

# 2013 Polar Orbiting Satellite Workshop

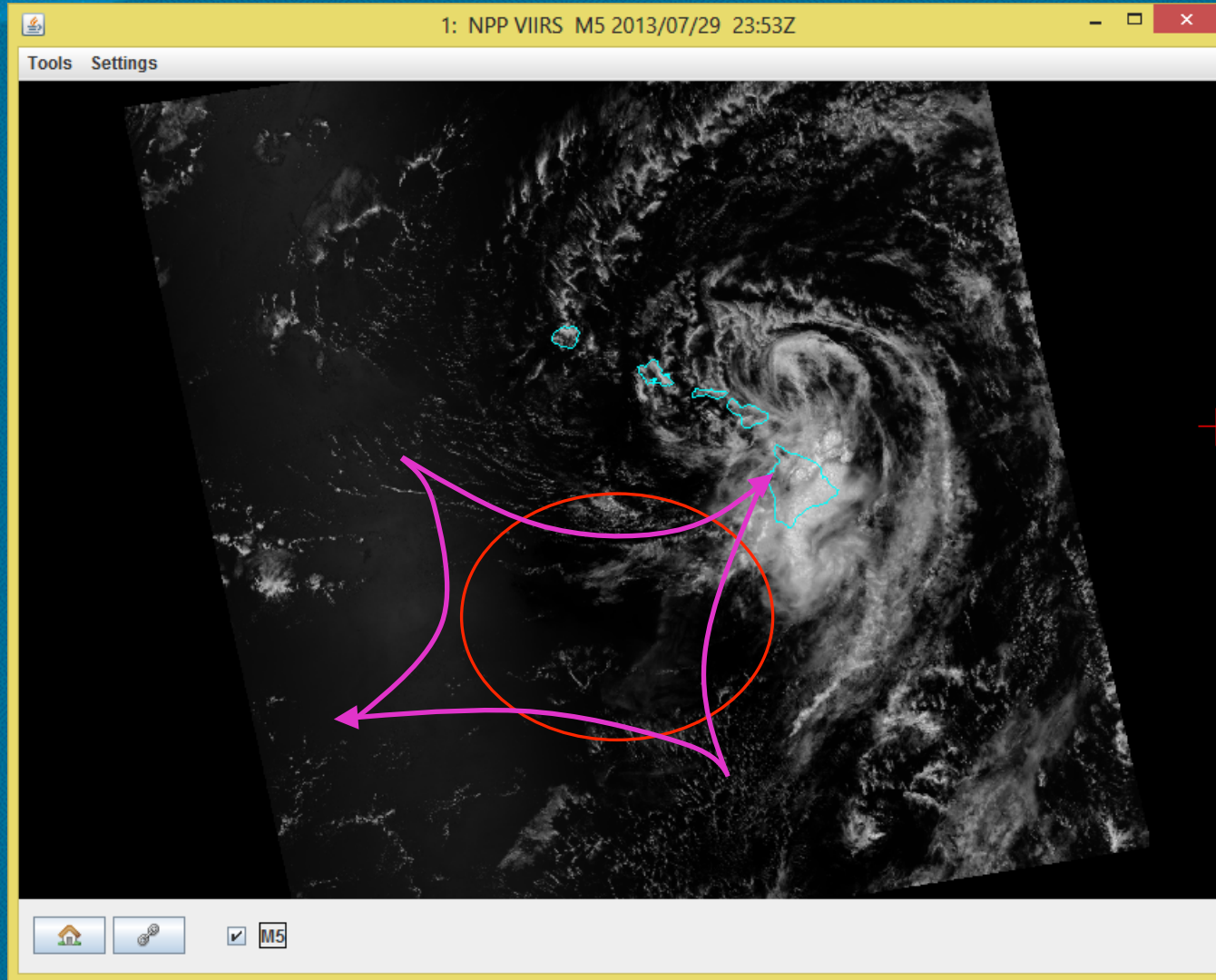
## Tropical Storm Flossie Case Study

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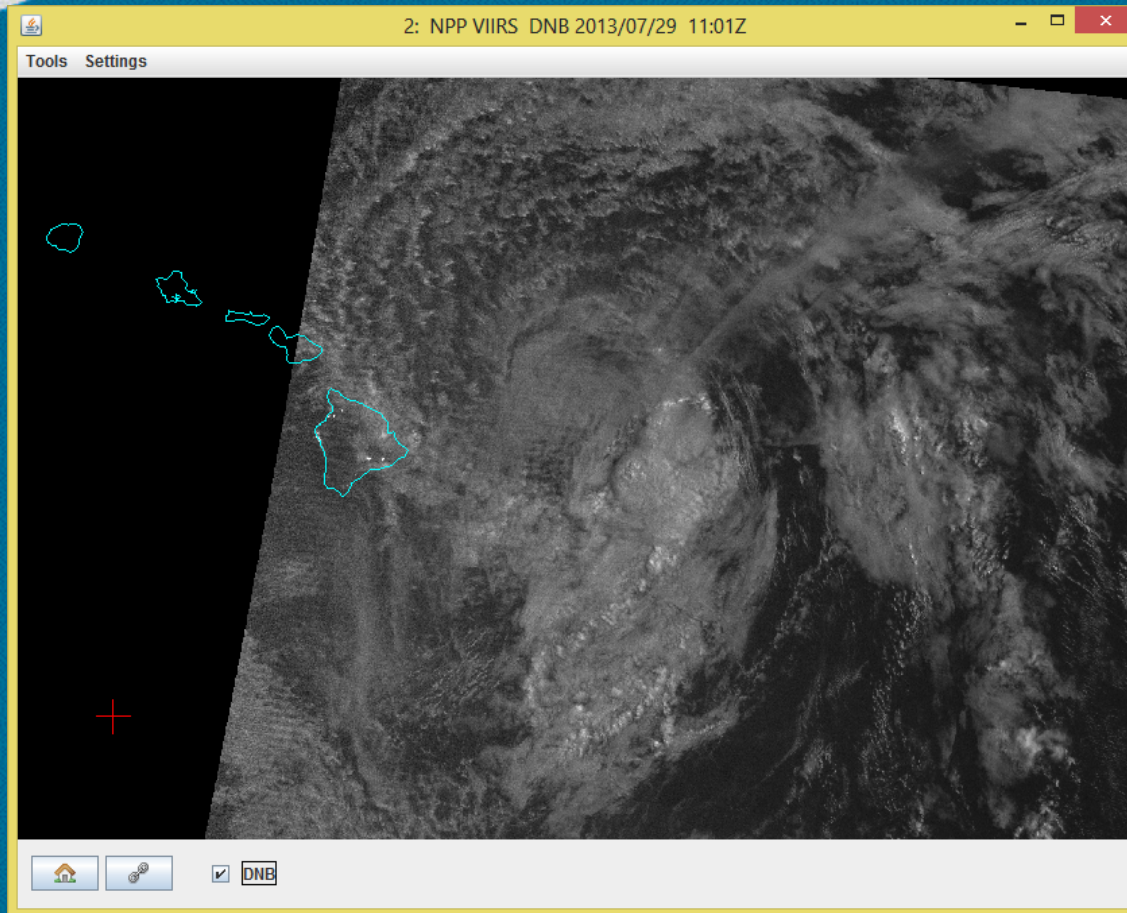
# What we did

- What we looked for:
  - We spent a lot of time looking for lightning.
    - Tried looking at DNB during the day to see if lightning was showing up in convection over the Big Island.
    - Took Jordan's recommendation of using NPP M8 (1.24  $\mu\text{m}$ ) for combustible sources thinking lightning might be detectable.
    - We looked at Lightning for severe weather case from March 9 but DNB data did not load correctly in HYDRA.
  - Looked at an area of sun glint that showed a dark area indicating light winds on the southwest periphery of TS Flossie.
  - Looked at dry air intrusion into TS Flossie in conjunction with her weakening.

# Sun Glint pattern SW of TS Flossie

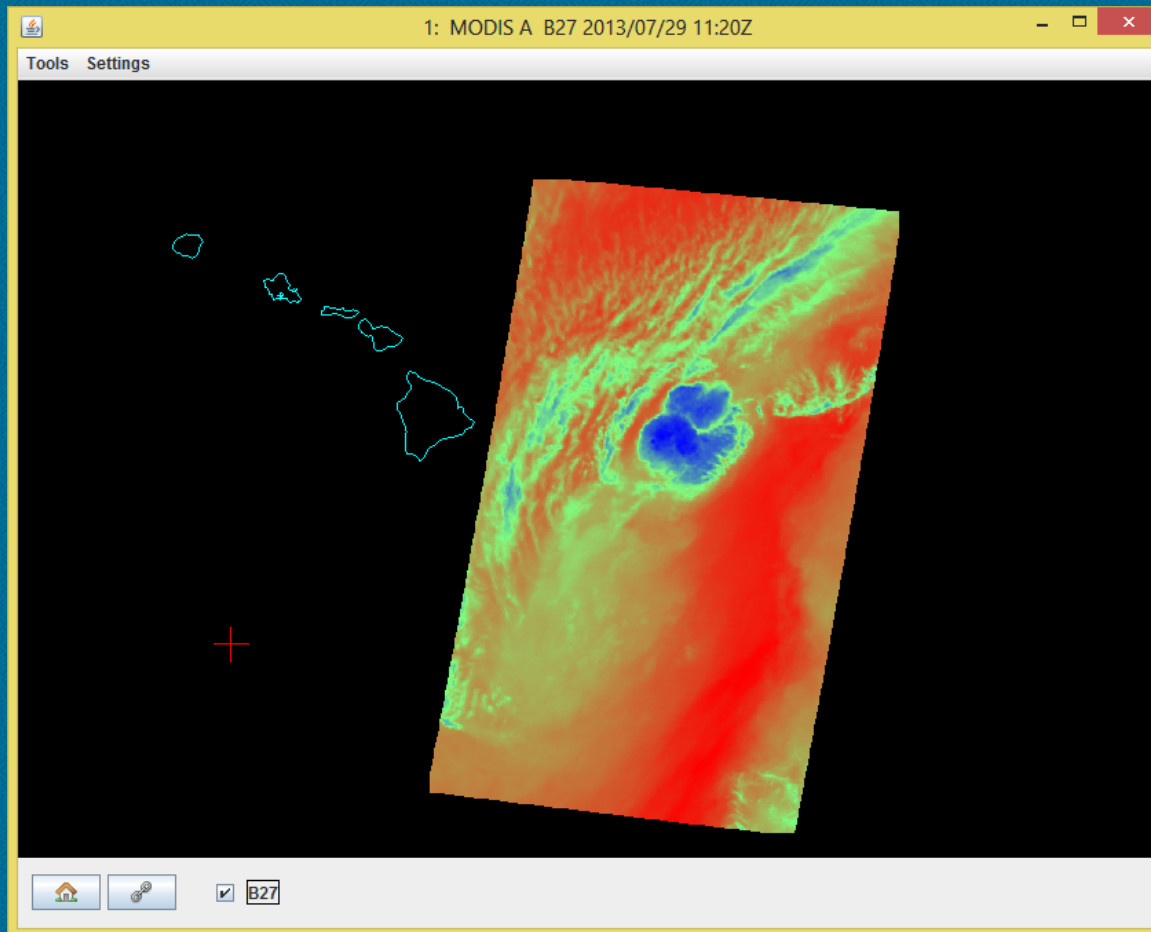


# Weakening TS Flossie



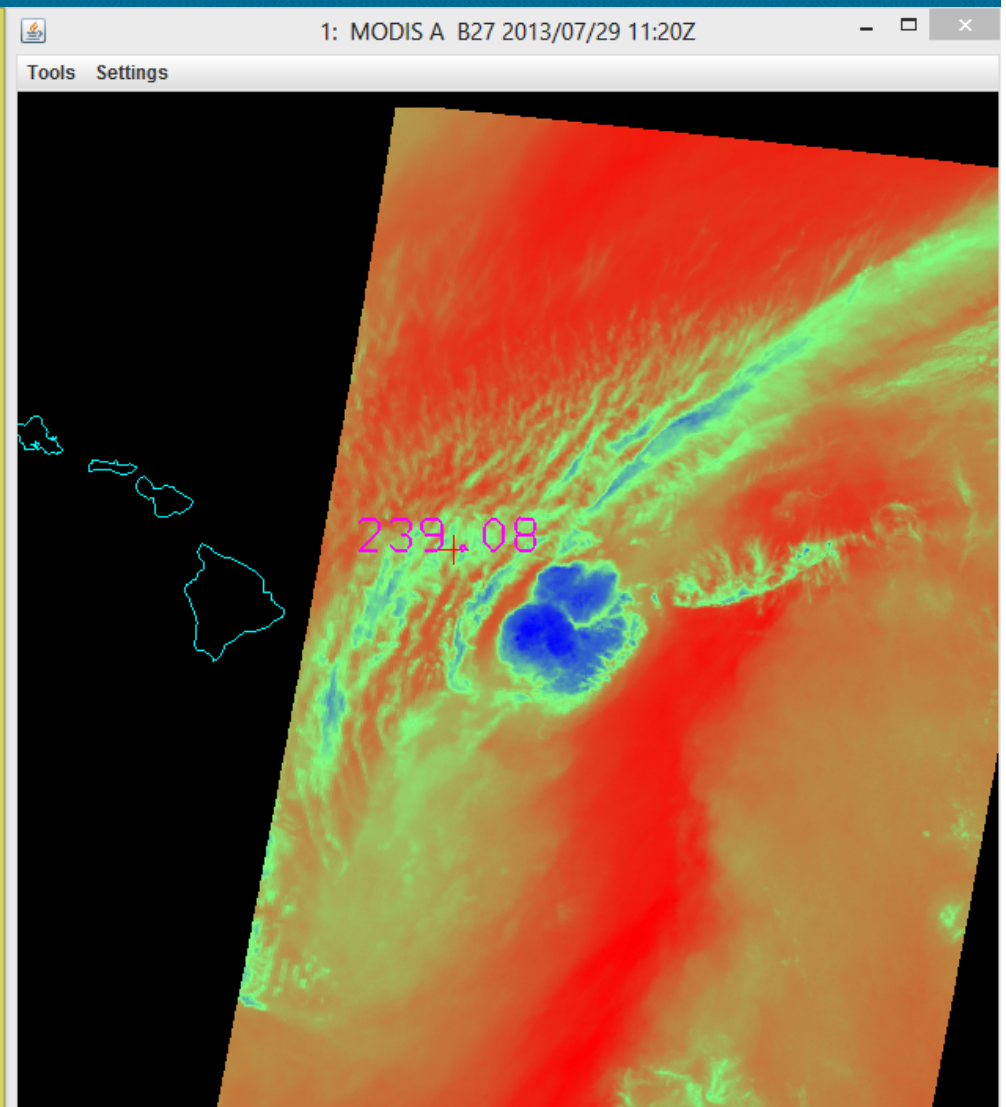
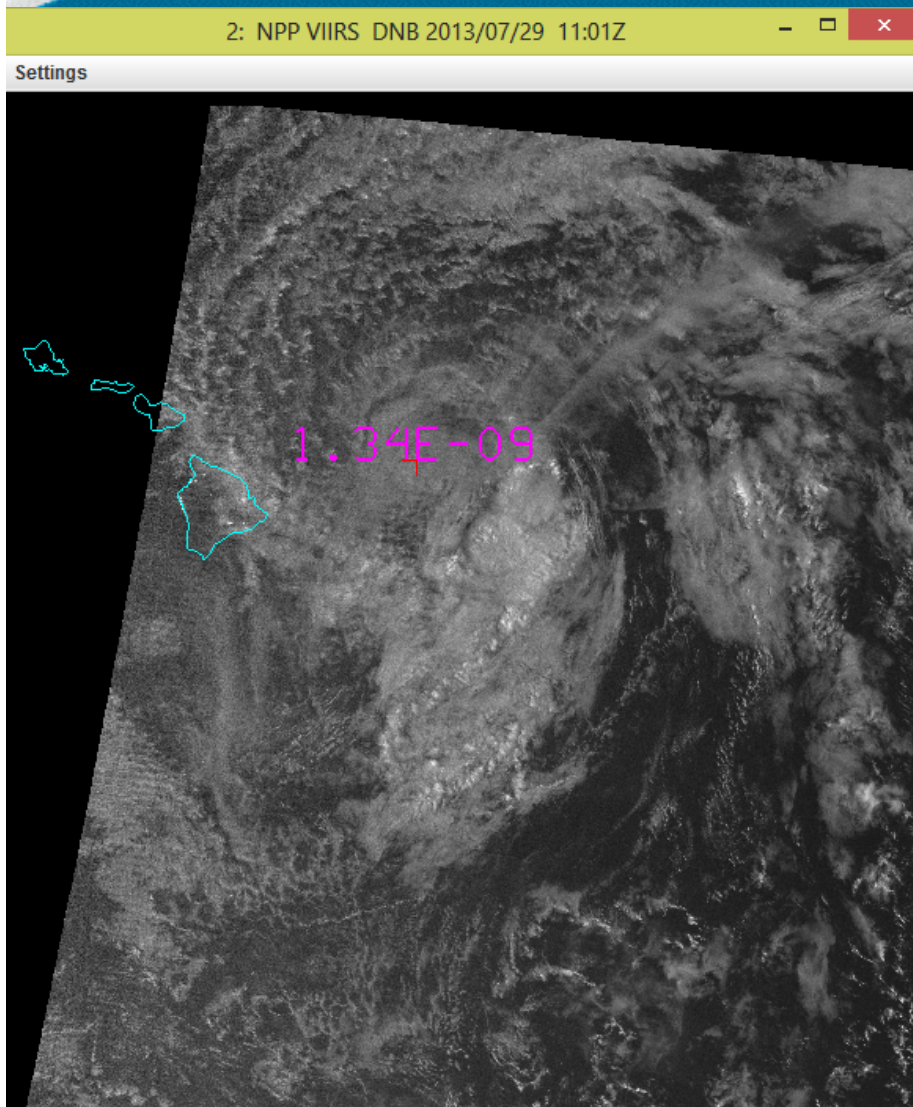
- DNB revealed to the CPHC forecasters that TS Flossie's center was further north and west than anticipated.
- DNB was not indicative of lightning in the deep convection in the SE quadrant of TS Flossie.

# MODIS B27 (6.784 $\mu\text{m}$ )



- Water vapor channel
- Shows upper level features of the atmosphere
- Indicative of dry air intrusion into TS Flossie
- At this time, the storm was weakening as the low level circulation decoupled with the deep convection.

# DNB and MODIS B27



# Conclusion

- NPP VIIRS
  - Didn't show considerable lightning although it was just one pass.
  - Showed Flossie's low level circulation
- MODIS
  - Lots of channels that can be used to interrogate the situation.
- Polar Orbiting Satellites (MODIS & NPP VIIRS) are excellent complimentary tools for operational forecasting.