

Displaying Datasets in PUMA-2025



Session Goals

- Display various data sets, (selecting data sets, area, time, zoom)
- Adjusting display time
- Animations
- Tiles (different resolution)



Session Outline

1. Satellite data
 - Single channels (changing color palettes)
 - RGBs
2. NWP data(selecting the model, run time, data type and level)
3. Displaying METAR, SYNOP, TAF, SIGMET (Meteorological Dissemination Data (MDD))



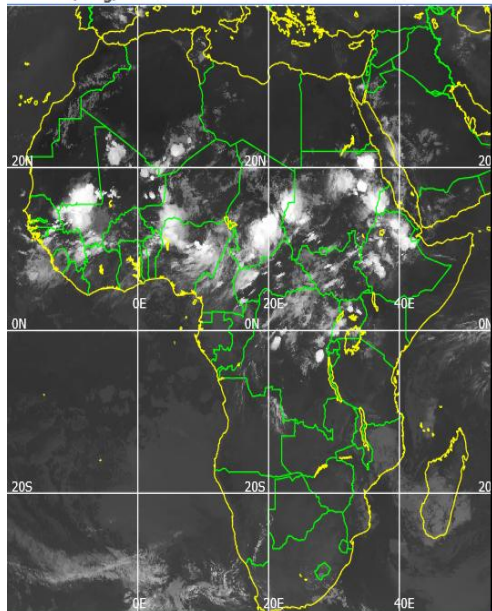
Satellite Data



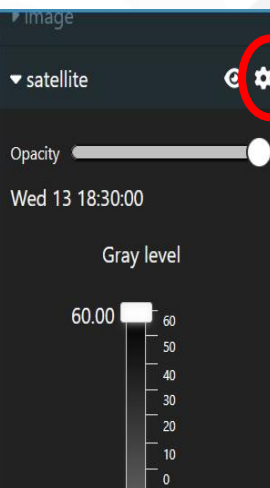
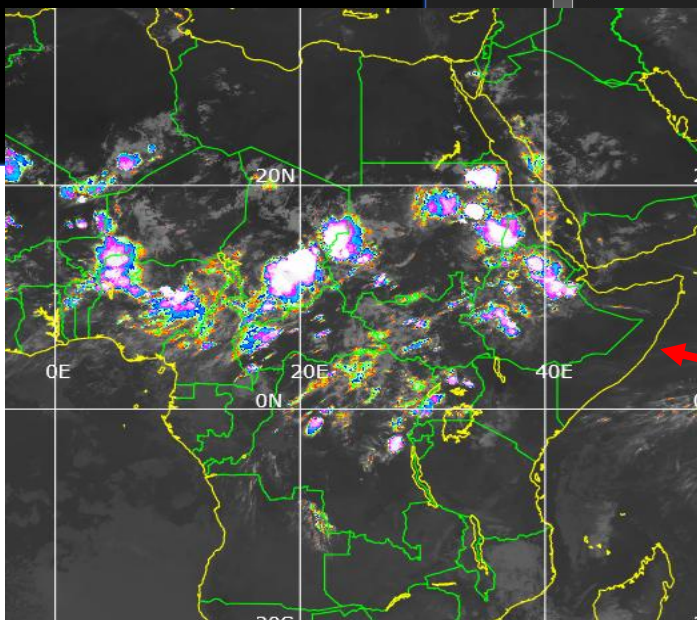


Adjusting Colour Pallets for Single Satellite Channels

MT11 13/Aug/2025 18:30



Open an mtg IR 10.5 image



Tools

grid

vector

image

satellite

image

background

Edit mode

Tools

grid

vector

image

satellite

image

background

satellite

Groups Settings

+ Add Group

Settings

3D

Color

Reverse Color

User cal

Autorange

Reverse slider

Hide slider

Enhance

Palette Colors

DEFAULT PALETTE

1) 2) 3) 4)

CUSTOM PALETTE

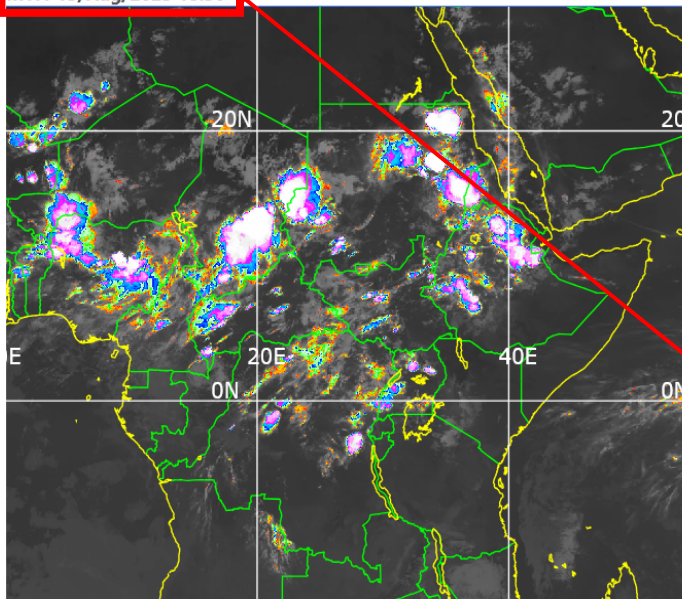
11) 12) 13) 14)



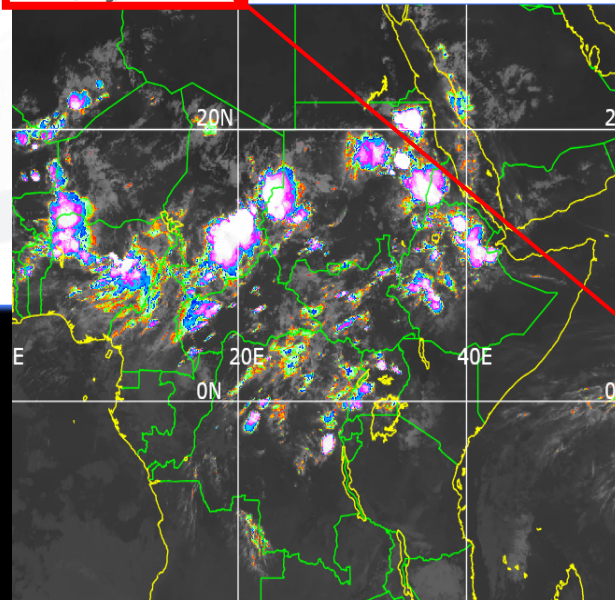
Adjusting the Display Time on Single Satellite Channels

You can adjust the time by selecting from the options in the time display window on the bottom righthand side

MTI1 13/Aug/2025 18:50



MTI1 13/Aug/2025 18:20



satellite/africa.out/_ir_105

satellite/africa.out/_ir_105

Edit mode

Tools

grid

vector

image

satellite

image

background

Opacity

Select

speed: 200 pause: 2000

Images 112 / 115

Skip

0.53:1 W:1372 H:1391

equirect 6 Km/px - 11.38

Wed, 08/13/2025, 18:00

Wed, 08/13/2025, 18:10

Wed, 08/13/2025, 18:20

Wed, 08/13/2025, 18:30

Wed, 08/13/2025, 18:40

Images 115 / 115

Skip

speed: 200 pause: 2000

0.53:1 W:1372 H:1391

equirect 6 Km/px - 11.38

Wed, 08/13/2025, 18:20

Wed, 08/13/2025, 18:30

Wed, 08/13/2025, 18:40

Wed, 08/13/2025, 18:50

Time display window



Displaying RGB Products

MSG ▾ MTG ▾ ECMWF ▾ MF ▾ UKMET ▾ AVIATION ▾ Queues ▾

MTI1 13/Aug/2025 18:20

Open queue...

- mdd/metar_taf/mdd_metar_20250812/africa.out
- satellite/africa.out/_vis_06
- satellite/africa.out/_wv_63
- satellite/africa.out/_ir_105

Step 1: Open Queue

Step 2: Select "mtg" and your RGB of choice

Step 3: Choose area of interest

Step 4: Set time

FastOpen

Layouts

- Satellite
- Msg
- Iodc
- Mtg**
- Fci
- + Queue
- + Saved
- + Ascet
- Eowas
- + EUMETView

Channels

- MTG 24h Microphysics
- MTG Airmass
- MTG Ash
- MTG Cloud type**
- MTG Severe Convection (Storms)
- MTG Cloud Phase
- AATC

Areas

- ☒ Africa
- ☐ Africa_ecmwf

Images

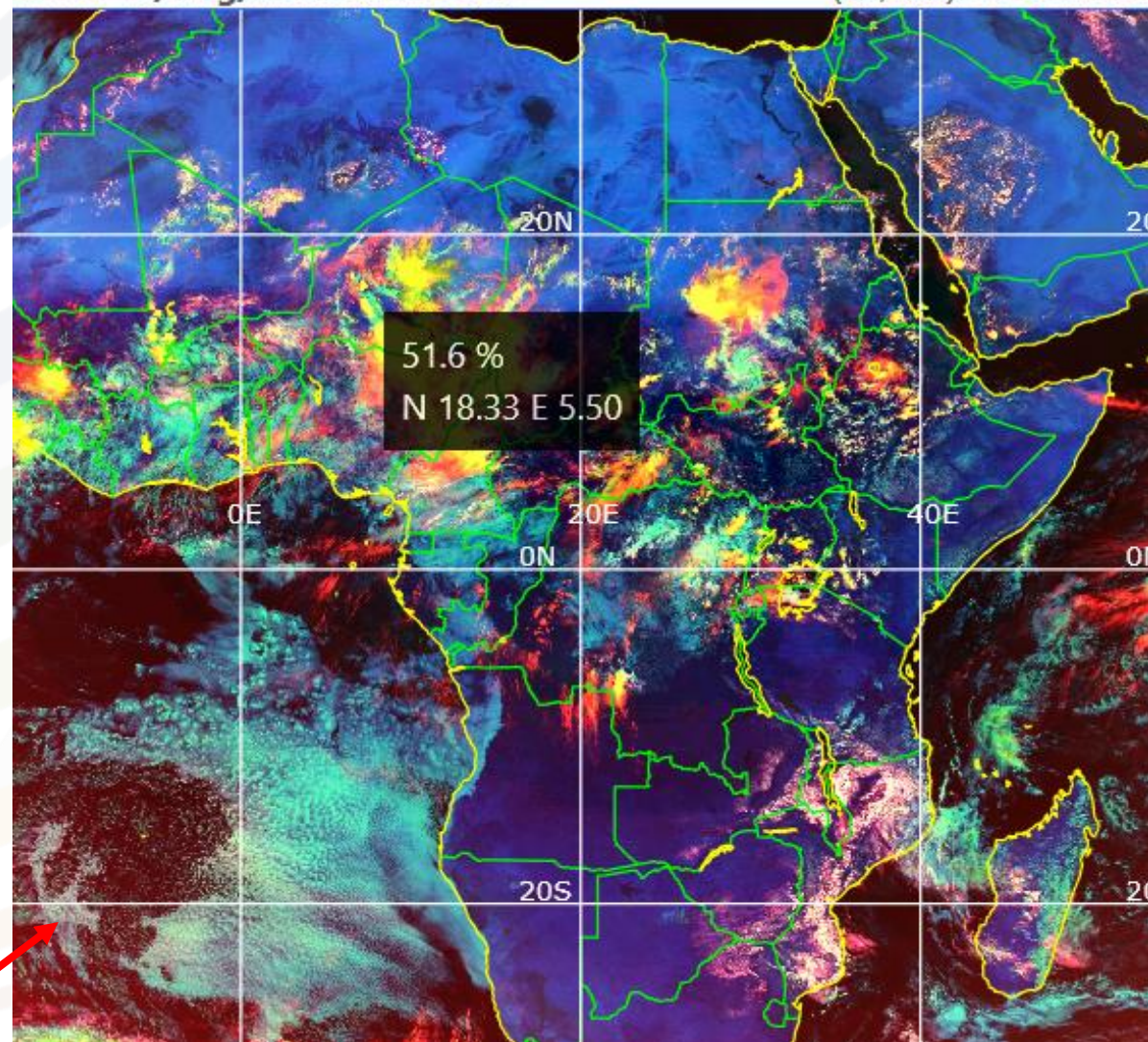
From: Latest Range: Last 24 Hou Every: 30 Minutes Selected: 38 / 38

202508131850.016	✓
202508131820.016	✓
202508131750.016	✓
202508131720.016	✓
202508131650.016	✓
202508131620.016	✓

Import Load

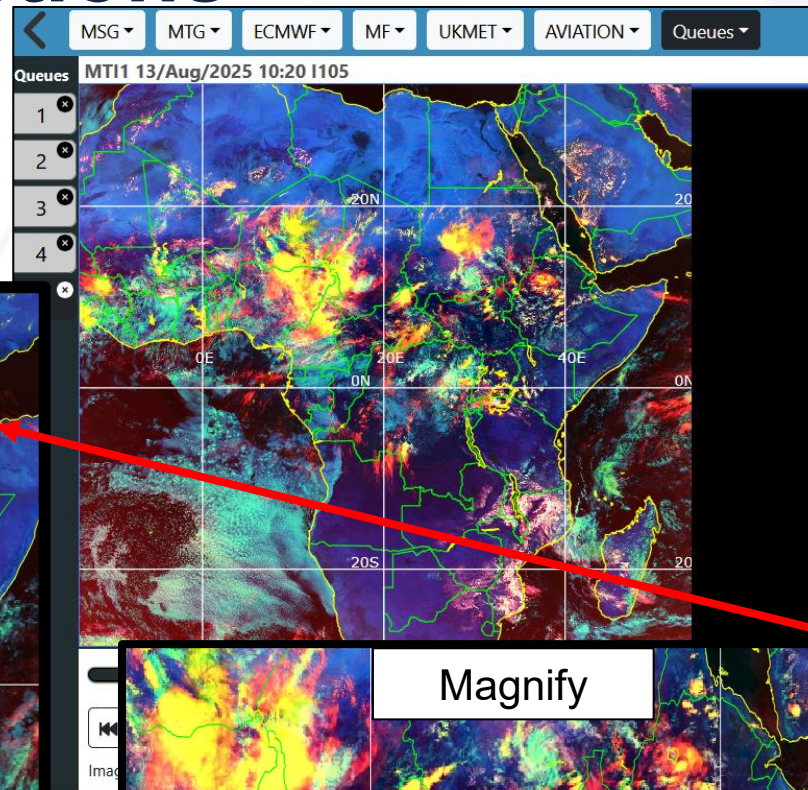
MTI1 13/Aug/2025 10:20 I105

(lat, lon): N 18.33 E 5





Zooming Functions



Zoom in

Zoom out

Magnify

Q<1 Q1:1 Q>1
0.37:1
W:1377 H:1391
equirect
6 Km/px - 16

Wed, 08/13/2025, 09:20
Wed, 08/13/2025, 09:50
Wed, 08/13/2025, 10:20
Wed, 08/13/2025, 10:50
Wed, 08/13/2025, 11:20

Rgb

MTG Cloud type

Wed 13 10:20:00



Animate your Imagery

Step 1: Open a new queue
Step 2: Choose your MTG RGB

Step 3: Set time range

FastOpen

Layouts

— Satellite

Msg

Iodc

Mtg

Fci

+ Queue

+ Saved

+ Ascst

Ecowas

+ EUMETView

Channels

MTG Cloud type

MTG Severe Convection (Storms)

MTG Cloud Phase

MTG Dust

MTG Fire

MTG Night Microphysics

Images

00:00

By slot

From

Range

Every

Period

Last 24 Hou

30 Minutes

2025-08-13 00:00

2025-08-13 00:00

Selected: 39 / 115

202508131950.105

202508131940.105

202508131930.105

202508131920.105

202508131910.105

Areas

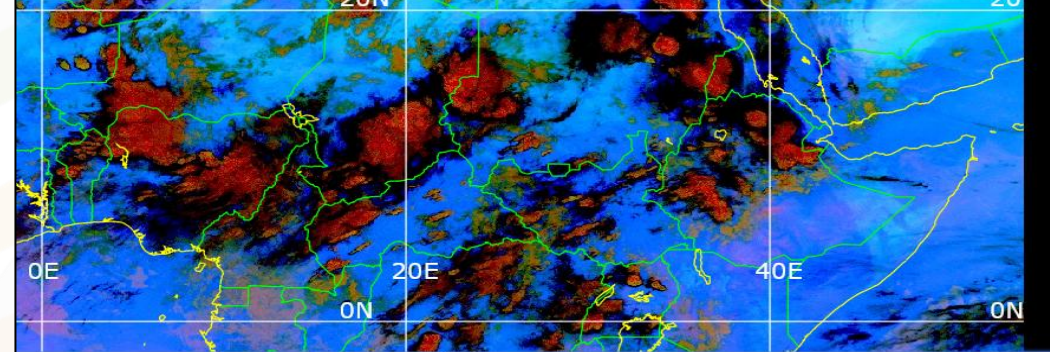
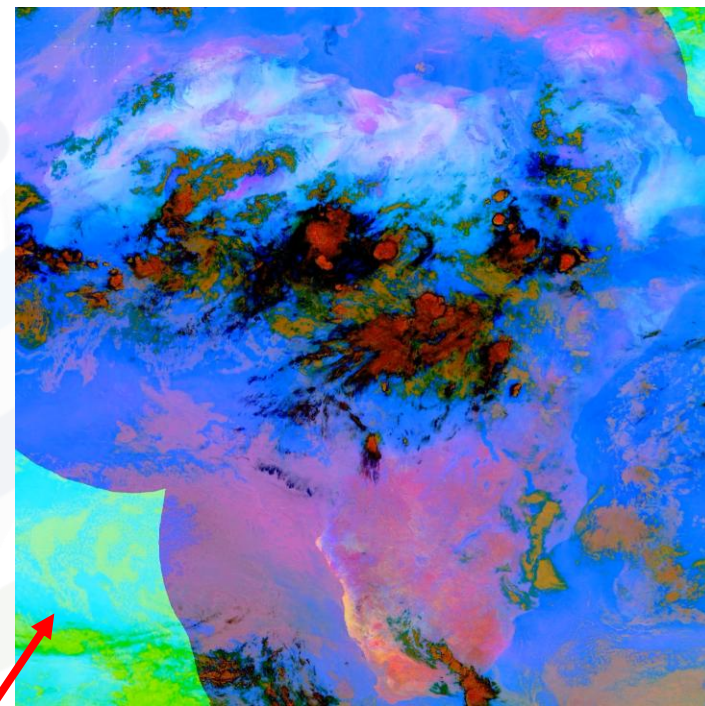
☒ Africa

☐ Africa_ecmwf

Import

Load

Step 4: Use the control buttons



Images 36 / 39

Skip

speed: 2000

pause: 500

0.66:1

W:1372 H:1391



Note: All effects (zooming, Animation, tiles) applied to the RGBs can also be applied to single channels by following the process laid out above



NWP Data



Displaying NWP Products (Model Selection)

MSG MTG ECMWF MF UKMET AVIATION Queues

Queues MT11 14/Aug/2025 06:10

1 2 3 4 5 6

Open queue

mdd/metar_taf/mdd_metar_20250812/africa.out

satellite/africa.out/_vis_06

satellite/africa.out/_wv_63

satellite/africa.out/_ir_105

satellite/africa.out/MTG Cloud type

satellite/africa.out/MTG Dust

FastOpen

Layouts

+ Mtg

Noaa

+ NwcSaf

- Nwp

ecmwf_africa

ecmwf_global

ecmwf_global2

ecmwf_tropics

mf

NCFP

Runs

20250814000000

20250813120000

20250813000000

20250812120000

20250812000000

20250811120000

Products

- Geopotential Height

500hpa [0h-168h]

- Mean Sea Level Pressure

ground [0h-168h]

- Mean Wave Direction

+ Mean Wave Period

+ Relative Humidity

+ Significant height combined wi...

+ Temperature

contour gradient

Images

By numbers

Selected: 0 / 8

nwp/ecmwf_global/2025081400...

nwp/ecmwf_global/2025081400...

nwp/ecmwf_global/2025081400...

nwp/ecmwf_global/2025081400...

nwp/ecmwf_global/2025081400...

nwp/ecmwf_global/2025081400...

nwp/ecmwf_global/2025081400...

nwp/ecmwf_global/2025081400...

Areas

☒ Africa

☐ Africa_ecmwf

Import

Load

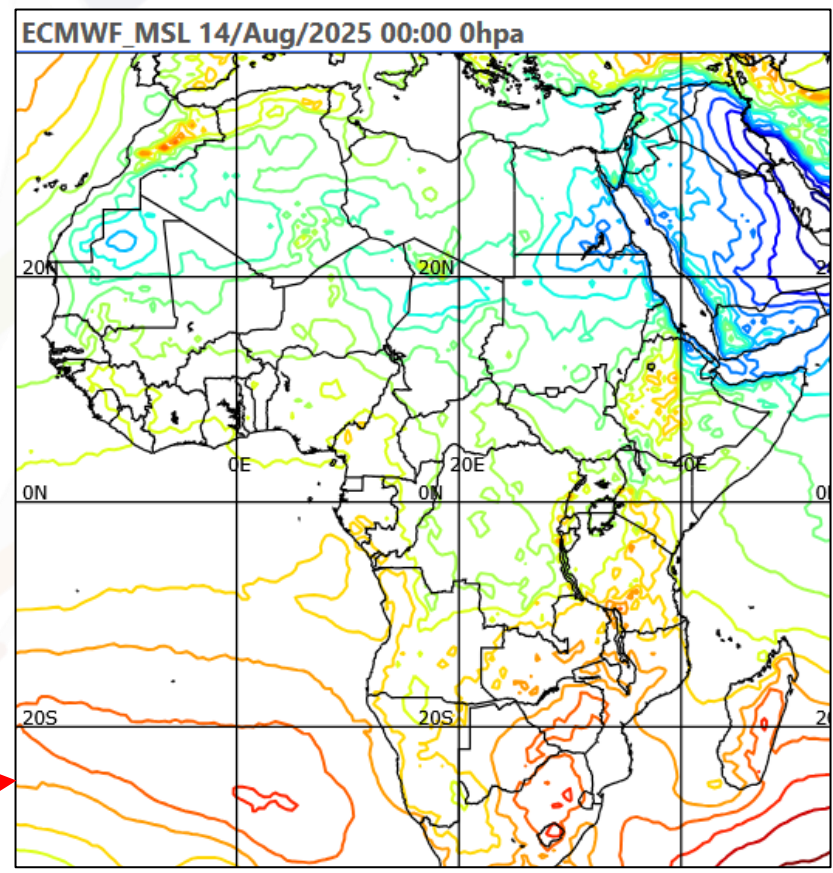
Step 1: Open a new queue

Step 2: Select model

Step 3: Select runtime

Step 4: Select the location

Step 5: Select model Field





Meteorological Data Dissemination (MDD)



Displaying Meteorological Data Dissemination (MDD)

Step 1: Open a new queue

Step 2: Under the “mdd” section select “Metar-Taf” and the dataset you need

FastOpen

Layouts

- + Satellite
- + Queue
- + Saved
- + Ascet
- Eowas
- + EUMETView
- HSaf
- Mdd
- Metar-Taf
- search text

Dataset

Dataset
20250814
20250813
20250812
20250811
20250810
20250809

Images

By numbers

Selected: 0 / 1

mdd/metar_taf/20250814

Areas

- ☒ Africa
- ☐ Africa_ecmwf

Import Load

Step 3: Make sure you are in edit mode. Your METARs should be displayed on the map

Edit mode

Tools

- grid
- Mdd

Opacity

Mdd - metar_taf

20250812

Show:

- ☒ Last timestamp is current time

+ Add vector layer

Step 4: Open the mdd settings

Step 5: Toggle either Metar, Taf, Synop or Sigmet “on” to visualize the dataset you need

Mdd

Tools

- grid
- Mdd

Opacity

Mdd - metar_taf

20250812

Show:

- ☒ Last timestamp is current time

+ Add vector layer

Filter

- ☒ Metar
- ☐ Taf
- ☐ Synop
- ☐ Sigmet

Show the latest hour

From

N 39.99 W 20.00

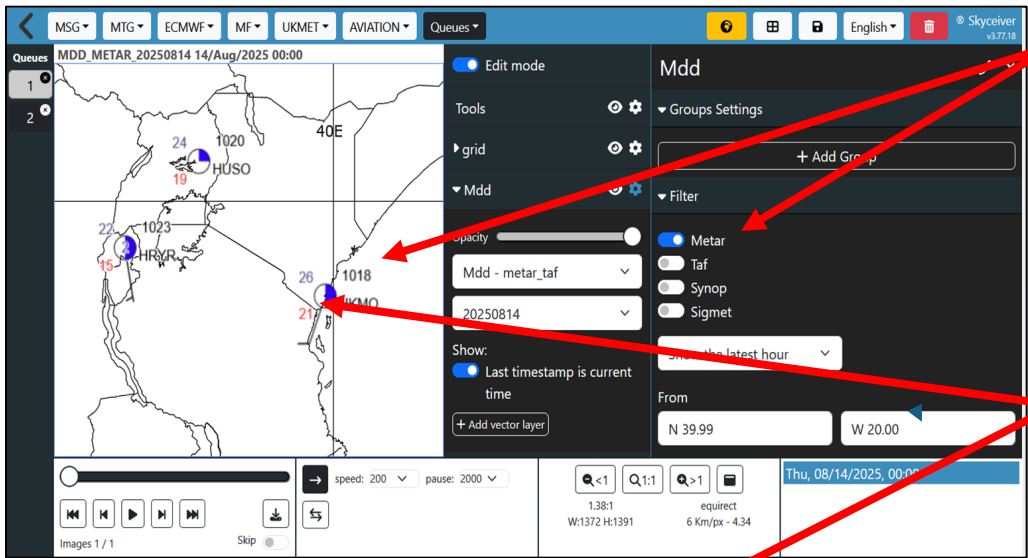
Thu, 08/14/2025, 00:00

1:38:1 W:1372 H:1391 equirect 6 Km/px - 4:34

Follow the same process to display the TAF, Synop or SIGMET plots



Displaying Expanded MDD Information



Step 1: Ensure that you are displaying METAR data

Step 2: Click on any of the plotted stations. A pop-up window should appear with station information

Step 3: Click on “more” to display METARs at your chosen station for a set time period

Data at (-4.035,39.594)

Metar: HKMO

0 hrs 42 min ago

HKMO 140630Z 20010KT 9999 SCT020 BKN080 26/21 Q1018 NOSIG [more](#)

Airport: HKMO

Name: MOI INTERNATIONAL

Country: KENYA

State: MO

City: MOMBASA

Elevation: 61

Use: Public

Data at (-4.035,39.594)

Metar: HKMO

0 hrs 44 min ago

HKMO 140630Z 20010KT 9999 SCT020 BKN080 26/21 Q1018 NOSIG [more](#)

HKMO 140600Z 20010KT 9999 SCT020 SCT080 25/21 Q1017 NOSIG 1 hrs 14 min ago

HKMO 140530Z 21007KT 9999 FEW020 25/22 Q1017 NOSIG 1 hrs 44 min ago

HKMO 140500Z 22005KT 9999 FEW020 24/21 Q1017 NOSIG 2 hrs 14 min ago

HKMO 140430Z 22005KT 9999 FEW020 23/21 Q1017 NOSIG 2 hrs 44 min ago

HKMO 140400Z 22005KT 9999 FEW020 22/21 Q1016 NOSIG 3 hrs 14 min ago

HKMO 140330Z 22006KT 9999 FEW020 22/21 Q1016 NOSIG 3 hrs 44 min ago

HKMO 140300Z 21004KT 9999 FEW020 22/20 Q1016 NOSIG 4 hrs 14 min ago

HKMO 140230Z 21004KT 9999 FEW020 22/20 Q1016 NOSIG 4 hrs 44 min ago

HKMO 140200Z 20004KT 9999 FEW020 22/20 Q1016 NOSIG 5 hrs 14 min ago

HKMO 140130Z 21005KT 9999 FEW020 22/21 Q1015 NOSIG 5 hrs 44 min ago

HKMO 140100Z 21005KT 9999 FEW020 22/21 Q1015 NOSIG 6 hrs 14 min ago

HKMO 140030Z 21006KT 9999 FEW020 22/21 Q1015 NOSIG 6 hrs 44 min ago

Airport: HKMO

Name: MOI INTERNATIONAL

Country: KENYA

State: MO

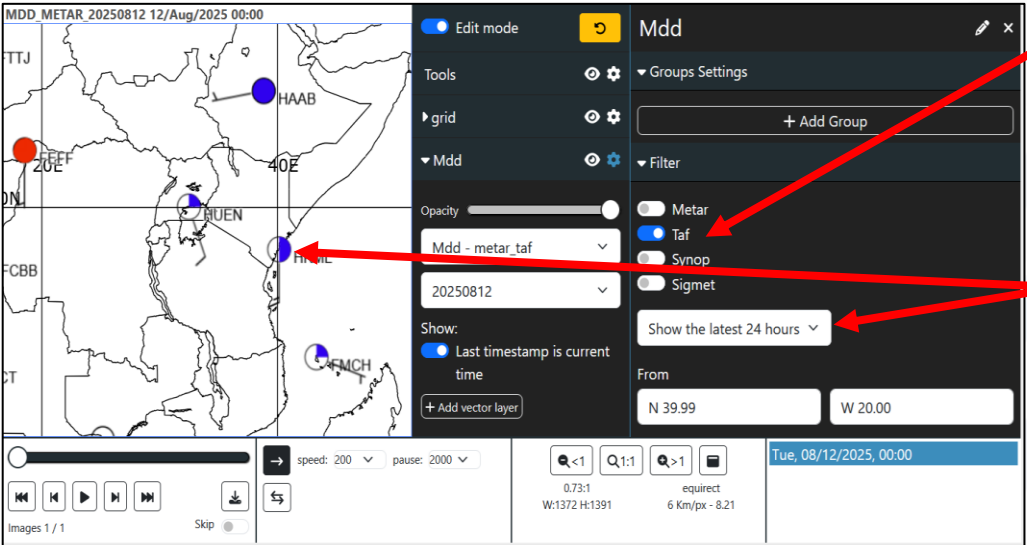
City: MOMBASA

Elevation: 61

Use: Public



Displaying TAF Information



Step 1: Ensure that you are displaying TAF data

Step 2: Click on any of the plotted stations. Select your time period

Step 3: Click on “more” to display TAFs at your chosen station for a set time period

Data at (-3.229,40.102)

Taf: HKML

2 hrs 24 min ago

TAF HKML 140500Z 1406/1506 18015KT 9999 SCT020 BECMG 1421/1424 17005KT [more](#)

Airport: HKML

Name: MALINDI

Country: KENYA

State: KI

City: MALINDI

Elevation: 25

Use: Public

Data at (-3.229,40.102)

Taf: HKML

2 hrs 25 min ago

TAF HKML 140500Z 1406/1506 18015KT 9999 SCT020 BECMG 1421/1424 17005KT [more](#)

TAF HKML 131700Z 1318/1418 18005KT 9999 FEW022 BECMG 1400/1403 SCT018 BECMG 1409/1412 18015KT FEW022 14 hrs 25 min ago

TAF HKML 131100Z 1312/1412 18015KT 9999 FEW022 BECMG 1400/1403 18005KT SCT018 BECMG 1409/1412 18015KT FEW022 20 hrs 25 min ago

Airport: HKML

Name: MALINDI

Country: KENYA

State: KI

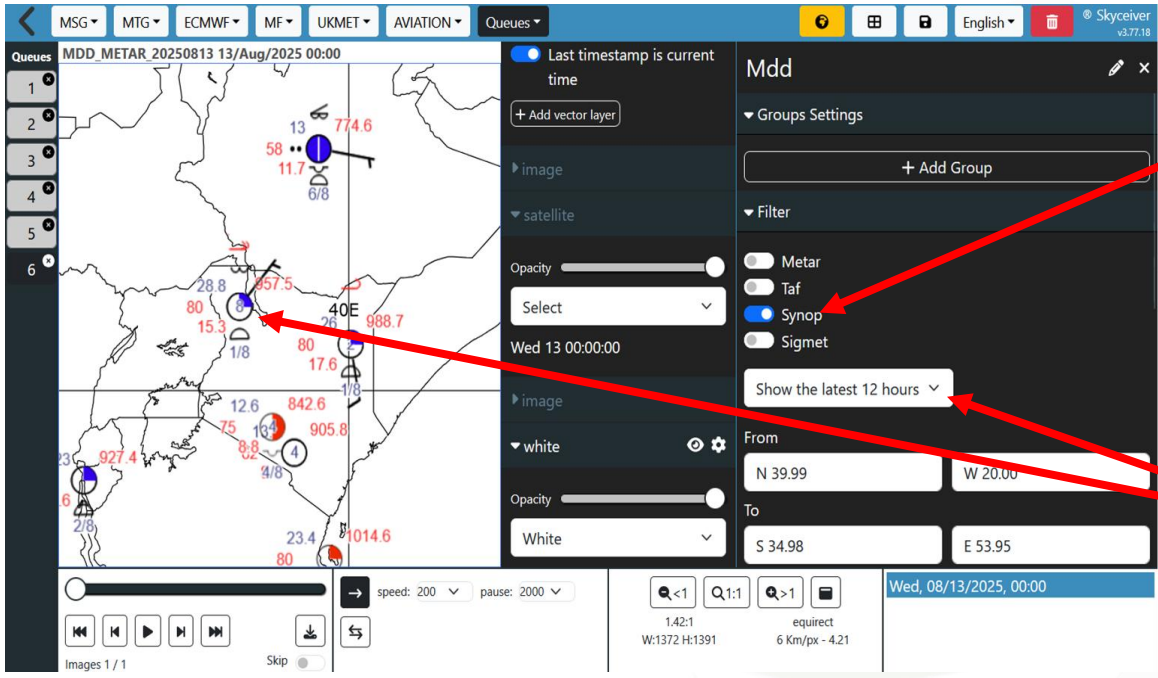
City: MALINDI

Elevation: 25

Use: Public



Displaying Synop Information



Step 1: Ensure that you are displaying Synop data

Step 2: Click on any of the plotted stations. Select your time period

Data at (8.98,38.8)

Synop: 634508 hrs 29 min ago

AAXX 14001 63450 41558 71006 10130 20117 37746 40262 76122 86870 333 58009 86623 87457 [more](#)

Step 3: Click on “more” to display Synops at your chosen station for a set time period



Displaying SIGMETs

Note: A SIGMET will be displayed when hazardous weather conditions are observed or forecast to affect aircraft safety, these conditions are considered significant enough to warrant a special warning.

MDD_METAR 20250813 13/Aug/2025 00:00

Mdd - metar_tat

20250813

Show:

☒ Last timestamp is current time

Sigmet:

- ☒ Thunderstorm
- ☒ Tropical Cyclone
- ☒ Blowing Dust/Sand
- ☒ Volcanic Ash
- ☒ Turb
- ☒ Icing

+ Add vector layer

image

From

Wed, 08/13/

Step 1: Ensure that you are displaying SIGMET data and choose a time period

Step 2: Immediately after selecting "Sigmet" the latest Sigmet areas should appear on your map

