

SEVERE WEATHER of Hawaii

Mar 06, 2012

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Meteorology
SOEST

What was done?

1. Synoptic Background
2. Cloud Features & Overshooting Cloud Tops
3. Turbulence & Lightning

How/Why was it done?

1. MODIS-VIS B1 & B7

Cloud Shape, Phase

2. MODIS-IR B31 & MODIS-Cloud Products(Mod06)

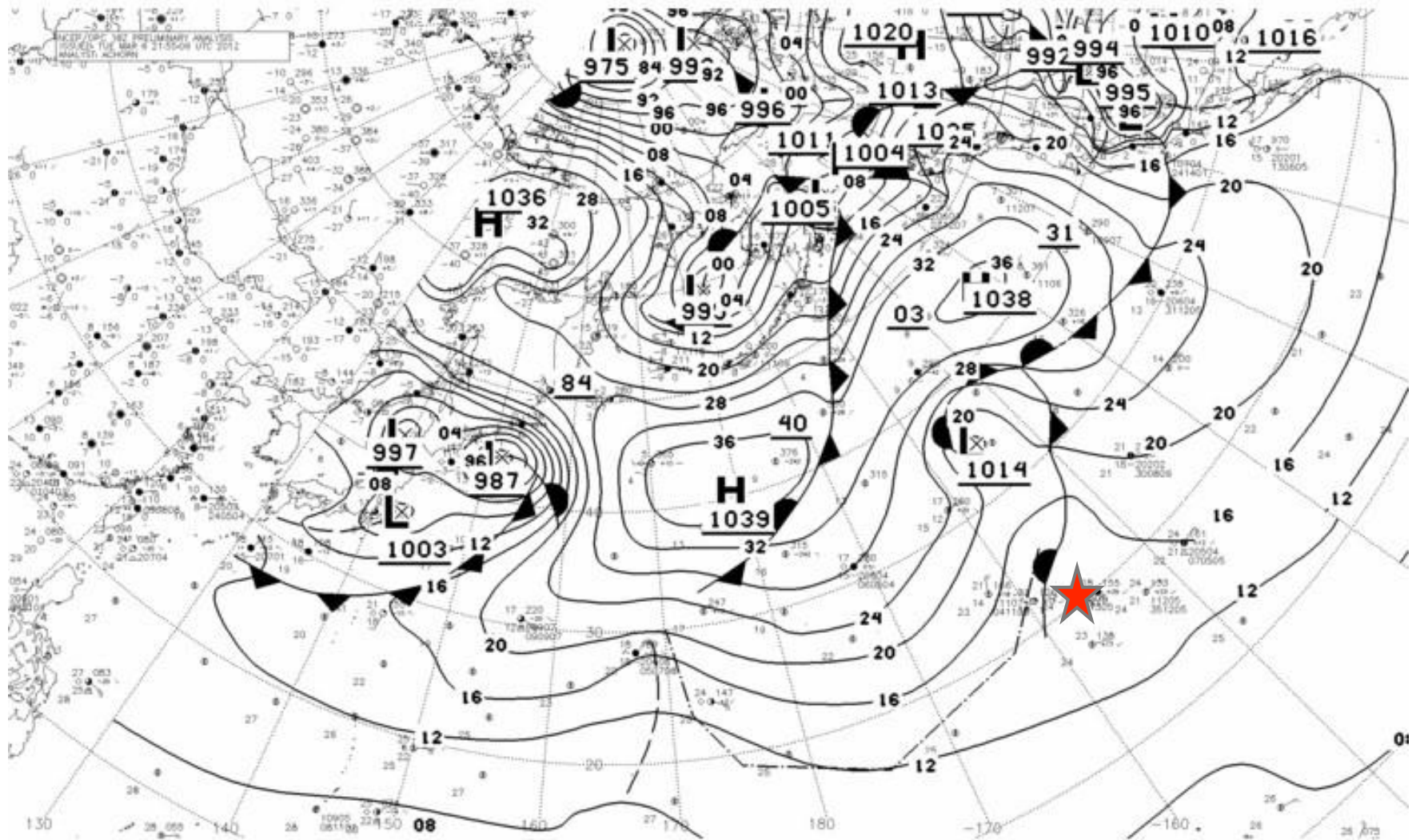
OTs, Cloud top height, Turbulence

3. MODIS-WV B27

Moisture transport

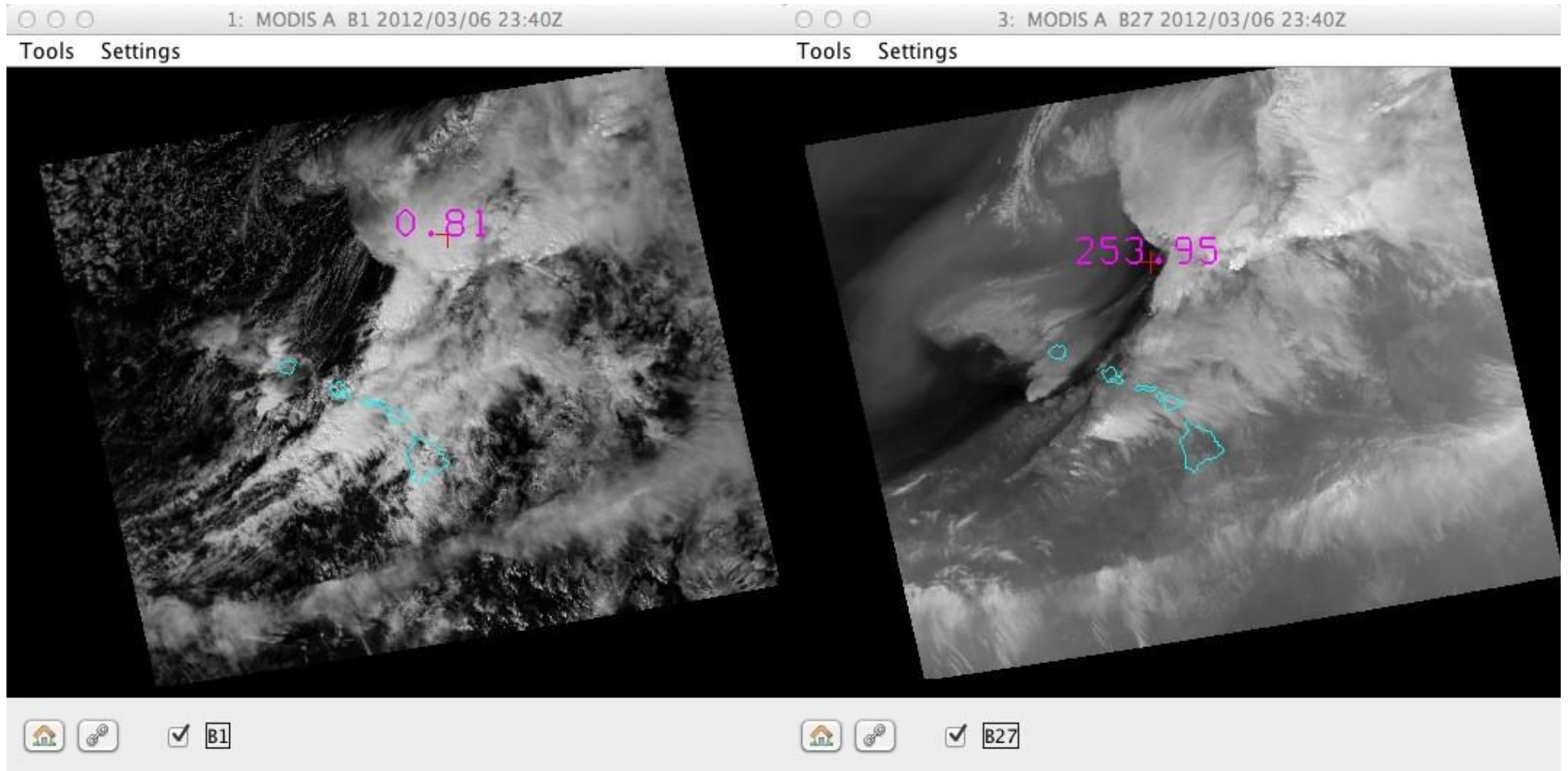
4. VIIRS DNB

Synoptic Background



VIS

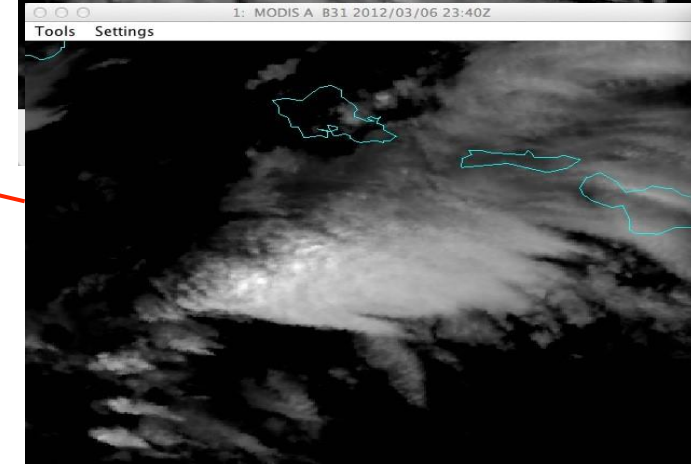
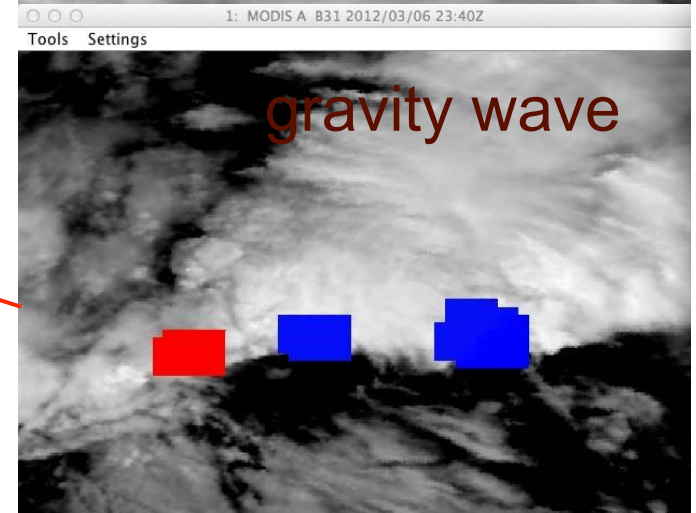
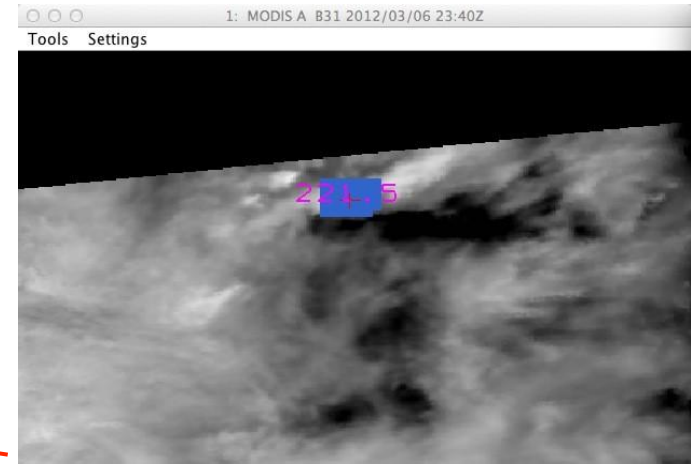
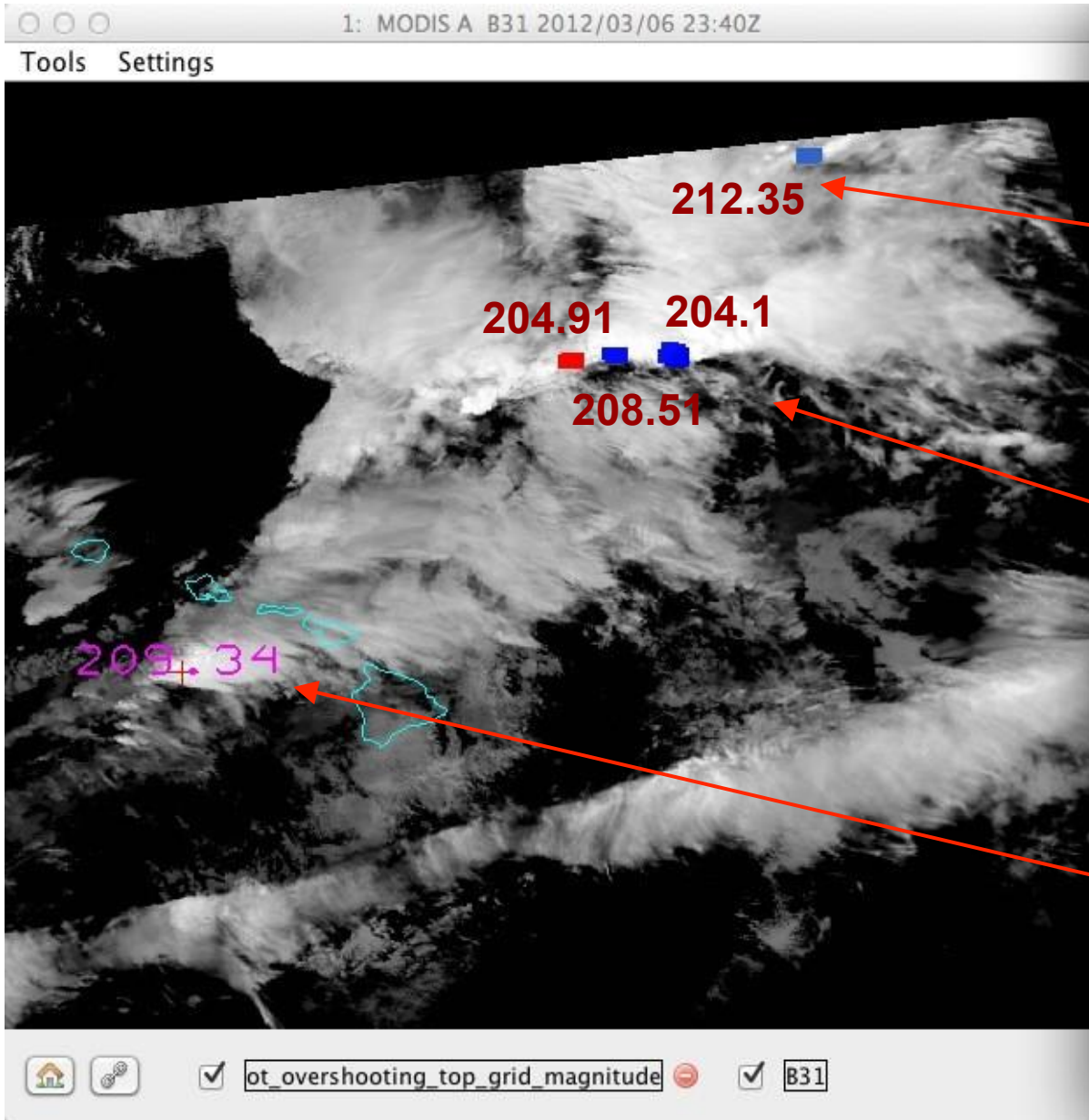
Water Vapor



M-Band 31

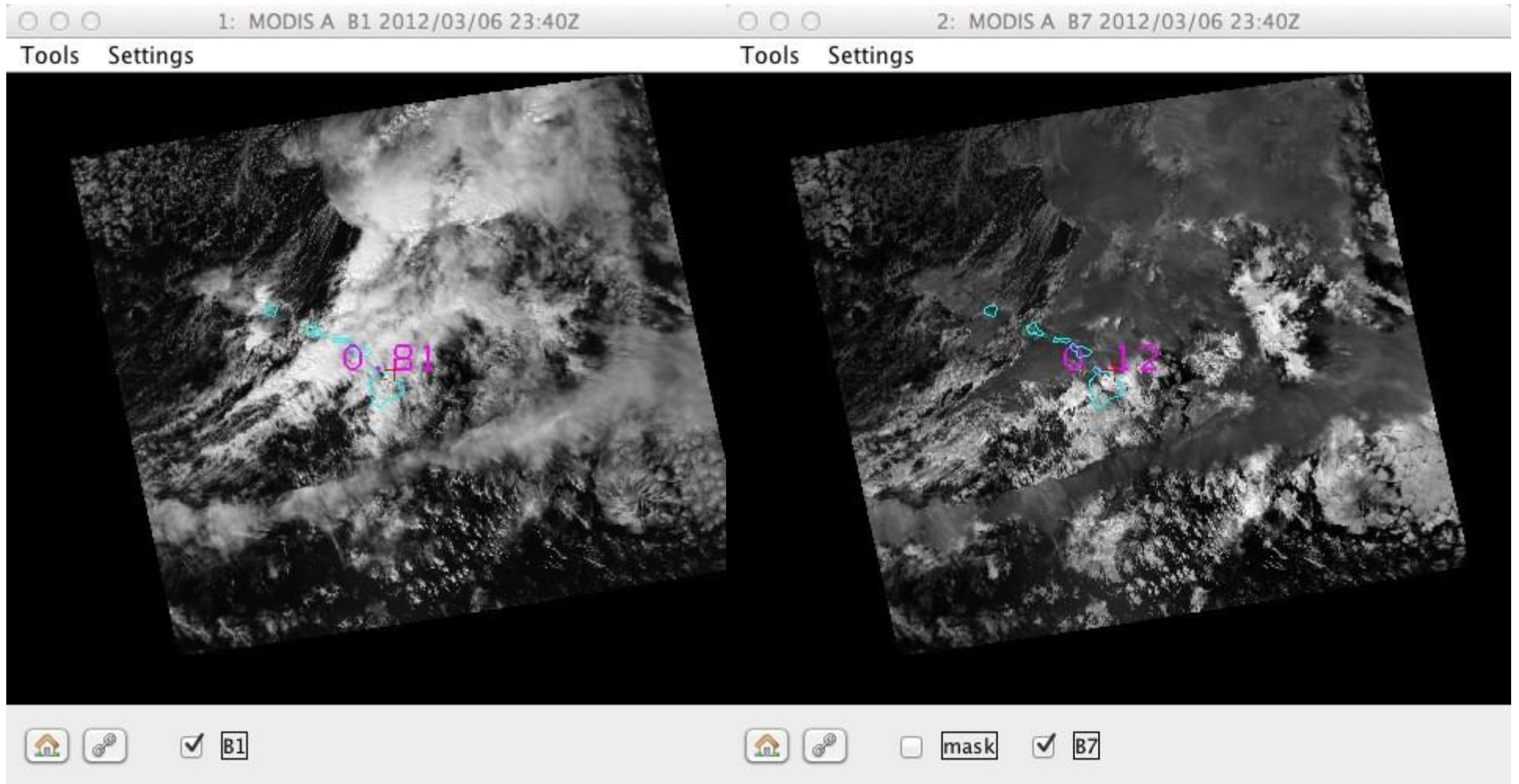
Overshooting

ot_overshooting_top_grid_magnitude



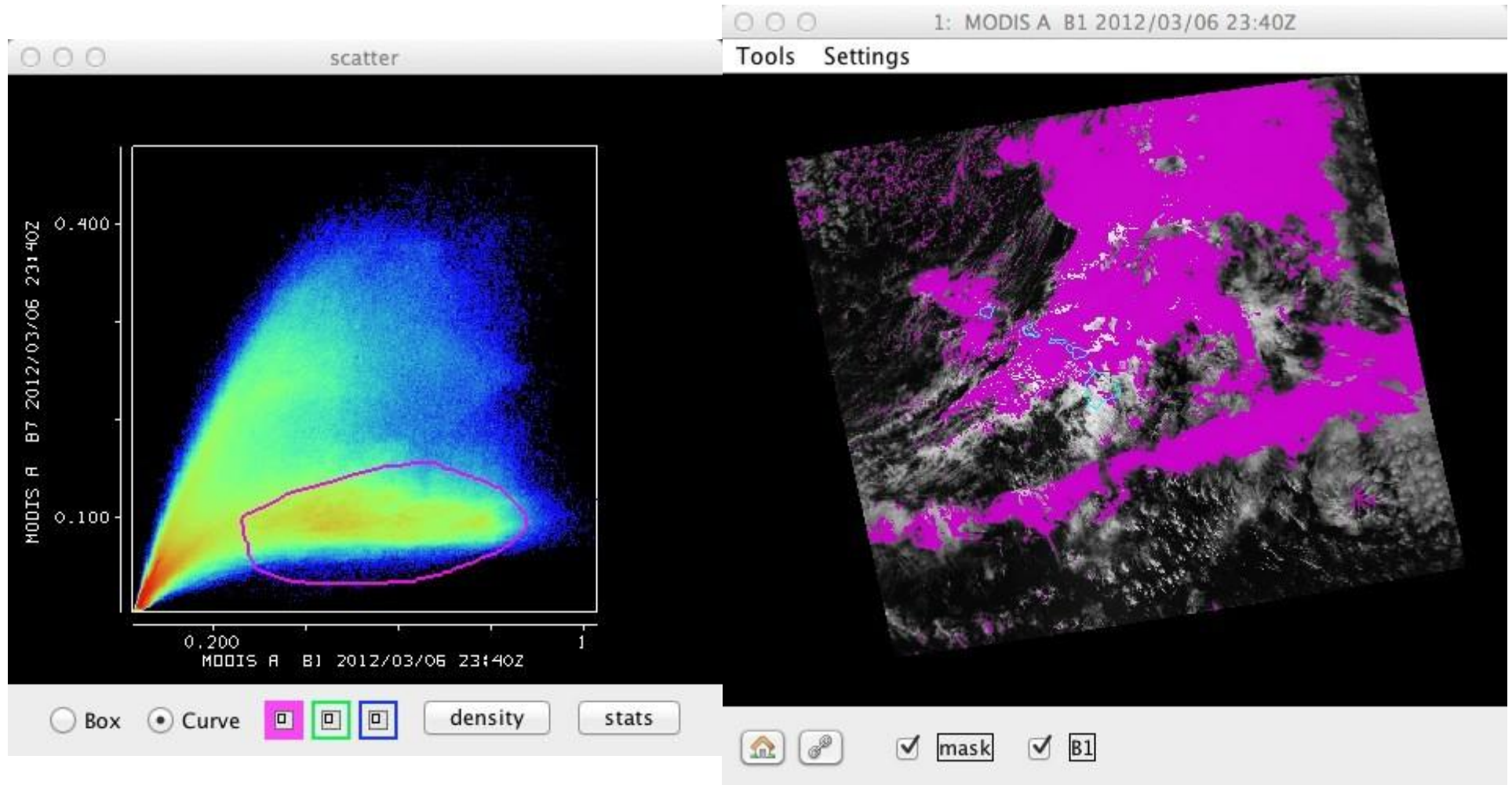
Cloud Phase

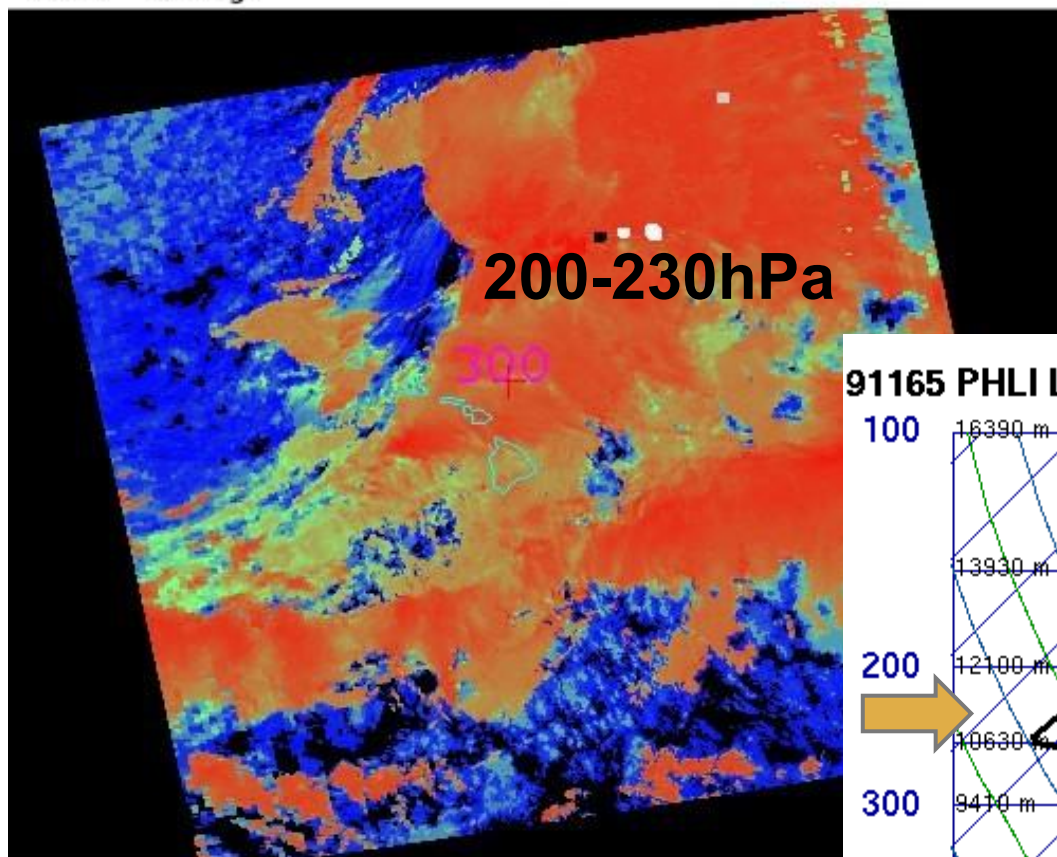
M-band 1 VS M-band 7



Cloud Phase

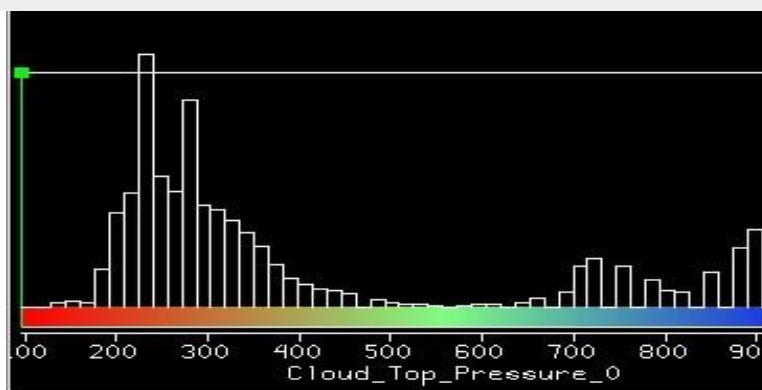
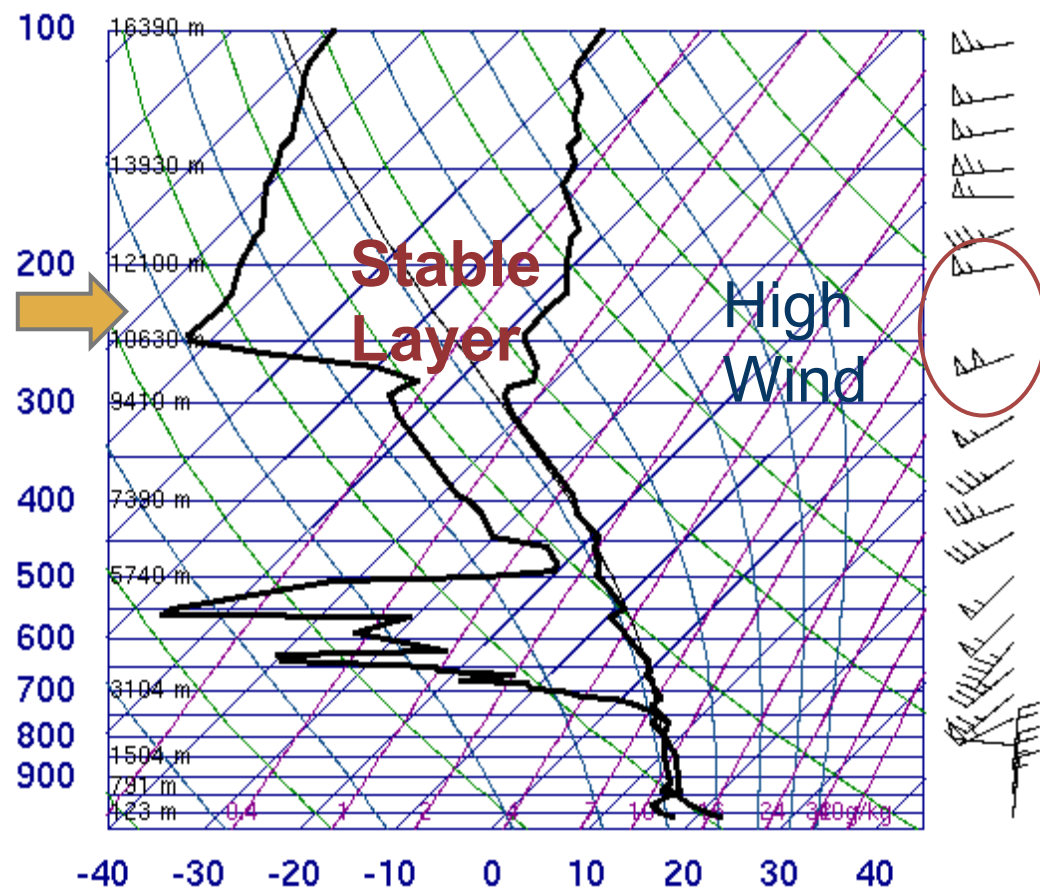
M-band 1 VS M-band 7





Turbulence

91165 PHLI Lihue

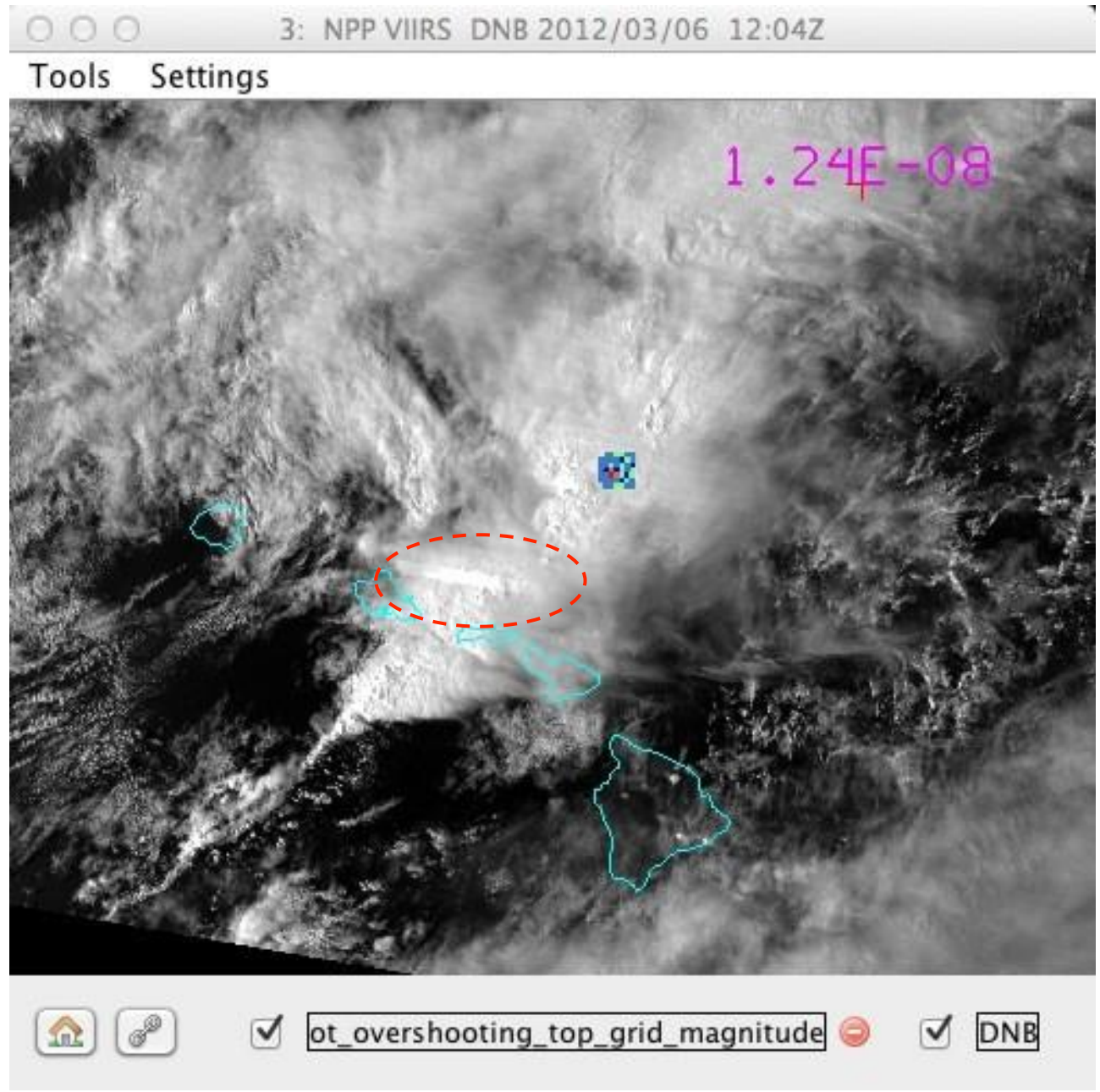


00Z 07 Mar 2012

University of Wyoming

Lightning

VIIRS Day/Night



Summary

1. **Convective storms with OTs** have potential to produce **severe weather** at the ground, as well as aviation hazards including lightning and turbulence.
2. The approach of **cold front** in the northwest of Hawaii Islands always associate with **strong convection** and severe weather.
3. **Various satellite products** (level 1 & 2) can capture the basic features of OTs and correlated severe weather.