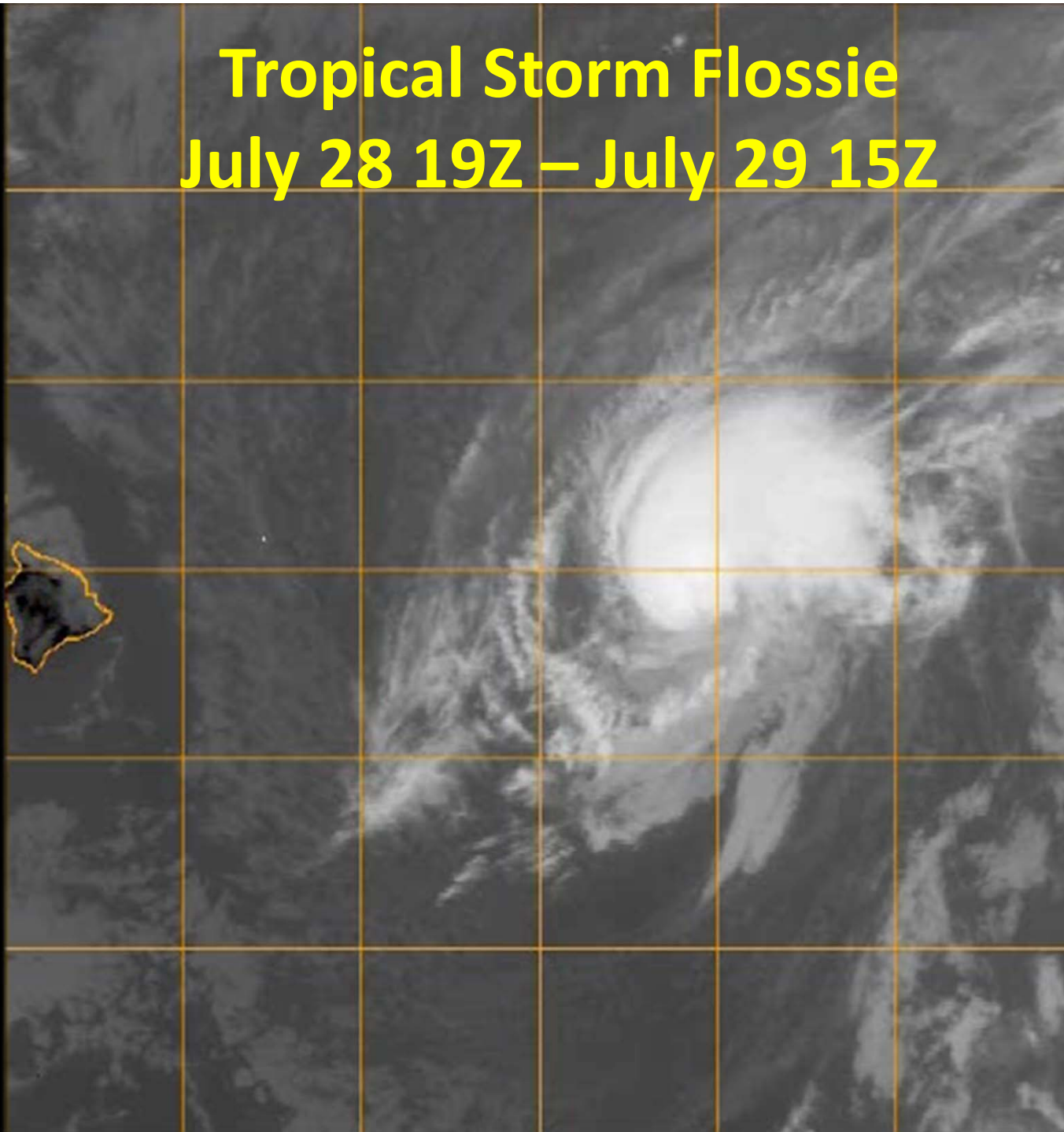
A satellite image of a tropical storm system, likely Flossie, centered in the Pacific Ocean. The image is overlaid with a grid of latitude and longitude lines. The storm is characterized by a dense, swirling cloud structure with a visible eye. The text is overlaid on the image in a yellow font.

Forecasting Flossie: A Look at Using the Most Progressive Satellite Technology

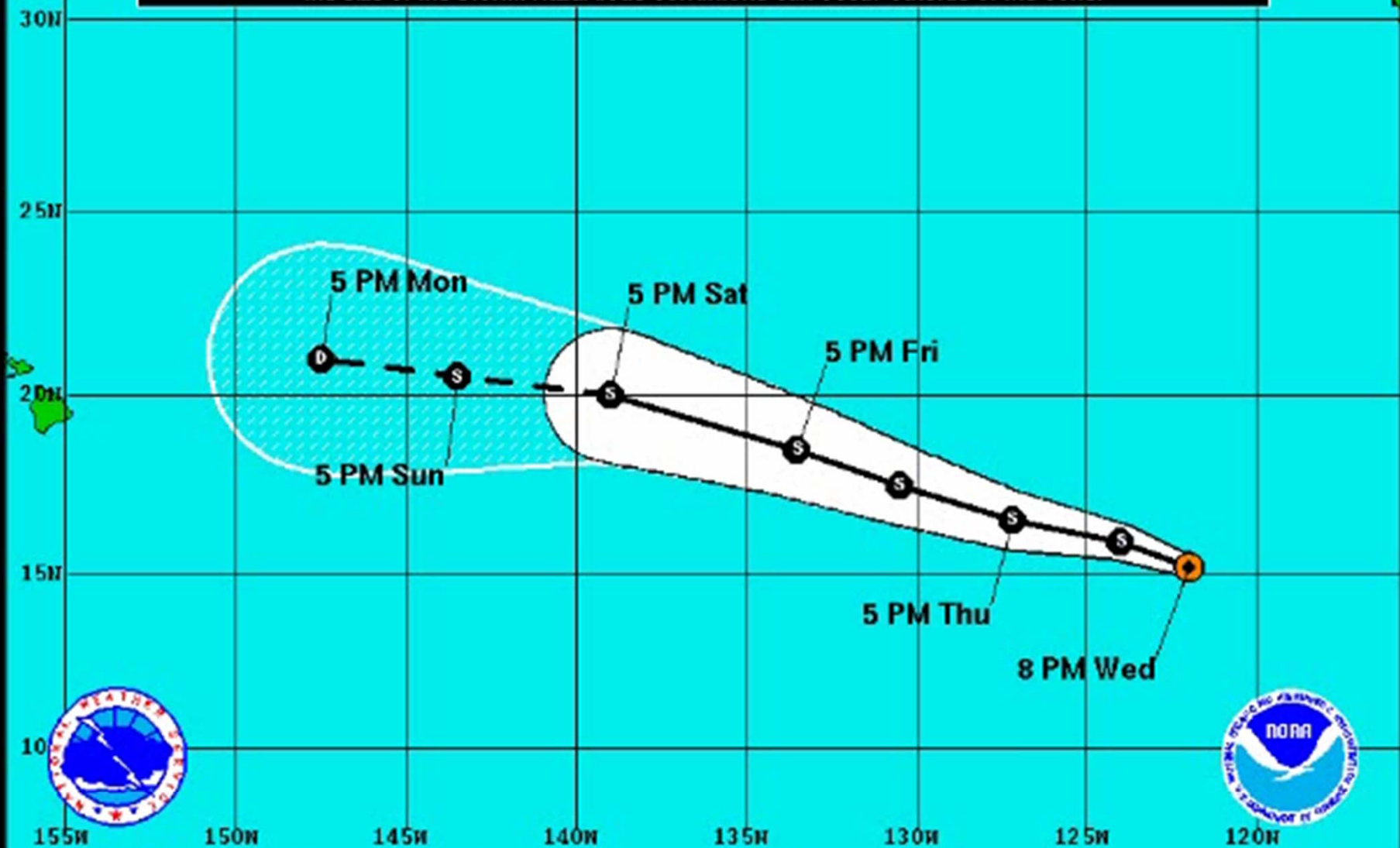
Tom Evans, Deputy Director
Central Pacific Hurricane Center

Tropical Storm Flossie

July 28 19Z – July 29 15Z



Note: The cone contains the probable path of the storm center but does not show the size of the storm. Hazardous conditions can occur outside of the cone.



Tropical Depression Six-e
 Wednesday July 24, 2013
 8 PM PDT Advisory 1
 NWS National Hurricane Center

Current Information: ●
 Center Location 15.2 N 122.0 W
 Max Sustained Wind 35 mph
 Movement WNW at 14 mph

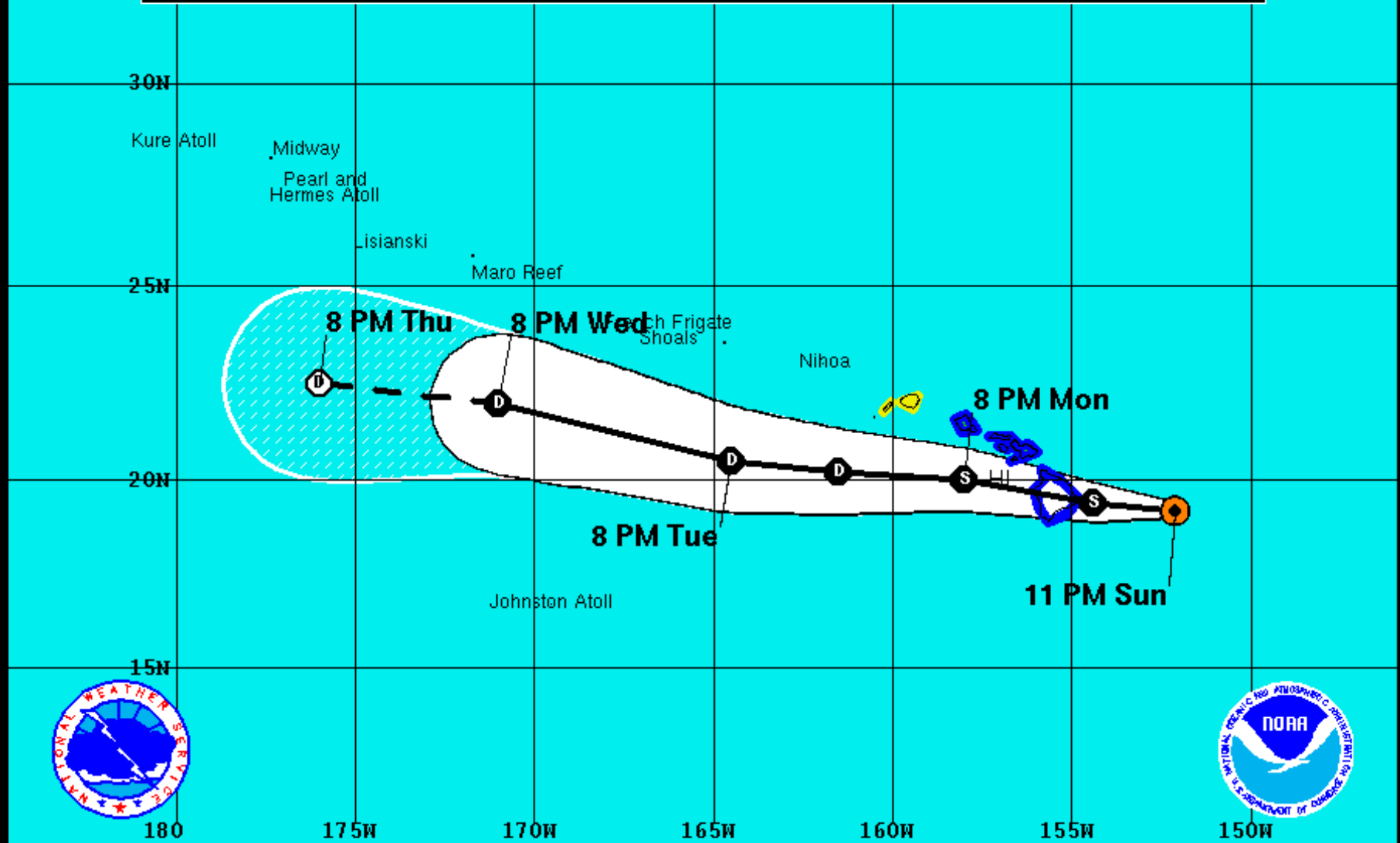
Forecast Positions:
 ● Tropical Cyclone ○ Post-Tropical
 Sustained Winds: D < 39 mph
 S 39-73 mph H 74-110 mph M > 110mph

Potential Track Area:
 Day 1-3 Day 4-5

Watches:
 Hurricane Trop.Storm

Warnings:
 Hurricane Trop.Storm

Note: The cone contains the probable path of the storm center but does not show the size of the storm. Hazardous conditions can occur outside of the cone.



Tropical Storm Flossie

Sunday July 28, 2013

11 PM HST Advisory 18

NWS Central Pacific Hurricane Center

Current Information:

Center Location 19.2 N 152.1 W

Max Sustained Wind 50 mph

Movement W at 17 mph

Forecast Positions:

Tropical Cyclone Post-Tropical

Sustained Winds: D < 39 mph

S 39-73 mph H 74-110 mph M > 110mph

Potential Track Area:

Day 1-3 Day 4-5

Watches:

Hurricane Trop. Storm

Warnings:

Hurricane Trop. Storm

07/28/13 1800Z 06E FLOSSIE
07/28/13 1554Z WindSat OVERPASS
07/28/13 1545Z GOES-15 IR

07/28/13 1800Z 06E FLOSSIE
07/28/13 1554Z WindSat OVERPASS
07/28/13 1545Z GOES-15 IR-BD

Multiple channels and satellites July 28 1800Z, 1554Z & 1545Z

Naval Research Lab www.nrlmry.navy.mil/sat_products.html
<-- IR Temp (Celsius) -->

07/28/13 1800Z 06E FLOSSIE
07/28/13 1554Z WindSat 37H
07/28/13 1545Z GOES-15 IR

07/28/13 1800Z 06E FLOSSIE
07/28/13 1554Z WindSat COMPOSITE
07/28/13 1545Z GOES-15 IR

Can you find the center?

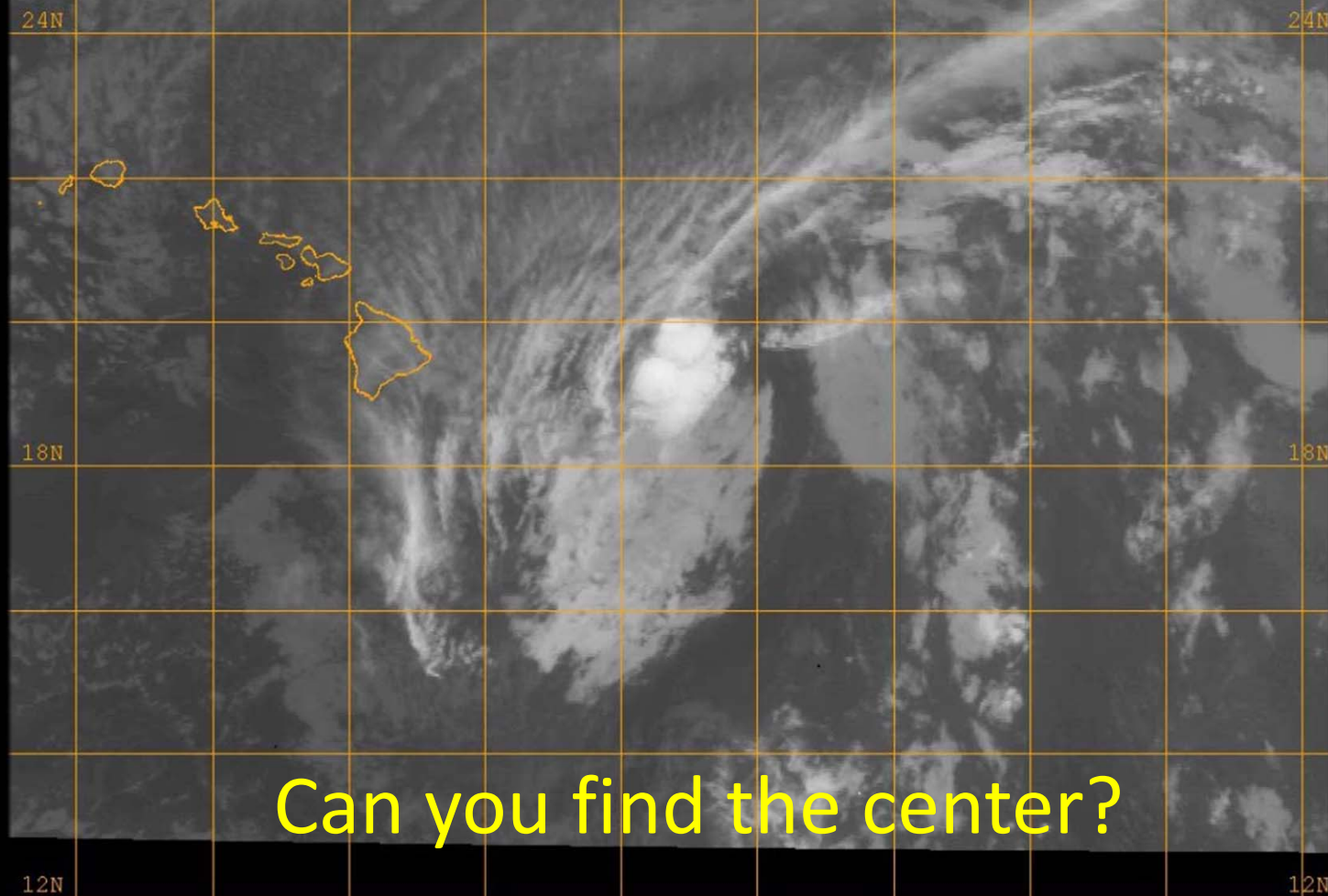
Naval Research Lab www.nrlmry.navy.mil/sat_products.html
<-- 37H Brightness Temp (Kelvin) -->

Naval Research Lab www.nrlmry.navy.mil/sat_products.html
Red=37PCT Green=37V Blue=37H



07/29/13 0600Z 06E FLOSSIE
07/29/13 1045Z GOES-15 IR

GOES-15 Infra-Red (IR) 1045-1130UTC



Can you find the center?

Naval Research Lab http://www.nrlmry.navy.mil/sat_products.html
<-- IR Temperature (Celsius) -->

-70 -60 -50 -40 -30 -20 -10 0 10 20

Other considerations

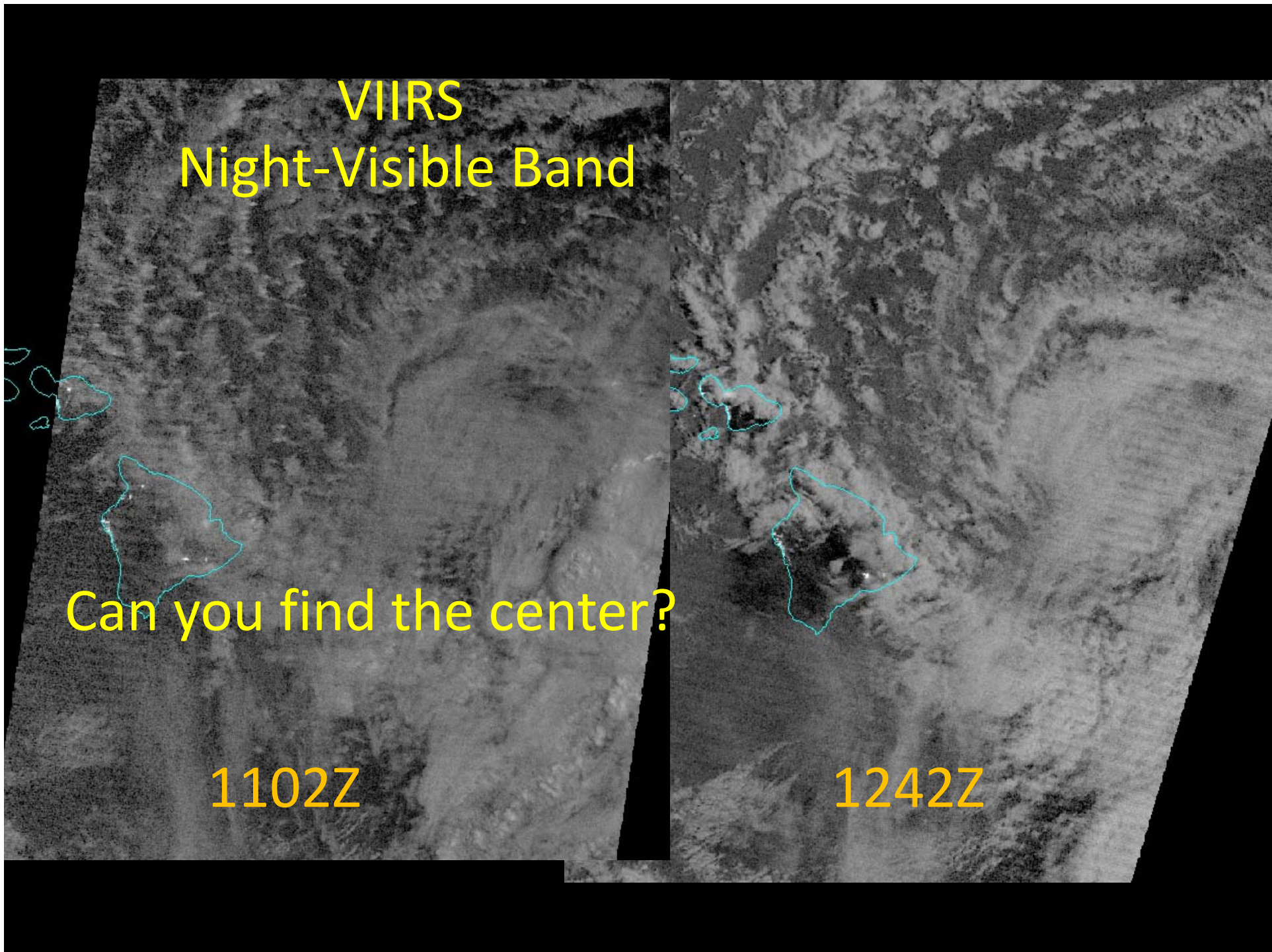
- Models now forced the track north of its previous forecast paths
- Critical time for final preparation of direct hit to Big Island (within a few hours of predicted landfall)
- What about the VIIRS night-visible band?

VIIRS
Night-Visible Band

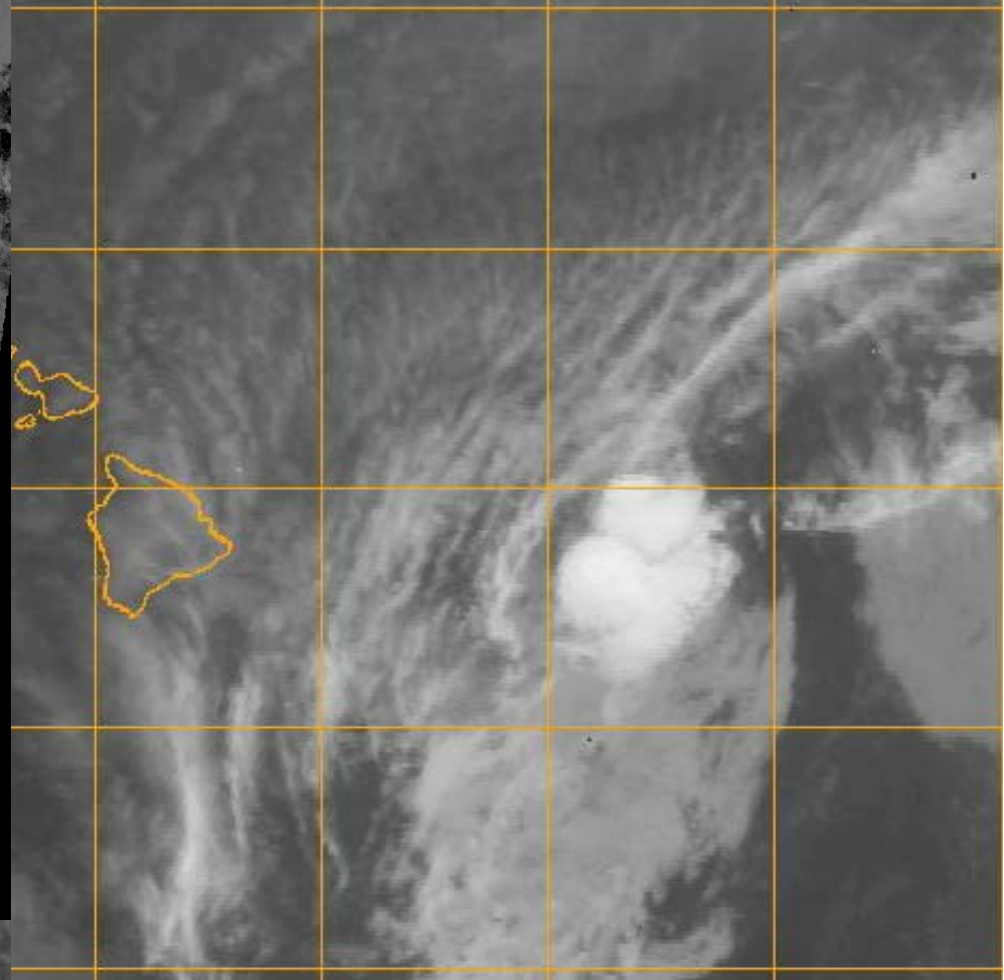
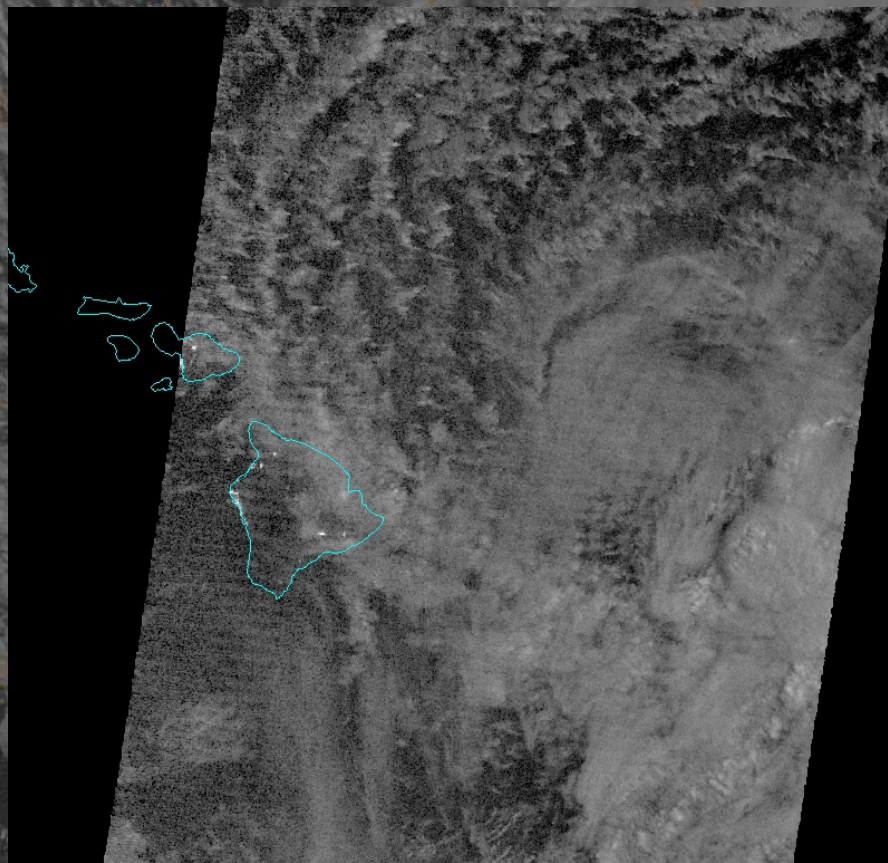
Can you find the center?

1102Z

1242Z



Visible Infrared Imaging Radiometer Suite (VIIRS) Night-Visible Band and GOES-15 IR around 1100Z



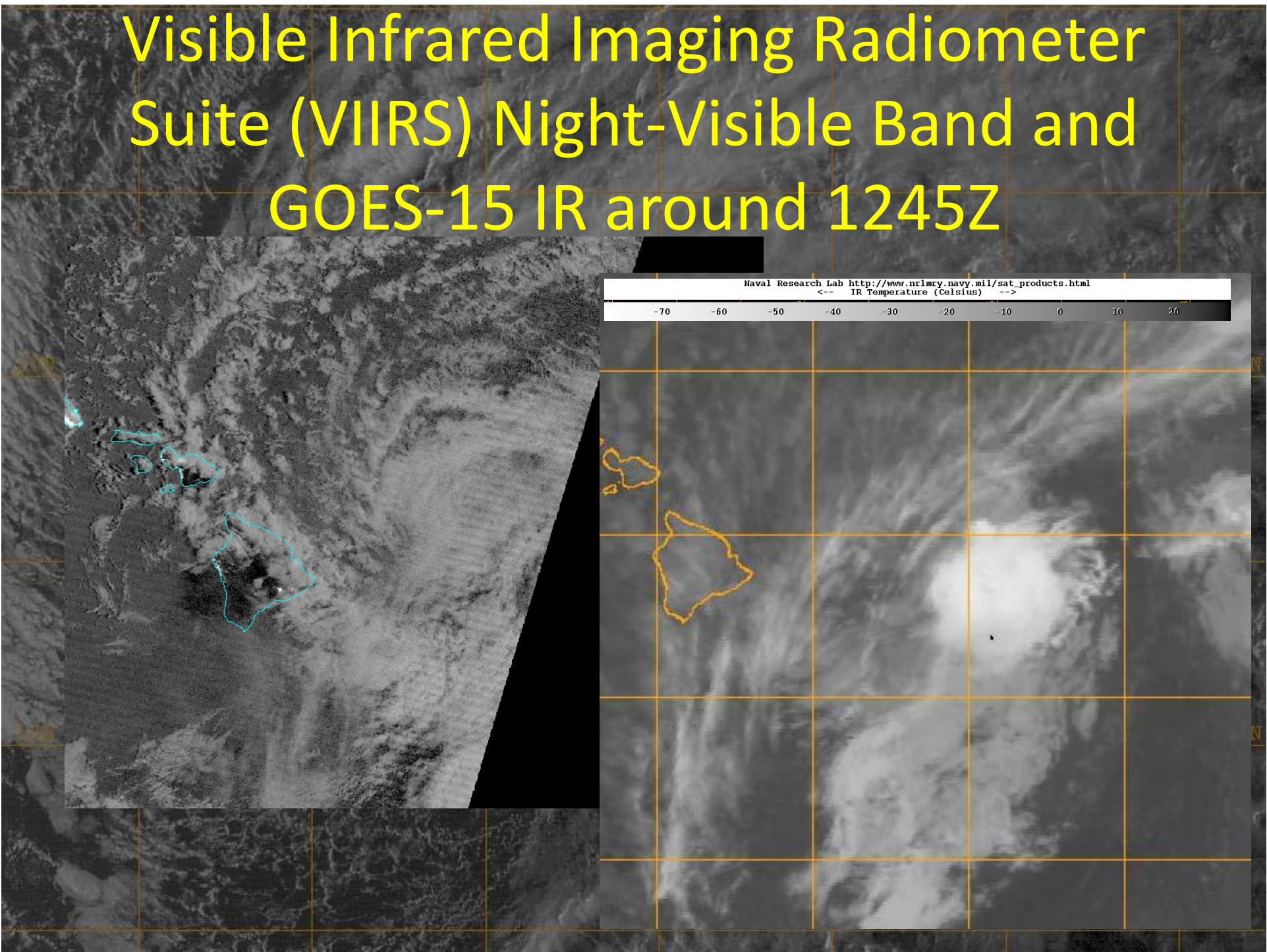
Naval Research Lab http://www.nrlmry.navy.mil/sat_products.html
<-- IR Temperature (Celsius) -->



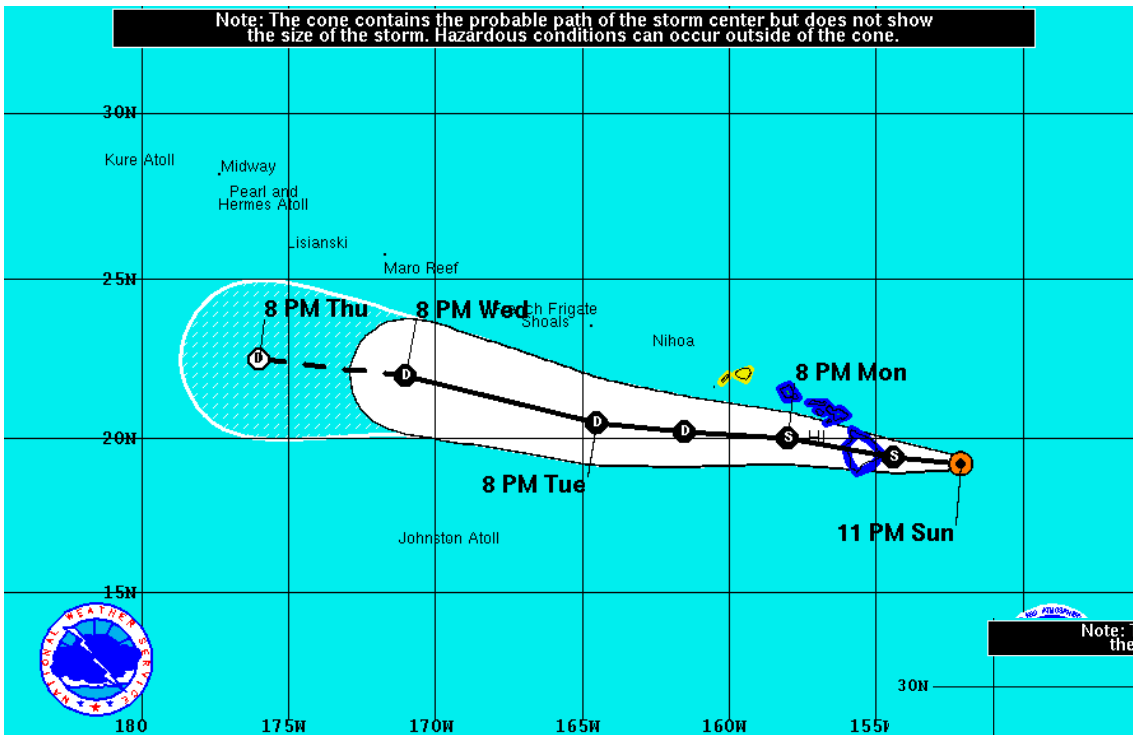
Visible Infrared Imaging Radiometer Suite (VIIRS) Night-Visible Band and GOES-15 IR around 1245Z

Naval Research Lab http://www.nrlmry.navy.mil/sat_products.html
IR Temperature (Celsius)

-70	-60	-50	-40	-30	-20	-10	0	10	20
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Note: The cone contains the probable path of the storm center but does not show the size of the storm. Hazardous conditions can occur outside of the cone.



Tropical Storm Flossie
 Sunday July 28, 2013
 11 PM HST Advisory 18
 NWS Central Pacific Hurricane Center

Current Information: ●
 Center Location 19.2 N 152.1 W
 Max Sustained Wind 50 mph
 Movement W at 17 mph

Forecast Positions: ● Tropical Cyclone ○ Post-Tropical
 Sustained Winds: ● < 39 mph ○ 39-73 mph

Potential Track Area:

Day 1-3 Day 4-5

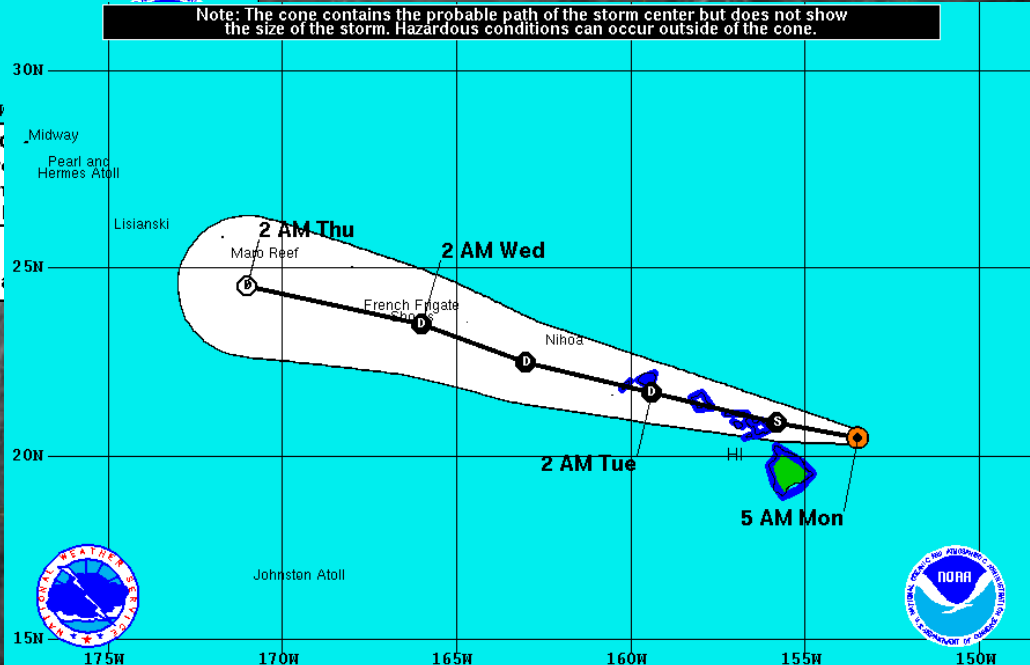
Watches:

Hurricane Trop.Storm

Warnings:

Hurricane

Note: The cone contains the probable path of the storm center but does not show the size of the storm. Hazardous conditions can occur outside of the cone.



Tropical Storm Flossie
 Monday July 29, 2013
 5 AM HST Advisory 19
 NWS Central Pacific Hurricane Center

Current Information: ●
 Center Location 20.5 N 153.5 W
 Max Sustained Wind 45 mph
 Movement WNW at 16 mph

Forecast Positions: ● Tropical Cyclone ○ Post-Tropical
 Sustained Winds: ● < 39 mph ○ 39-73 mph H 74-110 mph M > 110mph

Potential Track Area:

Day 1-3 Day 4-5

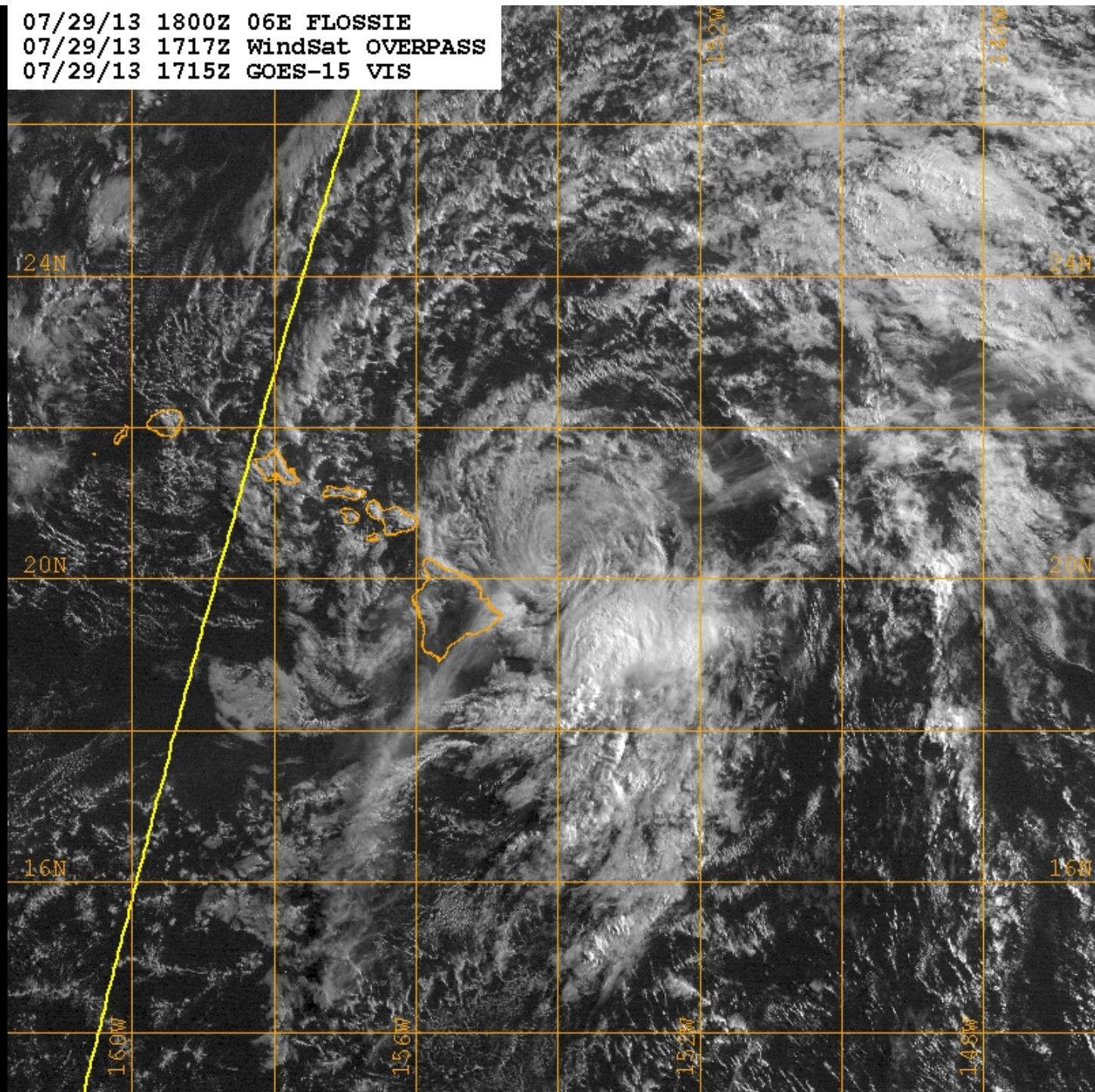
Watches:

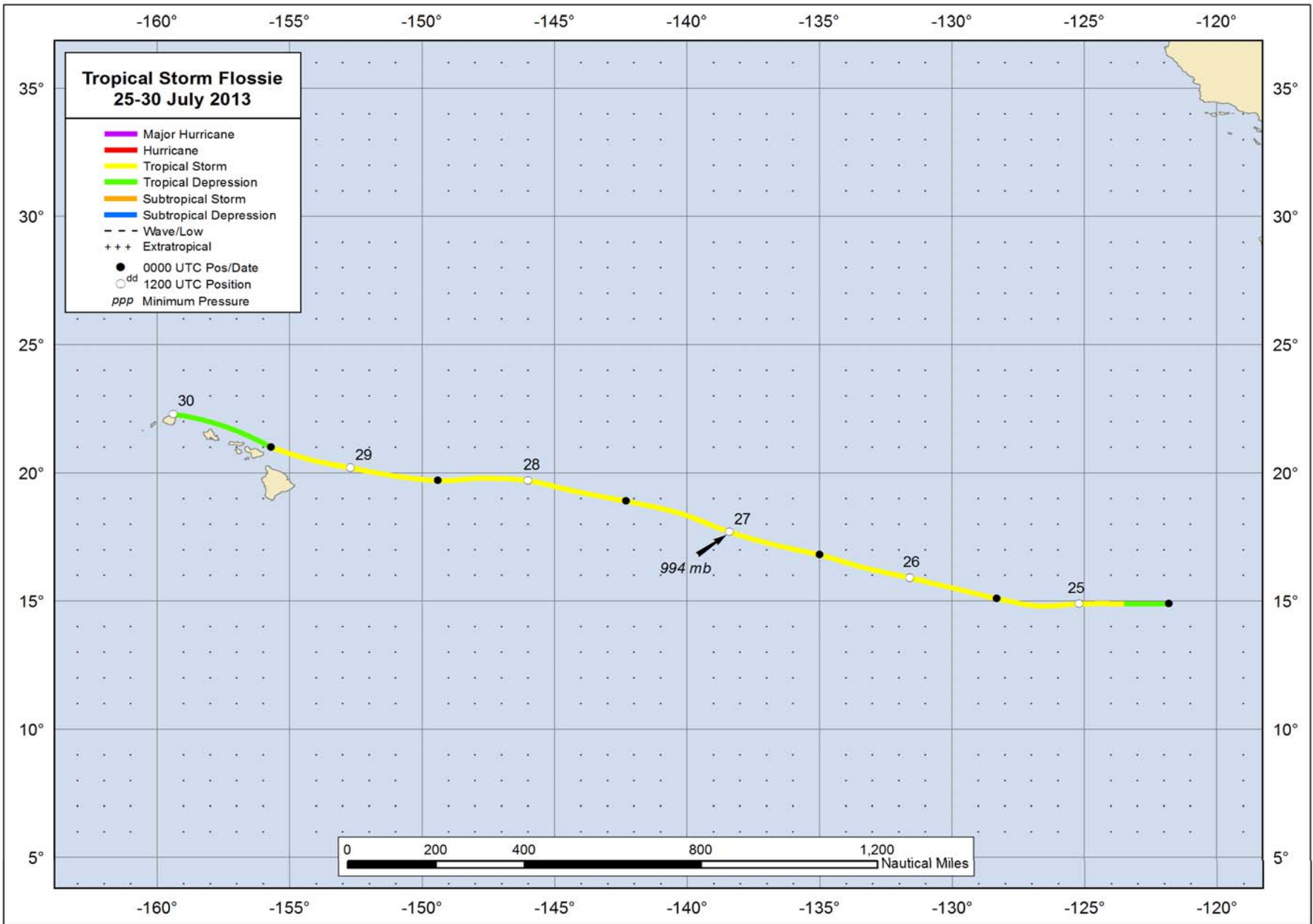
Hurricane Trop.Storm

Warnings:

Hurricane Trop.Storm

07/29/13 1800Z 06E FLOSSIE
07/29/13 1717Z WindSat OVERPASS
07/29/13 1715Z GOES-15 VIS





Resources used for presentation

- <http://www.ndbc.noaa.gov/obs.shtml>
- <http://www.nhc.noaa.gov/archive/2013/FLOSSIE.shtml>
- <http://www.prh.noaa.gov/cphc/tcpages/archive.php?stormid=EP062013>
- http://www.prh.noaa.gov/cphc/tc_graphics/latest_w.php?stormid=EP062013#start
- <http://www.nrlmry.navy.mil/tcdat/tc13/EPAC/>
- <http://weather.uwyo.edu/upperair/sounding.html>