

# The ASMET Project: An overview of the Work Process and Achievements

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# Outline

- ❖ What is ASMET ?
- ❖ Members of the ASMET Team
- ❖ The ASMET Work Process
- ❖ ASMET Modules

# What is ASMET?

The African Satellite Meteorology Education and Training (ASMET), a project that produces training materials to guide/teach African forecasters how to better use satellite images and products to improve their forecasts by integrating the information in their forecast process.

# Members of the ASMET Team

- ❖ Four CoE: EAMAC, KMD, Morocco NMHS and SAWS
- ❖ Training Officers from EUMETSAT
- ❖ An Instructional Designer from COMET

Note: The ASMET Project is Funded by EUMETSAT and Managed by EUMETSAT and COMET.

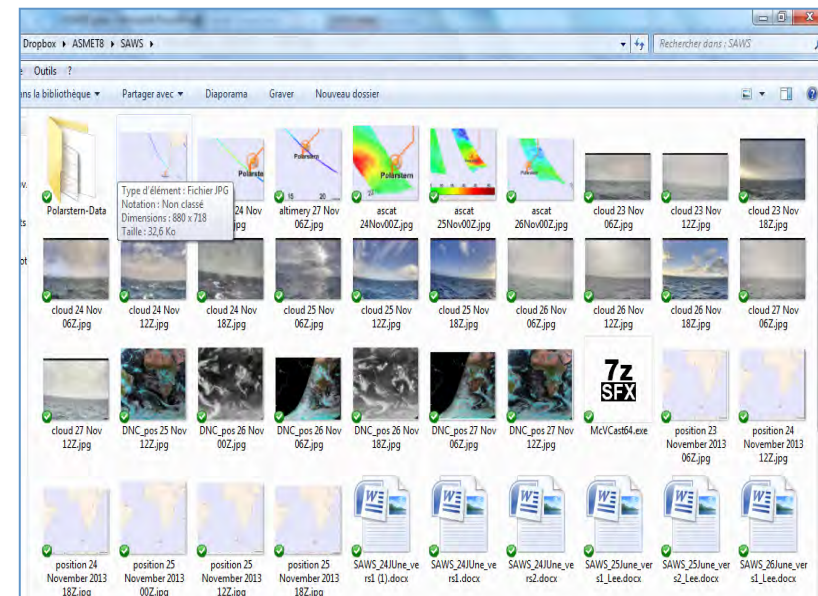
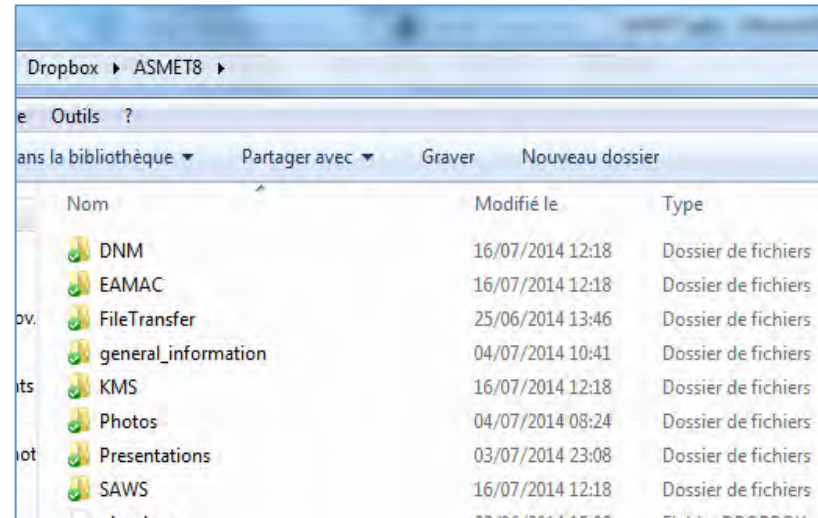


# The ASMET Team Work Process

- ❖ Before the kickoff meeting
- ❖ During the kickoff meeting
  - ❑ Present and motivate module title
  - ❑ Define target audience
  - ❑ Define module objectives
  - ❑ Define the forecast process (if applicable)
  - ❑ Define data needs
  - ❑ Choose case study(ies)
  - ❑ Order necessary satellite and NWP data
  - ❑ Start working on the script
  - ❑ Get necessary helps from EUMETSAT and COMET

# The ASMET Team Work Process

- ❖ After the kickoff meeting
  - ❑ Continue to work on the script
  - ❑ Design conceptual models if necessary
  - ❑ Seek assistance from other members of the group whenever necessary
  - ❑ Make a monthly progress reports
  - ❑ Share your script and related documents/files with other members for comments, contributions, clarifications, etc.
  - ❑ Integrate contributions and take into account comments and requests for more clarifications



# The ASMET Team Work Process

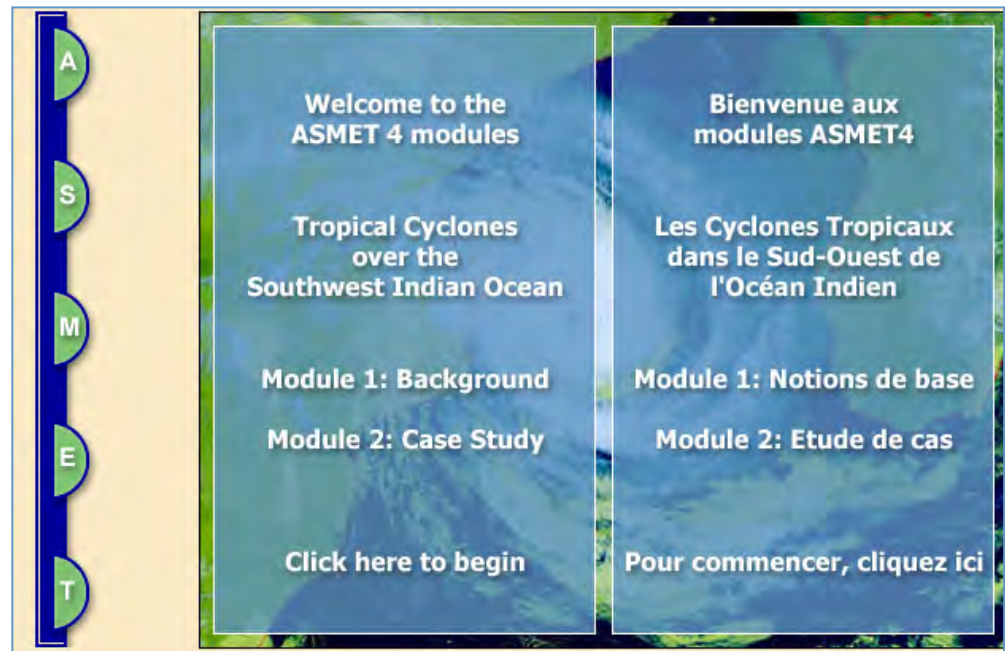
- ❖ Finalization Meeting
- ❖ Final Design and Publication of Modules
- ❖ Modules Advertisement



# ASMET modules: ASMET 1, 2, 3, & 4

- ❖ ASMET 1: Satellite Meteorology in Africa (1997)
- ❖ Integrating Satellite Imagery of the ITCZ into analyses (1998)
- ❖ Combining Satellite Imagery and Model Output in Weather Forecasting (2001)

- ❖ ASMET 4: Tropical Cyclones over the Southwest Indian Ocean (2006)





# ASMET modules: ASMET 5 (2010)

<http://oiswww.eumetsat.org/WEBOPS/meteocal/latest/www/resource/asmet5/>

Welcome to ASMET 5

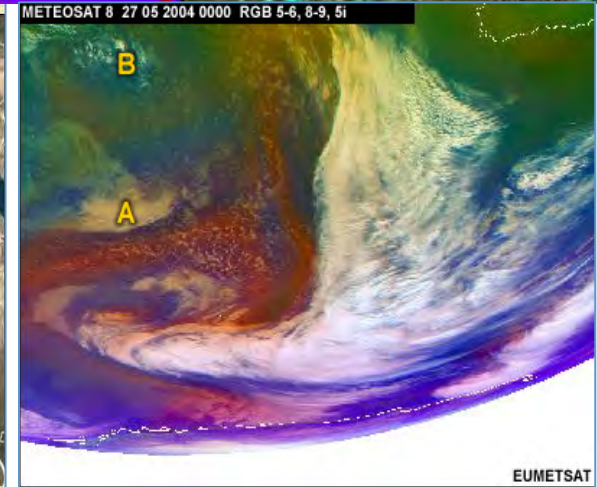
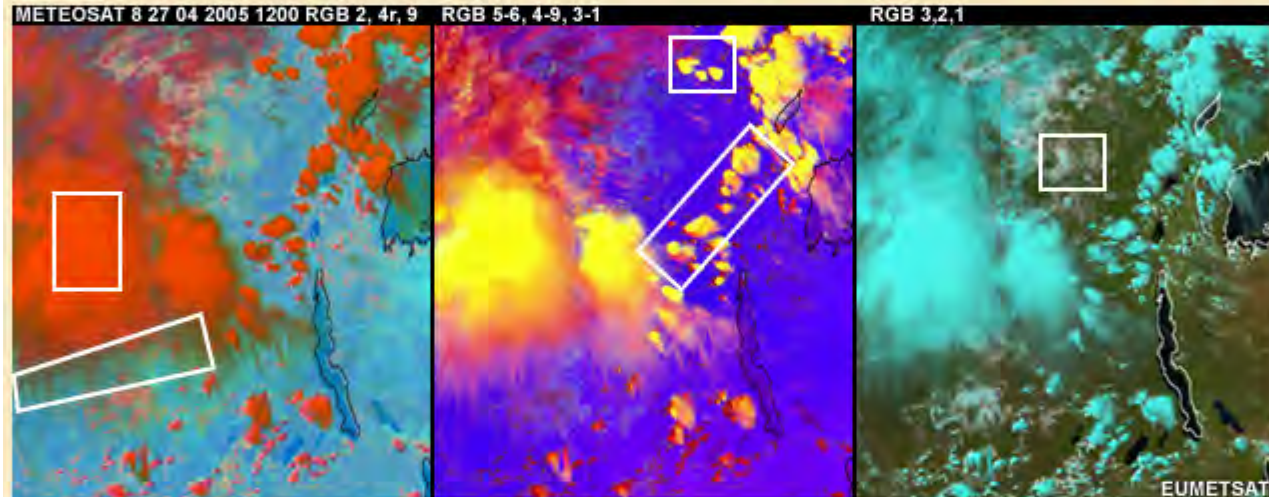
Meteosat Secondary  
Generation (MSG)  
African Case Studies

Secondary Lows Behind  
Frontal Systems

Duststorms

Cloud Clusters

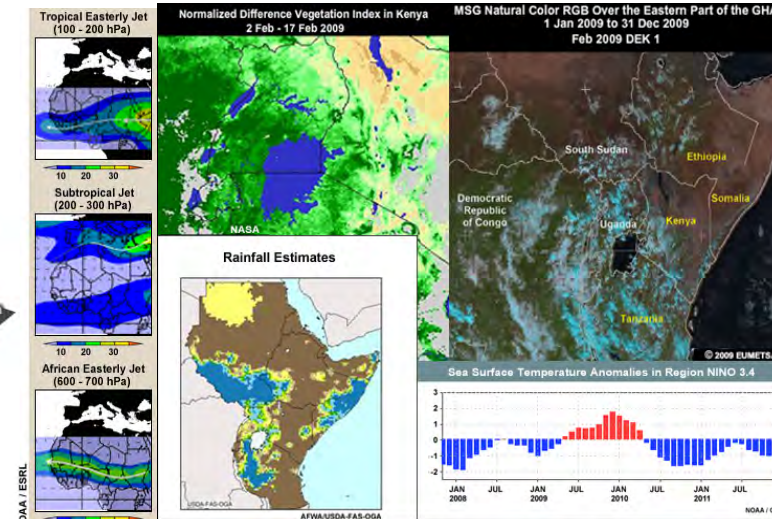
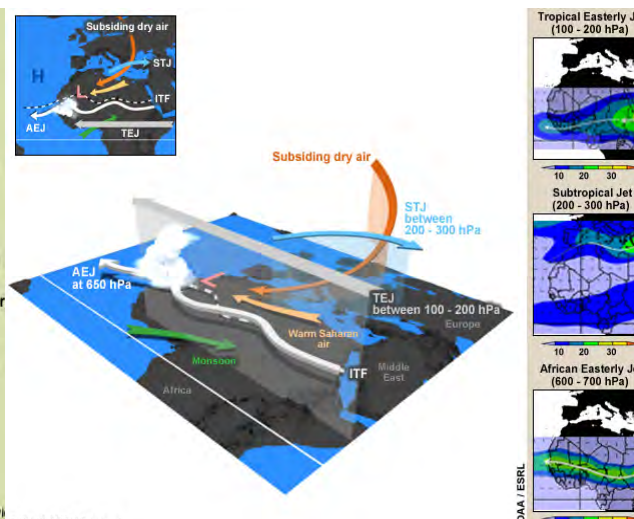
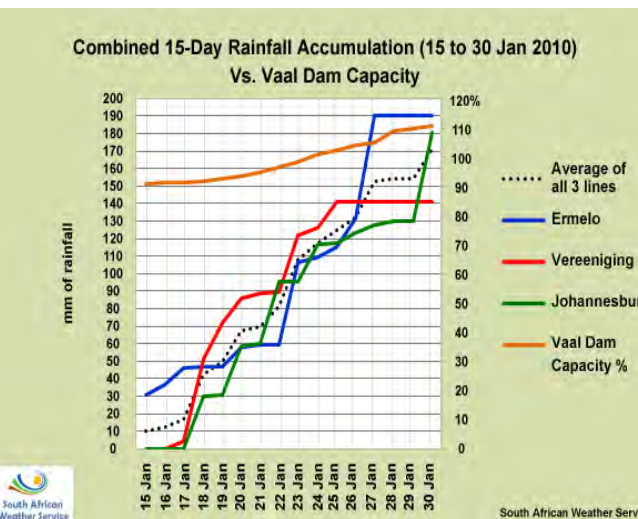
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# ASMET modules: ASMET 6 (2011)

<https://www.meted.ucar.edu/communities/asmet/modules.htm>





# ASMET modules: ASMET 7 (2013)

<https://www.meted.ucar.edu/communities/asmet/modules.htm>

## FORECASTING FOG FOR AVIATION: KENYA CASE STUDY

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AFRICAN SATELLITE METEOROLOGY  
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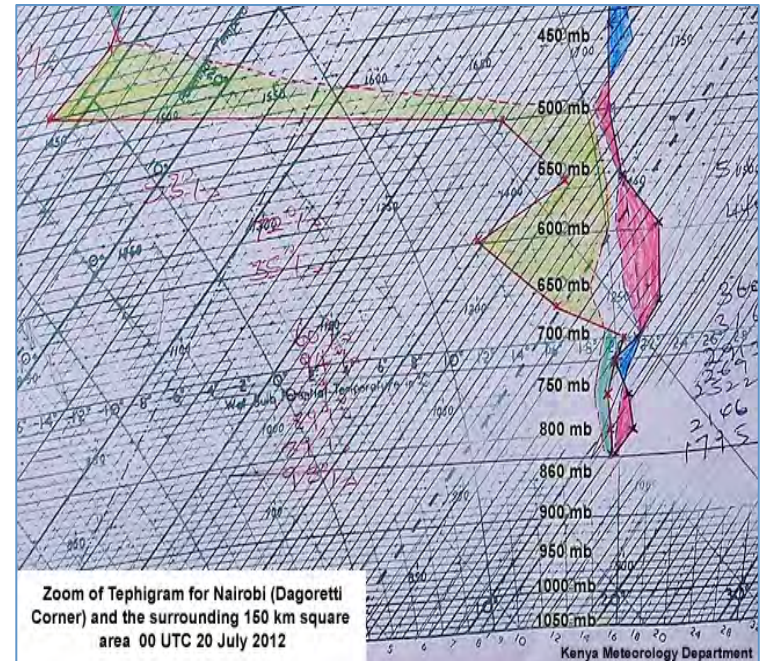
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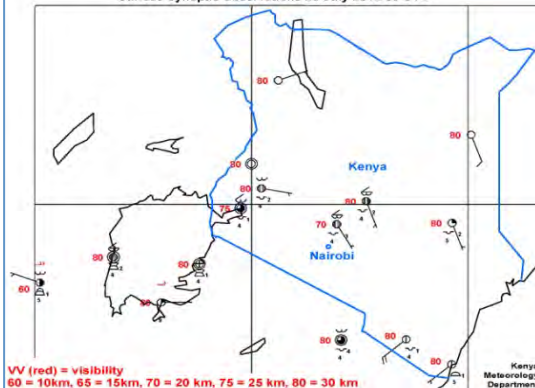
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Veronica Davis

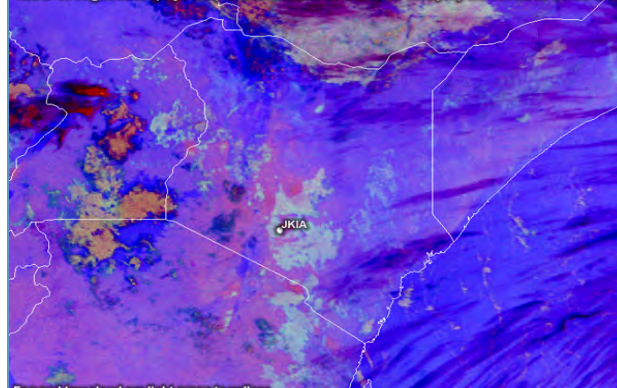
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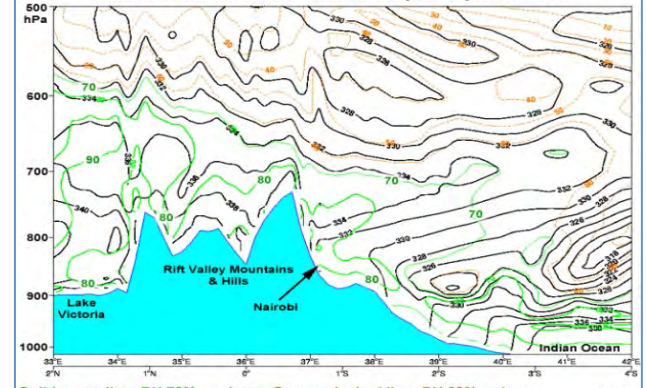
### Surface Synoptic Observations 20 July 2012 00 UTC



### MSG-10 Night Microphysics (IR 12.0-10.8, IR 10.8-3.9, IR 10.8 $\mu$ m) 20 Jul 2012 01:15 UTC



### ECMWF Vertical Cross Section of Humidity 20 July 2012 06 UTC





# ASMET modules: ASMET 7 (2013)

<https://www.meted.ucar.edu/communities/asmet/modules.htm>

**DETECTING CLEAR AIR TURBULENCE OVER SOUTHERN AFRICA**

**ASMET**  
AFRICAN SATELLITE METEOROLOGY EDUCATION & TRAINING

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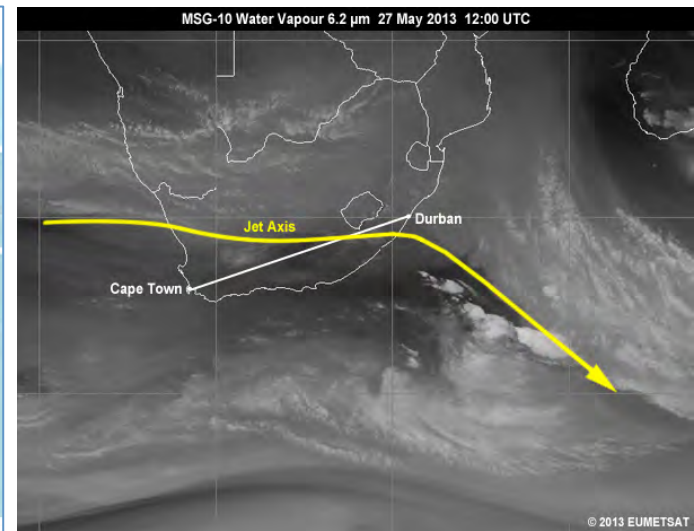
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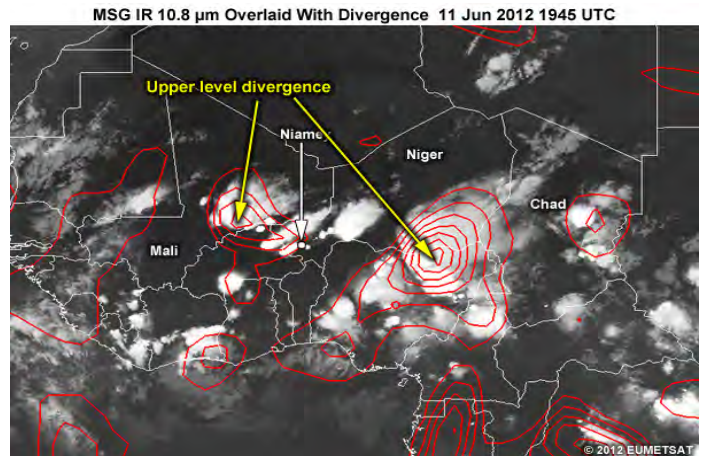
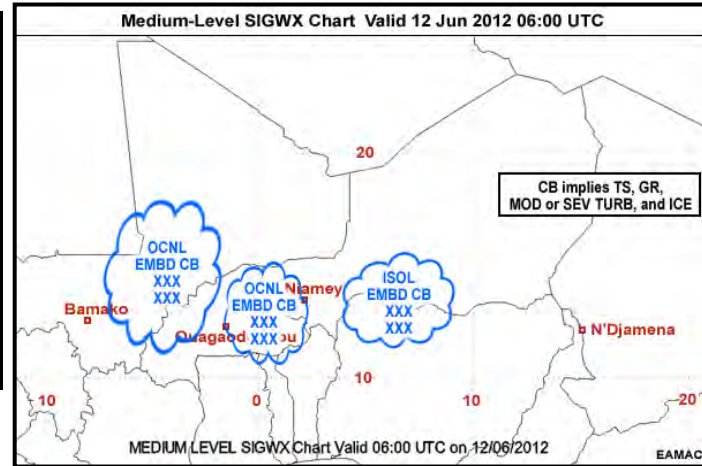
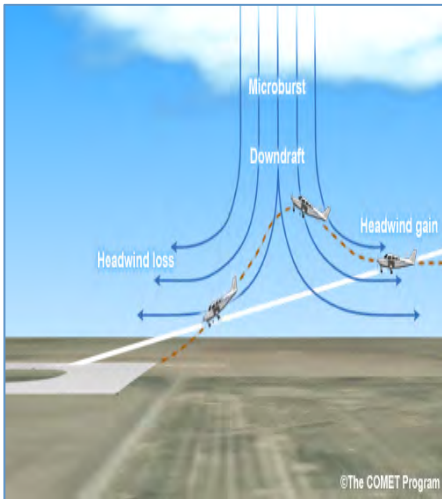
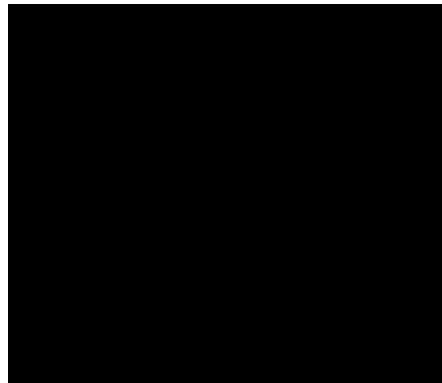
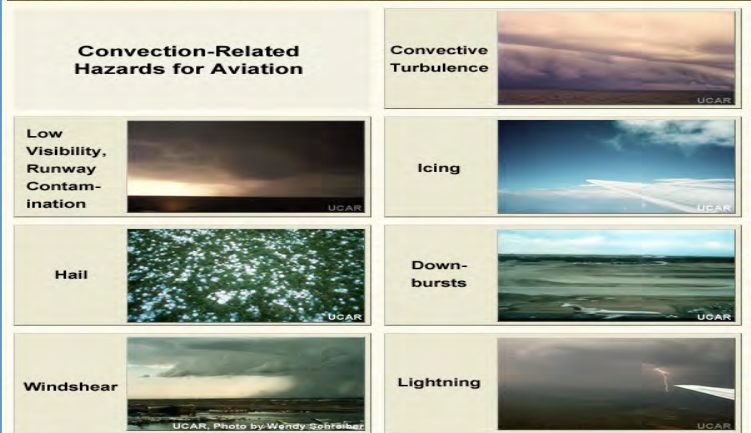
**Mental Model**

Satellite data			NWP model fields		Tephigrams / aerological diagrams	
WV imagery	HRV	Airmass	200 hPa winds	300 hPa winds	Jet stream	Vertical speed shear
Upper dry and moist zones Location of upper jet	Small-scale features in the cloud pattern	Location of upper low and upper high Location of upper jet	Jet stream found Horizontal wind shear classified as moderate turbulence	Jet stream found Horizontal wind shear classified as moderate turbulence	Jet stream found between 150 and 300 hPa	Severe turbulence indicated between 20000 and 21000 ft at King Shaka

SAWS / The COMET Program



# ASMET modules: ASMET 7 (2013)



TAF AMD 112030Z 1118/1224 25006KT 6000 TS FEW033 FEW040CB FM112115 13018G35KT 1000 TS BLDU SCT030 STC033CB BECMG 1201/1202 3000 TSRA FM120500 10008KT 8000 NSC ...

METAR DRRN 112030Z 25006KT 6000 TS FEW033 FEW040CB BKN260 36/15 Q1008 BECMG AT 2145 16020G35KT 1200 BLDU

# Coming Next: ASMET 8

- ❖ Marine Forecasting
- ❖ Assessing Land Slides Potential
- ❖ Cloud Climatology, GII in Forecasting Convection through its life cycle

**Merci pour Votre Aimable  
Attention**

**Questions/Contributions are Welcome**