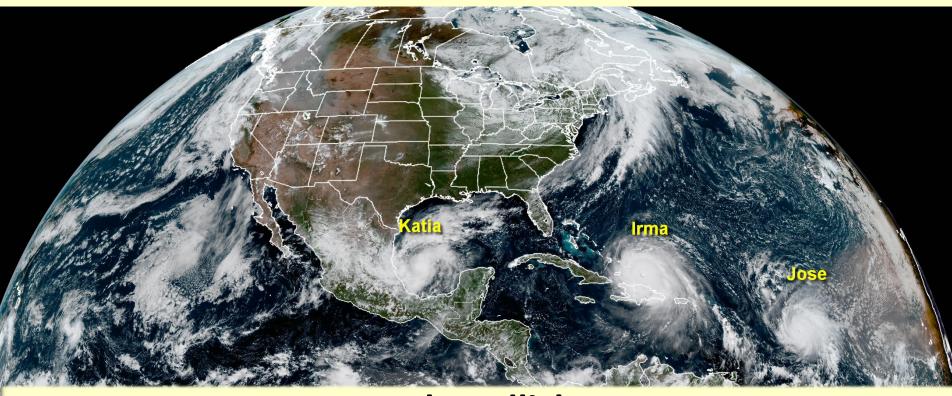
## Weather links and images from Web Sites I use



**Bob Endlich** 

bendlich@msn.com

11 September 2017

http://casf.diskstation.me/wordpress/

## National Hurricane Center

http://www.nhc.noaa.gov/

NATIONAL HURRICANE CENTER

NATIONAL OCEANIC AND ATMOSPHERIC

DATA & TOOLS **EDUCATIONAL RESOURCES** \*

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**Mobile Site** 

Last update Thu, 7 Sep 2017 01:45:04 UTC

ARCHIVES \*

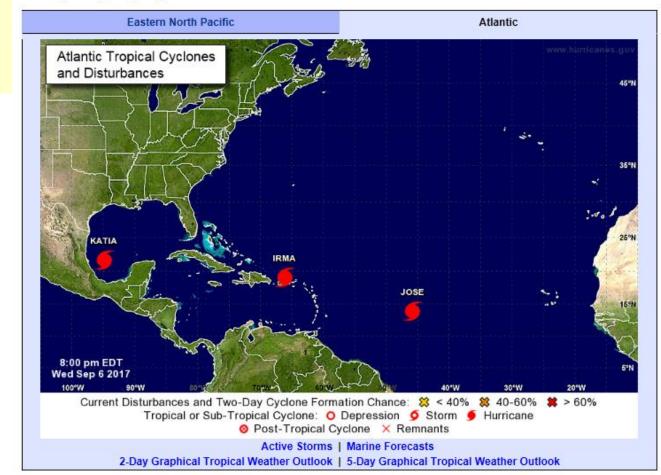
Local Forecast Finter City St or 71 Go

**ABOUT NHC**▼

NHC issuing advisories for the Atlantic on Hurricane Irma, Hurricane Jose and Hurricane Katia

RSS

Key Messages regarding Hurricane Irma



Atlantic - Caribbean Sea - Gulf of Mexico Tropical Weather Outlook (en Español\*) 800 PM EDT Wed Sep 6 2017

**Tropical Weather Discussion** 759 PM EDT Wed Sep 6 2017

Murricane Irma

Satellite | Buoys | Grids | Storm Archive

...900 PM AST POSITION UPDATE... ... CORE OF IRMA PASSING JUST NORTH OF PUERTO RICO...

9:00 PM AST Wed Sen 6

### National Hurricane Center

http://www.nhc.noaa.gov/

Local Forecast Fnter City St or 71 Go **Mobile Site Text Version** RSS Home

NATIONAL HURRICANE CENTER

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ANALYSES & FORECASTS TO DATA & TOOLS **EDUCATIONAL RESOURCES** \* ARCHIVES . ABOUT NHC \*

SEARCH\*

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Last update Tue, 5 Sep 2017 22:06:33 UTC

- NHC issuing advisories for the Atlantic on Hurricane Irma, TS Jose and TD Thirteen
- Key Messages regarding Hurricane Irma



Atlantic - Caribbean Sea - Gulf of Mexico Tropical Weather Outlook (en Español\*) 200 PM EDT Tue Sep 5 2017

Tropical Weather Discussion 150 PM EDT Tue Sep 5 2017

Murricane Irma

Satellite | Buoys | Grids | Storm Archive

...POTENTIALLY CATASTROPHIC CATEGORY 5 HURRICANE IRMA NEARING THE NORTHERN LEEWARD ISLANDS... ...WEATHER CONDITIONS WILL DETERIORATE OVER THE NORTHERN LEEWARD ISLANDS SOON...

## http://www.nhc.noaa.gov/



Atlantic - Caribbean Sea - Gulf of Mexico Tropical Weather Outlook (en Español\*) 200 PM EDT Tue Sep 5 2017

**Tropical Weather Discussion** 150 PM EDT Tue Sep 5 2017

Hurricane Irma

Satellite | Buoys | Grids | Storm Archive

...POTENTIALLY CATASTROPHIC CATEGORY 5 HURRICANE IRMA NEARING THE NORTHERN LEEWARD ISLANDS... ...WEATHER CONDITIONS WILL DETERIORATE OVER THE NORTHERN LEEWARD ISLANDS SOON...

5:00 PM AST Tue Sep 5

Location: 17.1°N 59.8°W Forecast Public Aviso Forecast Pronóstico Wind Speed **Probabilities** Moving: W at 15 mph Advisory Publico\* Advisory Discussion Discusión\* Min pressure: 926 mb #27 #27 #27 #27 not #27 500 PM AST Max sustained: 185 mph 500 PM AST 500 PM AST 2100 UTC available 2100 UTC

Wind Speed **Probabilities** 

537 PM AST **Experimental Arrival** Time of Winds

**NWS Local** 

**Products** 



US Watch/

Warning



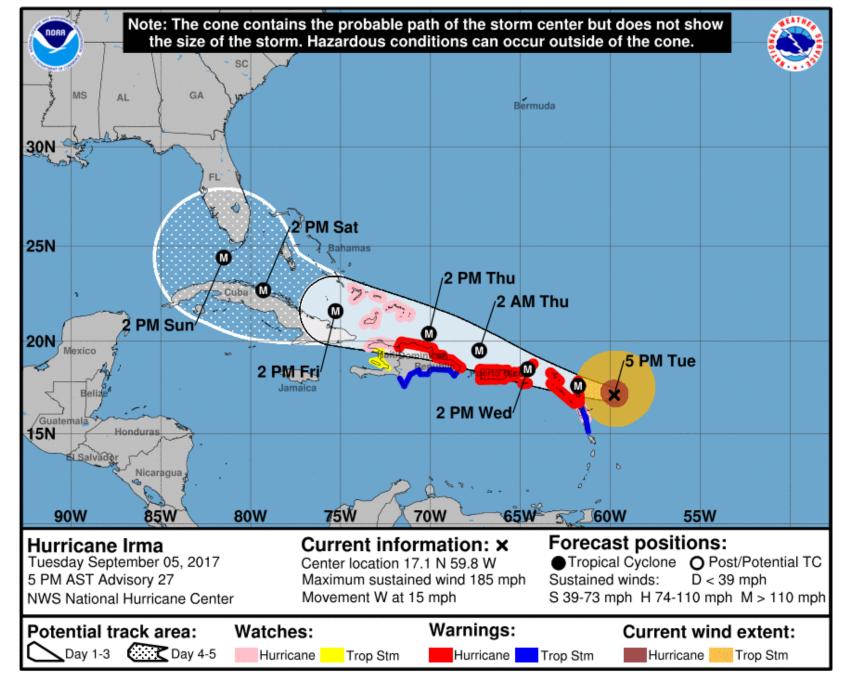


Warnings/Cone Static Images



▼ Tropical Storm Jose 
 ▼ Tropical S

Satellite | Buoys | Grids | Storm Archive



<sup>\*</sup> If the storm is forecast to dissipate within 3 days, the "Full Forecast" and "3 day" graphic will be identical

#### Interactive Map

150

300mi

Interactive Forecast Graphics and Coastal Watches/Warnings

Hurricane Irma Advisory #027 5:00 pm AST Tue Sep 05, 2017

Select Advisory: Advisory #027 ☑ Track | ☑ Cone | ☑ Wind Watches/Warnings | ☑ Storm Surge Watches/Warnings | ☑ Initial Wind Radii Clear Map 34kt WSP | 50kt WSP | 64kt WSP | Past Track | Auto-Zoom (on cone load) Atlanta Birmingham Imagery with Jacksonville New Orleans Orlando Miami Havana Merida Kingston BELIZE GUATEMALA. HO NDURAS ... Fort-de-Guatemala France San Salvador NICARAGUA Managua Valencia Esri, HERE | Esri, HERE, Garmin, NGA, USGS Cartagena

Mouse Lat/Lon: 9.9, -91.2

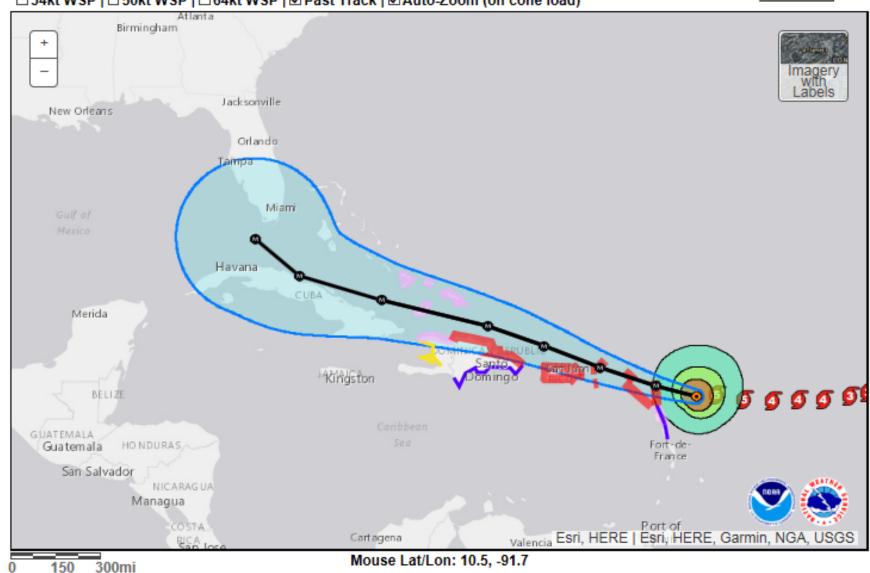
#### Interactive Map

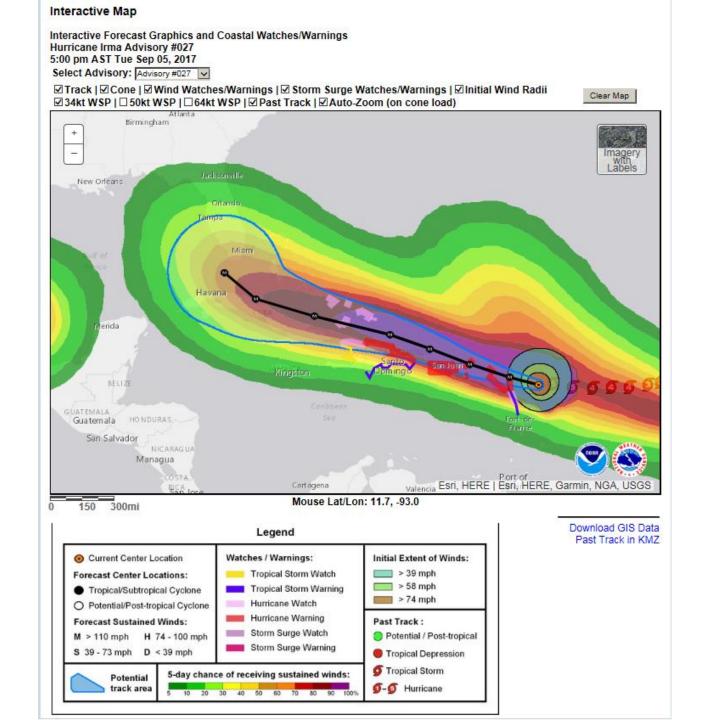
Interactive Forecast Graphics and Coastal Watches/Warnings Hurricane Irma Advisory #027 5:00 pm AST Tue Sep 05, 2017

Select Advisory: Advisory #027

☑ Track | ☑ Cone | ☑ Wind Watches/Warnings | ☑ Storm Surge Watches/Warnings | ☑ Initial Wind Radii
□ 34kt WSP | □ 50kt WSP | □ 64kt WSP | ☑ Past Track | ☑ Auto-Zoom (on cone load)

Clear Map





http://www.nhc.noaa.gov/ refresh/graphics\_at1+shtml/ 154010.shtml?gm\_track# contents

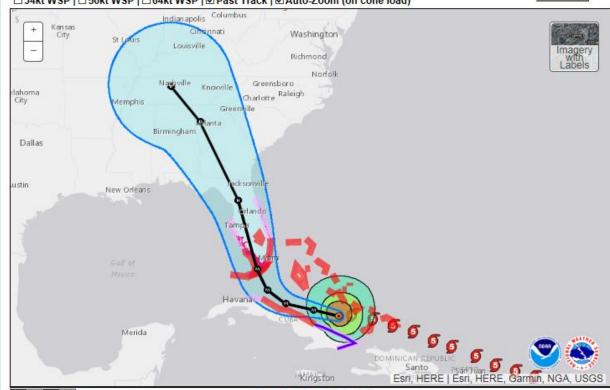
#### Interactive Map

Interactive Forecast Graphics and Coastal Watches/Warnings Hurricane Irma Advisory #038

11:00 am EDT Fri Sep 08, 2017 Select Advisory: Advisory #038

☑ Track | ☑ Cone | ☑ Wind Watches/Warnings | ☑ Storm Surge Watches/Warnings | ☑ Initial Wind Radii
□ 34kt WSP | □ 50kt WSP | □ 64kt WSP | ☑ Past Track | ☑ Auto-Zoom (on cone load)

Clear Map



150 300mi Mouse Lat/Lon: 28.8, -56.3

Legend Current Center Location Watches / Warnings: Initial Extent of Winds: Tropical Storm Watch > 39 mph Forecast Center Locations: > 58 mph Tropical Storm Warning Tropical/Subtropical Cyclone > 74 mph Hurricane Watch O Potential/Post-tropical Cyclone Hurricane Warning Forecast Sustained Winds: Past Track: Storm Surge Watch Potential / Post-tropical M > 110 mph H 74 - 100 mph Storm Surge Warning S 39 - 73 mph D < 39 mph Tropical Depression Tropical Storm 5-day chance of receiving sustained winds: Potential track area **∅**-**∅** Hurricane 10 20 30 40 50 60 70 80 90 1001

Download GIS Data Past Track in KMZ Hurricane Irma Discussion Number 27 NWS National Hurricane Center Miami FL AL112017 500 PM AST Tue Sep 05 2017

Irma continues to exhibit a remarkably impressive satellite presentation. The intensity was increased to 160 kt on the 1800 UTC intermediate public advisory based on a couple of SFMR winds of 160 kt measured in the northeastern eyewall by the Air Force aircraft just prior to that time.

The minimum pressure measured by a dropsonde in the eye was 926 mb. Irma becomes only the fifth Atlantic basin hurricane with a peak wind speed of 160 kt or higher.

The others are Allen (1980), the Labor Day Hurricane of 1935, Gilbert (1988), and Wilma (2005).

The eye of Irma is within range of the Meteo France radar in the northeastern Caribbean, and recent images show the development of an outer eyewall, likely the beginning stages of an eyewall replacement. These changes in inner-core structure will likely result in fluctuations in intensity during the next couple of days.

Otherwise, increasing upper-ocean heat content and a very favorable upperlevel pattern are expected to allow Irma to remain a category 4 or 5 hurricane during the next several days.

Once again, the NHC forecast shows limited interaction of the hurricane with the islands of the Greater Antilles.

Fixes from the latest satellite and radar imagery suggest that Irma is moving a little north of due west or 280/13 kt.

A strong ridge extending southwestward from the central Atlantic is expected to steer Irma west-northwestward during the couple of days. A large mid-latitude trough over the eastern United States is forecast to lift northeastward, allowing the ridge to build westward and keep Irma on a westward to west-northwestward heading through Friday.

Over the weekend, a shortwave trough diving southward over the east-central U.S. is expected to weaken the western portion of the ridge, causing Irma to turn poleward. The dynamical model guidance is in good agreement through 72 hours, but there is increasing spread thereafter.

The HWRF, UKMET, and ECMWF show a more southerly track and a sharper turn around day 5, while the GFS is farther north and east late in the period. The NHC track is near a consensus of these models and close to the HFIP corrected consensus.

Users are reminded to not focus on the exact forecast track, especially at the longer ranges, since the average NHC track errors are about 175 and 225 statute miles at days 4 and 5, respectively.

## **KEY MESSAGES:**

- 1. Irma is a potentially catastrophic category 5 hurricane and will bring life-threatening wind, storm surge, and rainfall hazards to portions of the northeastern Leeward Islands tonight and tomorrow.
- These hazards will spread into the Virgin Islands and Puerto Rico tomorrow.
- Preparations should be rushed to completion before the arrival of tropical-storm force winds tomorrow morning in Virgin Islands and Puerto Rico.
- 2. A hurricane warning is in effect for the northern coast of the Dominican Republic, with hurricane watches for Haiti, the southeastern Bahamas and the Turks and Caicos.
- Irma is likely to bring dangerous wind, storm surge, and rainfall to these areas from Wednesday night through Friday.
- 3. Irma could directly affect the remainder of the Bahamas and Cuba as an extremely dangerous major hurricane later this week. Residents in these areas should monitor the progress of Irma and listen to advice given by officials.

4. The chance of direct impacts from Irma beginning later this week and this weekend from wind, storm surge, and rainfall continues to increase in the Florida Keys and portions of the Florida Peninsula.

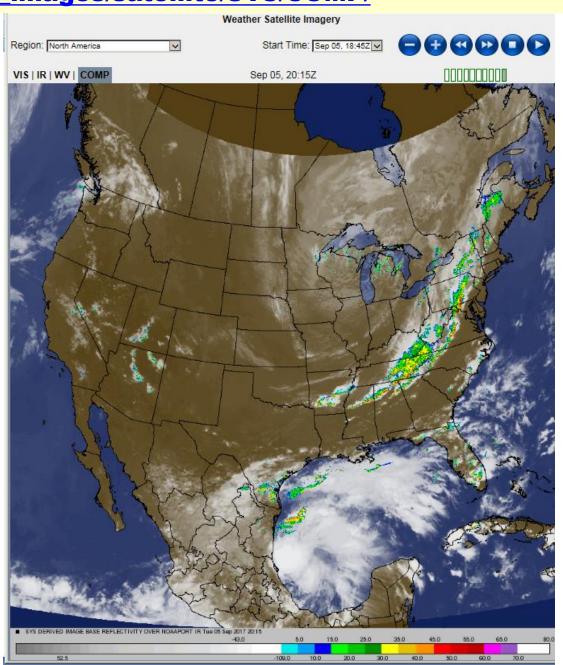
However, it is too soon to specify the timing and magnitude of these impacts.

FORECAST POSITIONS AND MAX WINDS INIT 05/2100Z 17.1N 59.8W 160 KT 185 MPH 12H 06/0600Z 17.6N 61.8W 155 KT 180 MPH 24H 06/1800Z 18.5N 64.6W 150 KT 175 MPH 36H 07/0600Z 19.5N 67.3W 145 KT 165 MPH 48H 07/1800Z 20.4N 70.1W 140 KT 160 MPH 72H 08/1800Z 21.6N 75.3W 135 KT 155 MPH 96H 09/1800Z 22.7N 79.3W 125 KT 145 MPH 120H 10/1800Z 24.4N 81.5W 120 KT 140 MPH

\$\$
Forecaster Brown

**NNNN** 

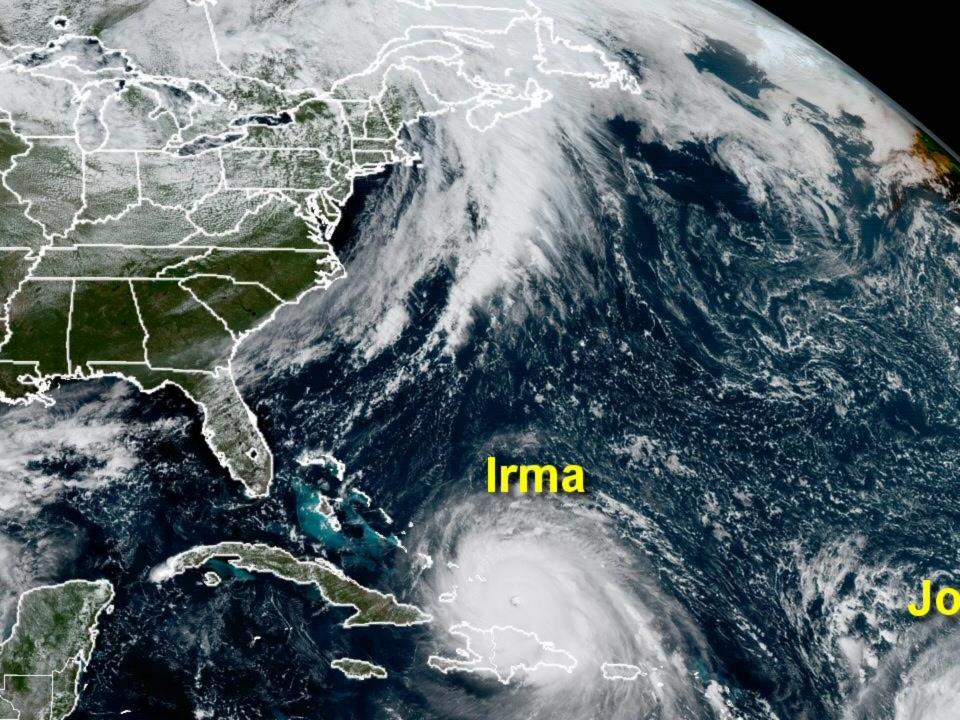
http://wxweb.meteostar.com/models/noaaport\_loop.php?PATH=/var/www/leads\_images/satellite/SYS/COMP/



# https://wattsupwiththat.com/2017/09/07/beauty-and-the-beasts-hurricanes-katia-irma-and-jose-in-one-spectacular-image/

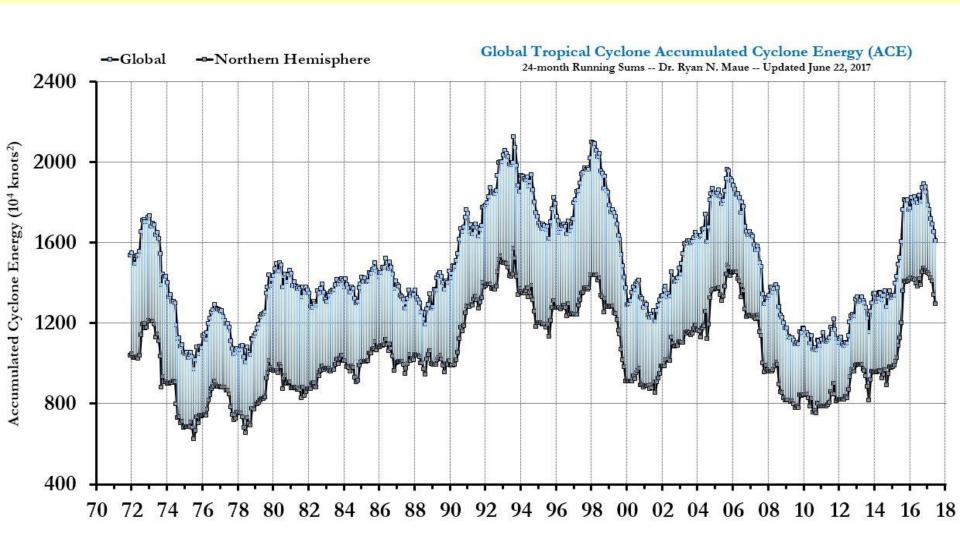






# https://twitter.com/RyanMaue/status/880480054689628160

# http://policlimate.com/tropical/



# http://weather.rap.ucar.edu/upper/upaCNTR\_500.gif

500 mb rawinsonde data 12z Tue 05 Sep 2017

# 500 mb Heights (dm) / Temperature (°C) / Humidity (%)

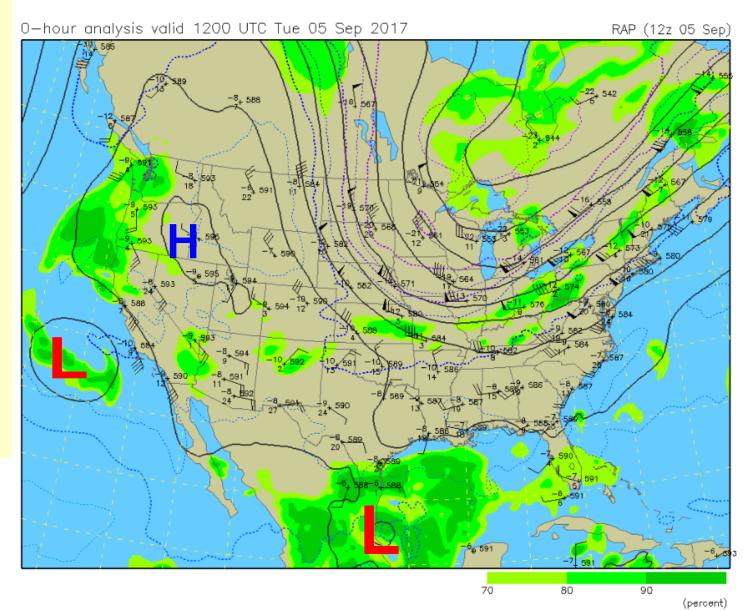
Black lines:

Contours of the HEIGHT of the 500 millibar surface

594 = 5940 Meters 588 = 5880 Meters

**Dotted Lines:** 

Temperatures at 500 millibars.



# http://weather.rap.ucar.edu/upper/upaCNTR\_500.gif

500 mb rawinsonde data 12z Sun 10 Sep 2017

# 500 mb Heights (dm) / Temperature (°C) / Humidity (%)

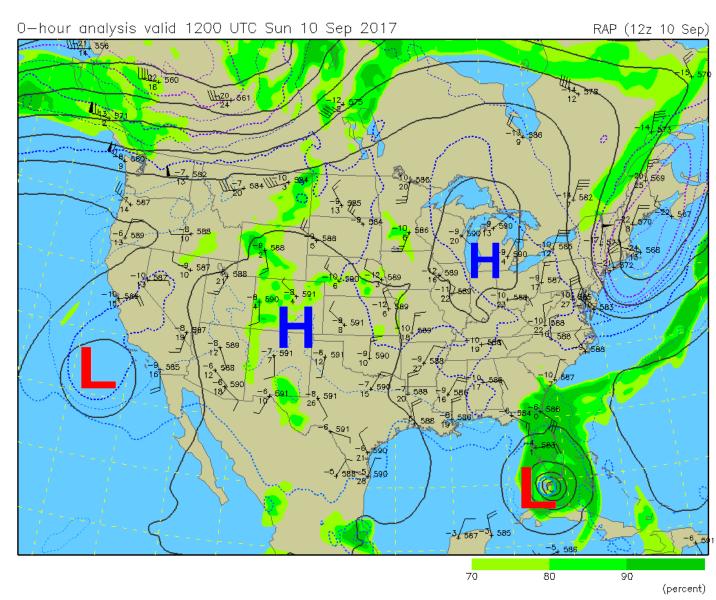
Black lines:

Contours of the HEIGHT of the 500 millibar surface

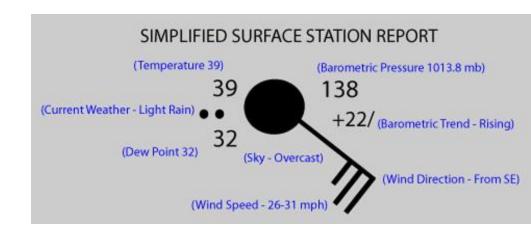
594 = 5940 Meters 588 = 5880 Meters

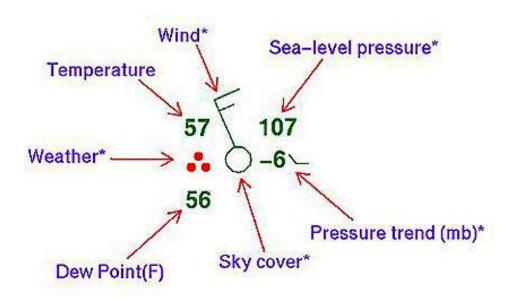
**Dotted Lines:** 

Temperatures at 500 millibars.

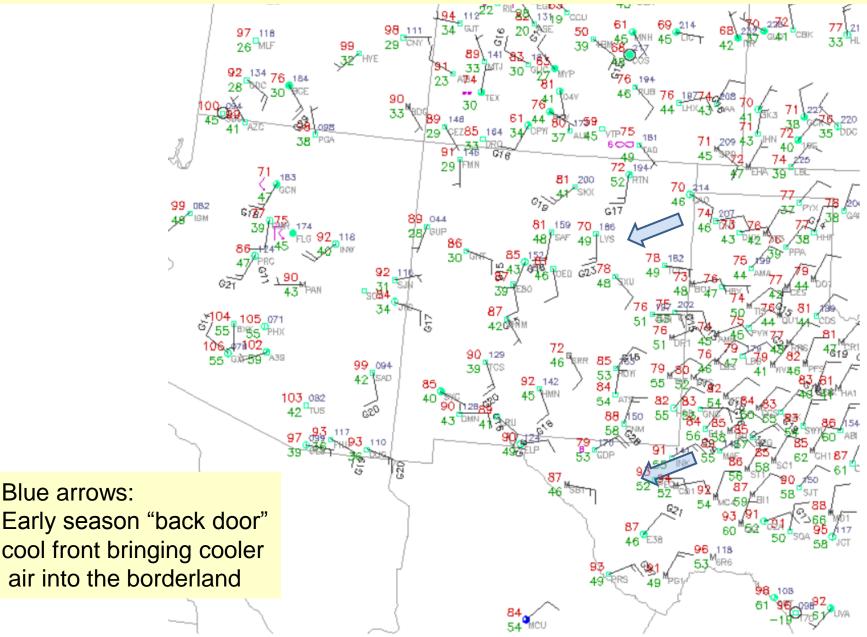


# Surface weather observations are plotted on a map in this stylistic manner:





http://weather.rap.ucar.edu/surface/displaySfc.php?region=abq&endDate=20100315&endTime=-1&duration=0



Page generated from http://weather.rap.ucar.edu/surface/ at Tue, 5 Sep 2017 22:49:33 UTC.

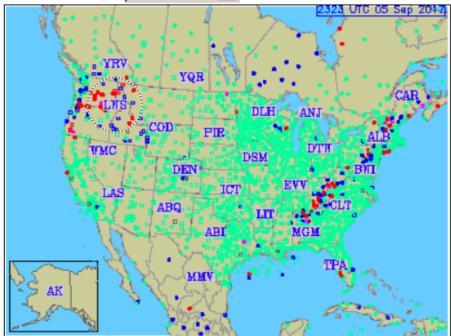
## http://weather.rap.ucar.edu/surface/



End date: Today

End time: Most recent

Loop duration: Single image



Interactive METARs Java applet or large version.

Tornado alley overlay at DEN 🗸 🗔 Go

Surface plots from other internet sources

#### Text observa

Retrieve text format META See stations.txt for a list of Enter 4-letter ICAO id(s):



#### Contour ma

- Temperature
- Moisture (dewpoint)
- Winds/Sea-Level Pressu
- 4-panel plot
- Theta-E
- 24-hour Precipitation
- U.S. Snow Depth (Air Fo
- N. Hemi Snow Depth (Ai
- U.S. Snow Cover (NOAA
- N. Hemi Snow Cover (No

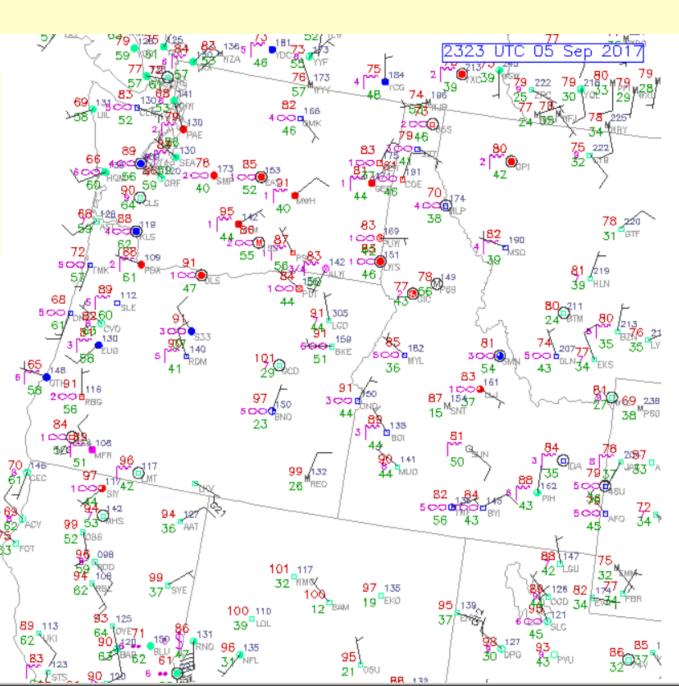
**Local Weatl** 

http://weather.rap.ucar.edu/surface/displaySfc.php?region=lws&endDate=20170905&en

dTime=-1&duration=0

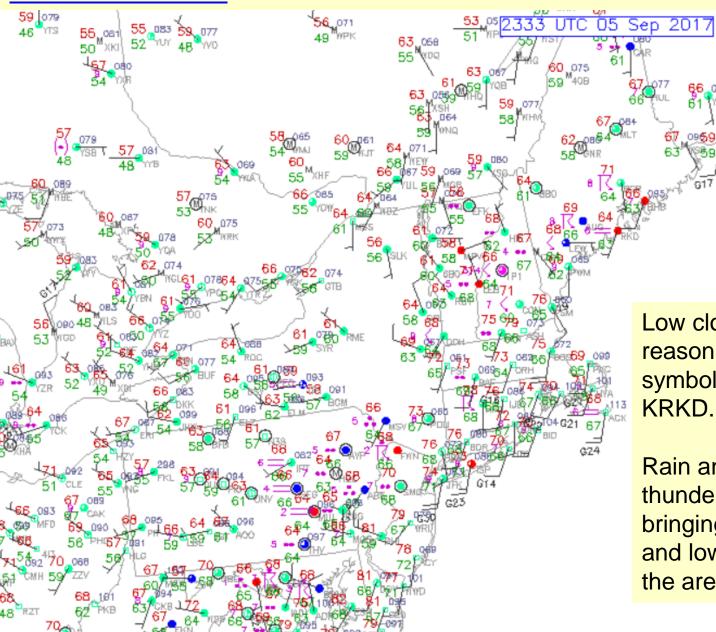
Forest Fire Smoke was the source of the Red Station Plots

Surface visibility was less than 3 miles.



http://weather.rap.ucar.edu/surface/displaySfc.php?region=alb&endDate=20170905&end





Low clouds were the reason for the red station symbols at KBHB and KRKD.

Rain and embedded thunderstorms were bringing low clouds and low visibilities the area.

https://radar.weather.gov/ ridge/radar.php?product= NCR&rid=gyx&loop=yes

Portland ME, Weather Radar shows the embedded rainshowers and thunderstorms.

#### Composite Reflectivity NWS Portland, ME 07:04 PM EDT Tue Sep 05 2017 National Weather Service WSR-88D Image from: GYX 09/05/2017\_23:04\_UTC(7:04\_PM\_EDT) Millinocket Sherb rook e St. Stephen Dover-Foxcroft lewiston Middleb ury 76 <u>lebanon</u> lacoria 60 Springfield. ncord Manchester Portsmouth Keene ennington 25 20 Pittsfield . Springfield forning ton Hocketta William police Rovidence Meriden ND Special Marine Tornado Severe Thunderstorm Flash Flood Warnings: Set Animation Speed AutoUpdate is Off Refresh Counties Rivers V Highways V Cities V Warnings



# National Weather Service Enhanced Radar Image

#### Puerto Rico/Virgin Islands Radar



Go to: Standard Version

Local weather forecast by "City, St"

City, St

Go

Adjacent Radars:



Short Range Images Reflectivity: CompositeLoop Base Loop

Velocity: Storm Relative Base Loop

Rainfall: 1-Hour Total Storm Loop

MouseOver Off 🗸

Long Range Images Reflectivity: Base Loop

http://www.noaa.gov/

Base Reflectivity



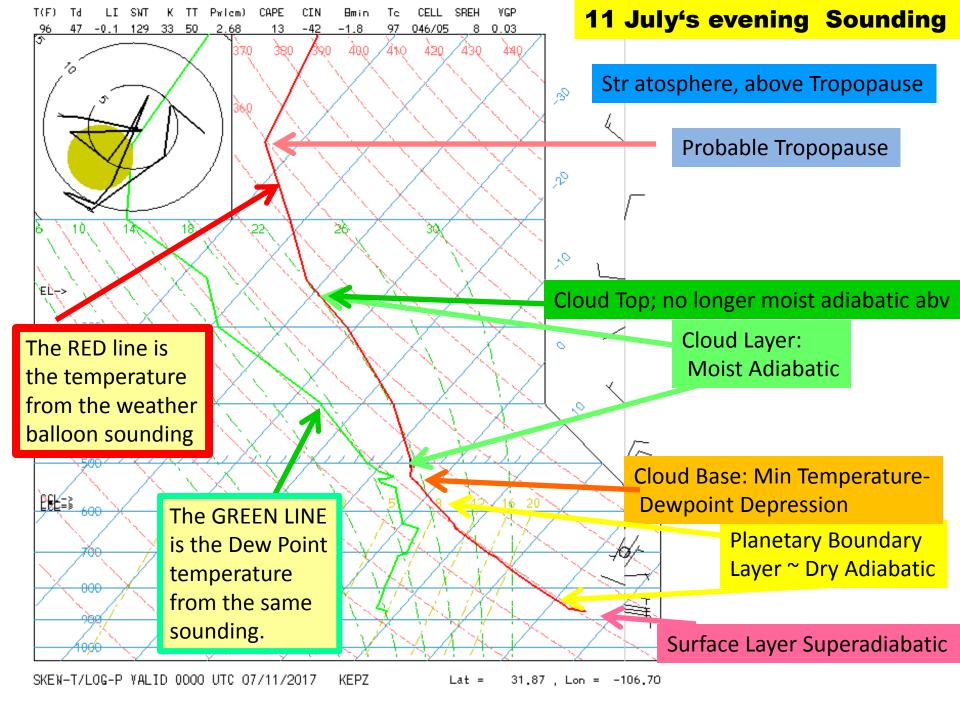
### http://weather.rap.ucar.edu/upper/epz.gif **Skew-T Log P diagram** "Graph paper" for **Meteorologists** 40,0 Also in Blue in the Vertical The RED line is the temperature Pressures decrease from the weather balloon sounding logarithmically The GREEN LINE 5 Knots is the Dew Point \LFC-> ÇČL→ 10 Knots temperature LCL-> from the same 15 Knots sounding. 20 Knots 50 Knots SKEN-T/LOG-P YALID 0000 UTC 07/10/2017 31.87 , Lon = -106.70

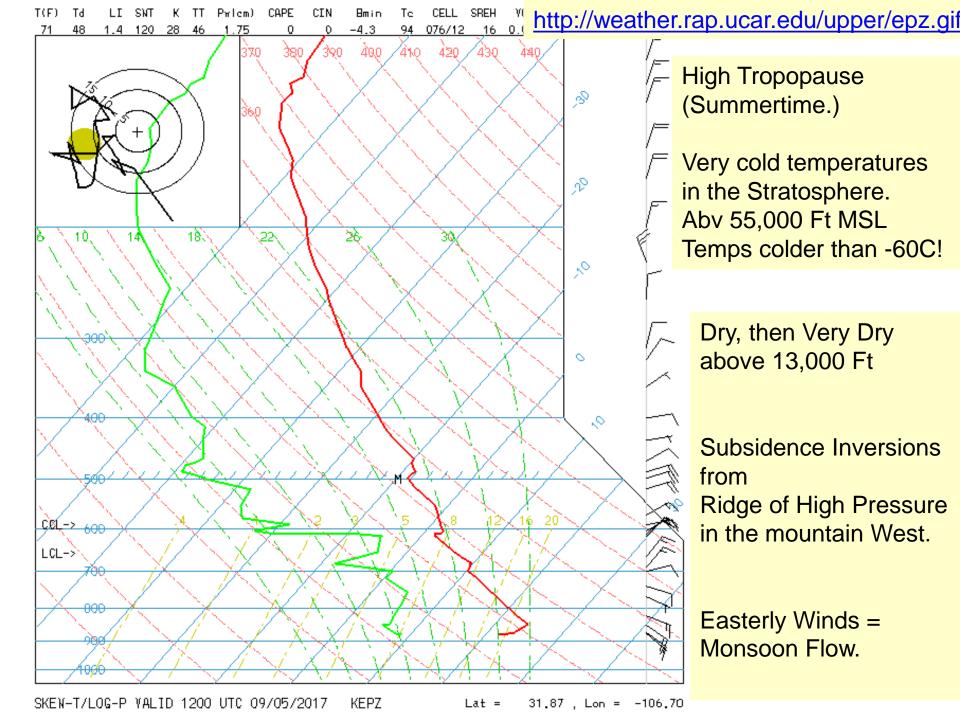
The Skew-T allows easy calculation of dozens of thermodynamic variables

Skewed Temperatures in Blue

65 Knots

Department of Atmospheric Sciences University of Minois at Urbana-Champaign





http://forecast.weather.gov/product.php?site=NWS&issuedby=EPZ&product=AFD&format

=CI&version=1&glossary=1



# **National Weather Service National Head**

**National Weather Service** 

Local forecast by "City, St" or Zip

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Area Forecast Discussion Issued by NWS

Current Version | Previous Version | Text Only | Print | Product List | Glossary Off Versions: 1 2 3 4 5 6 7 8 9 10 11 12 13 14

000 FXUS64 KEPZ 052133 AFDEPZ

#### Area Forecast Discussion

National Weather Service El Paso Tx/Santa Teresa NM 333 PM MDT Tue Sep 5 2017

.SYNOPSIS...

High pressure over the Great <u>Basin</u> will slowly drift east to over New Mexico Thursday. This will keep much of the Borderland free from thunderstorms, though a <u>slight risk</u> will continue over the mountains. By Monday and Tuesday the <u>ridge</u> drifts back over Arizona, bringing northerly <u>flow</u> back to our area. This will initially bring some thunderstorms to the mountains and the possibly to the lowlands Wednesday and Thursday.

.DISCUSSION... Not much change to the big picture weather pattern. We are still stuck in the pattern of the upper high over the Great <u>Basin</u> inhibiting most or all <u>convection</u> over the <u>CWA</u>.

Weak backdoor cool <u>front</u> did move west through much of the area this morning. It briefly produced low clouds over the east slopes of the Sacs and now looks to have added enough low level <u>moisture</u> for fairly significant <u>cu</u> fields. <u>Inversion</u> at mid levels still looks to be <u>capping cu</u> from any growth. EPZ morning <u>sounding</u> showed strong <u>cap</u> around 600 <u>mb</u>.

Remains of Lidia will be incorporated into Pacific <u>trough</u> and move slowly toward the California coast. This will begin a slow movement of our upper <u>ridge</u> over New Mexico Thursday and then over western Texas Friday.

This will <u>likely</u> strengthen the mid level <u>cap</u> though also allow some tropical <u>moisture</u> out near the Arizona border. Hence, kept <u>POPs</u> out of the east through the weekend, but put low <u>POPS</u> out west with the added <u>moisture</u>

. The hazy, smokey conditions of the past several days should diminish. By Sunday and Monday the affects of <a href="Hurricane">Hurricane</a> Irma will be felt tangentially. As it nears Florida, it will block the Pacific <a href="trough">trough</a>/Texas <a href="ridge">ridge</a> from moving any further east. In fact the couple are forced back west.

By Monday the <u>flow</u> turns northerly with the <u>ridge</u> to our west. This could bring a few thunderstorms back to the mountains.

| .PRELIMINARY POINT TEMPS/POPS |    |    |    |      |    |    |    |    |
|-------------------------------|----|----|----|------|----|----|----|----|
| El Paso                       | 67 | 89 | 66 | 91 / | 0  | 0  | 0  | 0  |
| Sierra Blanca                 | 61 | 85 | 60 | 88 / | 0  | 0  | 0  | 0  |
| Las Cruces                    | 62 | 87 | 61 | 89 / | 0  | 0  | 0  | 0  |
| Alamogordo                    | 60 | 86 | 61 | 89 / | 0  | 0  | 0  | 0  |
| Cloudcroft                    | 44 | 66 | 47 | 69 / | 10 | 20 | 20 | 20 |
| Truth or Consequences         | 62 | 87 | 64 | 88 / | 0  | 0  | 10 | 10 |
| Silver City                   | 57 | 84 | 58 | 86 / | 10 | 20 | 20 | 20 |
| Deming                        | 62 | 88 | 61 | 90 / | 0  | 0  | 0  | 0  |
| Lordsburg                     | 64 | 89 | 61 | 91 / | 0  | 0  | 0  | 0  |
| West El Paso <b>Metro</b>     | 67 | 88 | 65 | 90 / | 0  | 0  | 0  | 0  |
| Dell City                     | 61 | 87 | 59 | 91 / | 0  | 0  | 0  | 10 |
| Fort Hancock                  | 64 | 90 | 62 | 91 / | 0  | 0  | 0  | 0  |
| Loma Linda                    | 60 | 84 | 61 | 88 / | 0  | 0  | 0  | 0  |
| Fabens                        | 65 | 89 | 63 | 91 / | 0  | 0  | 0  | 0  |
| Santa Teresa                  | 64 | 88 | 63 | 90 / | 0  | 0  | 0  | 0  |
| White Sands HQ                | 61 | 86 | 62 | 89 / | 0  | 0  | 0  | 0  |
| Jornada Range                 | 57 | 87 | 58 | 90 / | 0  | 0  | 0  | 0  |
| Hatch                         | 62 | 88 | 61 | 90 / | 0  | 0  | 0  | 0  |
| Columbus                      | 64 | 89 | 61 | 90 / | 0  | 0  | 0  | 0  |
| Orogrande                     | 63 | 86 | 64 | 89 / | 0  | 0  | 0  | 0  |
| Mayhill                       | 46 | 74 | 52 | 79 / | 10 | 20 | 20 | 20 |
| Mescalero                     | 49 | 76 | 52 | 81 / | 10 | 20 | 20 | 20 |
| Timberon                      | 48 | 72 | 51 | 78 / | 10 | 20 | 20 | 20 |
| Winston                       | 50 | 82 | 49 | 83 / | 10 | 20 | 20 | 20 |
| Hillsboro                     | 58 | 87 | 58 | 90 / | 10 | 20 | 20 | 20 |
| Spaceport                     | 56 | 87 | 60 | 89 / | 0  | 0  | 0  | 0  |
| Lake Roberts                  | 49 | 82 | 47 | 85 / | 10 | 20 | 20 | 20 |
| Hurley                        | 56 | 86 | 59 | 88 / | 10 | 20 | 20 | 20 |
| Cliff                         | 49 | 89 | 50 | 89 / | 10 | 10 | 10 | 10 |
|                               |    |    |    |      |    |    |    |    |

GFS shows moisture and instability returning to all zones on Tuesday and Wednesday, so the lowlands could see a thunderstorm or two.

AVIATION...Valid 06/00Z-07/00Z... P6SM FEW-SCT100-120 through 18z then SCT-BKN090-110. Isolated -TSRA BKN060-080 possible mainly over area mountains until 03Z and again after 18Z. Winds mainly E to SE 5-15KTS with some higher gusts possible on western mountain slopes between 03Z and 12Z. && .

FIRE WEATHER... Weak back door cold <u>front</u> moving through region at this time but it will not have much affect on temperatures, especially western zones. There will be an increase in low level <u>moisture</u> behind <u>front</u> which will increase precipitation chances, mainly over area mountains for the next few days.

Expect relative humidities to rise into the 20s for the lowlands with 30s and 40s in area mountains. There will be some gusty winds through tonight, especially far west and western mountain slopes, but decrease after sunrise tomorrow. Vent rates will be falling into the <u>fair</u> to good categories for the next couple of days.

EPZ WATCHES/WARNINGS/ADVISORIES NM...None. TX...None. \$\$

Hefner/Grzywacz

## http://mesowest.utah.edu/cgi-bin/droman/mesomap.cgi?profile\_id=JX655ma974JSm69

