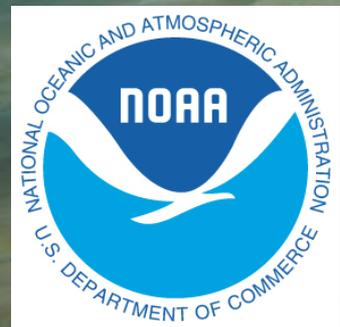


GOES-R/JPSS PG User Readiness Meeting

WFO Honolulu &
Central Pacific Hurricane Center
Robert Ballard, SOO
June 2, 2014



WFO Honolulu & Central Pacific Hurricane Center

- Combined WFO & National Center with operations that support both Hawaii as well as a large area of the Pacific.
 - WFO: public, aviation, fire weather, marine
 - Center: aviation, marine, hurricane, severe
- 4 desks staffed 24/7 + CPHC as needed
- Maximization of satellite data is critical; vast data-void surrounds the islands.
- Satellite PG activities since 7/2010

Products we have been evaluating include:

- VIIRS imagery
- MIMIC-TPW
- CRAS model
- CIMSS convection suite
 - Convective Initiation
 - Cloud Top Cooling
 - Overshooting Tops
- MODIS bands, including TPW
- CIRA Orographic Rain Index
- NASA Sport Multi-sensor SST Composite

Training

- GOES-R liaison conducted training sessions on new products with assistance from the SOO.
- COMET modules
- Forecasters are more likely to try something they are familiar with.
- Showing examples of the usefulness of some products in certain types of recent events can also help.



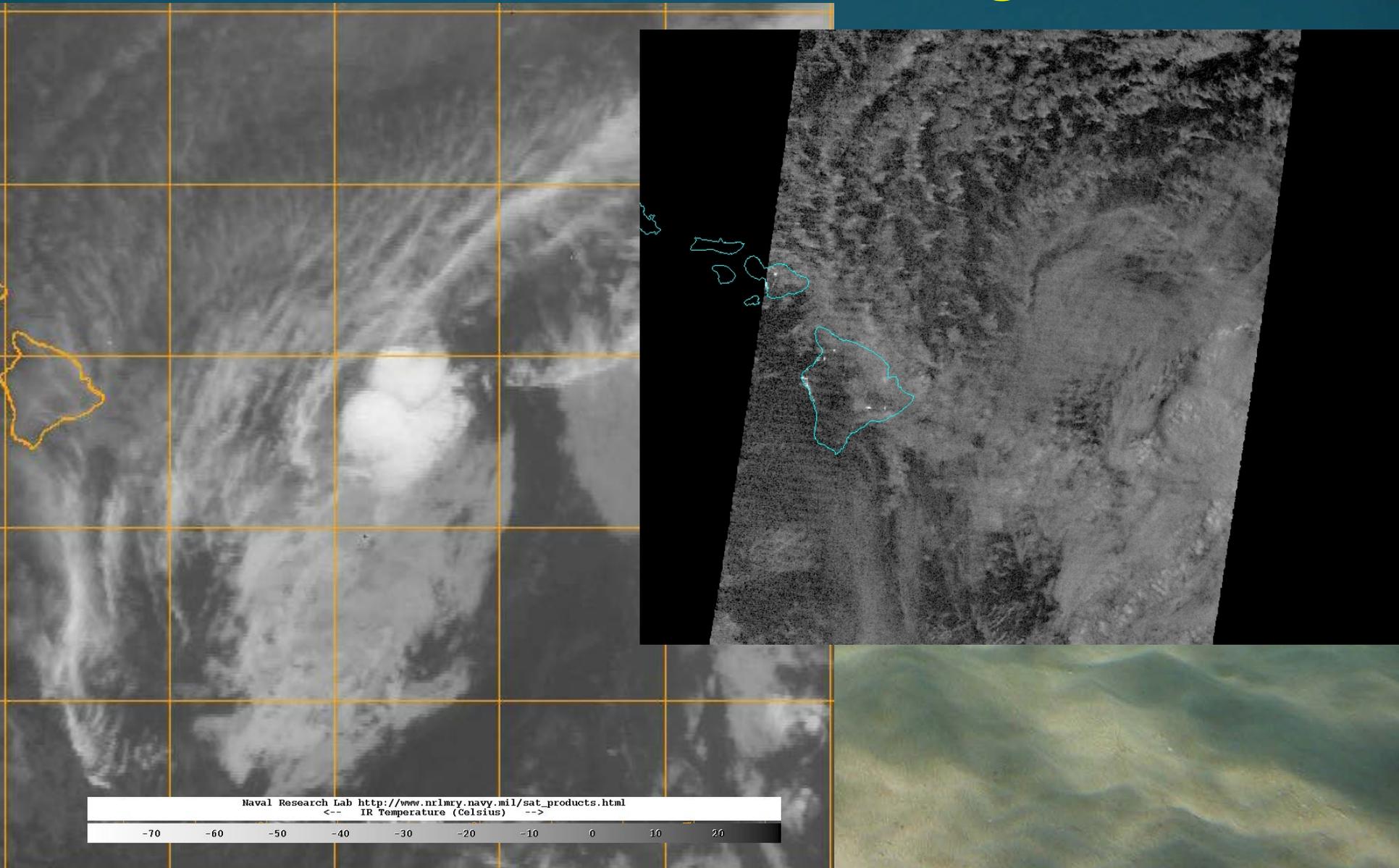
Training Challenges

- Forecasters almost always prefer face-to-face training or seminar-type sessions; not always practical w/20 forecasters.
- More critical (or nationally required) training often takes higher priority over new-product training.
- Long term staffing shortages; few training shifts.
- Forecaster skepticism; more likely to be curious about something new they think they can glean immediate benefit from, otherwise will rely on proven tools.
- One issue can be long time between product-specific events (e.g. CTC & Convective Initiation)

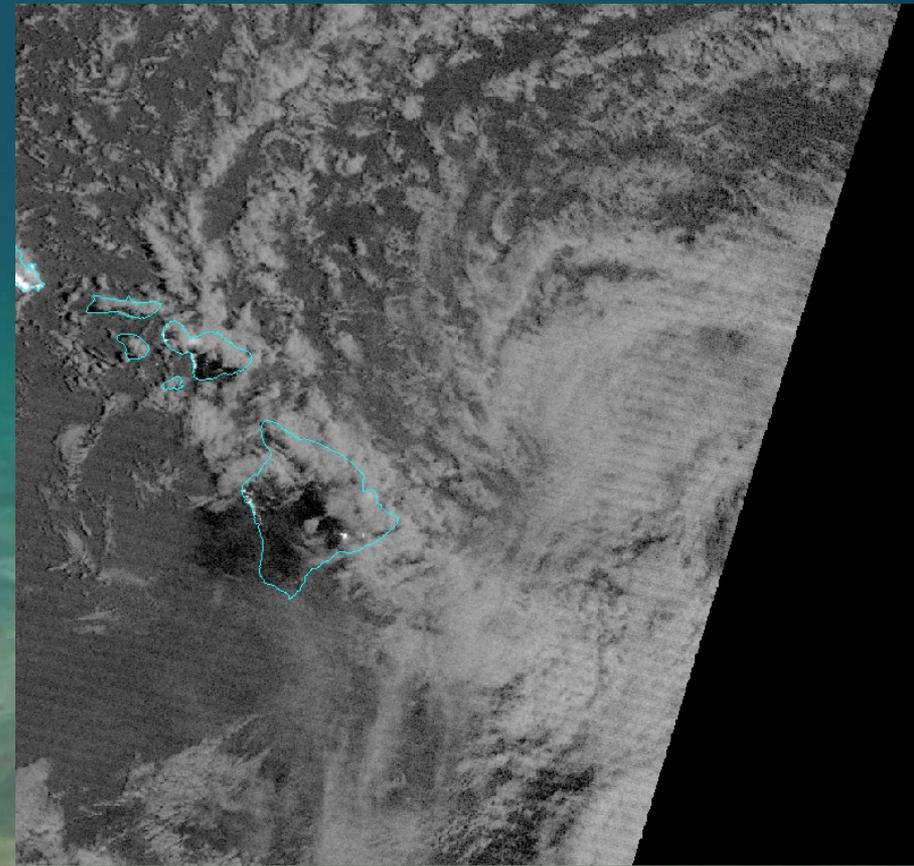
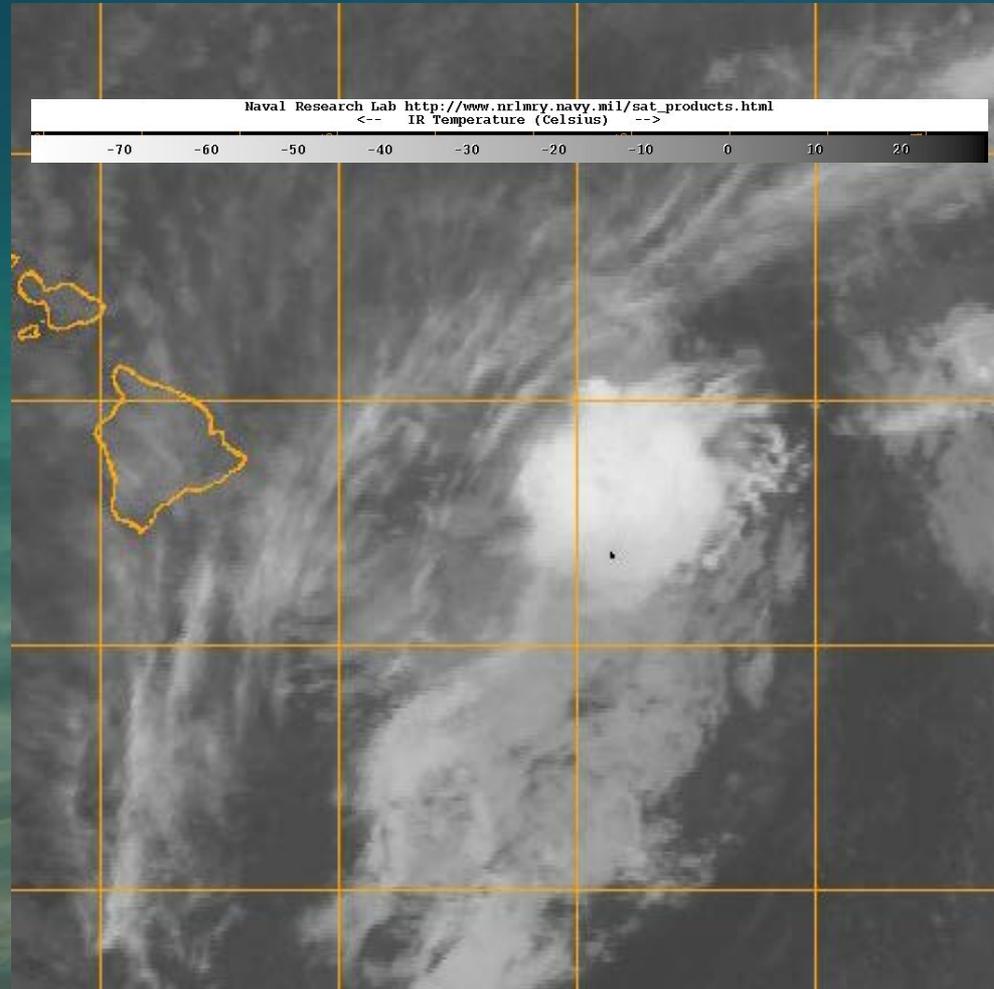
VIIRS Day Night Band

- Available in HFO/CPHC AWIPS since 7/25/2012
- Used by CPHC satellite desk & hurricane specialists to help find TC centers at night.
- In sheared situations, can be nearly impossible to find center from IR imagery.
- Two fortuitous DNB images provided CPHC forecasters the info needed for a critical nighttime center relocation as Flossie approached the state of Hawaii.

GOES-15 IR & VIIRS DNB image ~1100Z



GOES-15 IR & VIIRS DNB around 1245Z



“The center of Flossie was hidden by high clouds most of the night before VIIRS nighttime visual satellite imagery revealed an exposed low level circulation center farther north than expected. We re-bested the 06 UTC position based on the visible data.” – CPHC 5 am 7/29/13

MIMIC

- Added to HFO/CPHC AWIPS 3/13/2012
- Biggest day-to-day winner! Used every shift.
- Rainfall occurrence & amounts in Hawaii very sensitive to available moisture.
 - Orographically enhanced precipitation
 - Sea breeze/upvalley forced convection
- Models often struggle with details of these moisture fields even in the first 6 hours.
- Conventional satellite imagery does not capture the entire story.
- Forecasters can use real-time imagery/simulations to make forecast adjustments & monitor model performance

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Frames: 64

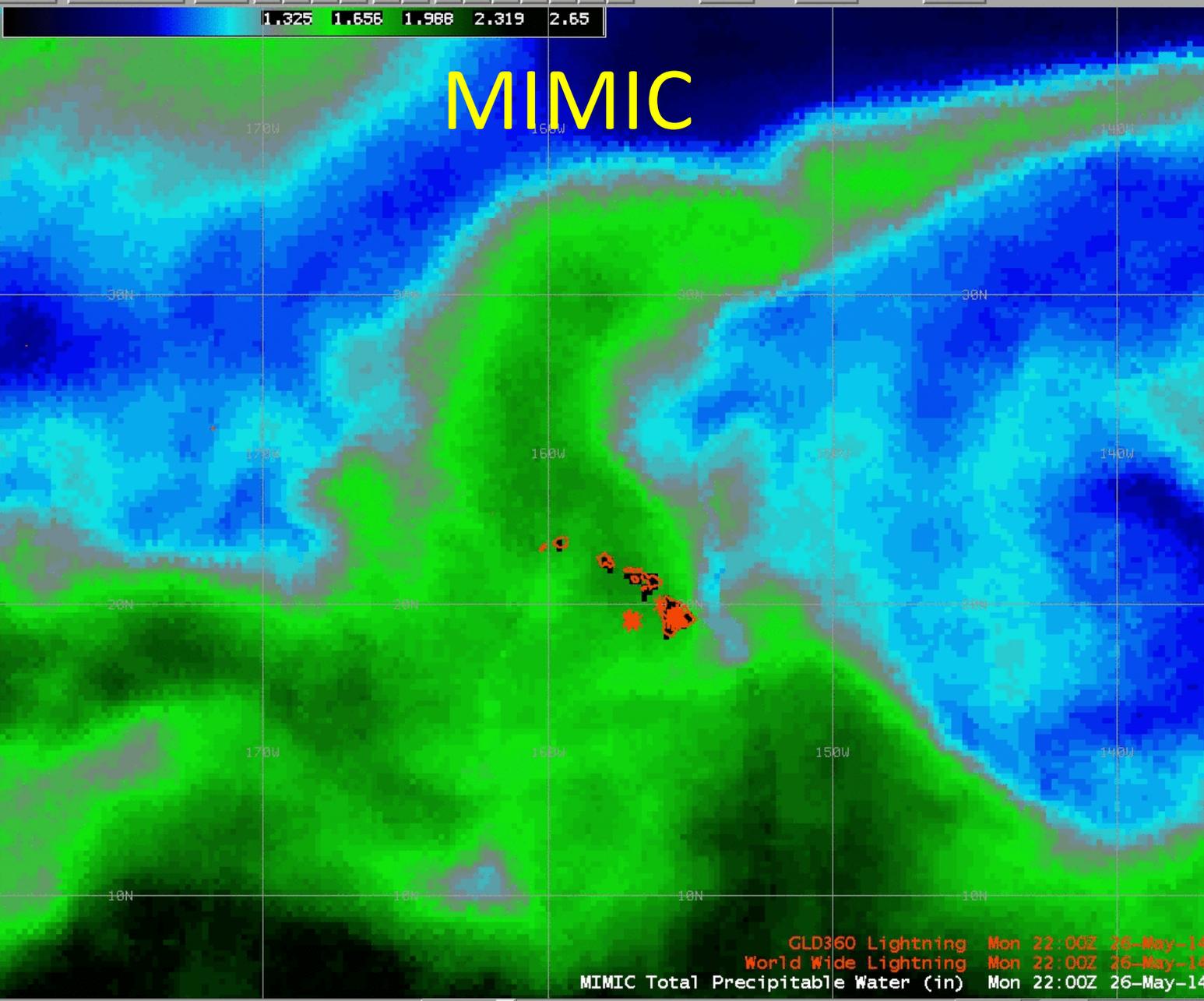
Mag: 1.25

Density: Max

1.325 1.656 1.988 2.319 2.65

MIMIC

A vertical sidebar on the left side of the interface contains several panels. From top to bottom: a 2x2 grid of small radar maps; a 2x2 grid of satellite images; a grayscale satellite image; a 2x2 grid of lightning maps; and a 2x2 grid of data tables with columns for time and values.



GLD360 Lightning Mon 22:00Z 26-May-14
 World Wide Lightning Mon 22:00Z 26-May-14
 MIMIC Total Precipitable Water (in) Mon 22:00Z 26-May-14

Status: ▾

Radar: ▾

Frames: 47 Time: 02:43 Z 29-May-14

Summary

- Both MIMIC and VIIRS DNB appear to be fully ready to be implemented into operations.
- Other products we have tested appear to be more suited to certain regions; not as helpful in their current state for the tropics (e.g. CTC/CI/ORI)
- Very much appreciate the efforts of GOES-R/JPSS PG
- Continued R2O interactions will undoubtedly yield more benefits in the future.

An underwater photograph showing a sandy seabed with ripples. The water is clear and blue-green. The word "Questions?" is written in a bright yellow, sans-serif font in the center of the image.

Questions?