












Weather Map Symbols, Abbreviations, and Features

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Weather Map Symbols, Abbreviations, and Features

1. Symbols

Pressure Systems/Fronts	High Pressure System	H
	Low Pressure System	L
	Warm Front	
	Cold Front	
	Occluded Front	
	Stationary Front	
	Cold Frontolysis	
	Cold Frontogenesis	
	Trough or Trof	
	Ridge Line	
Squall Line		








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<i>Precipitation</i>					
				Thunderstorm	
				Severe Thunderstorm	
				Thunderstorm with Hail	
				Thunderstorm with Hail	
				Dust Storm	
				Smoke	
	Symbol	Light	Moderate	Heavy	Smoke
Rain					
Snow					Smoke
Drizzle					
Rain Shower					Hurricane
Snow Shower					Tropical Storm
Freezing Rain					Drifting or Blowing Snow
Freezing Rain					Haze
Fog					Light Icing
					Heavy Icing

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Wind Speed	NE 2 kt	
	NE 5 kt	
	NE 10 kt	
	NE 15 kt	
	NNE 45 kt	
	N 50 kt	
	N 65 kt	

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Center pressures (on Surface Maps)	H = Center of High Pressure at Valid Time
	L = Center of Low Pressure at Valid Time
	 = Center of High Pressure 24-hours prior to or after Valid Time
	 = Center of Low Pressure 24-hours prior to or after Valid Time

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2. Abbreviations

a. General Abbreviations

Abbreviation	Term
DCRS	Decreasing
DSIPT	Dissipating
FRMG	Forming
GALE	Gale (winds of 35 knots or more)
HVY	Heavy
INCRS	Increasing
INTSFY	Intensifying
ISOLD	Isolated
Mb, In Hg, hPa	Millibars, Inches of Mercury, hectopascals (formerly millibars)
MOVG	Moving
NUMRS	Numerous
RPDLY	Rapidly
SCT	Scattered
STNRY	Stationary
STORM	Storm (winds of 50 knots or more)
TROF	Trough
TRPCL WAVE	Tropical wave
Z, UTC, GMT	Time in Zulu, Universal Coordinated Time, Greenwich Mean Time (all equivalent)

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b. Cloud Abbreviations

CU	Cumulus (light showers)
ST	Stratus (low clouds/fog)
SC	Stratocumulus (mainly fair)
TCU	Towering Cumulus (moderate showers)
CB	Cumulonimbus (thunderstorms)
AC	Alto cumulus (middle level)
AS	Altostratus (middle level)
CI	Cirrus (high level)
CS	Cirrostratus (high level)

c. Area Cloud Coverage


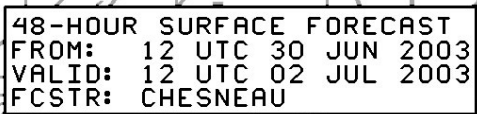
(in eights)

CLR	Clear (0 – 1/8)
SCT	Scattered (1/8 – 3/8)
BKN	Broken (4/8 – 7/8)
OVC	Overcast (8/8)

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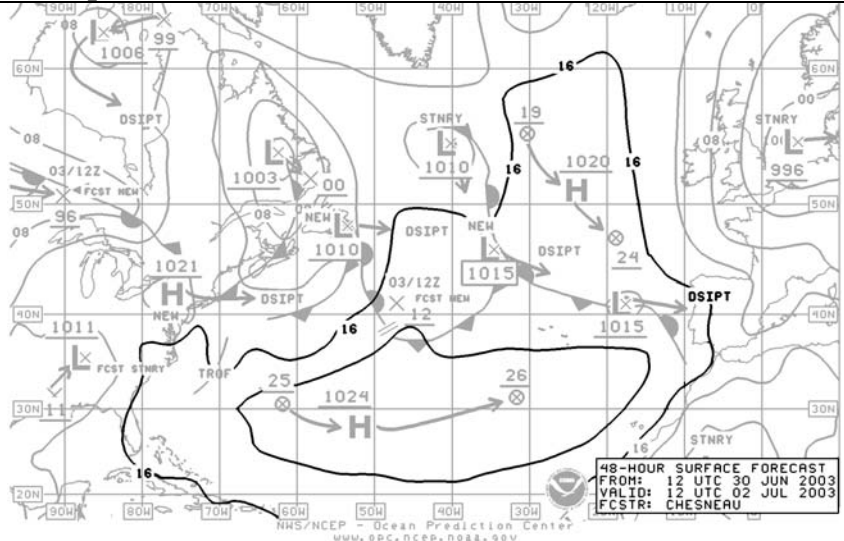
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3. Map Features

Element	Explanation	Example
Valid Time of the weather chart	<p>Valid Time refers to the date and time that the information a weather chart is expected to reflect reality.</p> <p>There are two kinds of weather fax maps: analysis and forecast. The boxed inset on the chart will indicate the chart's type, and will specify valid time.</p> <ul style="list-style-type: none">• a current analysis chart shows the actual status of the weather. Its valid time is the date and time of day that the information was collected. The chart only reflects reality at that specific time.• a forecast shows what the weather is expected to do in the future. The time labeled From indicates when the data forming the basis of the forecast was collected; and Valid Time indicates the date and hour when the conditions shown are expected to actually happen.	<p>Current Analysis</p>  <p>Forecast</p>  <p><i>These are examples from Surface Analysis maps (both Current Analysis and Forecast). The information would be the same on Upper Atmosphere (500mb) maps.</i></p>

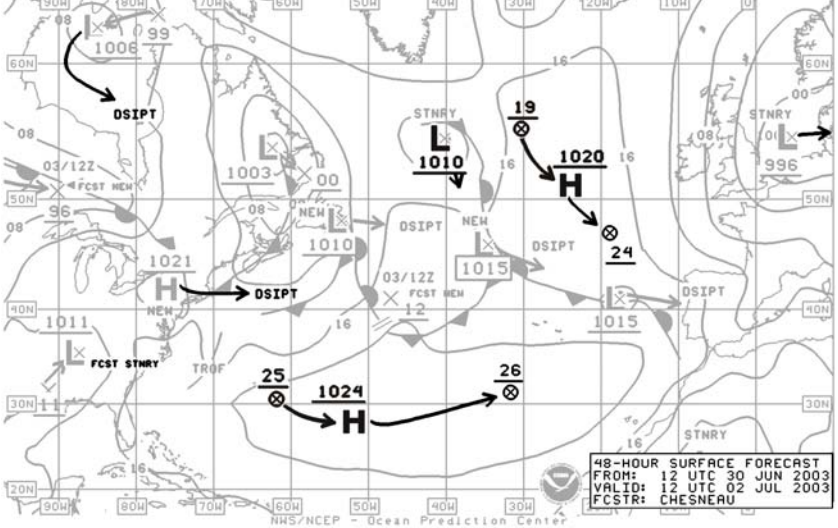
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Element	Explanation	Example
<p>Isobar</p>	<p>An isobar is a line of equal barometric pressure, usually drawn on surface maps. In many cases, isobars differ by 4 mb of pressure.</p>	

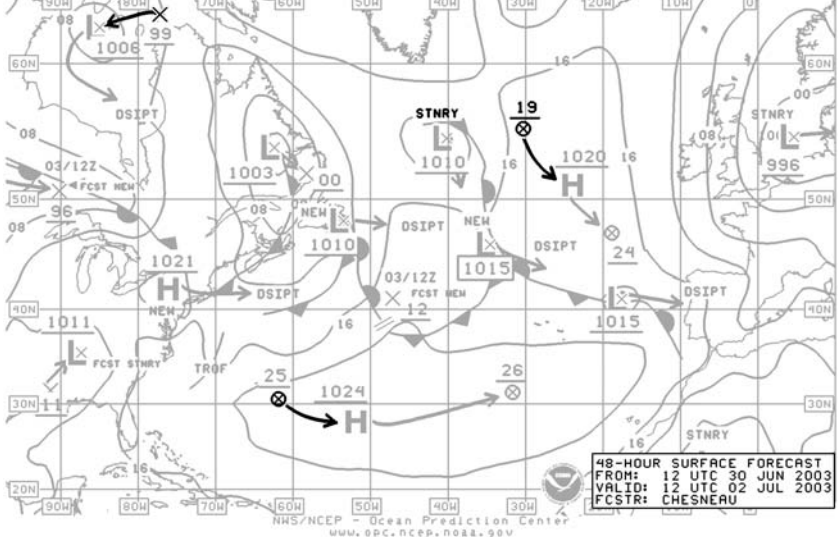
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Element	Explanation	Example
<p>Center pressures (on Surface Maps)</p> <p>H = Center of High Pressure at Valid Time</p> <p>L = Center of Low Pressure at Valid Time</p> <p>⊗ = Center of High Pressure 24-hours prior to or after Valid Time</p> <p>⊗ = Center of Low Pressure 24-hours prior to or after Valid Time</p>	<p>The center pressure of a low or high will be indicated by the 3 or 4 digit underlined number located beside the letter indicating the pressure center's location (L or H on U.S. maps).</p> <p>Future and previous pressure centers are sometimes also shown. (Refer to <i>Arrow from</i> and <i>Arrow to</i> below).</p> <ul style="list-style-type: none"> • Future pressure center (<i>Arrow from</i>): On charts where the 24-hour future position of a low or high is indicated (by an arrow), the expected future center pressure will also be shown. The number is abbreviated: either "10" or "9" is assumed to be the first digit(s). • Previous pressure center (<i>Arrow to</i>): On charts where the 24-hour previous position of a low or high is indicated (by an arrow), the previous center pressure will also be shown. <p>By comparing the current center pressure with the expected or previous center pressure, you can determine if the low is strengthening, high is weakening (numbers going lower) or the low is weakening, high is strengthening (numbers rising).</p>	 <p>48-HOUR SURFACE FORECAST FROM: 12 UTC 30 JUN 2003 VALID: 12 UTC 02 JUL 2003 FCSTR: CHESNEAU</p> <p>NWS/NCEP - Ocean Prediction Center www.opc.ncep.noaa.gov</p>

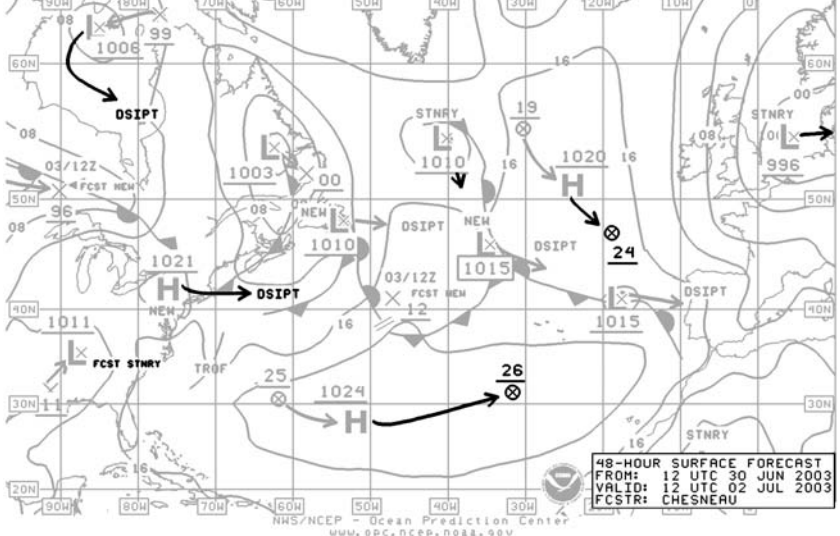
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Element	Explanation	Example
<p>Arrow from</p> <p>(Arrow indicating where low/high came from <u>24 hours prior to Valid Time</u>)</p>	<p>On some surface maps, an arrow will mark the place where a low (or high) pressure system was located 24 hours prior to the valid time indicated on the chart.</p> <p>In this example, the High pressure system at the bottom of the chart with pressure of <u>1024</u> mb should be located:</p> <ul style="list-style-type: none"> at the H at 12 UTC 02 Jul 2003 (the Valid Time). at the ⊗ showing pressure of <u>1025</u> mb at 12 UTC 01 Jul 2003 (24 hours prior to Valid Time). <p>The High pressure system is weakening (i.e., pressure is decreasing).</p>	 <p>Arrow pointing toward the expected center for the pressure system indicates where that pressure system was expected to be 24 hours prior to the Valid Time indicated on the weather map, and the 2 digit underlined number indicates its expected previous center pressure. Either a “9” or a “10” is to be assumed in front of the 2 digits.</p>

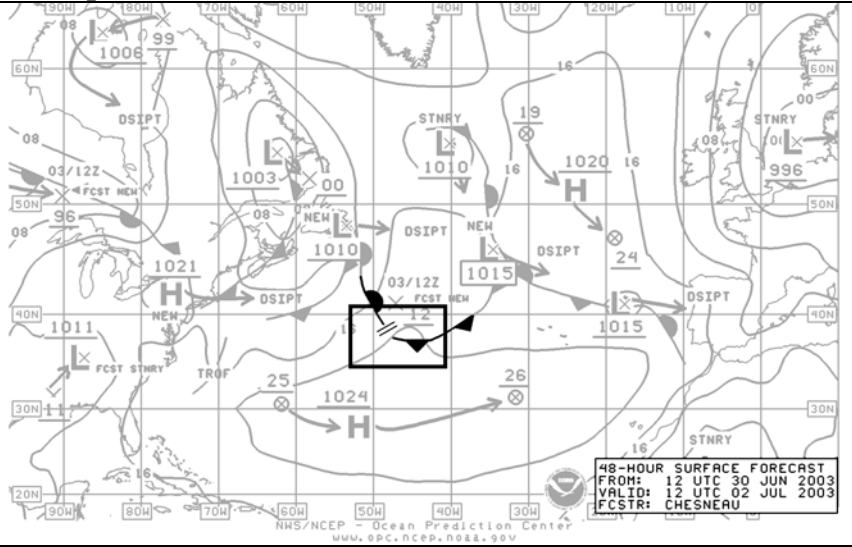
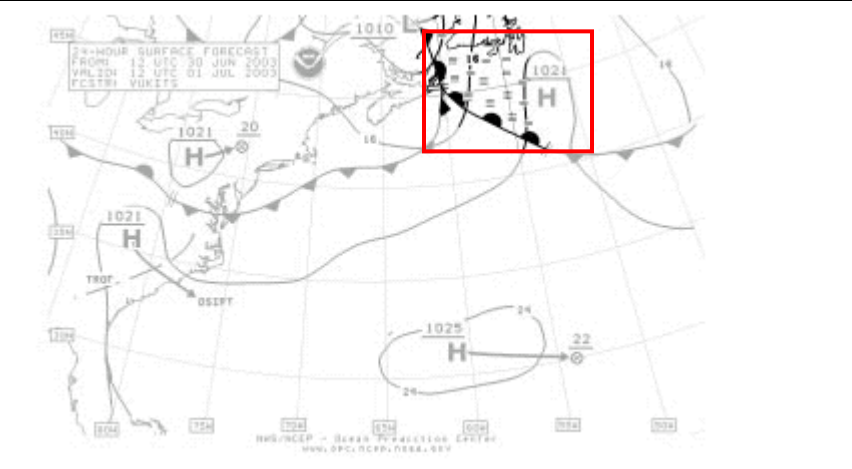
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Element	Explanation	Example
<p>Arrow to</p> <p>(Arrow indicating direction low or high is expected to move 24 hours after Valid Time)</p>	<p>On some surface maps, an arrow shows where the low (or high) pressure system will be located 24 hours after the valid time indicated on the chart.</p> <p>Noting how the center pressure is changing over time helps us understand whether the system is getting weaker or stronger.</p> <p>In this example, the High pressure system at the bottom of the chart with pressure of <u>1024</u> mb should be located:</p> <ul style="list-style-type: none"> at the H at 12 UTC 02 Jul 2003 (the Valid Time). at the ⊗ showing pressure of <u>1026</u> mb at 12 UTC 03 Jul 2003 (24 hours after Valid Time). <p>The High pressure system is strengthening (i.e., pressure is increasing).</p>	 <p>Arrow pointing away from the expected center for the pressure system indicates where that pressure system will be expected to be 24 hours after the Valid Time indicated on the weather map, and the 2 digit underlined number indicates its expected future center pressure. Either a "9" or a "10" is to be assumed in front of the 2 digits.</p>

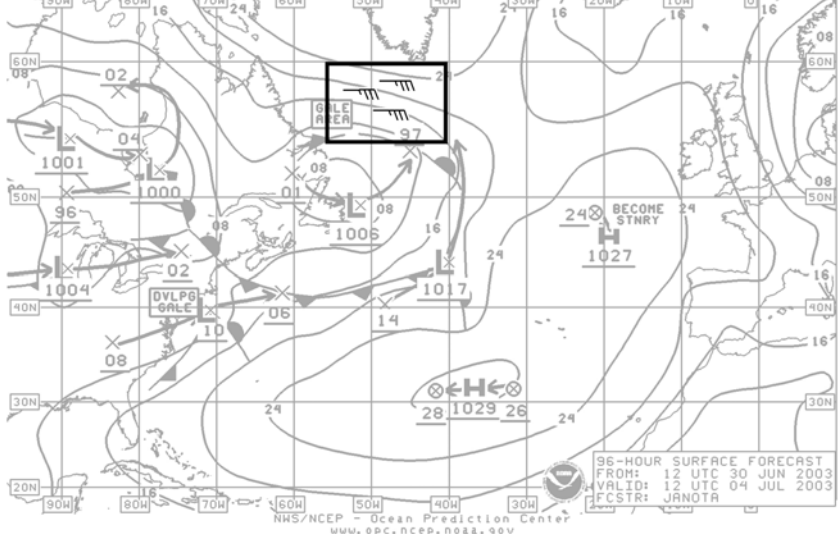
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Element	Explanation	Example
<p>Double hash mark on front</p>	<p>Double hash marks indicate that the type of front is changing at the point where the marks are placed (for example, a cold front changing to a stationary front).</p>	
<p>Fog/freezing rain</p>	<p>Two or three horizontal parallel lines indicate fog or heavy fog</p> <p>Two or three vertical parallel lines indicate freezing rain or heavy freezing rain.</p>	

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Element	Explanation	Example
<p>Wind barb</p> <p>(Wind barb and how to tell both wind speed and direction)</p>	<p>Wind barbs can be likened to arrows flying through the air. The wind is flowing in the direction that the “arrow” appears to be flying, and the number of “feathers” indicates the wind speed. One “feather” is approximately 10 knots. Two feathers represents approximately 20 knots. A “half feather” is approximately 5 knots. A “black flag” is approximately 50 knots, and so forth.</p>	 <p>Direction of general wind flow:</p> <p>Wind will flow in a clockwise direction around a Northern Hemisphere High Pressure system, toeing out about 15 degrees from the high. Wind will flow in a counter-clockwise direction around a Northern Hemisphere Low Pressure system, toeing in about 15 degrees toward the low.</p> <p>Wind will flow in a counterclockwise direction around a Southern Hemisphere High Pressure system, toeing out about 15 degrees from the high. Wind will flow in a clockwise direction around a Southern Hemisphere Low Pressure system, toeing in about 15 degrees toward the low.</p>

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