

NAAMES Afternoon WX Discussion

Friday, August 25, 2017

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Forecast Highlights

- Quick look at St. John's, WHOI, and Wallops forecasts
- Need to keep an eye on tropical wave 92L, could cause problems for transit flight, with storm projected to hit NL and move into N Atlantic
- GOES-16 Satellite Imagery
- North Atlantic Oscillation – still negative and looks to go positive

Forecast Summary

Day 1 (Thursday) – August 17

Recommendation:

St. John's:

Day

Rec

St. J

Day

Rec

St. J

Day

Rec

St. John's:

Day 5 (Monday) – August 21

Recommendation:

St. John's:

Will start to
update this closer
to August 30th

Planned Ship Route & Forecast

Sunday, 5/22 S3 Ops

Waves: SE 7-10 ft

Winds: NNE 15-25 kts

Clouds: Partly to mostly cloudy

Precip: none

Will start to
update this closer
to August 30th

Friday, 5/27 Transit to S6

Waves: NE 4-5 ft

Winds: NNW 20-25 kts

Clouds: mostly to partly cloudy

Precip: AM isolated rain shower

Clouds: mostly cloudy

Precip: none

Current Conditions at St. John's

St. John's, Canada ★ 🏠

✈ St. John's International | [Change Station](#) ✓

© 2:15 PM NDT on August 25, 2017 (GMT -0230)

Forecast History Calendar Rain / Snow Health

Elev 459 ft 47.62 °N, 52.73 °W | Updated 45 min ago



66 °F



Overcast

Feels Like 66 °F

Wind from East

Today is forecast to be **MUCH COOLER** than yesterday.

Today

High 67 | Low 62 °F

80% Chance of Precip.

Yesterday

High 79 | Low 66 °F

Precip. 0 in



[Rain possible at 5:45pm.](#)

✉ Sign up for your Daily Forecast Email

Pressure	30.00 in
Visibility	15.0 miles
Clouds	Overcast 1400 ft
Dew Point	57 °F
Humidity	73%
Rainfall	0.00 in
Snow Depth	Not available.

Sun & Moon

6:10 am 7:54 pm Waxing Crescent, 17% visible

METAR CYYT 251600Z 08003KT 15SM OVC014
19/14 A2999 RMK SC8 SLP157 DENSITY ALT
1000FT

Radar

Satellite

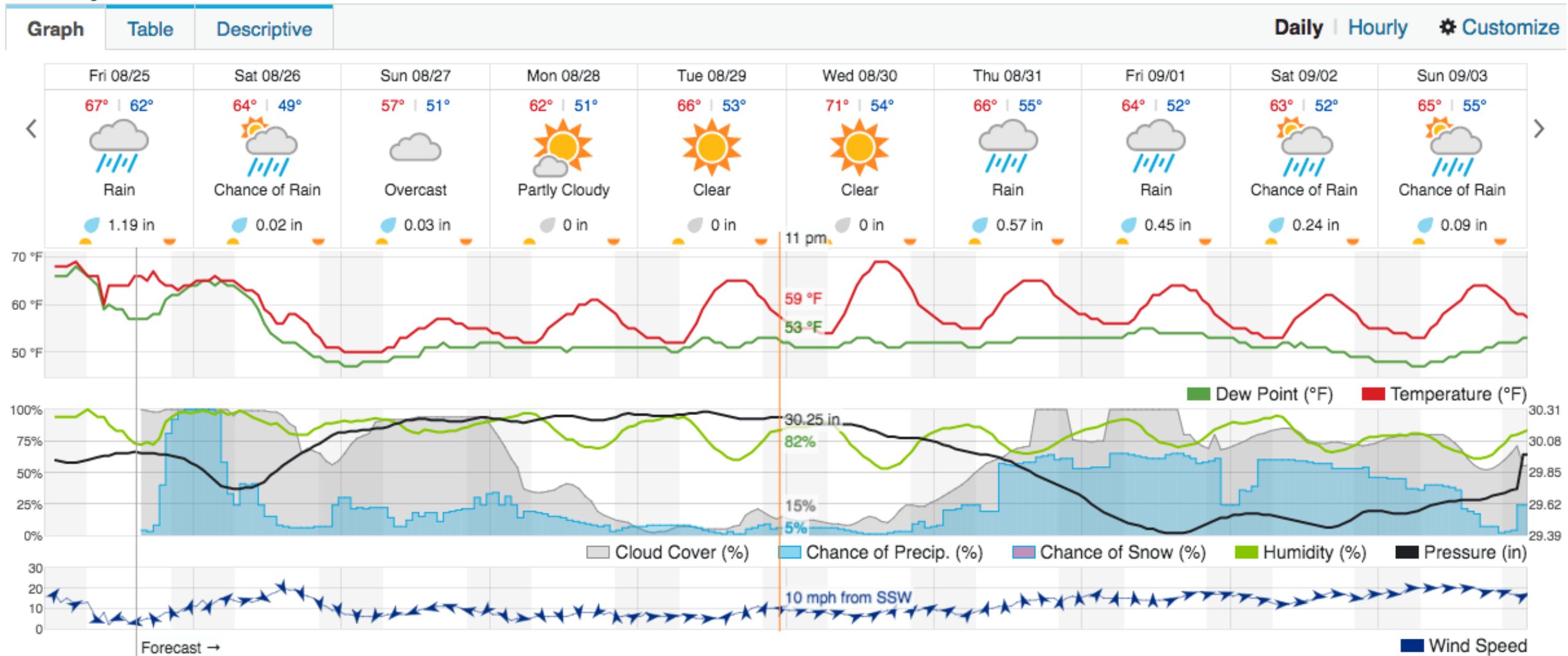
WunderMap | Nexrad



☐ Show Webcams

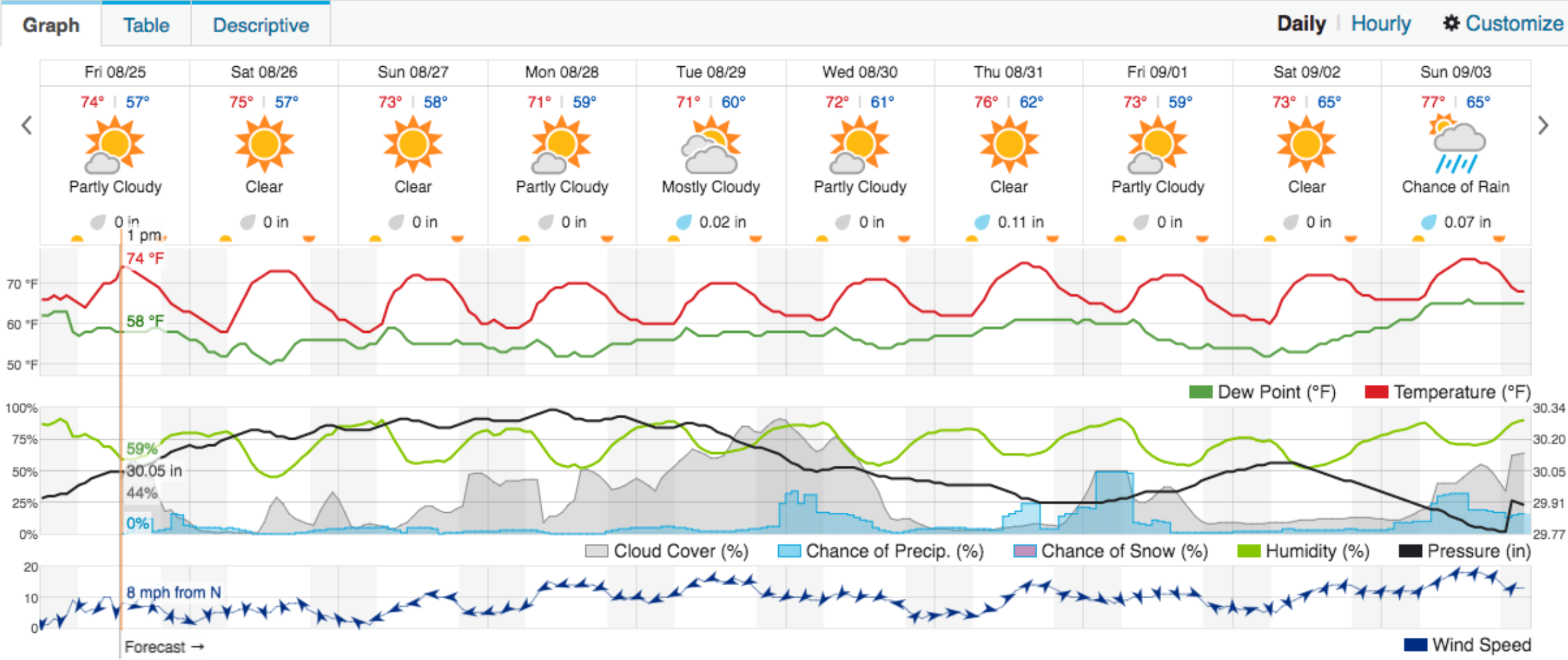
St. John's Forecast

10-Day Weather Forecast



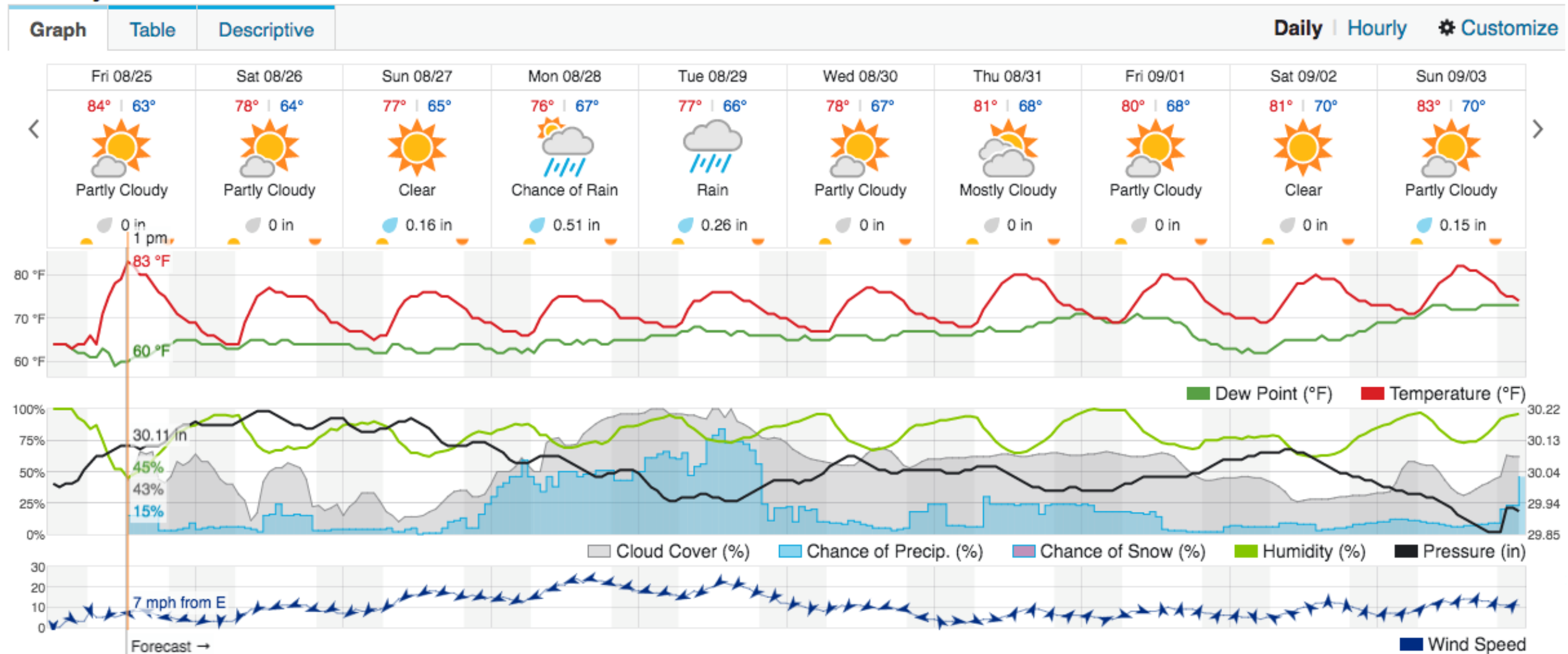
WHOI Forecast

10-Day Weather Forecast



Wallops Forecast

10-Day Weather Forecast



Wallops METAR/ Salisbury TAF

Data at: 1647 UTC 25 Aug 2017

METAR for: KWAL (Wallops Island Facil, VA, US)

Text: KWAL 251554Z 07006KT 10SM CLR 26/16 A3011 RMK AO2 SLP194 T02610156

Temperature: 26.1°C (79°F)

Dewpoint: 15.6°C (60°F) [RH = 52%]

Pressure (altimeter): 30.11 inches Hg (1019.7 mb) [Sea level pressure: 1019.4 mb]

Winds: from the ENE (70 degrees) at 7 MPH (6 knots; 3.1 m/s)

Visibility: 10 or more sm (16+ km)

Ceiling: at least 12,000 feet AGL

Clouds: sky clear below 12,000 feet AGL

TAF for: KSBY (Salisbury/Ocean City, MD, US) issued at 1120 UTC 25 Aug 2017

Text: KSBY 251120Z 2512/2612 34006KT P6SM VCSH SCT050 BKN100

Forecast period: 1200 to 1400 UTC 25 August 2017

Forecast type: FROM: standard forecast or significant change

Winds: from the NNW (340 degrees) at 7 MPH (6 knots; 3.1 m/s)

Visibility: 6 or more sm (10+ km)

Ceiling: 10000 feet AGL

Clouds: scattered clouds at 5000 feet AGL, broken clouds at 10000 feet AGL

Weather: VCSH (showers in vicinity)

Text: FM251400 33005KT P6SM BKN060

Forecast period: 1400 UTC 25 August 2017 to 0000 UTC 26 August 2017

Forecast type: FROM: standard forecast or significant change

Winds: from the NNW (330 degrees) at 6 MPH (5 knots; 2.6 m/s)

Visibility: 6 or more sm (10+ km)

Ceiling: 6000 feet AGL

Clouds: broken clouds at 6000 feet AGL

Text: FM260000 VRB02KT P6SM SCT250

Forecast period: 0000 to 1200 UTC 26 August 2017

Forecast type: FROM: standard forecast or significant change

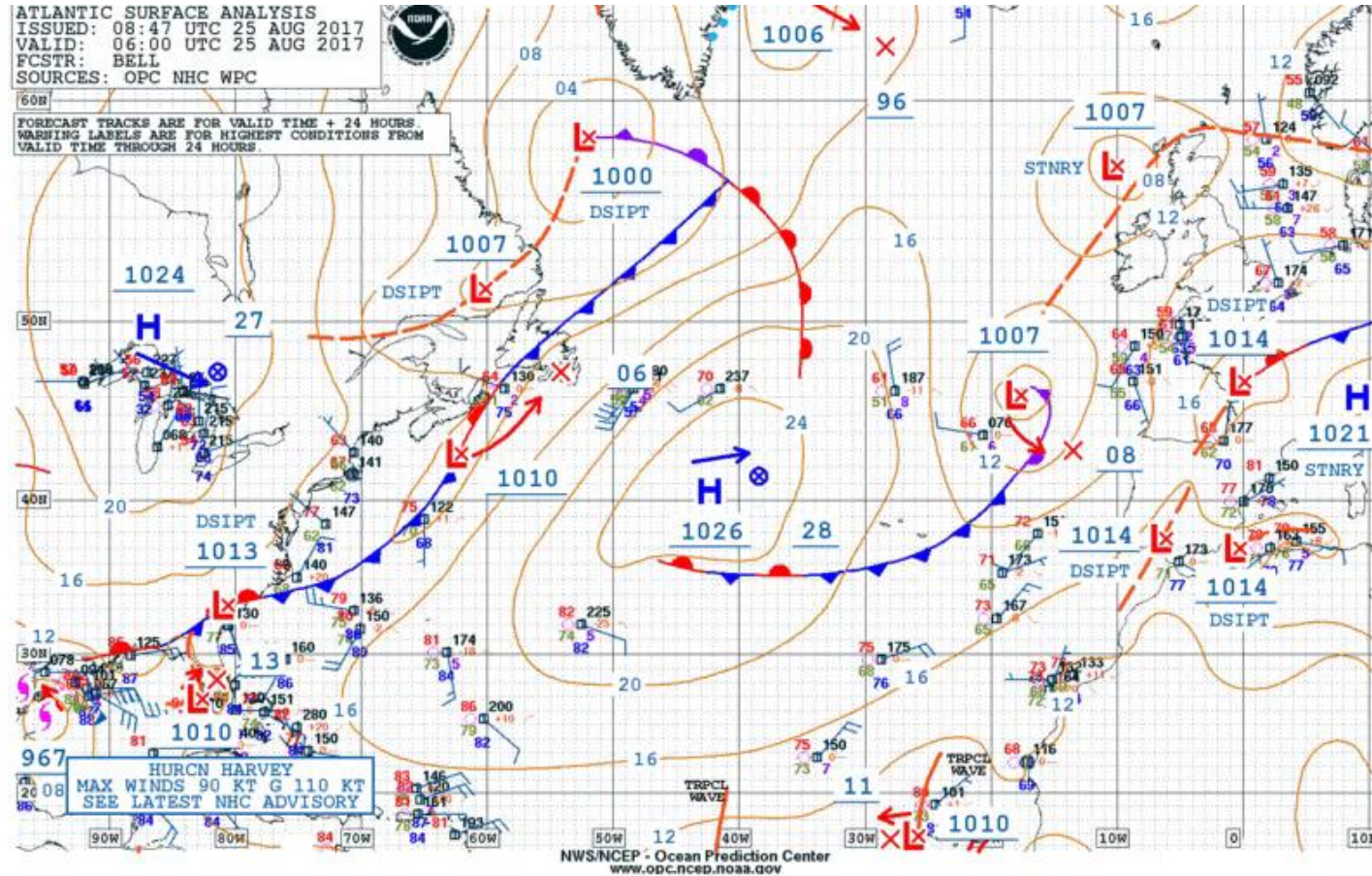
Winds: variable direction winds at 2 MPH (2 knots; 1.0 m/s)

Visibility: 6 or more sm (10+ km)

Ceiling: at least 12,000 feet AGL

Clouds: scattered clouds at 25000 feet AGL

Surface Analysis and Synoptic Forecast

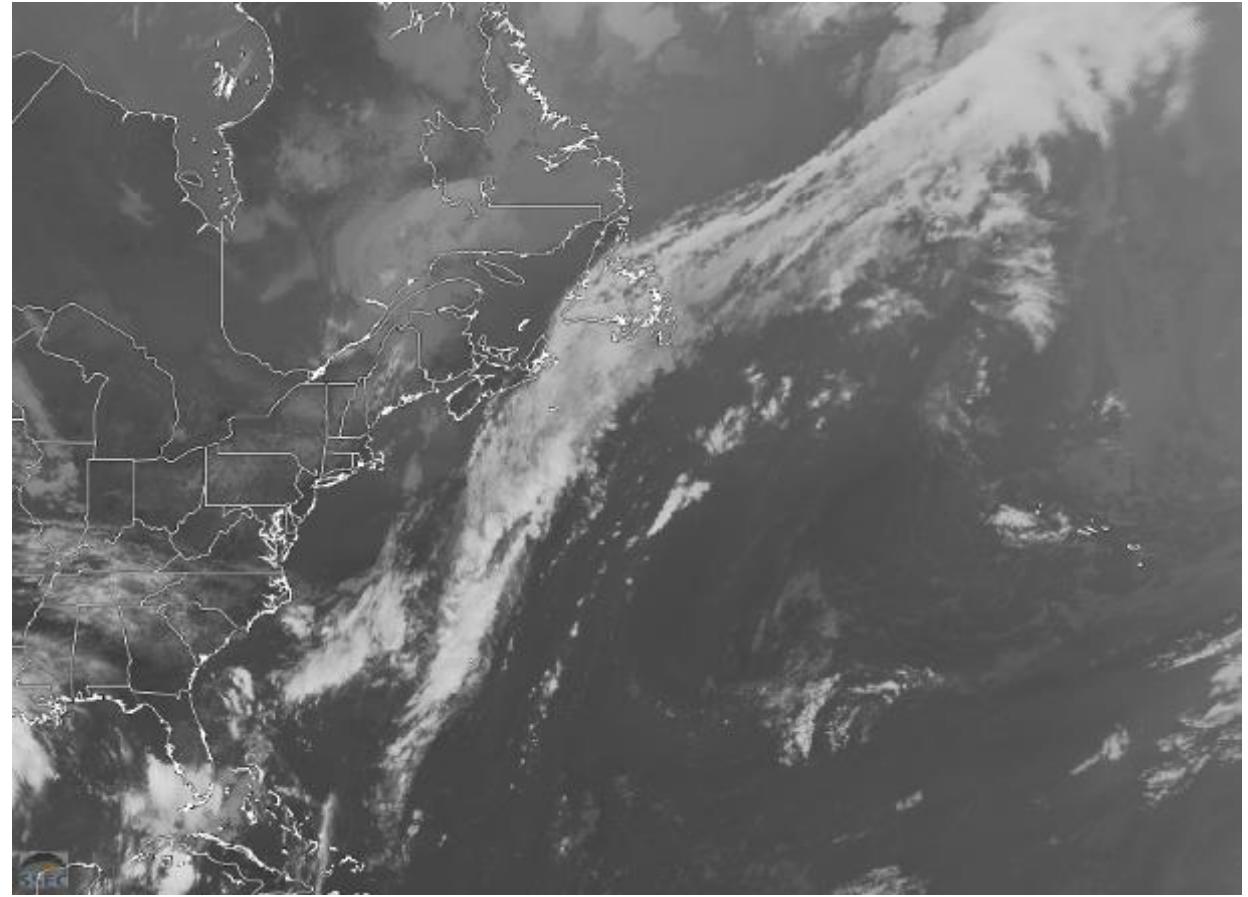


GOES-16 Imagery (8/25 16 UTC)

Visible (Red Band 2)



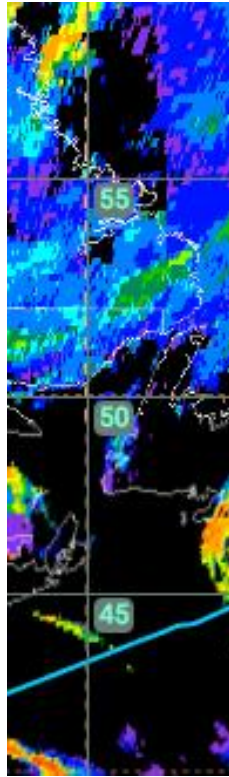
IR (Clean IR Band 13 - $10.3\ \mu\text{m}$)



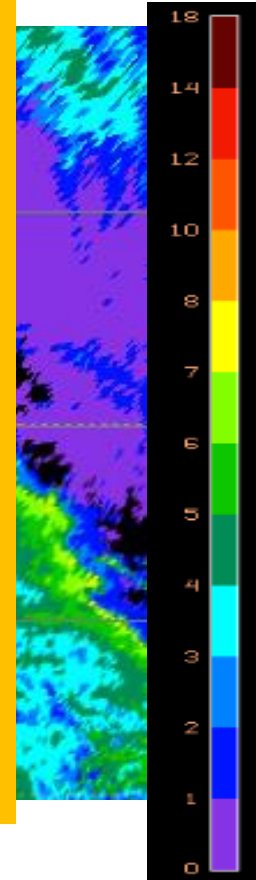
Cloud Products (5/21 13:45Z)

Cloud Top Height

Cloud Base Height



Will start including these when clouds group starts producing these



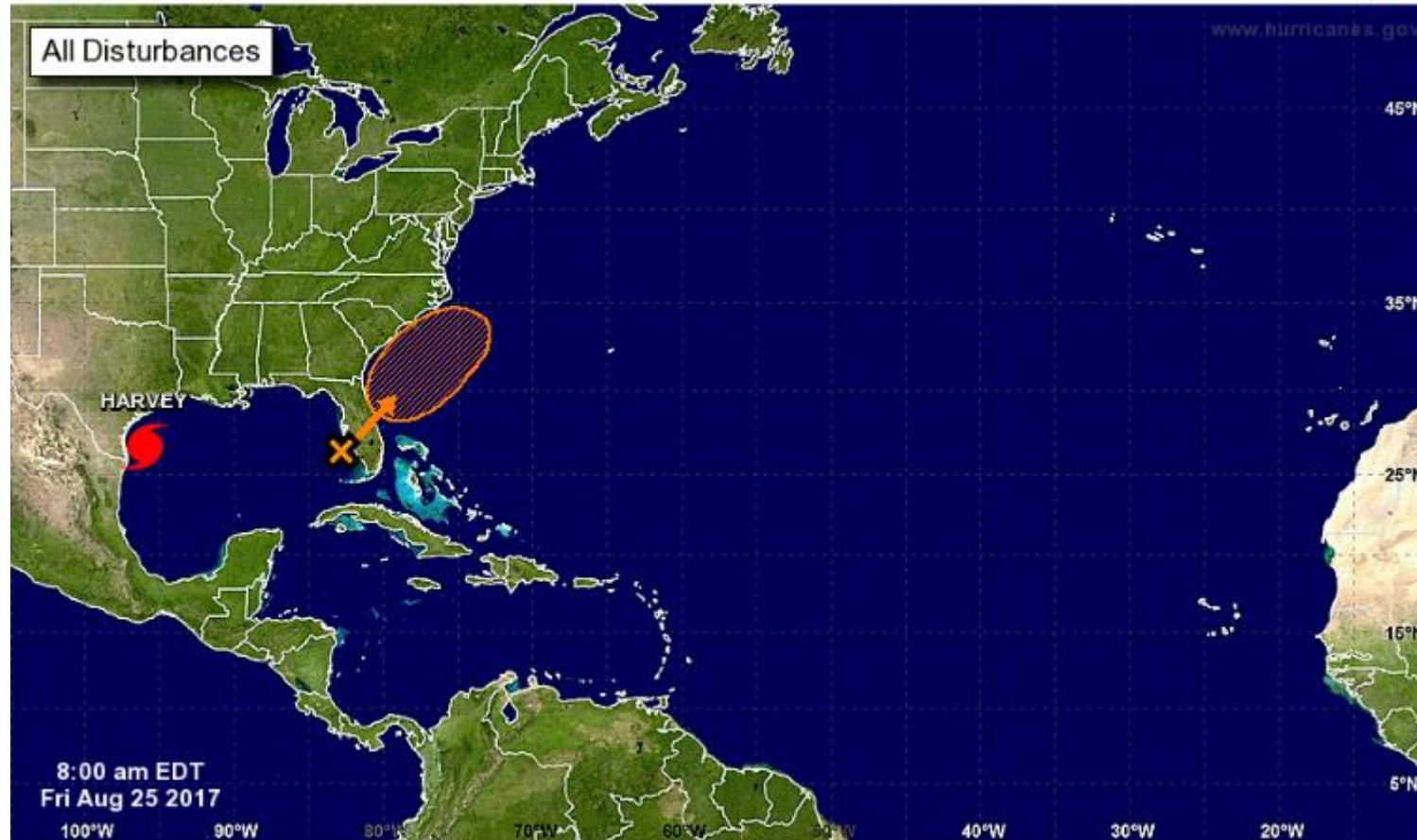
Forecast Models

- 4 Panel Clouds
- Total Clouds
- MSLP, Winds, Precip
- Sea State
- 850mb and 700 mb Winds
- 500mb Heights, Temp, and Winds

Eye on the Tropics



Five-Day Graphical Tropical Weather Outlook National Hurricane Center Miami, Florida



Current Disturbances and Five-Day Cyclone Formation Chance: ✖ < 40% ✘ 40-60% ✖ > 60%

Tropical or Sub-Tropical Cyclone: ○ Depression ◐ Storm ◑ Hurricane

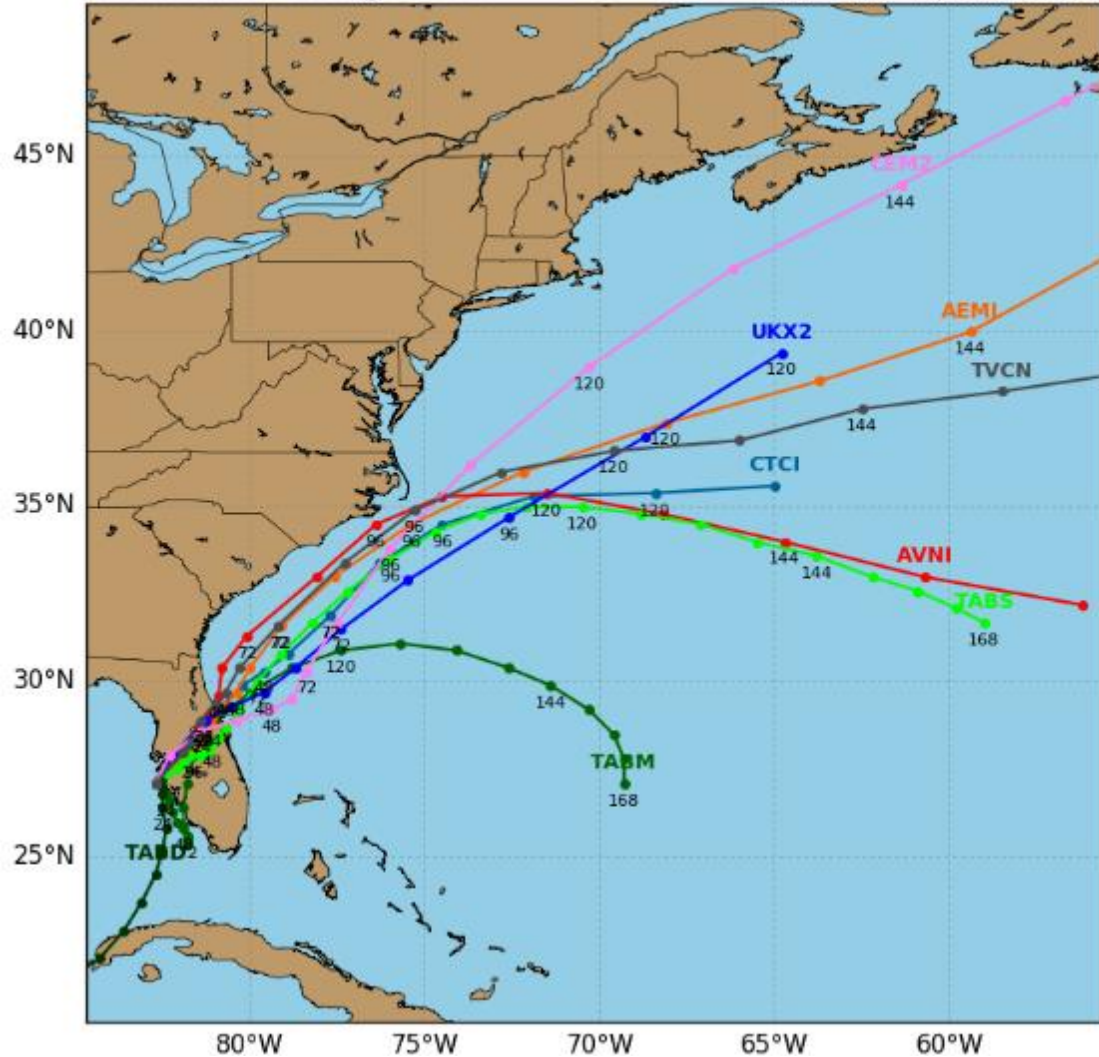
⊗ Post-Tropical Cyclone ✖ Remnants

Eye on the Tropics - Forecast

Invest 92L Model Track Guidance

Initialized at 12z Aug 25 2017

Levi Cowan - tropicaltidbits.com

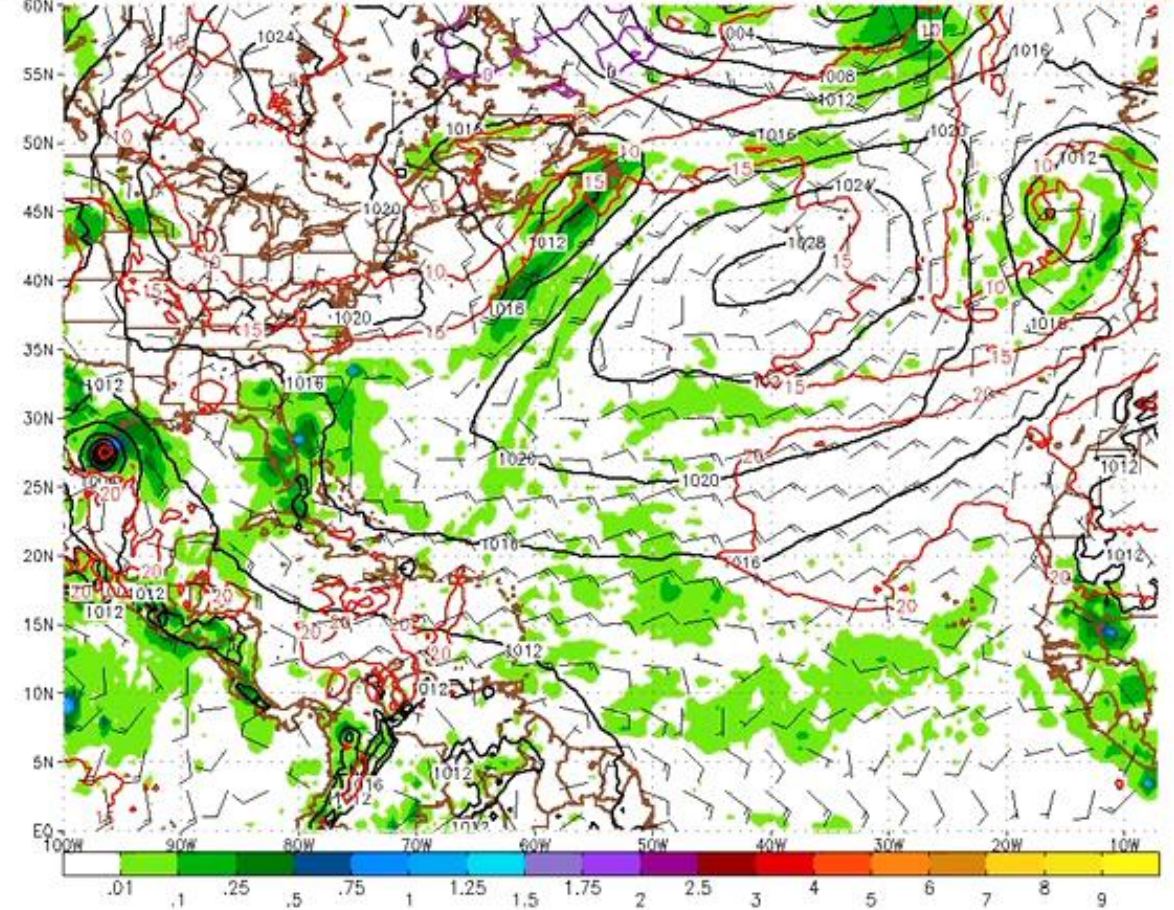


MSLP(mb), 850mb temp(C), 3-hour QPF(in) and 10m wind(kt)

24 hour forecast valid 00Z Sat, AUG 26, 2017

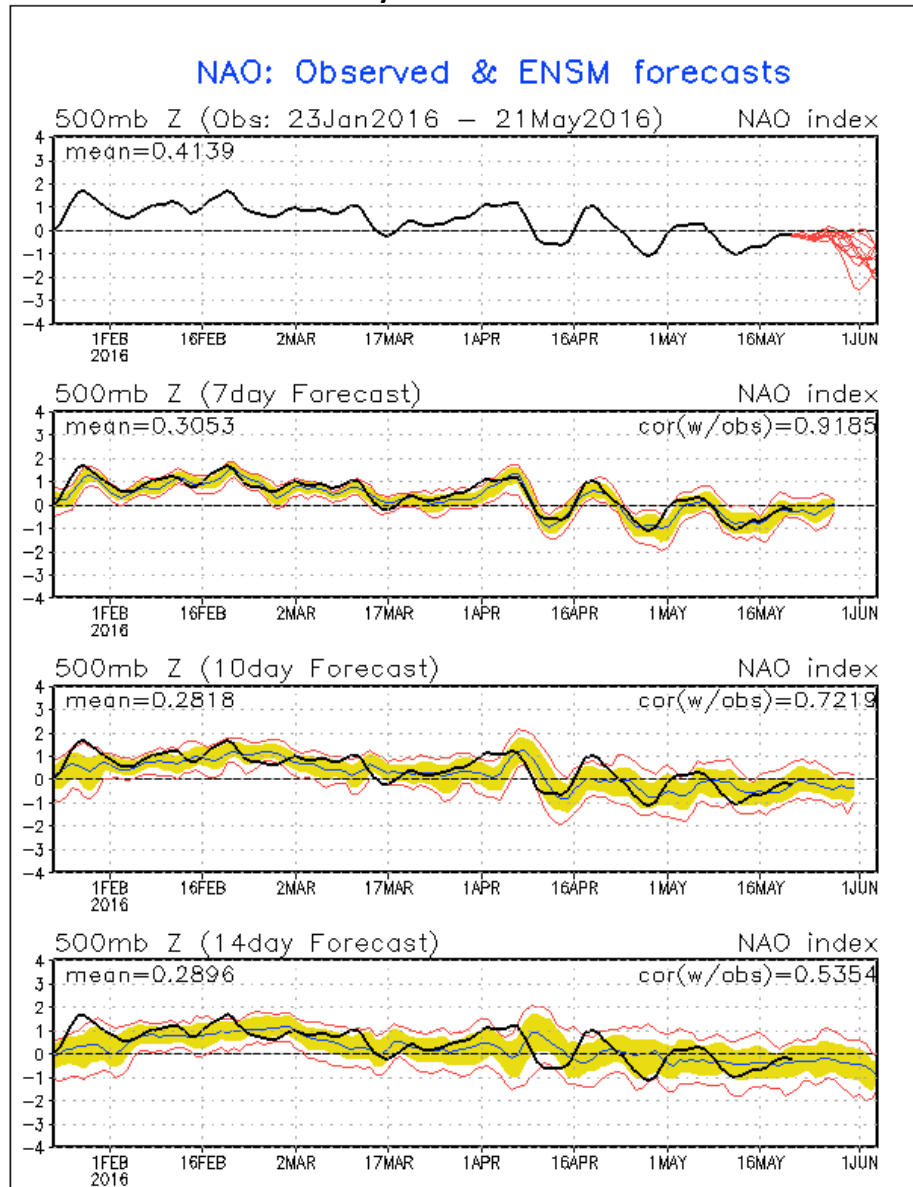
ECMWF Deterministic initialized 00Z Fri, AUG 25, 2017

AccuWeather Professional



North Atlantic Oscillation

May 2016

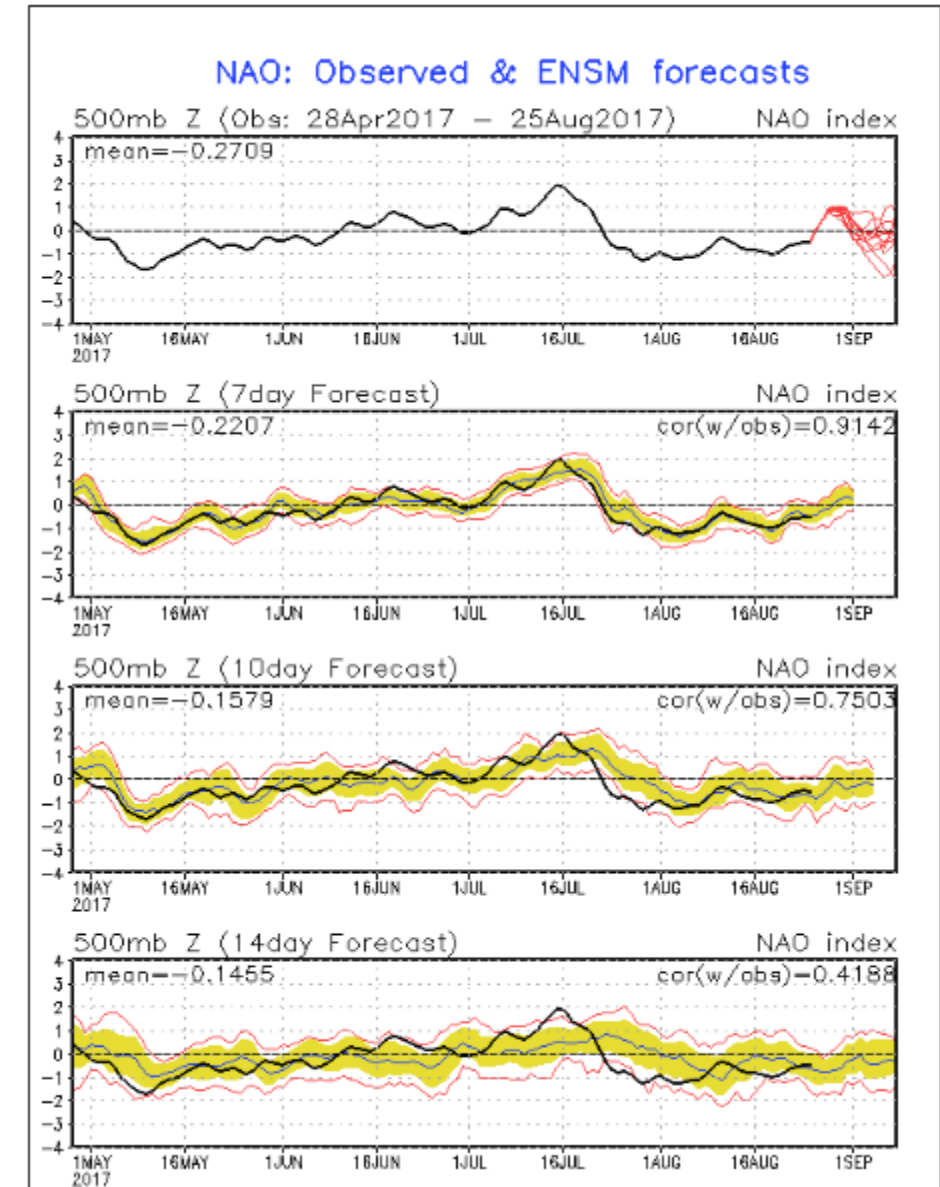


In 2016, May through August was negative, with September being positive.

So far this year, May and part of June were negative. Late June through July were positive and then went negative until now. There are some forecasts bringing NAO index closer to 0. Will track over the next week or so to see if trending positive.

Past Septembers
2015 – negative
2014 – positive

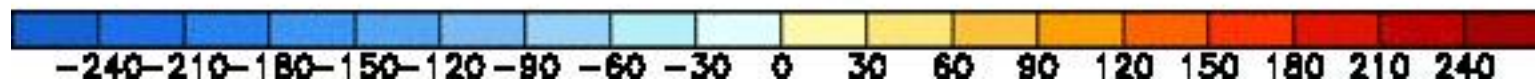
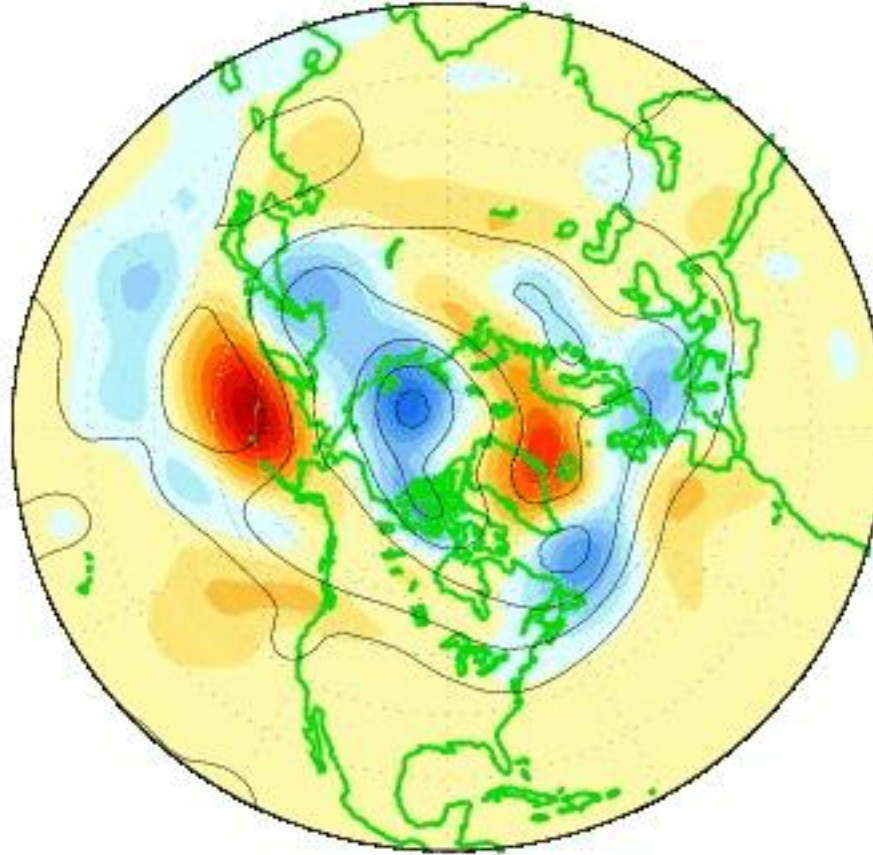
Current



North Atlantic Oscillation

CDAS 500-hPa HT Anoms (5d rm)

25JUL2017



BEAUFORT WIND SCALE WITH CORRESPONDING SEA STATE CODES					
Beaufort Number	Wind Velocity (Knots)	Wind Description	Sea State Description	Sea State	
				Term and Height of Waves (Feet)	Condition Number
0	Less than 1	Calm	Sea surface smooth and mirror-like	Calm, glassy 0	0
1	1-3	Light Air	Scaly ripples, no foam crests		
2	4-6	Light Breeze	Small wavelets, crests glassy, no breaking	Calm, rippled 0 – 0.3	1
3	7-10	Gentle Breeze	Large wavelets, crests begin to break, scattered whitecaps	Smooth, wavelets 0.3-1	2
4	11-16	Moderate Breeze	Small waves, becoming longer, numerous whitecaps	Slight 1-4	3
5	17-21	Fresh Breeze	Moderate waves, taking longer form, many whitecaps, some spray	Moderate 4-8	4
6	22-27	Strong Breeze	Larger waves, whitecaps common, more spray	Rough 8-13	5
7	28-33	Near Gale	Sea heaps up, white foam streaks off breakers	Very rough 13-20	6
8	34-40	Gale	Moderately high, waves of greater length, edges of crests begin to break into spindrift, foam blown in streaks		
9	41-47	Strong Gale	High waves, sea begins to roll, dense streaks of foam, spray may reduce visibility		
10	48-55	Storm	Very high waves, with overhanging crests, sea white with densely blown foam, heavy rolling, lowered visibility	High 20-30	7
11	56-63	Violent Storm	Exceptionally high waves, foam patches cover sea, visibility more reduced	Very high 30-45	8
12	64 and over	Hurricane	Air filled with foam, sea completely white with driving spray, visibility greatly reduced	Phenomenal 45 and over	9

Figure 8-1. Beaufort wind scale.

MANDATORY PRESSURE LEVELS

<u>Level</u>	<u>Remarks</u>	Temp. Range	Critical Thickness For Snow	Standard Height Above Sea level	
1000 mb				0 meters	0 feet
925 mb				750 to 800 meters	2460 to 2624 ft
850 mb	Besides the surface, 850mb is used to calculate temperature advection. Also used in weather forecasting to determine high temperature on sunny, warm days and also used to determine maximum wind gust on sunny, well-mixed days.	0 to + 40 in summer -40 to +20 in winter	1000 to 850 = 1300 meters 850 to 700 = 1540 meters	1500 meters	4921 ft
700 mb	The "free atmosphere" begins here. This pressure level skims the tops of the Rockies, so, for practical purposes, there is little ground about this level. The last mandatory level in the lower troposphere	-15 to +15 in summer -40 to +5 in winter	1000 to 700 = 2840 meters	3000 meters	9842 ft
500 mb	This pressure marks the approximate level where half the weight of the local air column is below and half the weight is above. Thus, 500mb is considered to represent the middle troposphere	-25 to 0 in summer -45 to -10 in winter	1000 to 500 meters = 5400 meters	5500 meters	18044 ft
400 mb	The approximate level where winds steer well-developed hurricanes. The first mandatory level in the upper troposphere			7000 meters	22965 ft
300 mb	The pressure level near the cruising altitude of most commercial aircraft. The approximate pressure at the summit of Mount Everest.	-55 to -35 (marginal seasonal changes)		9000 meters	29527 ft
250 mb	The typical pressure level of the jet stream over the middle latitudes.			10500 meters	34448 ft
200 mb	The typical pressure level of the tropopause over the middle latitudes.	-60 to -45 (marginal seasonal changes)		12000 meters	39370 ft
150 mb				13500 meters	44291 ft