

EU-Africa collaboration on Space applications for Africa

Background



Maputo Declaration: African policy makers request EC to open its GMES initiative to Africa (Oct 2006)

Build on existing EO activities in Africa in order to increase benefits

Joint approach to solve global challenges - MDGs, sustainable development compromises (Climate Change, Food Security, Security,...)



Space for Development: the case of GMES & Africa

Lisbon event, 6-7 December 2007

Lisbon Process

The objective to develop the **GMES and Africa Action Plan** was established at the 2nd Summit and the Plan was adopted as a deliverable of the Space component of the 8th Africa-EU Partnership

Africa-EU Partnership on EO



EU-Africa collaboration on Space applications for Africa

Tropical Research Institute – PT, 28 May 2015

EU-Africa collaboration on Space applications for Africa

GMES & Africa

EU-Africa partnership for Earth Observation in Africa

The EU support to the Earth Observation Reference System through a strong and long term partnership between EU and Africa, established by the Lisbon Declaration (2007), to promote and improve availability, access and use of Earth Observation information for the benefit of the African citizen

GMES & Africa – Action Plan

Cross Cutting Issues (5)

- Capacity building
- Institutional policy
- Infrastructures
- Financing
- Monitoring and Evaluation

Thematic Areas (9)

- Marine and coastal areas
- Water resources management
- Long-term management of natural resources

Remaining 6 Chapters (prioritised in Dec 2014)

1. Food Security and Rural Development
2. Impacts of Climate Variability Change
3. Natural Disasters
4. Health Management Issues
5. Conflicts and Political Crisis
6. Infrastructures and Territorial Development

GMES & Africa - Applications

GEOS

4 Cross Cutting Activities and
9 Social Benefit Areas

Cross Cutting Activities

Capacity Building
Architecture and Data
Science and Technology
User Interface

Social Benefit Areas

Disasters
Health
Energy
Climate
Agriculture
Ecosystems
Biodiversity
Water
Weather

Copernicus

5 Services

Climate Change

Observation Infrastructure
In-situ and spatial
(ESA,EUMETSAT...)

Monitoring Services

Marine
Land
Atmosphere
Security
Emergency

GMES & Africa

5 Cross Cutting Activities and
8 Thematic Areas

Cross Cutting Activities

Capacity Building
Institutional Policy
Infrastructures
Monitoring & Evaluation Financing

Thematic Areas

Natural resources
Marine and coastal areas
Water resources
Climate variability and change
Natural disasters
Food security & rural development
Infrastructure & territorial development
Conflicts and political crises
Health Management

GMES & Africa – Action Plan

Action Plan based on Open Consultation to assess:

- Identification of Users and relevant stakeholders
- Mapping of existing EO-related activities and programmes
- Identification of Gaps
- Needs for service development
- Needs for capacity building
- Identification of adequate financing instruments

GMES & Africa Building Blocks

➤ FP7 Space Call 2008 - 3 projects (total 3 M€) for Coordination and Support Actions in view of the future implementation of GMES services in Africa (**start 2010**)

- **GARNET-E** Emergency Response and Risk Reduction (start May 2010 / 2yrs)
- **EAMnet** Marine Matters (start March 2010 / 3 yrs)
- **SAGA-EO** Support Action to GMES Africa on Earth Observation (start Aug 2010 / 2yrs)

➤ FP7 SICA (Specific International Cooperation Action) to promote participation of non-EU MS or Associated Countries in the FP7 within particular areas (**start 2011**)

WATPLAN Spatial EO monitoring for planning and water location (start Feb 2011 / 2½ yrs)

MALAREO EO in Malaria Vector Control and Management (start Feb 2011 / 2 yrs)

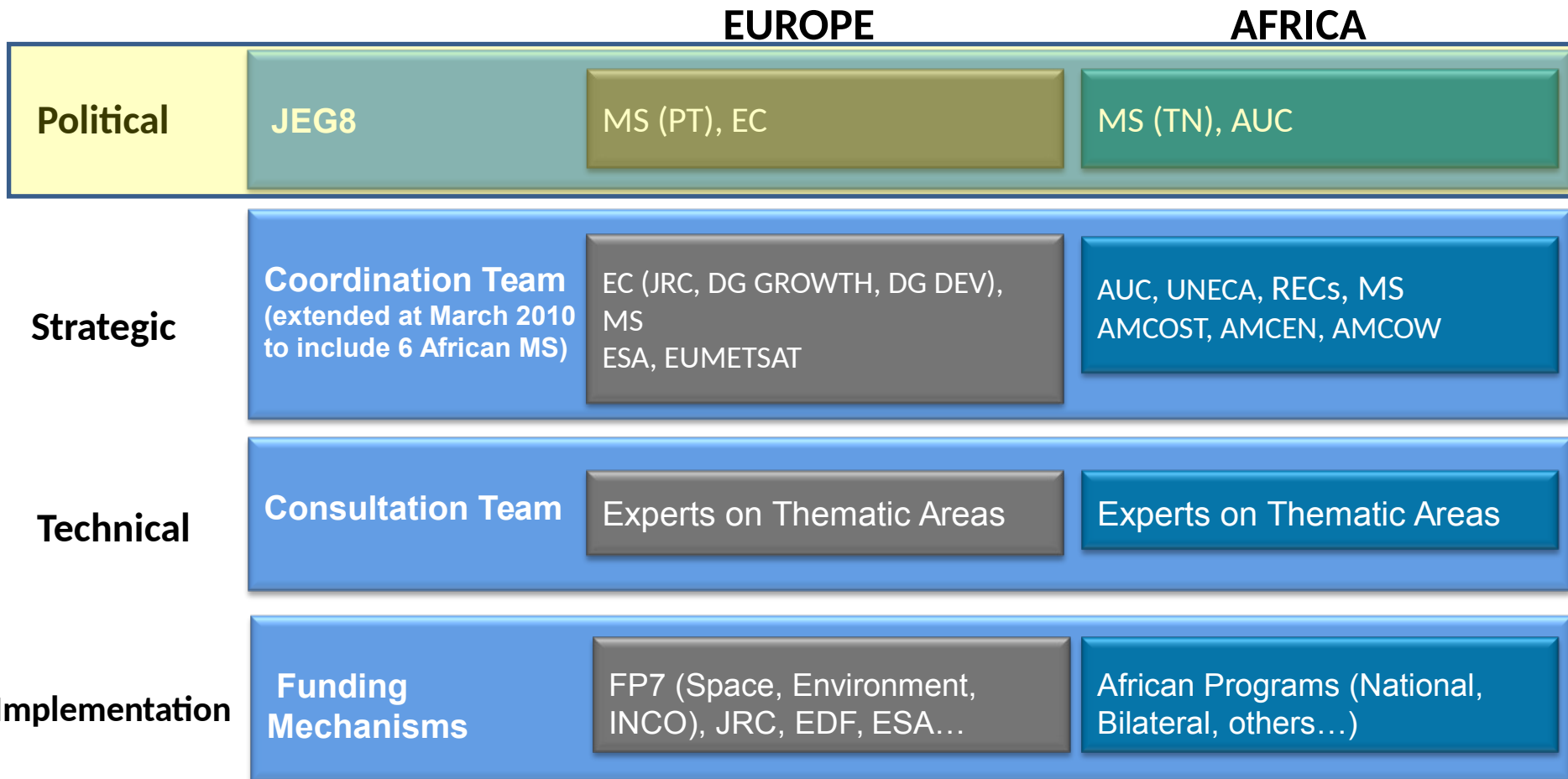
REDDiness Support EO-driven forest and carbon monitoring in Central Africa for REDD (start Jan 2011/2 yrs)

➤ **REDDAF** Reducing Emissions from Deforestation and Degradation in Africa (start Jan 2011 / 3 yrs)

❖ (ESA) Tiger → Tiger 2 → Tiger-Net (2002-2015)

❖ (EDF) Puma → AMESD → MESA (2001-2018)

GMES & Africa – Coordination Mechanism

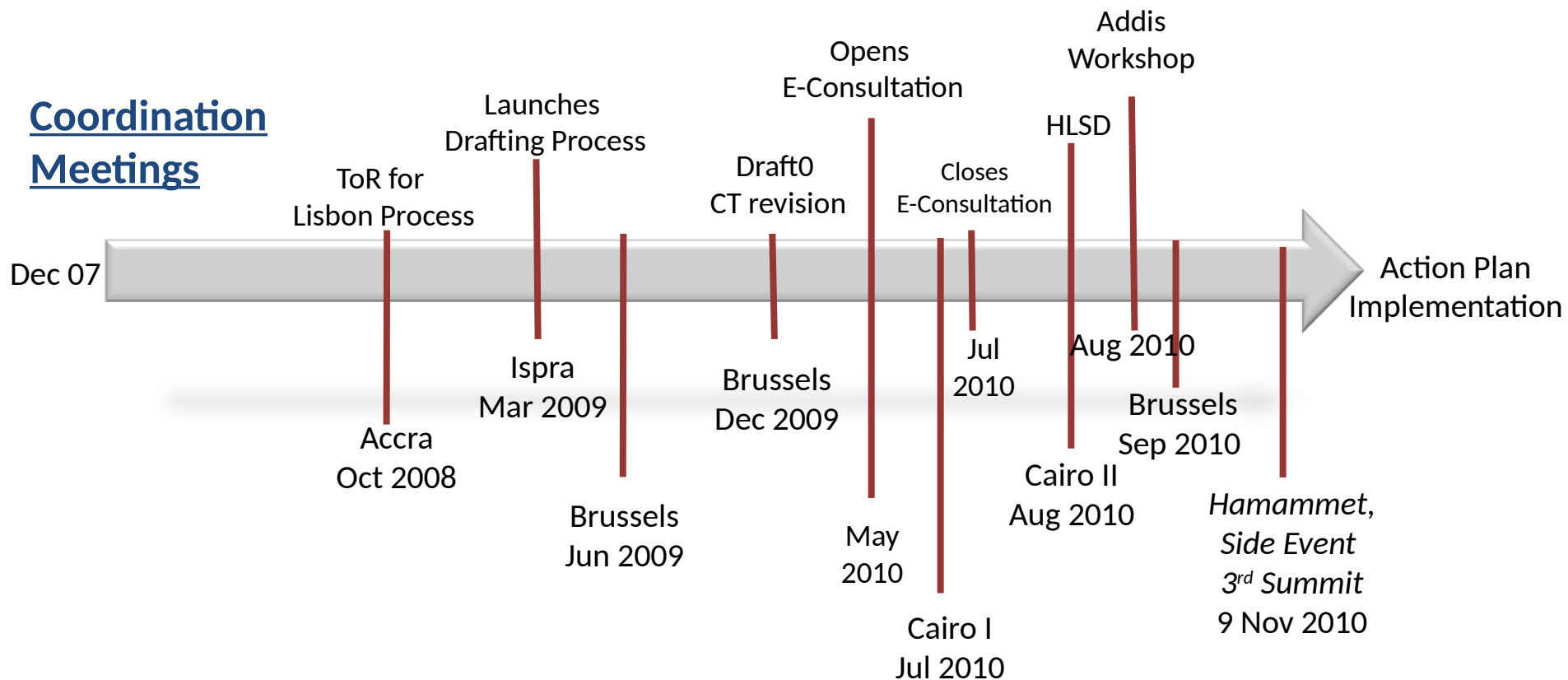


GMES & Africa – Past Roadmap

Lisbon Process

Draft, discuss, submit the Action Plan

Coordination Meetings



BRAGMA supporting GMES & Africa

BRAGMA

BRIDGING ACTIONS FOR GMES AND AFRICA

- Partners from 10 Countries: 5 African / 5 European
- Coordination / Support Action – 1M€
- 2 Years Project, starting January 2012

BRAGMA – Key Objectives

1. SUPPORT COORDINATION AND PROMOTE AWARENESS

- *Invest on the connection with the governance*
- *Organise key meetings*
- *Facilitate participation of selected African stakeholders at relevant events*
- *Create a Web Site, Social Networks and Newsletters to connect networks and disseminate information*

2. SUPPORT A COHERENT STRATEGY BETWEEN EUROPE AND AFRICA

- *Build synergies between GMES & AFRICA related projects*
- *Contribution of GMES services*

3. SUPPORT THE EFFECTIVE DEVELOPMENT, CONCLUSION, ENDORSEMENT AND IMPLEMENTATION OF THE ACTION PLAN, IDENTIFYING AND FACILITATING THE SCOPE AND DEFINITION OF HIGH PRIORITY PROJECTS

3 Thematic Workshops:

1. Marine and Coastal Areas – Kenya
2. Water Management – Nigeria
3. Long Term Management of Natural Resources – Egypt

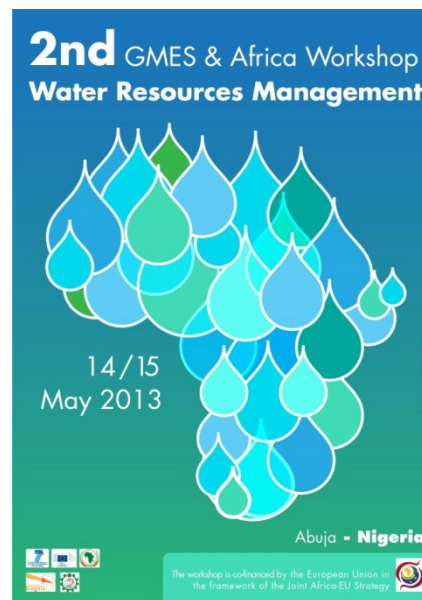
Validation Workshop – South Africa

3 Thematic WS

- To contribute to the implementation of the Action Plan producing Concrete and Visible Results through a simpler modular approach
- To guarantee the sustainability of the initiative
- To analyze the contribution of GMES services and *GMES & Africa* related projects, supporting a coherent strategy between Europe and Africa
- To support the effective development, conclusion, endorsement and implementation of GAAP, identifying and facilitating the scope and definition of high priority projects
- To outline operational modalities to reach GMES & Africa Objectives – allowing Africa to make full use of the potential of space systems for sustainable development and reinforcing Africa's capacity and ownership in using and contributing to remote sensing science
- To define modalities to establish African-European operational collaboration to make best use in Africa of GMES Europe services

SUPPORT THE EFFECTIVE DEVELOPMENT, CONCLUSION, ENDORSEMENT O

Technical meetings for drafting the technical implementation chapter



SUPPORT THE EFFECTIVE DEVELOPMENT, CONCLUSION, ENDORSEMENT OF



- Harmonisation between 3 WS (Priority Implementation Actions)
- Cross Cutting Issues (Governance & Infrastructure)
- Call for Implementation (Tangible Outputs for the 4th EU-Africa Summit)

Participation

- 80 Participants from 24 African coastal countries - **Marine and Coastal Areas**
- 60 Participants from 30 African countries - **Water Management**
- 45 Participants from 28 African countries - **Natural Resources Management**
- 100 Participants from 30 African countries - **Validation / Consolidation**

- AUC, EC, regional organisations (COI, ECOWAS, IGAD, COMESA), AMCOST, AMCOW
- Involvement of International organisations (e.g. GOOS-AFRICA, IOC/UNESCO)
- Synergies with FP7 and EDF projects / EU-Africa Cooperation Projects

www.bragma.eu

BRAGMA Initiative - Windows Internet Explorer

http://www.bragma.eu/home/default.asp?page=welcome

BRAGMA Initiative

Supporting GMES & Africa
bragma

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Home | **Community** | **News + Events** | **8th Africa - EU Partnership**

Home

GMES & Africa
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Calendar

March 2012 Week Month Age

Mon	Tue	Wed	Thu	Fri	Sat	Sun
27	28	29	Mar 1	2	3	4
(9:00am) GEOS						
5	6	7	8	9	10	11
12	13	14	15	16	17	18
+1 more	+2 more	+2 more	+1 more	+1 more	+1 more	
19	20	21	22	23	24	25
26	27	28	29	30	31	Apr 1

Google Calendar

Welcome

Within the context of the Space Track of the 8th Africa - EU Strategic Partnership (Science, Information Society, Space), BRAGMA is specifically focused on Supporting GMES (Global Monitoring for Environment and Security) and Africa.

Co-funded under FP7 (Contract 284422), BRAGMA (Bridging Actions for GMES and Africa) supports GMES and Africa coordination and awareness by

- Organising Coordination and Thematic Expert Workshops
- Facilitating participation of pre-qualified African stakeholders at relevant events to ensure pan-African engagement
- Building a community, engaging with key stakeholders, establishing and connect networks, and disseminate information through the BRAGMA Portal, Online Forum and Newsletters

Click [here](#) for more information on BRAGMA

BRAGMA Highlights

First Public BRAGMA Workshop takes place in Dar es Salaam, Tanzania on 08 May - Agenda will be Published Soon

IST-Africa 2012 (09 - 11 May, Dar es Salaam) - **Advance Programme** published, **Registration** Now Open.

African Union Research Grants 2012 - Call closes 20 April

JEG8 @ IST-Africa 2012 (10 - 11 May) - Agenda will be Published Soon

News

BRAGMA Organises GMES and Africa Workshop in Dar es Salaam, Tanzania, 08 May 2012

BRAGMA Map

Map Sat Ter Earth

South Atlantic Ocean

POWERED BY Google

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BRAGMA Project
BRAGMAProject

BRAGMAProject BRAGMA Organises Public GMES and Africa Workshop in Dar es Salaam, Tanzania on 08 May - [bragma.eu/home/default.a...](#)
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BRAGMAProject Join the BRAGMA Community for GMES and Africa - [bragma.eu/home/default.a...](#)



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Global Monitoring for Environment and Security (GMES) & Africa

Group type: [Public group](#)

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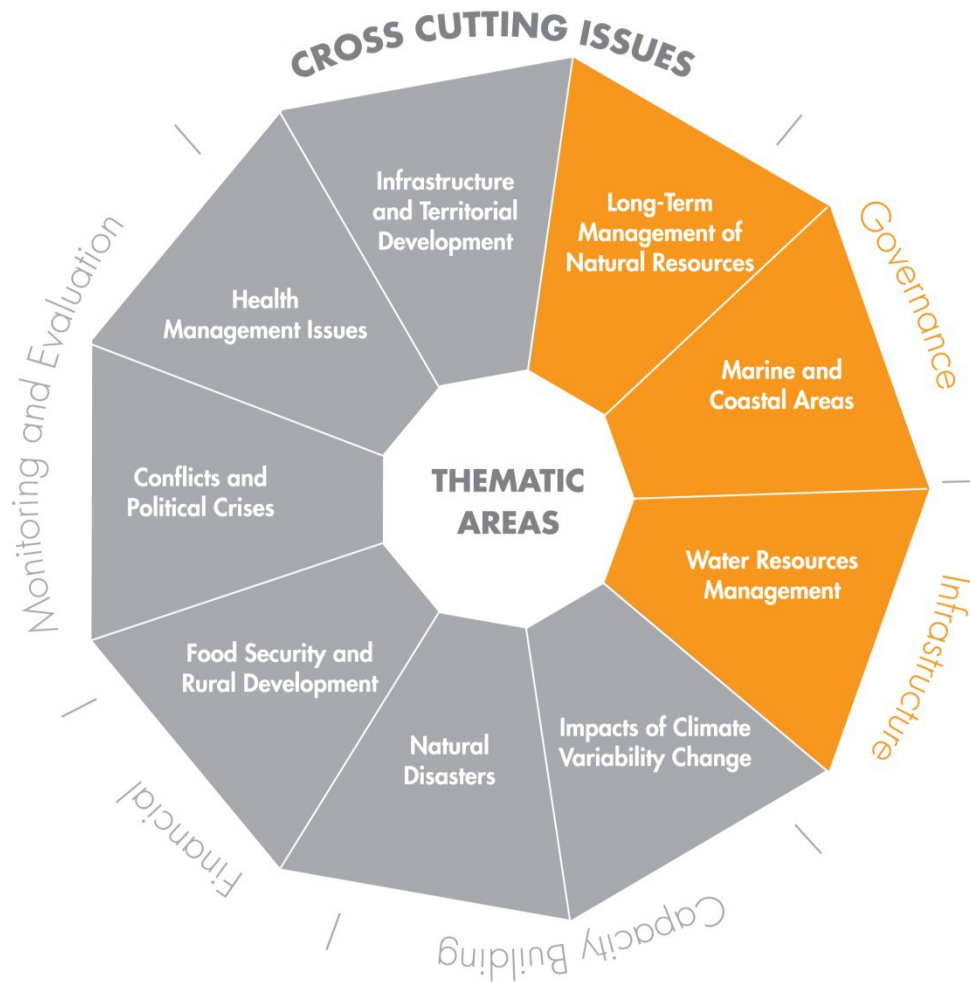
Marine and Coastal Areas WS - Draft Agenda

[» back to group document overview](#)

- ❖ **Support to development, consultation/endorsement of the GAAP**
 - ❖ Conducting 4 WS
 - ❖ Developing 3 thematic action plans

- ❖ **Support to dissemination of the Action Plan via**
 - ❖ BRAGMA website - www.bragma.eu
 - ❖ Capacity4Dev portal (<http://capacity4dev.ec.europa.eu/africa-eu-part.gmes/dashboard>)
 - ❖ E-Platform MIXXT - <http://bragma.mixxt.eu/networks/mypage/index>
 - ❖ Newsletters - <http://www.bragma.eu/home/default.asp?page=newsletters>

GMES & Africa – Action Plan



GMES & Africa – Action Plan

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MARINE AND COASTAL AREAS MANAGEMENT

Operational services and products are:

1. Operational coastal sea level, coastal circulation and coastal sea state (data, analyses, imagery and mapping)
2. Operational biological productivity (data, analyses, imagery and mapping)
3. Coastal sensitivity and vulnerability atlases & state of environment reporting
4. Ship traffic situation and maps
5. Regional weather forecast systems (weekly basis)
6. Real-time Disaster Warning Systems
7. Mapping of coastal land use and near-shore coastal and marine habitats
8. Mapping marine and coastal ecosystem services

WATER RESOURCES MANAGEMENT

Operational services and products are:

1. Mapping the precipitation and potential evapo-transpiration
2. Mapping the transboundary water resources including characterization of the basin catchment
3. Identification, mapping and monitoring of the ephemeral water bodies
4. Management of the groundwater reservoirs
5. Generating and early warning and outlooks for stakeholders and decision makers.

LONG TERM MANAGEMENT OF NATURAL

RESOURCES Operational services and products are:

- 1.Characterization and mapping of Land cover at different scales and standardised format
- 2.Characterization and mapping of land cover **changes** at different scales and standardised format
- 3.Developing and operational model for monitoring **land-use** to support land management policies
- 4.Developing a decision support system for Assessment of Long Term NRM Strategies in Africa.
- 5.Developing a decision support services for Early Warning Systems

Copernicus Services / GMES & Africa Thematic Areas

Services monitoring Earth systems



Land

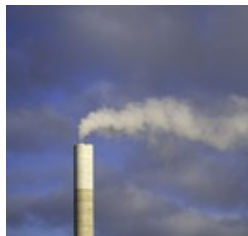
Water Resources
Natural Resources

Food Security
Territorial Development



Marine

Marine and Coastal Areas



Atmosphere

?

Horizontal services



Natural Disasters

Emergency



Conflicts and political crises

Security



Climate variability and change

Climate Change

Copernicus space component

Space Infrastructure – Led by ESA

Delegation Agreement with ESA

- GIO and post : Contributing Missions - Satellite missions built for purposes other than Copernicus but offering part of their capacity to Copernicus (EU/ESA MSs, EUMETSAT, commercial, international)
- SENTINEL - Satellite missions developed specifically for Copernicus



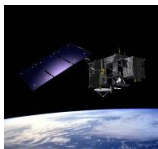
Sentinel 1 – SAR imaging

All weather, day/night applications, interferometry



Sentinel 2 – Multispectral imaging

Land applications: urban, forest, agriculture,..
Continuity of Landsat, SPOT



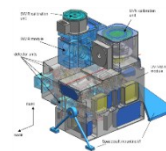
Sentinel 3 – Ocean and global land monitoring

Wide-swath ocean color, vegetation, sea/land surface temperature, altimetry



Sentinel 4 – Geostationary atmospheric

Atmospheric composition monitoring, trans-boundary pollution



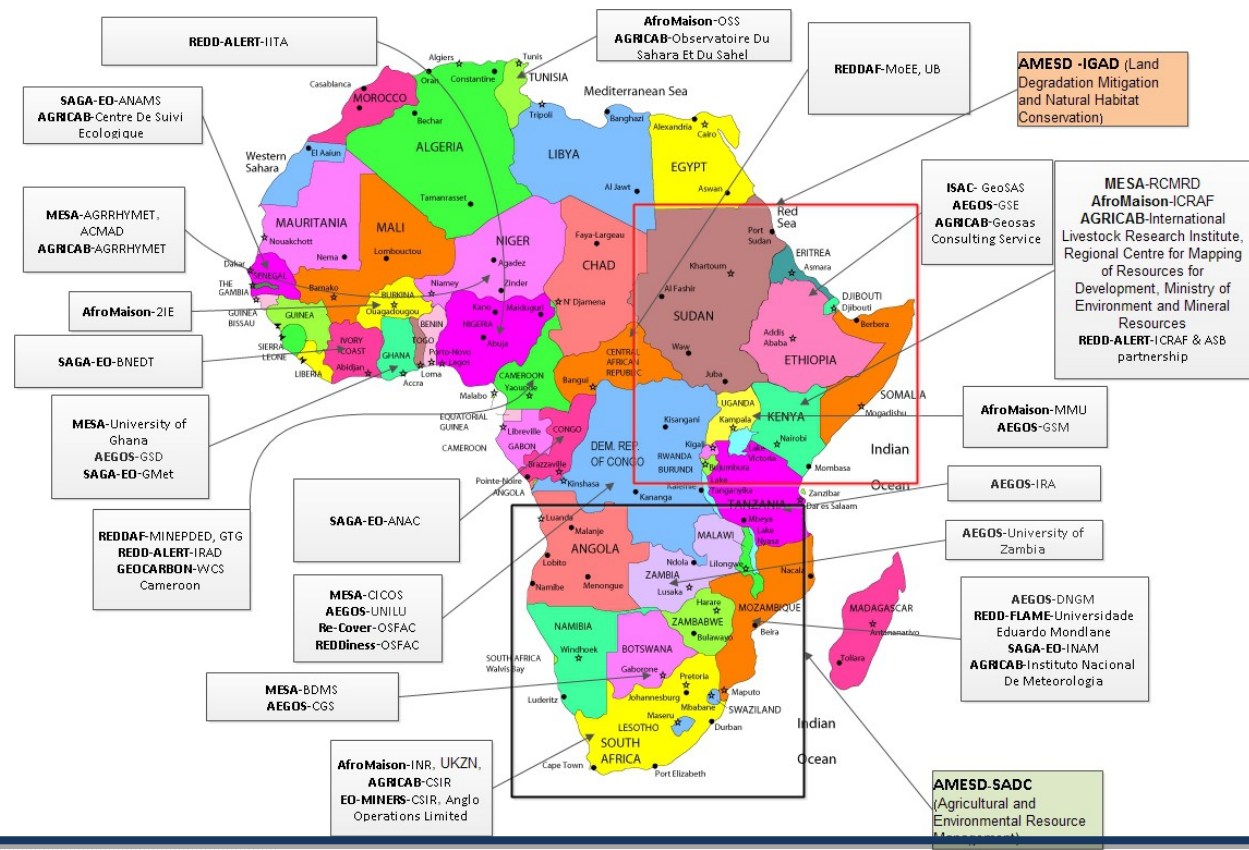
Sentinel 5
Low-orbit atmospheric
Atmospheric composition monitoring

MESA Thematic Actions

Regional Economic Community - REC	Regional Thematic Action - THEMA	Regional Implementation Centre – RIC
CEMAC	Management of Water Resources (for fluvial transportation and environmental assessment)	CICOS, Kinshasa
ECOWAS	Water Management for Cropland and Rangeland Management	AGRHYMET, Niamey
IGAD	Land Degradation Mitigation & Natural Habitat Conservation & Forest Information System <i>NEW</i>	ICPAC, Nairobi
IOC	Coastal and Marine Resources Management	MOI, Quatre-Bornes with NMHS for training
SADC	Agricultural and Environmental Resource Management	BDMS/SADC-CSC, Gaborone
ECOWAS	Coastal and Marine Resources Management <i>NEW</i>	U Ghana
Continental	Support to Climate Services (Climate Change Monitoring) <i>NEW</i>	ACMAD, with the other RCC

GMES & Africa – Synergies

Distribution of selected projects addressing Long-term management of Natural Resources across Africa



GMES&Africa – next steps

- ❖ The 2014-2017 Roadmap of the Africa-EU Partnership agreed at the last Summit in April 2014 commits the two partners to cooperate to *“strengthen African capacity to monitor environment and security in Africa using Earth Observation techniques through the implementation of the Global Monitoring for Environment and Security (GMES) and Africa Action Plan, and more specifically, in the three priority thematic chapters: marine and coastal areas, water resources and natural resources management”*
- ❖ *The on-going study for the use of Pan-African Programme funds to implement the GMES&Africa PanAf Programme should be finalised in 2015 to start implementation on 2016*
- ❖ *There is no fixed date for the next GMES & Africa thematic workshop on EO for Food Security and Rural Development*

Thank You



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Tropical Research Institute – PT, 28 May 2015