - Unavailable
UNEC - Unnecessary
UNKN - Unknown
UNL - Unlimited
UNRELBL - Unreliable
UNRSTD - Unrestricted
UNSATFY - Unsatisfactory
UNSBL - Unseasonable
UNSTBL - Unstable
UNSTDY - Unsteady
UNSTL - Unsettle
UNSTLD - Unsettled
UNUSBL - Unusable
UPDFTS - Updrafts
UPR - Upper
UPSLP - Upslope
UPSTRM - Upstream
URG - Urgent
USBL - Usable
UT - Utah
UVV - Upward vertical velocity
UVVS - Upward vertical velocities
UWNDS - Upper winds

V
VA - Virginia
VARN - Variation
VCNTY - Vicinity
VCOT - VFR conditions on top
VCTR - Vector
VDUC - VAS Data Utilization Center (NSSFC)
VFY - Verify
VFYD - Verified
VFYG - Verifying
VFYS - Verifies
VLCTY - Velocity
VLCTYS - Velocities
VLNT - Violent
VLNTLY - Violently
VLY - Valley

VLYS - Valleys
VMC - Visual meteorological conditions
VOL - Volume
VORT - Vorticity
VR - Veer
VRG - Veering
VRBL - Variable
VRISL - Vancouver Island, BC
VRS - Veers
VRT MOTN - Vertical Motion
VRY - Very
VSB - Visible
VSBY - Visibility
VSBYDR - Visibility decreasing rapidly
VSBYIR - Visibility increasing rapidly
VT - Vermont
VV - Vertical velocity

W
W - West
WA - Washington
WAA - Warm Air Advection
WBND - West bound
WDLY - Widely
WDSPRD - Widespread
WEA - Weather
WFO - Weather Forecast Office
WFOS - Weather Forecast Offices
WFP - Warm front passage
WI - Wisconsin
WIBIS - Will be issued
WINT - Winter
WK - Weak
WKDAY - Weekday
WKEND - Weekend
WKNG - Weakening
WKNS - Weakens
WKR - Weaker
WKST - Weakest
WKN - Weaken
WL - Will
WLY - Westerly
WND - Wind
WNDS - Winds
WNW - West-northwest
WNWLY - West-northwesterly
WNWRN - West-northwestern
WNWWD - West-northwestward
WO - Without
WPLTO - Western Plateau
WRM - Warm
WRMG - Warming
WRN - Western
WRMR - Warmer
WRMST - Warmest
WRMFNT - Warm front
WRMFNTL - Warm Frontal
WRNG - Warning
WRNGS - Warnings
WRS - Worse
WSHFT - Wind shift
WSHFTS - Wind Shifts
WSFO - Weather Service Forecast Office
WSFOS - Weather Service Forecast Offices
WSO - Weather Service Office
WSOS - Weather Service Offices
WSTCH - Wasatch Range
WSW - West-southwest
WSWLY - West-southwesterly
WSWRN - West-southwestern
WSWWD - West-southwestward
WTR - Water
WTRS - Waters
WTSPT - Waterspout
WTSPTS - Waterspouts
WUD - Would
WV - West Virginia
WVS - Waves
WW - Severe Weather Watch
WWAMKC - Status Report
WWD - Westward
WWS - Severe Weather Watches
WX - Weather
WY - Wyoming

X
XCP - Except
XPC - Expect
XPCD - Expected
XPCG - Expecting
XPCS - Expects

XPLOS - Explosive
XTND - Extend

XTNDD - Extended
XTNDG - Extending
XTRM - Extreme
XTRMLY - Extremely

Y

YDA - Yesterday
YKN - Yukon
YLSTN - Yellowstone

Z
ZL - Freezing drizzle
ZN - Zone
ZNS - Zones
ZR - Freezing rain

METAR and TAF

http://www.moratech.com/aviation/metaf-abbrev.html

Weather Identifiers:

B - Began
BC Patches
BL Blowing
BR Mist >=5/8
DR Low Drifting
DS Dust storm
DU Dust
DZ Drizzle
E – Ended
FC, +FC Funnel Cloud, Well-Developed Funnel Cloud Tornado or Waterspout
FG Fog
FU Smoke
FZ Freezing
GR Hail (>5mm)
GS Small Hail / Snow Pellets (<5mm)
HZ Haze
IC Ice Crystals
MI Shallow
PL Ice Pellets
PO Well-Developed Dust/Sand Whirls
PR Partial
PY Spray
RA Rain
SA Sand
SG Snow Grains
SH Showers
SN Snow
SQ Squalls Moderate
SS Sandstorm
TS Thunderstorm
UP Unknown Precipitation
VA Volcanic Ash
VC In the Vicinity

Modifiers:

- Light
+ Heavy
P More than
M Less than
B Begin
E Ended

Sky Conditions:

BKN – Broken cloud layer 5/8ths to 7/8ths
CB – Cumulonimbus
CLR – Sky clear at or below 12,000AGL
FEW – Few cloud layer 0/8ths to 2/8ths
OVC – Overcast cloud layer 8/8ths coverage
SCT – Scattered cloud layer 3/8ths to 4/8ths
SKC – Sky Clear
TCU – Towering Cumulus

Other:

A01 – Automated Observation without precipitation discrimination
A02 – Automated Observation with precipitation discrimination
A3000 – Altimeter setting 30.00”
AMD – Amended forecast
AUTO – without human editing
BECMG – Becoming… BECMG 0002 = becoming 00 to 02 Zulu
CAVU – Ceiling and visibility unlimited
COR – Correction
DSNT – Distant weather phenomenon
FM – From… FM0200 = from 0200 Zulu
FROPA – Frontal Passage
LTG – Lightning
LDG – Landing

M – Minus, below zero, “less than”
NO – Not available
NSW – No significant weather
P6SM – Plus 6 Statute Miles, greater than, “more than”
PK WND – Peak Wind
PRESFR/PRESRR – Pressure Falling or Rising Rapidly
PROB40 – Probability of 40%
R04 – Runway 4
RMK – Remarks
RWY – Runway
RVRNO – Runway Visual Range not available
SFC VIS – Surface Visibility
SLP – Sea Level Pressure, add 10 to numbers given
SLPNO – Sea Level Pressure not available
SM – Statute miles
SPECI – Special Report
TEMPO – Temporarily… TEMPO 0002 = Temporarily 00 to 02 Zulu
T02560179 – Temperature 25.6 dew point 17.9
TWR VIS – Tower Visibility
V – Varying
VIRGA – Virga
VRB – Variable
VRB VIS – Variable Visibility
VV – Vertical Visibility, indefinite ceiling
WS – Wind shear
WSHFT - Wind shift

Encoded Groups:

1sTTT – 6-hourly maximum temperature. 10183 = +18.3 C
2sTTT – 6-hourly minimum temperature. 20144 = +14.4 C
4sXXXsNNN – 24-hour max and min temp. 401001015 = +10.0 to -1.5
4/SSS – Snow depth in inches. 4/021 = 21 inches on ground.
5aPPP – 3-hourly pressure tendency. PPP=tenths hPa change; a=code:
4=steady
0123=increasing
5678=decreasing;
higher#=faster recently
6RRRR – Hundredths of inches of rain in past 3 or 6 hours
7RRRR – Hundredths of inches of rain in past 24 hours (1200Z report).
8/LMH – Cloud types in low, middle, high layers. /=above overcast
3=dense cirrus;
6=stratus; 9=CB.
933RRR – Water equiv. of snow on ground in tenths. 933036 = 3.6in.
98mmm – Minutes of sunshine previous calendar day (0800Z report)