



Introduction to the ClimSA Climate station

16th EUMETSAT User Forum in Africa 2024,
Cotonou, Benin, 16-20 September 2024

M. Clerici, C. Arias Muñoz, V. Venkatachalam, J. Van't Klooster, B. Desclée, D. Simonetti
September 17th 2024

Presentation overview

1. ClimSA Programme

What is the ClimSA Programme, expected results, JRC role.

2. ClimSA Station

Reasoning behind it, conceptual design.

3. ClimSA Station walkthrough

An explanation of the features and functionalities of Climate Station.

4. Take away, facts and Q&A

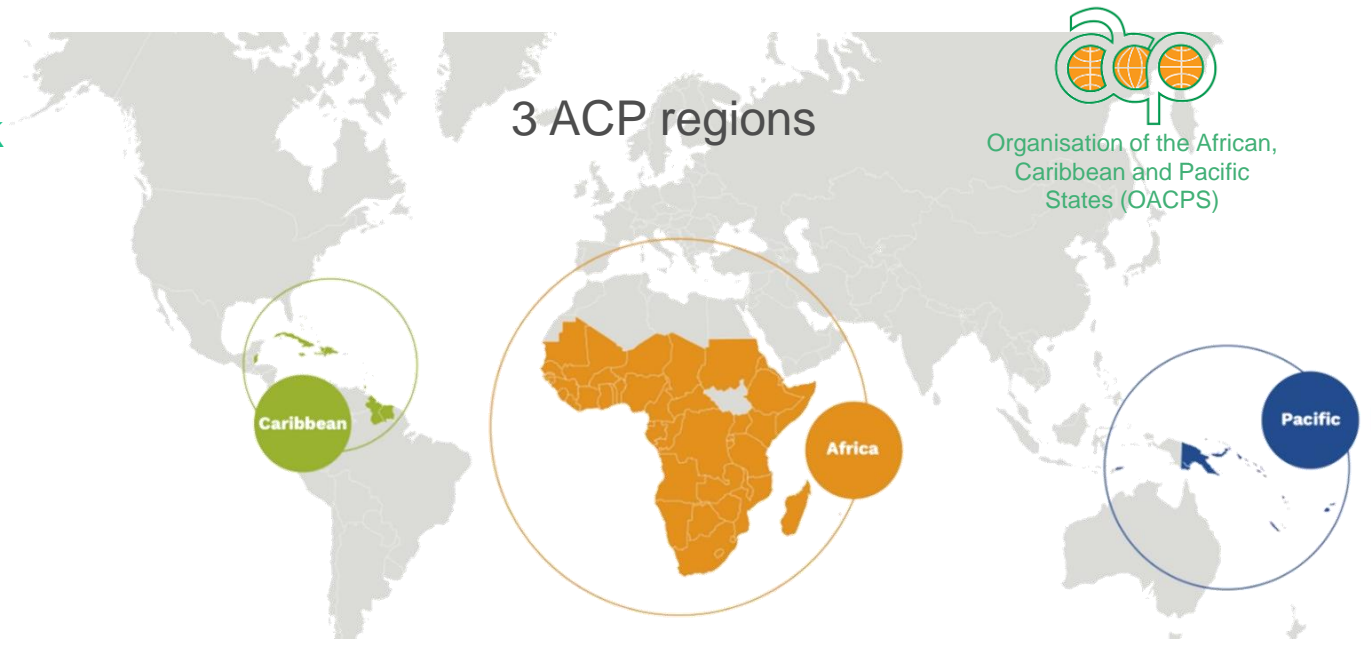


What is the ClimSA programme?

INTRA-ACP CLIMATE SERVICES AND RELATED APPLICATIONS PROGRAMME

An initiative of the Organisation of African, Caribbean and Pacific States funded by the European Union 

- ClimSA program supports the implementation of **WMO Global Framework for Climate Services** in ACP countries.
- 2019-2024 extension until 2025, 85 ME



Technical support, capacity building, institution strengthening and, awareness

TECHNICAL IMPLEMENTING PARTNERS



WMO
UN World Meteorological Organisation



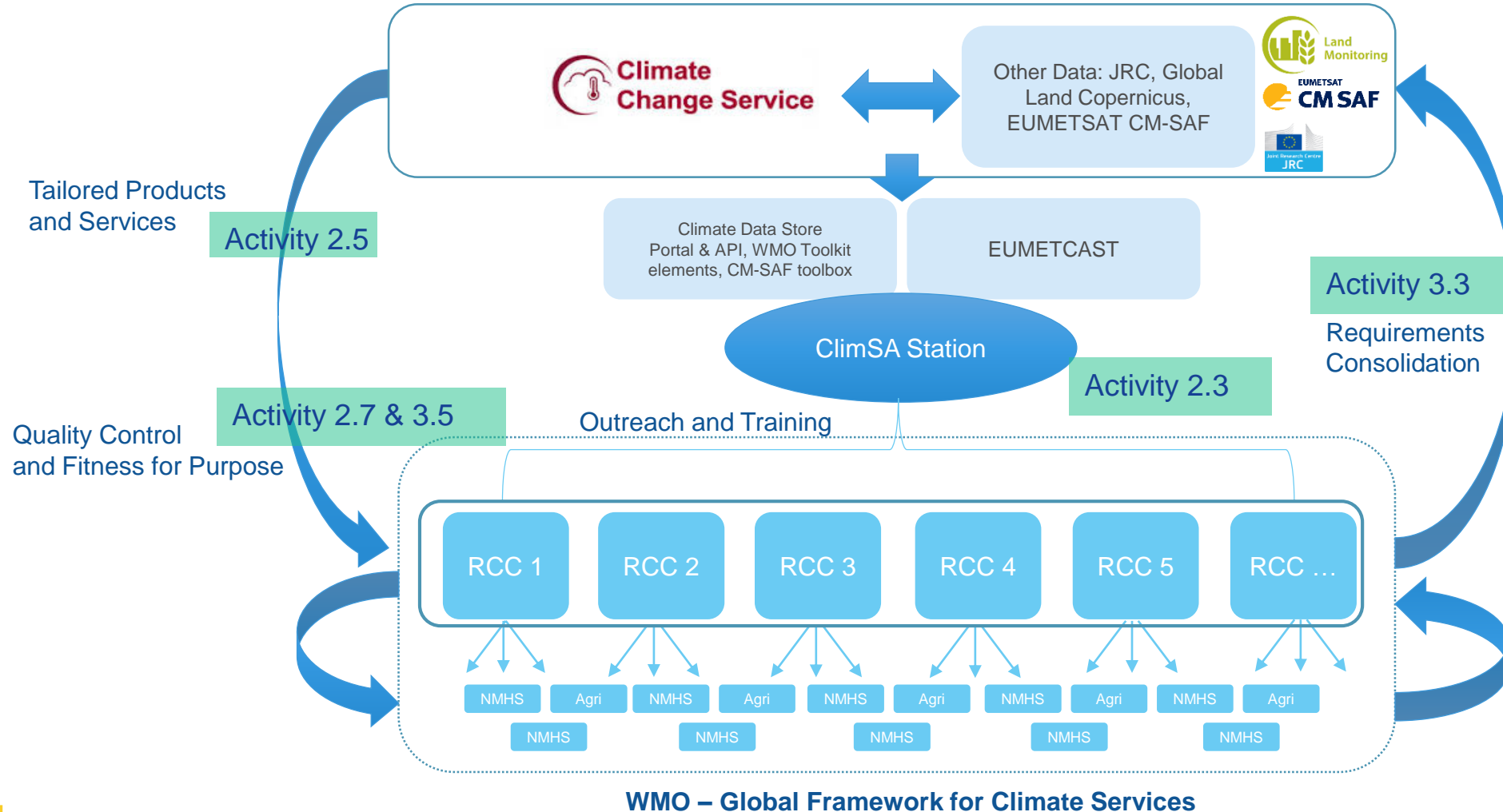
JRC
European Commission's Joint Research Centre



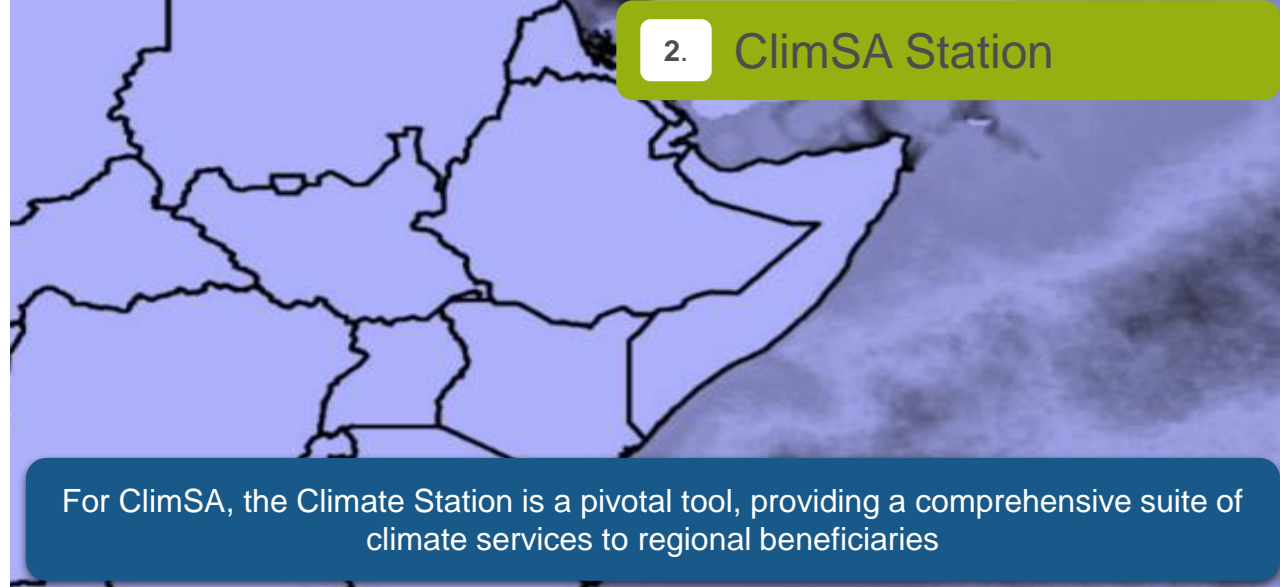
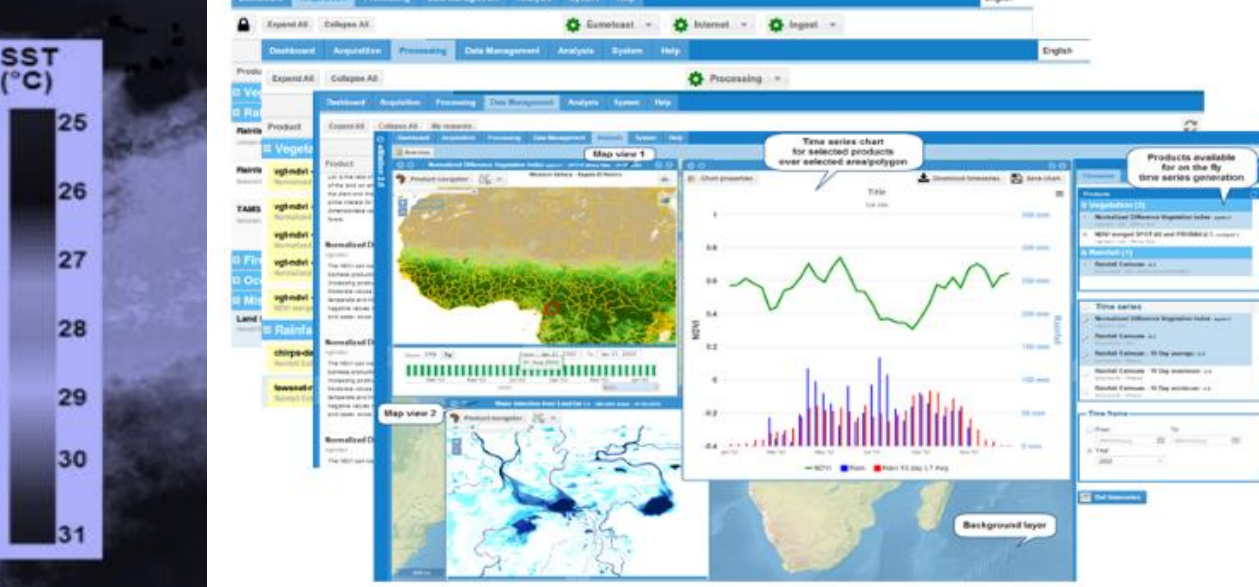
EUMETSAT
European Organisation for the Exploitation of Meteorological Satellites

ClimSA Station role in ClimSA

JRC participates in intra-ACP CS through an Administrative Arrangement with DG-INTPA (2019-2024)



WMO – Global Framework for Climate Services



What is ClimSA Station?

Evolution:

- Originating from eStation 2.0, ClimSA Station since 2019.

Integration:

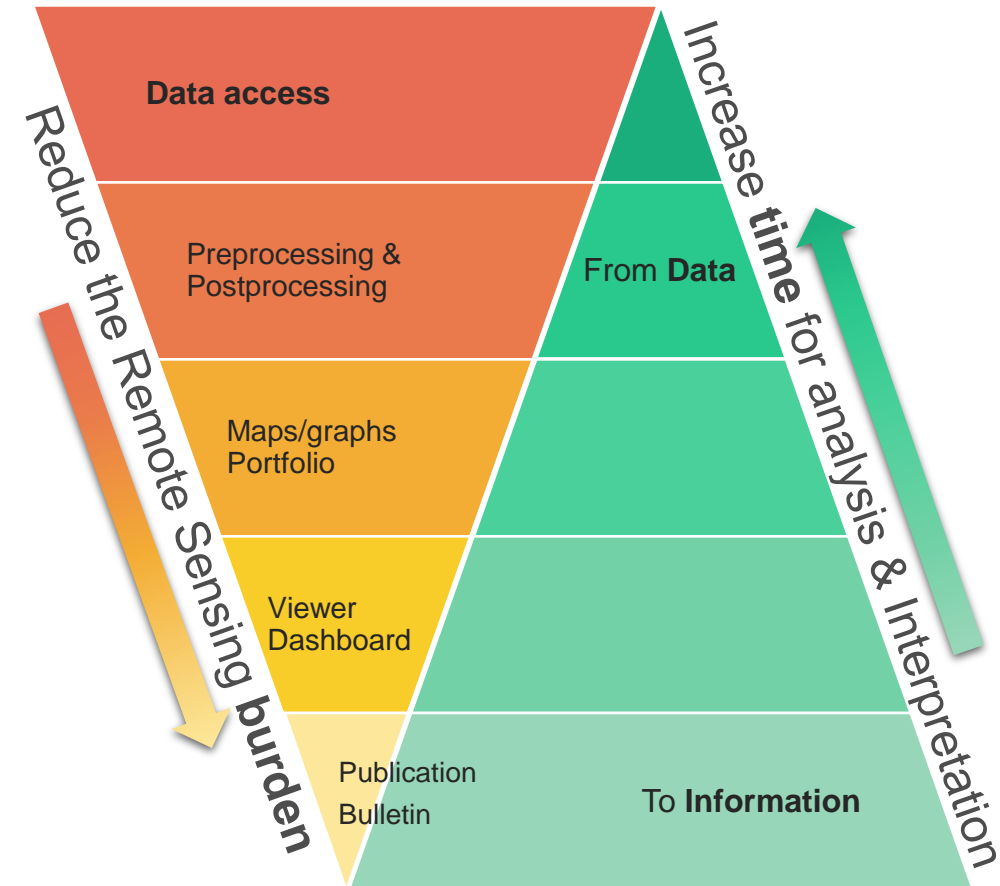
- Combines real-time data with forecast and projection products.

Enhanced User Experience:

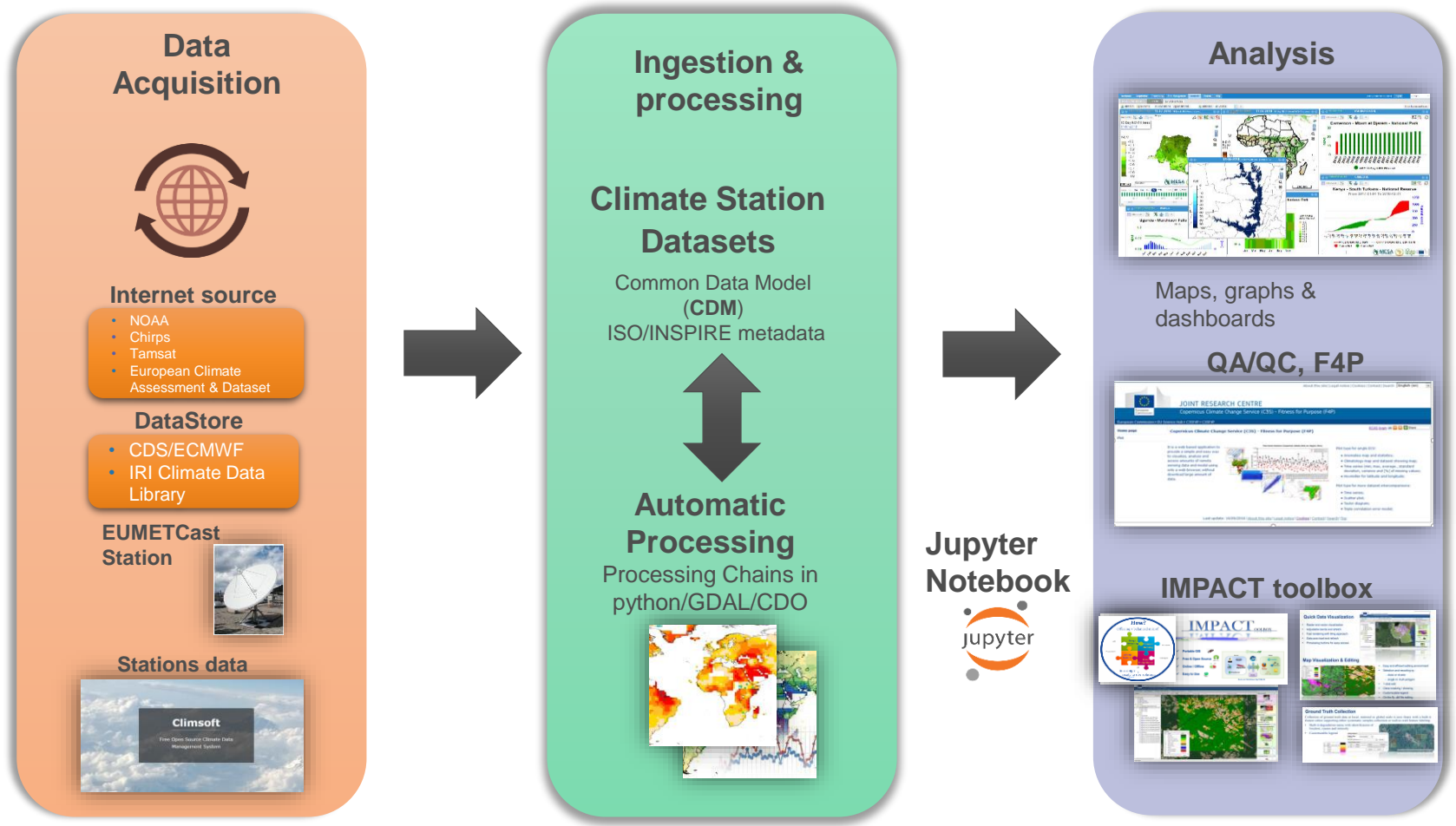
- Delivers a tailored web client.
- Introduces Jupyter Notebooks.

Key points for having a ClimSA Station

- Embed the required functionalities and applications:
 - within an **operational** environment
 - chain the recognised methodology steps
 - to reduce the user's tasks and improve the reliability & traceability
 - Co-develop a catalogue of high quality tailored datasets and tools
 - **Integrate in a seamless way** data coming from different sources



ClimSA Station - Conceptual Design



ClimSA Station – Set Up



Station deployed in Nairobi, Kenya, August 2024, at the Kenyan Meteorological Department (KMD)



Online version,
with access to all
datasets, hosted by JRC

<https://estation.jrc.ec.europa.eu/eStation3/>
<https://europa.eu/!Wvp7QJ>



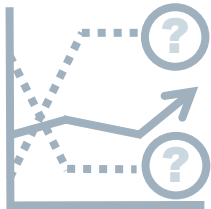
Physical setup,
installed at the RCCs,
then local, regional and
national partners

Dataset Distributed on ClimSA Station



Monitoring System (observations/climatology)

- Local stations (CLIMSOFT)
- Remote sensing data
- Reanalysis data
- Derived indices



Seamless Weather Forecast

- From mid term to seasonal forecast
- Multimodel approach (C3S)



Climate Projections

- Static datasets of climate projections CMIP6

Dataset Distributed on ClimSA Station

Product	Product code/Version	ID	Filter Expression
Evapotranspiration 30mins (1km)	Isasaf-et undefined	EO:EUM:DAT:MSG:ET-SEVIRI	S-LSA_-HDF5_LSASAF_MSG_ET_MSG-Disk_*.bz2
Land Surface temperature 15mins (1km)	Isasaf-lst undefined	EO:EUM:DAT:MSG:LST-SEVIRI	S-LSA_-HDF5_LSASAF_MSG_LST_Afr_*.bz2
MODIS Chlorophyll a (4km)	modis-chla v2022.0	EO:EUM:DAT:AQUA:CHLORA	AQUA_MODIS_*.L3m.DAY.CHL.chlor_a.4km.NRT.nc
MODIS KD490 (4km)	modis-kd490 v2022.0	EO:EUM:DAT:MULT:MOD-KD490	AQUA_MODIS_*.L3m.DAY.KD.Kd_490.4km.NRT.nc
MODIS PAR (4km)	modis-par v2022.0	EO:EUM:DAT:MULT:MOD-PAR	AQUA_MODIS_*.L3m.DAY.PAR.par.4km.NRT.nc
MODIS SST (4km)	modis-sst v2019.0	EO:EUM:DAT:MULT:MOD-SST	AQUA_MODIS_*.L3m.DAY.SST.sst.4km.NRT.nc
S3-Chlorophyll-a (1km)	olci-wrr V02.0	EO:EUM:DAT:SENTINEL-3:OL_2_WRR_NRT	S3A_OL_2_WRR_*.SEN3.tar
S3 Sea Surface Temperature(1km)	slstr-sst V02.0	EO:EUM:DAT:SENTINEL-3:SL_2_WST_NRT	S3A_SL_2_WST_*.SEN3.tar
Global surface water– monthly occurrences (30m)	wd-gee 1.0	EO:EUM:DAT:LANDSAT:MESA-JRC-WBD-GEE	MESA_JRC_wd-gee_occure.*_1.0.tgz
Global surface water– Long Term average occurrences (30m)	wd-gee 1.0	EO:EUM:DAT:LANDSAT:MESA-JRC-WBD-GEE-AVG	MESA_JRC_wd-gee_avg.*_1.0.tgz
NDVI from CGLS (300m)	vgt-ndvi olci-v2.0	EO:EUM:DAT:OLCI-V2.0:NDVI	c_gls_NDVI300.*AFRI_OLCI_V2.*[zip ZIP]
DMP from CGLS (300m)	vgt-dmp olci-v1.0	EO:EUM:DAT:OLCI-V1.0:DMP	c_gls_DMP300-RT0.*_AFRI_OLCI_V1.*[zip ZIP]
FAPAR from CGLS (300m)	vgt-fapar olci-v1.0	EO:EUM:DAT:OLCI-V1.0:FAPAR	c_gls_FAPAR300-RT0.*_AFRI_OLCI_V1.*[zip ZIP]
FCOVER from CGLS (300m)	vgt-fcover olci-v1.0	EO:EUM:DAT:OLCI-V1.0:FCOVER	c_gls_FCOVER300-RT0.*_AFRI_OLCI_V1.*[zip ZIP]
LAI from CGLS (300m)	vgt-lai olci-v1.0	EO:EUM:DAT:OLCI-V1.0:LAI	c_gls_LAI300-RT0.*_AFRI_OLCI_V1.*[zip ZIP]
PML MODIS Chla	pml-modis-chla 3.0	EO:EUM:DAT:MULT:CPMAD:OC	PML_*.MODIS_oc_3daycomp.*.nc.bz2
PML MODIS SST	pml-modis-sst 3.0	EO:EUM:DAT:MULT:CPMAD:SST	PML_*.MODIS_sst_3daycomp.*.nc.bz2












PRODUCT REPORT

Uploaded: SEPTEMBER 13, 2022



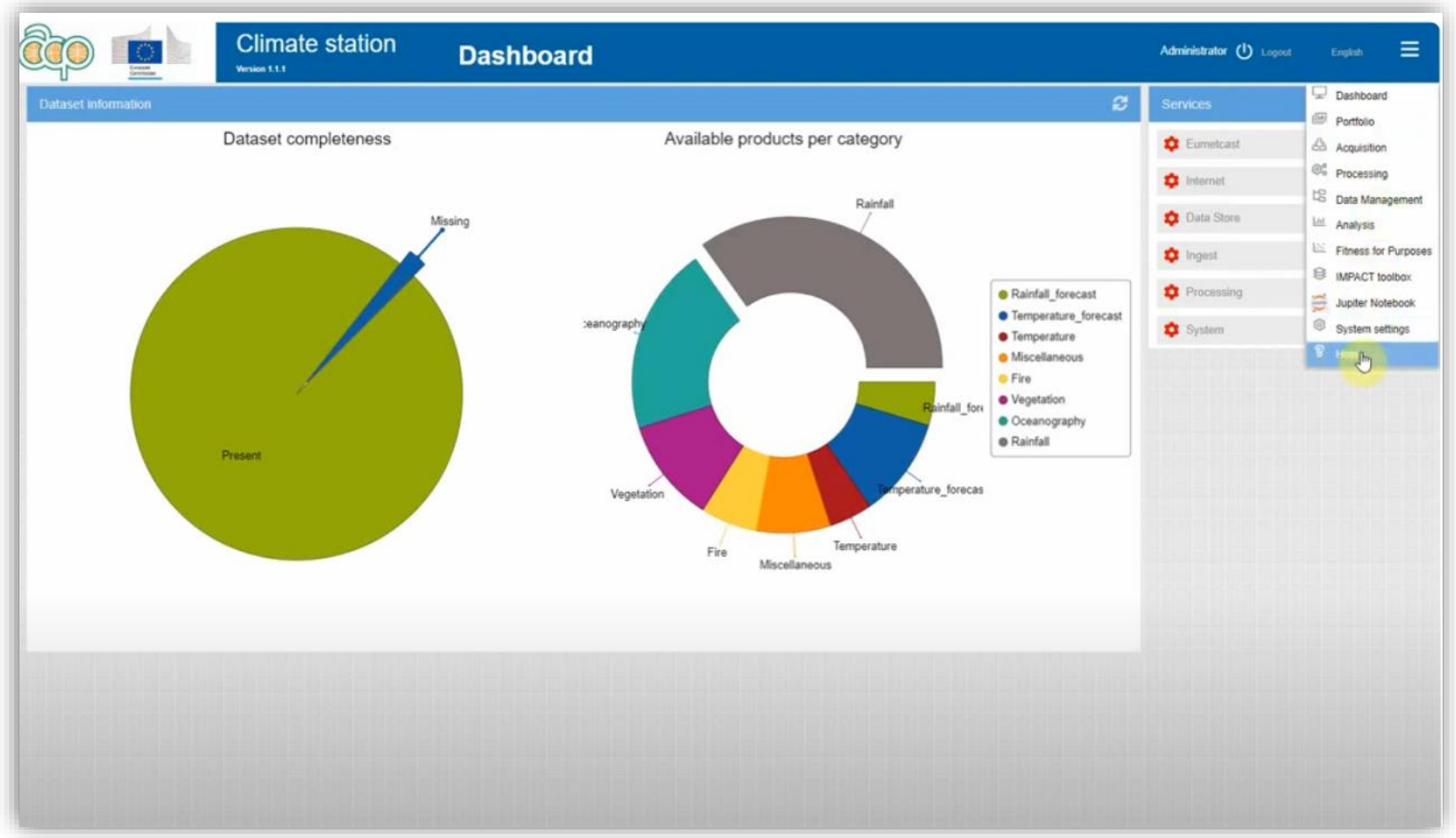
ClimSA Station Modules

	Dashboard
	Portfolio
	Acquisition
	Processing
	Data Management
	Analysis
	Fitness for Purposes
	IMPACT toolbox
	Jupyter Notebook

ClimSA Station GUI Overview 1/6

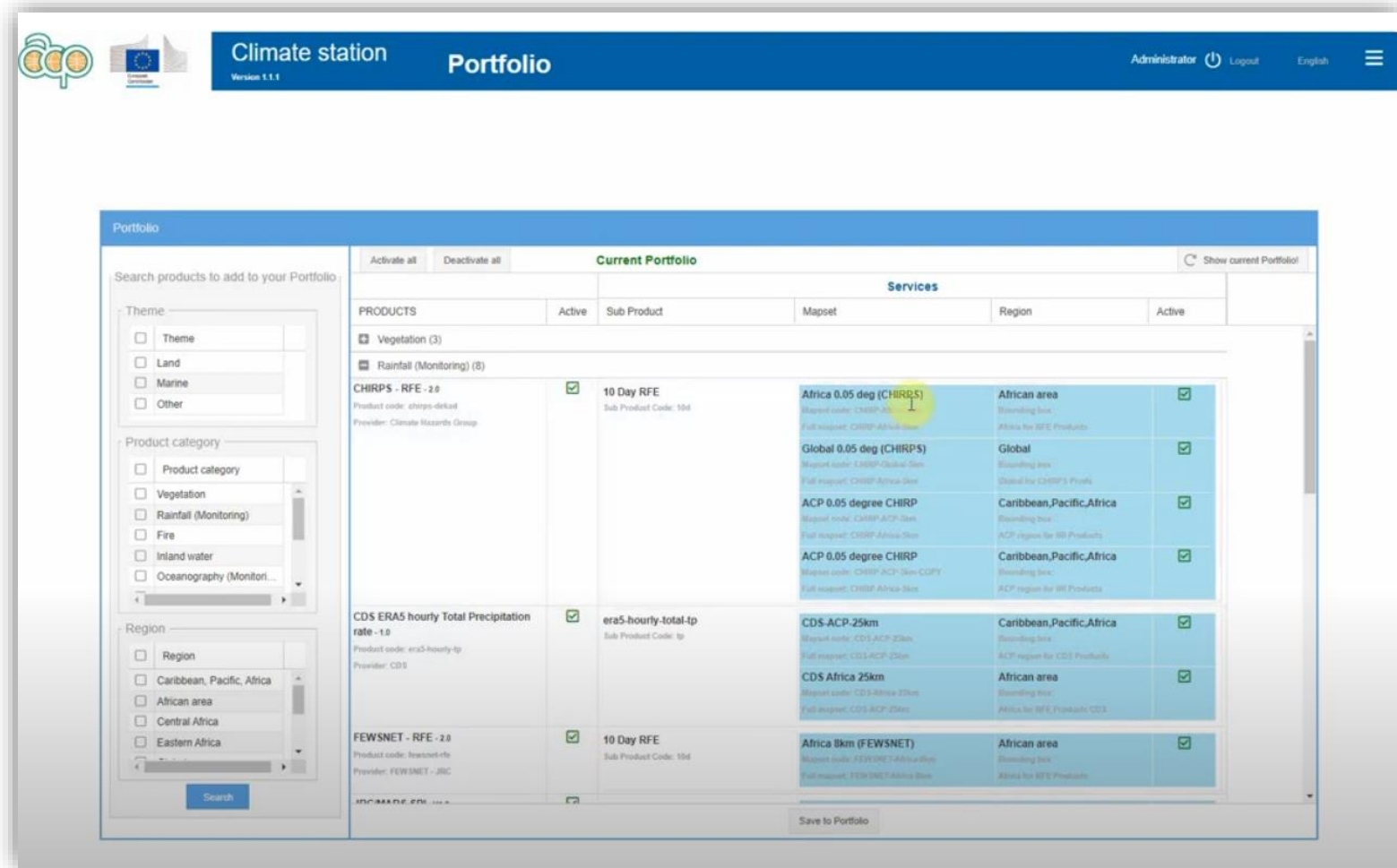


- Login
- Language Selection
- Overview of the local datasets
- Control of the Services
- Overview of products released on latest version



ClimSA Station GUI Overview 2/6 Portfolio

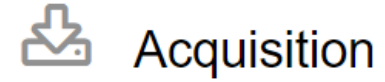
- Quick selection of the products of interest
- Option to work on the newest products only
- Overview of the active products



The screenshot displays the 'Portfolio' page of the ClimSA Station GUI. The interface includes a search sidebar on the left with filters for Theme, Product category, and Region. The main area shows a table of products under the heading 'Current Portfolio'. The table columns are: PRODUCTS, Active, Sub Product, Mapset, Region, and Active. The products listed are:

PRODUCTS	Active	Sub Product	Mapset	Region	Active
CHIRPS - RFE - 2.0 Product code: chirps-rfe-2.0 Provider: Climate Hazards Group	<input checked="" type="checkbox"/>	10 Day RFE Sub Product Code: 10d	Africa 0.05 deg (CHIRPS) Mapset code: CHIRPS-Africa Full mapset: CHIRPS-Africa-10d	African area Bounding box: Africa for RFE Products	<input checked="" type="checkbox"/>
			Global 0.05 deg (CHIRPS) Mapset code: CHIRPS-Global-10d Full mapset: CHIRPS-Global-10d	Global Bounding box: Global for CHIRPS Products	<input checked="" type="checkbox"/>
			ACP 0.05 degree CHIRP Mapset code: CHIRPS-ACP-10d Full mapset: CHIRPS-Africa-10d	Caribbean,Pacific,Africa Bounding box: ACP region for RFE Products	<input checked="" type="checkbox"/>
			ACP 0.05 degree CHIRP Mapset code: CHIRPS-ACP-10d-COPY Full mapset: CHIRPS-Africa-10d	Caribbean,Pacific,Africa Bounding box: ACP region for RFE Products	<input checked="" type="checkbox"/>
CDS ERAS hourly Total Precipitation rate - 1.0 Product code: era5-hourly-tp Provider: CDS	<input checked="" type="checkbox"/>	era5-hourly-total-tp Sub Product Code: tp	CDS-ACP-25km Mapset code: CDS-ACP-25km Full mapset: CDS-ACP-25km	Caribbean,Pacific,Africa Bounding box: ACP region for CDS Products	<input checked="" type="checkbox"/>
			CDS Africa 25km Mapset code: CDS-Africa-25km Full mapset: CDS-ACP-25km	African area Bounding box: Africa for RFE Products CDS	<input checked="" type="checkbox"/>
FEWSNET - RFE - 2.0 Product code: fewsnet-rfe Provider: FEWSNET - JRC	<input checked="" type="checkbox"/>	10 Day RFE Sub Product Code: 10d	Africa 8km (FEWSNET) Mapset code: FEWSNET-Africa-8km Full mapset: FEWSNET-Africa-8km	African area Bounding box: Africa for RFE Products	<input checked="" type="checkbox"/>

ClimSA Station GUI Overview 3/6



- Control of the Acquisition of incoming products
- Check the logfiles of the Services
- Check the Data completeness

Product categories	Get	Ingestion
PRODUCTS	Source	Sub Product
Vegetation (3)		
Rainfall (8)		
ARC2 RFE - 2.0 Product code: arc2-rain Provider: NASA-CPC	ARC-2 rain from CPC-NASA CPC NOAA BAIN ARC2 Source: INTERNET	1day Africa 0.1 degree (ARC2) 2021-10-03 Files: 346 Missing: 14 2022-10-03
CDAS Monthly Precipitation - 1.0 Product code: cdas-monthly-prcp Provider: SI	IRI Monthly Precipitation SI/NOAA/PRCP/MONTH Source: DATASTORE	prcp IRI ACP 2.5 degree 2019-01-01 Files: 46 Missing: 2 2022-10-01
CDS ERA5 hourly Total Precipitation rate - 1.0 Product code: era5-hourly-tp Provider: CDS	CDS ERA5 RFE HOURLY CDS ERA5 REANALYSIS RFE HOUR Source: DATASTORE	tp CDS Africa 25km 2022-09-03 Files: 745 Missing: 745 2022-10-04
CHIRPS - RFE - 2.0 Product code: chirps-dekad Provider: Climate Hazards Group	CHIRPS final precipitation, dekad type, globally, V2.0 UCSB:CHIRP2_DEKAD_2.0_HTTP Source: INTERNET	10d ACP 0.05 degree CHIRP Not any data
		10d ACP 0.05 degree CHIRP Not any data
		10d Africa 0.05 deg (CHIRPS) 1981-01-01 Files: 1504 Missing: 11 2022-10-01
FEWSNET - RFE - 2.0 Product code: fewsnet-rfe Provider: FEWSNET - JRC	CHIRPS preliminary precipitation, dekad type, globally, V2.0 UCSB:CHIRP2_PREL_DEKAD_HTTP Source: INTERNET	10d Global 0.05 deg (CHIRPS) 1981-01-01 Files: 1504 Missing: 2 2022-10-01
		10d Africa 8km (FEWSNET) 2001-01-01 Files: 794 Missing: 1 2022-10-01

ClimSA Station GUI Overview 4/6 Processing

- Activate/De-activate the Processing Chains
- Check the logfiles of each Chain

Processing inputs			Processing chains				Processing outputs		
PRODUCTS	Sub Product	Mapset	Type	Options	Active	Log	Sub Product Name	Mapset	Sub Product Code
chirps-dekad - 2.0	10 Day RFE 10d	CHIRP-ACP-5km	std_precip	std_precip_prods_only	<input checked="" type="checkbox"/>		10 Day RFE_DIF to LTA	CHIRP-ACP-5km	10ddif
chirps-dekad - 2.0	10 Day RFE 10d	CHIRP-ACP-5km-COPY					10 Day RFE_NORM DIF to MIN	CHIRP-ACP-5km	10dnp
chirps-dekad - 2.0	10 Day RFE 10d	CHIRP-Africa-5km					10 Day RFE_REL DIF to LTA	CHIRP-ACP-5km	10dperc
chirps-dekad - 2.0	10 Day RFE 10d	CHIRP-Global-5km					10 Day RFE_RATIO to LTA	CHIRP-ACP-5km	10dratio
							1 Month RFE	CHIRP-ACP-5km	1moncum
							1 Month RFE_DIF to LTA	CHIRP-ACP-5km	1mondif
							1 Month RFE_NORM DIF to MIN	CHIRP-ACP-5km	1monnp
							1 Month RFE_REL DIF to LTA	CHIRP-ACP-5km	1monperc
							10 Day RFE_DIF to LTA	CHIRP-ACP-5km-COPY	10ddif
							10 Day RFE_NORM DIF to MIN	CHIRP-ACP-5km-COPY	10dnp
							10 Day RFE_REL DIF to LTA	CHIRP-ACP-5km-COPY	10dperc
							10 Day RFE_RATIO to LTA	CHIRP-ACP-5km-COPY	10dratio
							1 Month RFE	CHIRP-ACP-5km-COPY	1moncum
							1 Month RFE_DIF to LTA	CHIRP-ACP-5km-COPY	1mondif
							1 Month RFE_NORM DIF to MIN	CHIRP-ACP-5km-COPY	1monnp
							1 Month RFE_REL DIF to LTA	CHIRP-ACP-5km-COPY	1monperc
							10 Day RFE_DIF to LTA	CHIRP-Africa-5km	10ddif

ClimSA Station GUI Overview 5/6

Data Management

- Check the completeness of each Product.
- Create 'Requests' for retrieving missing files, to be sent or executed directly if the Station is connected to the internet).

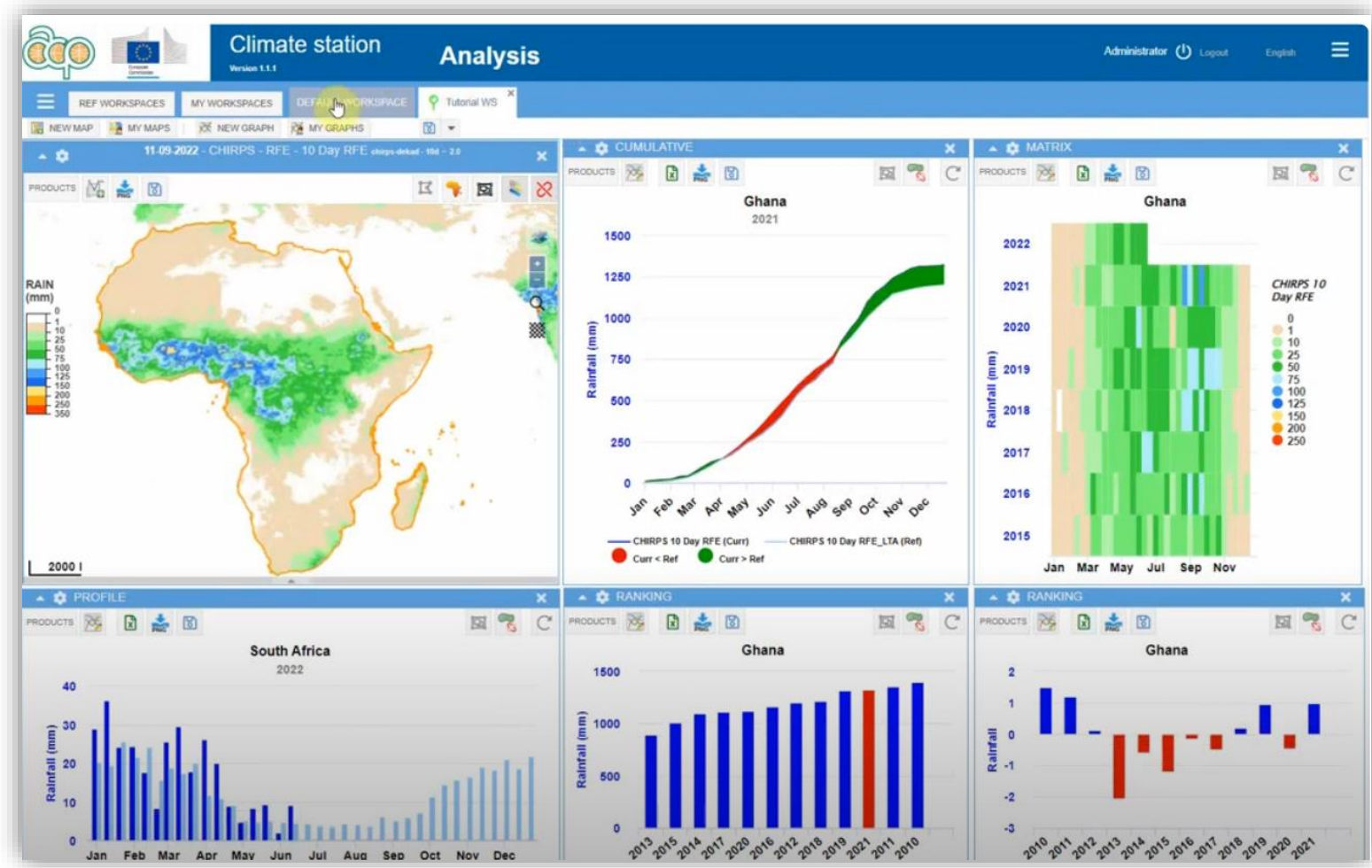
The screenshot displays the 'Data Management' section of the ClimSA Station GUI. The interface includes a header with the station name, version (1.1.1), and user information (Administrator). Below the header, there are navigation icons and a 'Requests' button. The main content area is a table with columns for 'Product categories', 'Request', 'Mapset', 'Request', 'Sub Product Name', 'Status', and another 'Request' column. The table lists several product categories, including 'Vegetation (3)', 'Rainfall (8)', 'ARC2 RFE - 2.0', 'CDAS Monthly Precipitation - 1.0', and 'CHIRPS - RFE - 2.0'. Each product category is expanded to show a list of data sets with their respective dates, file counts, and missing file counts. A tooltip is shown over the '1 Day RFE' entry for the 'ARC2 RFE - 2.0' product, indicating that all data sets are complete.

Product categories	Request	Mapset	Request	Sub Product Name	Status	Request
Vegetation (3)						
Rainfall (8)						
ARC2 RFE - 2.0		Africa 0.1 degree (ARC2)		1 Day RFE	2021-10-01 Files: 386 Missing: 14 2022-10-01	
				10 Day RFE	1983-02-01 Files: 3479 Missing: 80 2022-10-01	
				1 Month RFE	2020-01-01 Files: 33 Missing: 5 2022-09-01	
				3 Month RFE	1983-05-01 Files: 473 Missing: 22 2022-09-01	
				6 Month RFE	2022-07-01 Files: 3 Missing: 0 2022-09-01	
				1 Year RFE	2022-04-01 Files: 6 Missing: 0 2022-09-01	
CDAS Monthly Precipitation - 1.0		IRI ACP 2.5 degree		CDAS month Precip	2019-01-01 Files: 46 Missing: 2 2022-10-01	
CHIRPS - RFE - 2.0		Africa 0.05 deg (CHIRPS)		10 Day RFE	1981-01-01 Files: 1504 Missing: 11 2022-10-01	
				10 Day RFE_LT MIN	01-01 Files: 36 Missing: 0 12-31	
				10 Day RFE_LTA	01-01 Files: 36 Missing: 0 12-31	
				10 Day RFE_LT MAX	01-01 Files: 36 Missing: 0 12-31	
				10 Day RFE_DIF to LTA	1981-01-01 Files: 1504 Missing: 11 2022-10-01	
				10 Day RFE_REL DIF to LTA	1981-01-01 Files: 1504 Missing: 11 2022-10-01	
				10 Day RFE_RATIO to LTA	1981-01-01 Files: 1504 Missing: 11 2022-10-01	

ClimSA Station GUI Overview 6/6

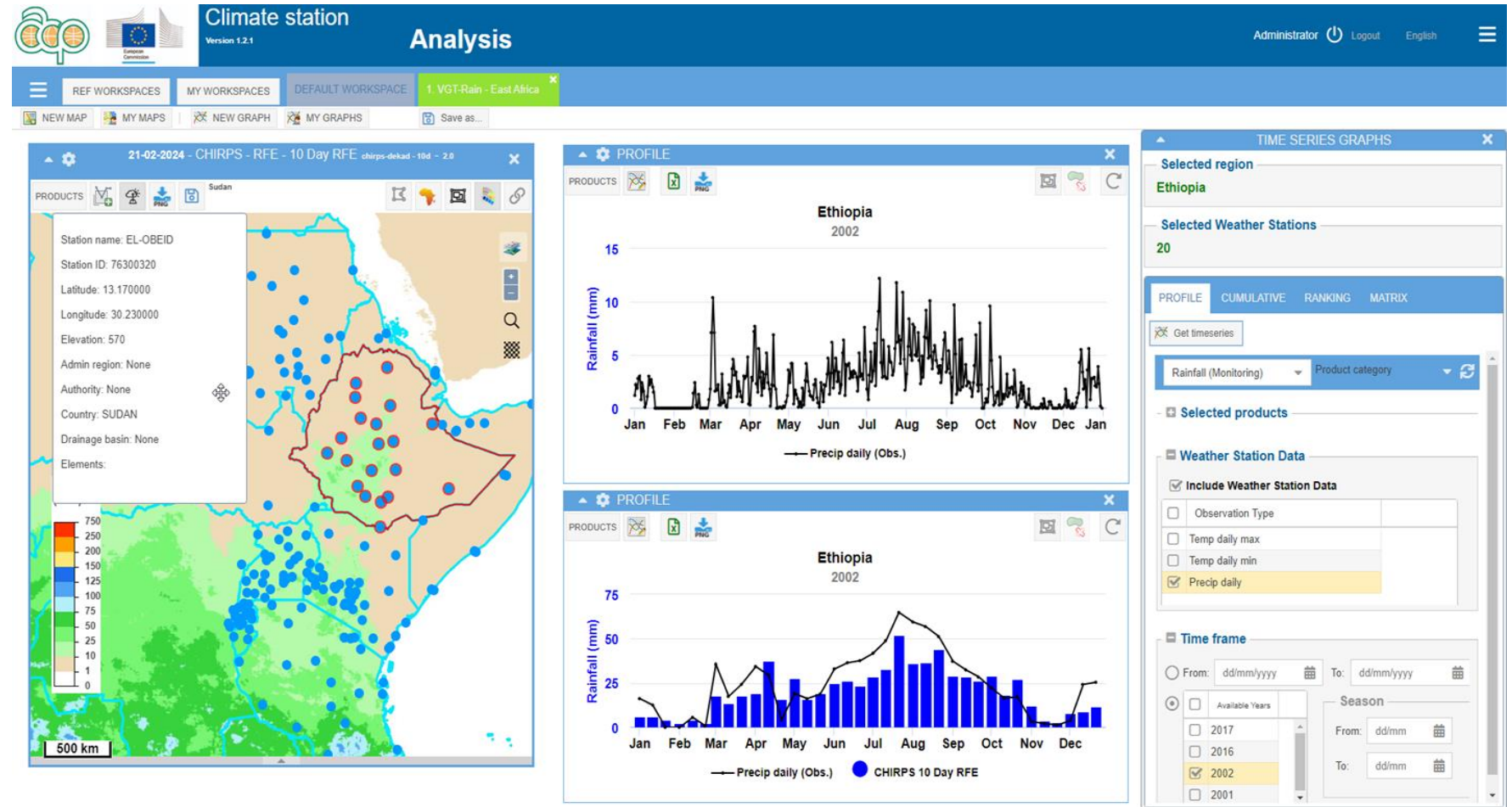
Analysis

In the Analysis tool you can do data analysis and generate images for bulletins or reports. You can create Maps and 5 types of graphs within a workspace.



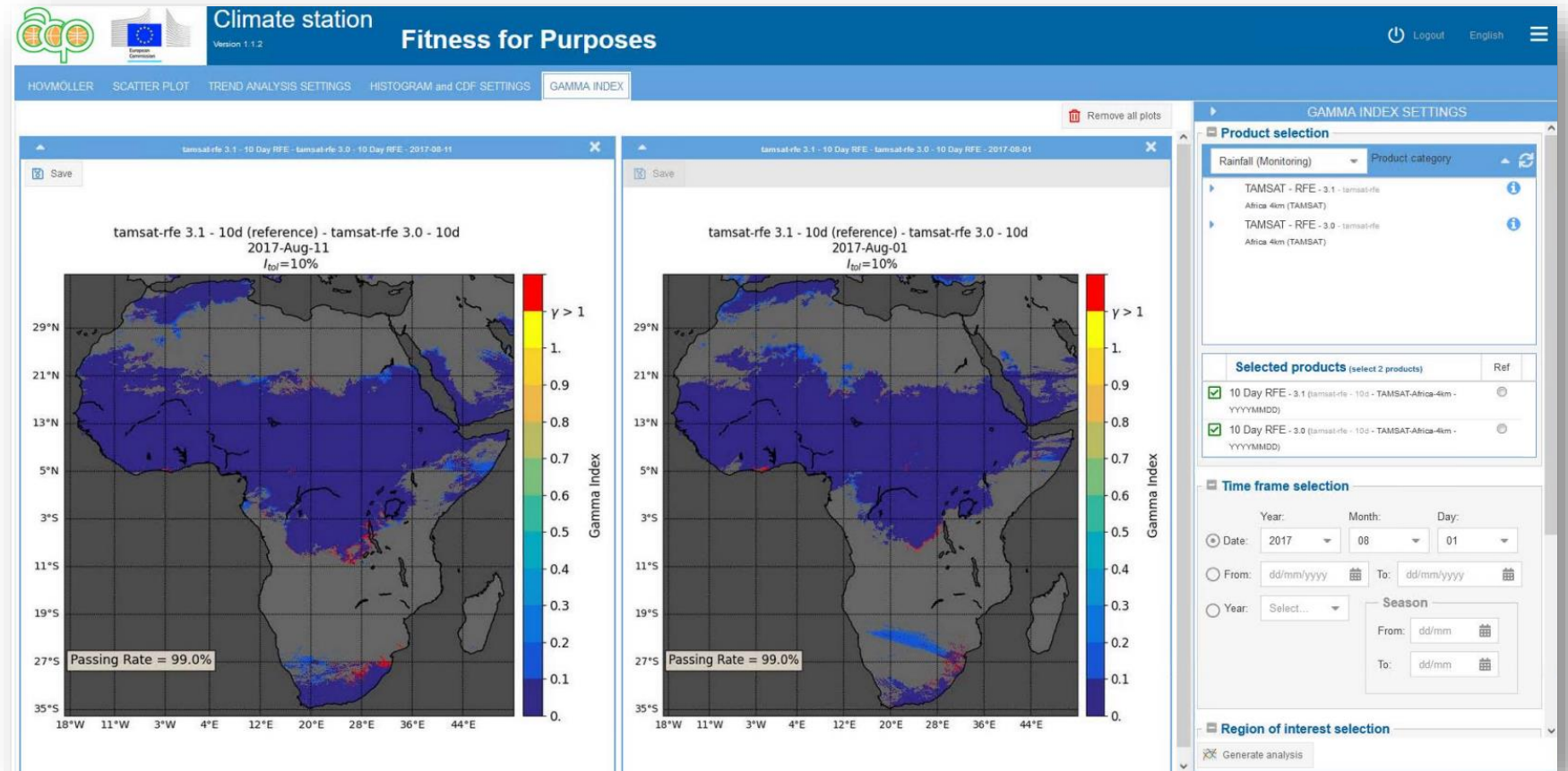
ClimSA Station GUI Overview 6/6

- In the Analysis tool you can also do the weather station data analysis by comparing with different models and Earth Observation data.



ClimSA Station F4P Fitness for Purposes

- Hovmöller Diagram
- Scatter Density Diagram
- Trend Analysis
- Histogram and CDF
- Gamma Index



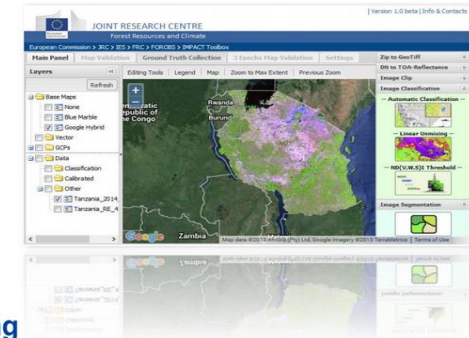
ClimSA Station IMPACT Toolbox



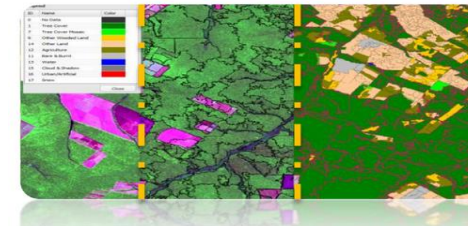
<http://forobs.jrc.ec.europa.eu/products/software>

Quick Data Visualization

- Raster and vector visualization
- Adjustable bands and stretch
- Fast rendering with tiling approach
- Data auto-load and refresh
- Processing buttons for easy access



Map Visualization & Editing

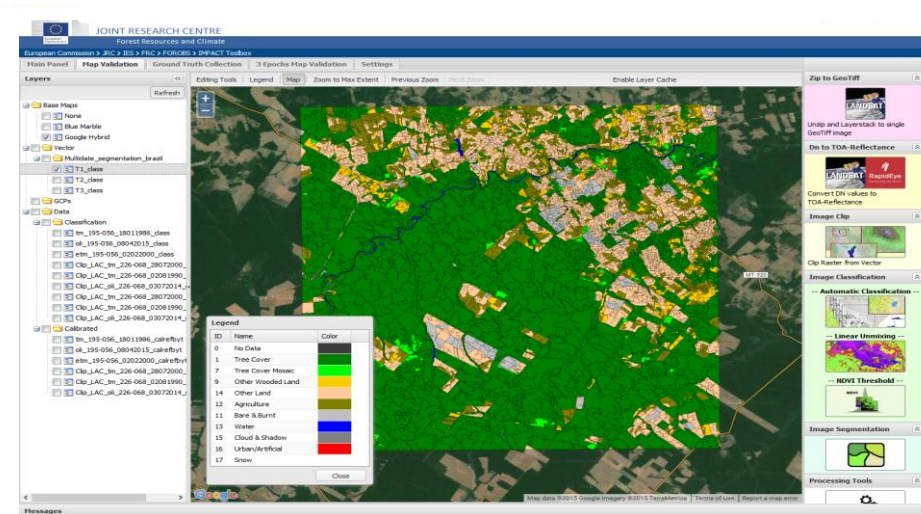


- Easy and efficient editing environment
- Selection and recoding by :
 - class or cluster
 - single or multi polygon
- 1 click edit
- Class masking / showing
- Customizable legend
- On the fly .dbf file editing

Ground Truth Collection

Collection of ground truth data at local, national or global scale is now faster with a built-in feature editor supporting either systematic samples collection or wall-to-wall feature labeling.

- Built-in degradation menu with identification of location, causes and intensity
- Customizable legend



ClimSA Station Jupyter Notebook



Jupyter Notebook

The screenshot displays a Jupyter Notebook environment with several components:

- File Explorer:** Shows a directory structure with files like 'CS_Dataset_Collection.ipynb' and 'Dataset GUI.ipynb'.
- Launcher:** Offers options to run the notebook using 'Python 3 (ipykernel)' or 'Console'.
- Code Cell:** Contains Python code for data processing:


```
[ ]: from apps.processing.proc
[ ]: from apps.productmanagement.database

tamsat = Dataset(product_code="tamsat-rfe", sub_product_code="10d", mapset="TAMSAT-Africa-4km", version="3.1")

[ ]: tamsat.filter("20170101", "20221231")
[ ]: tamsat_proc = Processing(tamsat)
[ ]: LTS_avg_tamsat = tamsat_proc.compute_LTS_avg()
[ ]: tamsat_proc.close()
```
- Figure 1:** A line chart titled 'Daily max 12m for Sep 2020 compared with climatology for Sep from 1979 to 2019'. It plots '12m (Celsius)' on the y-axis (15 to 30) against months on the x-axis. It features three data series: 'Daily max 12m 50th quantile' (green line), 'Daily max 12m Sep 2020' (red line with dots), and 'Max and min values of max 12m from 1979 to 2019' (blue shaded area).
- Figure 2:** A box plot titled 'Box plot of seasonal forecast'. The y-axis is 'Mean total precipitation rate (m s⁻¹)' ranging from 0 to 8. The x-axis shows '1st month 5' and '1st month 6'. The plot shows two box plots with whiskers and outliers.

Heat Wave Analysis using ERA5

Box plot of seasonal forecast

Prototyping customized processing chains

ClimSA Station Jupyter Notebook

- Station data from CLIMSOFT can be ingested into climate station using the Jupyter Notebook.

The screenshot displays a Jupyter Notebook environment with a file browser on the left and a code editor on the right. The file browser shows a directory named 'Climsoft' containing several files: 'ICPAC', 'Namibia', 'ingestion_csv.ipynb', 'obselement.csv', 'observationfinal.csv', and 'station.csv'. The 'ingestion_csv.ipynb' file is selected.

The code editor shows the following code cells:

```

* [2]: csv_station = './station.csv'
      csv_obselement = './obselement.csv'
      csv_observationfinal = './observationfinal.csv'

Ingest station information into ClimSA station

[26]: result = querydb.import_station_csv_data(csv_station, False)
      result

Station data import completed successfully.
[26]: {'message': 'Station data import completed successfully.',
      'inserted': 7,
      'insert_errors': 0,
      'updated': 0,
      'update_errors': 0}

Ingest observation element information into ClimSA station

[27]: result_obselem = querydb.import_obselement_csv_data(csv_obselement, False)
      result_obselem

ObsElement data import completed successfully.
[27]: {'message': 'ObsElement data import completed successfully.',
      'inserted': 0,
      'insert_errors': 0,
      'updated': 0,
      'update_errors': 0}

Ingest observation final data into ClimSA station

[28]: result_obsfinal = querydb.import_observationfinal_csv_data(csv_observationfinal, False)
      result_obsfinal

Station data import completed successfully.
[28]: {'message': 'Station data import completed successfully.',
      'inserted': 222,
      'insert_errors': 0,
      'date_format_error': 0,
      'updated': 0,
      'update_errors': 0,
      'unknown_stations': [],
      'unknown_obselements': []}

```


ClimSA Station Jupyter Notebook

conditions are very likely over Liberia, la Cote d'Ivoire, Ghana, south of Togo and Benin, southwest of Nigeria, South of Mali and Burkina Faso. Also normal to dry conditions are expected over south of Congo, Gabon, Equatorial Guinea, north of South Sudan, south of Sudan, parts of Chad, Somalia, east parts of Kenya and the southeast parts of Ethiopia.

- **Second week:** Characterized by wet to normal conditions over the DRC, Rwanda, Burundi, northwest of Tanzania and north eastern parts of Madagascar. The dry to normal situation is expected over Senegal, Gambia, south west of Mali, south of la Cote d'Ivoire and Ghana, Gabon, Congo, southeast of DRC, south of Sudan, the north of South Sudan, north western parts of Ethiopia and northeast of CAR.

1.0 GENERAL CLIMATOLOGICAL SITUATION

1.1 SURFACE

Pressure Systems

- The Azores anticyclone was observed at a value of 1025hPa. It increased by 6hPa compared to the last dekad and decreased by 10hPa compared to the climatological average (1991 – 2020). It was located at 31°w and 37°N. It is more active and is on the northern part of the continent.
- St. Helena High was observed at a value of 1021hPa. It experienced no change from the last dekad and 13hPa compared to the climatological average (1991 – 2020). It was located at 4°W and 27°S. It has moved further from the continent.
- Mascarene High was observed at a central value of 1022hPa. Its value decreased by 1hPa as compared to the last dekad and decreased by 3hPa compared to the climatological average (1991 – 2020). It was positioned at 50°E and 32°S.

MSLP Obs. vs Anom. for the Dekad 01-10 Apr 2023

Figure 1: Observed Mean Sea Level Pressure (Contour) and anomaly (shaded) from 11th- 20th May 2024

- Heat Low: A thermal depression (low pressure zone) was observed over the southern part of Chad at a central value of 1006Hpa.

1.2 TROPOSPHERE

1.2.1 African Monsoon

The African Monsoons, combined with the influence of the Indo-Pacific and the Atlantic Oceans drive the inter-annual and the dekadal

Climate Bulletin Generation

TEN-DAY CLIMATE DIAGNOSTICS BULLETIN

ISSUE N°: 2024/11
REPORTING PERIOD: Dekad 11th- 20th May 2024
ISSUE DATE: 25/05/2024

Climate Report

Summary of Observations

HIGHLIGHTS

During the second decade of May 2024, below average to well below average precipitation conditions were observed over most places in the Central African Region, some few areas in the south of the Gulf of Guinea Region and East African Region. Above-average rainfall conditions were observed over south of the Gulf of Guinea countries, few places in the central and east African region and Madagascar.

The outlook for the next two weeks, from 24 May - 06 June, 2024, shows that during the:

- **First week:** The wet conditions are expected over Guinea, some few places in Uganda and Kenya, and east of Madagascar. Dry to normal conditions are very likely over Liberia, la Cote d'Ivoire, Ghana, south of Togo and Benin, southwest of Nigeria, South of Mali and Burkina Faso. Also normal to dry conditions are expected over south of Congo, Gabon, Equatorial Guinea, north of South Sudan, south of Sudan, parts of Chad, Somalia, east parts of Kenya and the southeast parts of Ethiopia.
- **Second week:** Characterized by wet to normal conditions over the DRC, Rwanda, Burundi, northwest of Tanzania and north eastern parts of Madagascar. The dry to normal situation is expected over Senegal, Gambia, south west of Mali, south of la Cote d'Ivoire and Ghana, Gabon, Congo, southeast of DRC, south of Sudan, the north of South Sudan, north western parts of Ethiopia and northeast of CAR.

1.0 GENERAL CLIMATOLOGICAL SITUATION

ad and decreased by 10hPa compared to the climatological average (1991 – 2020). It was located at 31°w and 37°N. It is more active and is on the

- St. Helena High was observed at a value of 1021hPa. It experienced no change from the last dekad and 13hPa compared to the climatological average (1991 – 2020). It was located at 4°W and 27°S. It has moved further from the continent.
- Mascarene High was observed at a central value of 1022hPa. Its value decreased by 1hPa as compared to the last dekad and decreased by 3hPa compared to the climatological average (1991 – 2020). It was positioned at 50°E and 32°S.

MSLP Obs. vs Anom. for the Dekad 01-10 Apr 2023

Figure 1: Observed Mean Sea Level Pressure (Contour) and anomaly (shaded) from 11th- 20th May 2024

- Heat Low: A thermal depression (low pressure zone) was observed over the southern part of Chad at a central value of 1006hpa.

1.2 TROPOSPHERE

1.2.1 African Monsoon

The African Monsoons, combined with the influence of the Indo-Pacific and the Atlantic Oceans drive the inter-annual and the dekadal variability over these regions.

Future features for the Climate Station

- Climate Station Chatbot for installation and usage assistance.
- Integration with the Africa knowledge Platform AKP

Africa Knowledge Platform

The Africa Knowledge Platform is a scientifically driven **collaborative framework** focusing on devising innovative solutions leveraging **EO** and other **geospatial data** in support of global challenges within the **Green Transition** domain.

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Beneficiaries



Meet the Climate Station Team @JRC



Marco Clerici

Project Leader and JRC Co-ordinator for GMES&Africa and ClimSA programs



Vijay Charan Venkatachalam

Back-end and GIS



Carolina Arias Munoz

Data scientist and Thematic Applications



Baudouin Desclée

Thematic Expert



Jurriaan van't Klooster

Front-end and database



Dario Simonetti

Back-end, RS and GIS



Guido Notari

System integration

Thank you



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