1st GMES & Africa Workshop
Marine and Coastal Areas
Mombasa
Kenya
9-10 October 2012

Working Group 2 Outputs

Networking
in a GMES and Africa Service

Working Group 2 Topics

2.1. An African Maritime and Coastal Surveillance Systems and Network

2.2. An African Marine and Coastal Forecast System and a Disaster Early Warning System

2.3. An African Network of Marine and Coastal Sentinel Stations

Topic 2.1 An African Maritime and Coastal Surveillance Systems and Network - Specific Questions

2.1.1. What are the current and future issues and methods in maritime and coastal surveillance, where an improved availability of EO data and data networking would make a real difference? Please prioritise.

➔ **M&C Surveillance Issues and Methods with Potential for EO Application**

2.1.2. At what level (continental, regional, national, local) are maritime and coastal surveillance systems most a) most effectively and b) most efficiently (cost, HR) managed?

➔ **Optimum Placement of M&C Surveillance Systems Management (effectiveness, cost-efficiency**

Topic 2.1 An African Maritime and Coastal Surveillance Systems and Network - Specific Questions (ctd.)

2.1.3. Are there examples of (sustainable) practical application of EO data and information to Maritime and Coastal Surveillance in your Country? By whom? To whom? Lessons learnt? ➔ **National and Regional Examples of Sustainable EO Application in M&CS**

2.1.4. Which are you Country's current institutions and authorities involved in Maritime and Coastal Surveillance and are those networking with other national or international institutions?

➔ **Current National Authorities and Institutions involved in M&CS**

Topic 2.1 An African Maritime and Coastal Surveillance Systems and Network - Specific Questions (ctd.)

2.1.5. Which are your Country's current partner organisations (IO, RO, REC, etc.), programmes and projects supporting existing, or the development of new Maritime and Coastal Surveillance Systems and does this support include networking aspects (targets)? ➔ **Current Partner Organisations, Programmes and Projects (Maritime and Coastal Surveillance)**

2.1.6. Which regional or international organisations, programmes or projects would you identify/ suggest for intermediate technical and financial support to such a system and network for Maritime and Coastal Surveillance? ➔ **Suggestions for technical and financial support action, projects and institutions (Maritime and Coastal Surveillance)**

WG2 – An African Maritime and Coastal Surveillance Systems and Network - OUTPUTS

Question	WG Session 1 Answers (max. 3) - please delete table rows if not needed -	Suggested Actions towards GMES & Africa Service	S T	M T	* L T
2.1.1. M&C Surveillance Issues and Methods with Potential for EO Application	IUU fishing, poaching, marine and maritime pollution, habitat degradation, human and drug trafficking, environmental variability and impacts of climate change on oceans (rise of SST and sea level), coastal erosion, quality of marine environment, water quality degradation, extreme events, safety at sea and maritime operation, piracy, algal bloom				
2.1.2. Optimum Placement of M&C Surveillance Systems Management (effectiveness, cost-efficiency	All levels are important (varies from an issue to another); scale of observation is important				
	Prioritisation varies depending on importance of issues for the countries				
	At some levels				

ST: short term, MT: mid term, LT: long term

WG2 – An African Marine and Coastal Surveillance Systems and Network - OUTPUTS

Question	WG Session 1 Answers (max. 3) - please delete table rows if not needed -	Suggested Actions towards GMES & Africa Service	ST	MT	*LT
2.1.3. National and Regional Examples of Sustainable EO Application in M&CS	Recommendation to put that question through the countries/RO through the official channels via the AU				
	Technical ownership by countries must be acquired				
	Involvement of national/regional institutions; use funding available to that effect (EU)				
2.1.4. Current National Authorities and Institutions involved in M&CS	Same as 2.1.3				

ST: short term, MT: mid term, LT: long term

Question	WG Session 1 Answers (max. 3) - please delete table rows if not needed -	Suggested Actions towards GMES & Africa Service	S T	M T	* L T
2.1.5. Current Partner Organisations, Programmes and Projects (Maritime and Coastal Surveillance)	• EC is supporting the University of Ghana since 2008 through DevCoCast/EAMNet for potential fishing zones and the US Gov. for vessel monitoring (2010)				
	• Madagascar has VMS system for fisheries management (EU-funded fish. surveillance pgm.); monitoring ocean parameters (AMESD), IHSM				
	• Ivory Coast: Project SAGA-EO with EU coordinates by BNETD (Bureau national d'etudes techniques et de développement)				
2.1.6. Suggestions for technical and financial support action, projects and institutions (Maritime and Coastal Surveillance)	• MESA (EU-funded 10th EDF)				
	• Private sector involvement (services and products), but need to take them on board at early stages, need to have an private sector pgm.				
	• Leverage international bodies for partnerships/collaborations • AU Maritime HQ/Reg. Marit. Operation Centres • National VMS for institutions who are responsible for maritime surveillance				

Topic 2.2 An African Marine and Coastal Forecast System and a Disaster Early Warning System - Specific Questions

2.2.1. What marine and coastal forecast and disaster-early-warning systems do already exist in your Country, your Region, Africa and what is their quality?

➔ **Existing M&C Forecast Systems and DEW Systems**

2.2.2. What would be the advantages of a marine and coastal forecast and disaster-early-warning system at an Africa-wide scale against more national/ regional systems? ➔ **Advantages of Continental Forecast and DEW Systems**

2.2.3. What information and analyses would need to be provided to by an African marine and coastal forecast and DEW System and to which authorities and institutions in your Country? ➔ **What Information to Whom?**

Topic 2.2 An African Marine and Coastal Forecast System and a Disaster Early Warning System - Specific Questions (ctd.)

2.2.4. Which are your Country's current partner organisations (IO, RO, REC, etc.), programmes and projects supporting existing, or the development of new marine and coastal forecast and DEW systems and does this support include networking aspects (targets)? ➔ **Current Partner Organisations, Programmes and Projects (M&C Forecast and DEW Systems)**

2.2.5. Which regional or international organisations, programmes or projects would you identify/ suggest for intermediate technical and financial support to such a marine and coastal forecast and DEW system? ➔ **Suggestions for technical and financial support action, projects and institutions (M&C Forecast and DEW Systems)**

WG2 – An African M&C Forecast System and a Disaster Early Warning System - OUTPUTS

Question	WG Session 2 Answers (max. 3) - please delete table rows if not needed -	Suggested Actions towards GMES & Africa Service	S T	M T	* L T
2.2.1. Existing M&C Forecast Systems and DEW Systems	Mauritius Oceanographic Institute				
	South Africa CSIR UCT				
	• Kenya weather forecasting system (ocean forecasting) plus coral bleaching forecast system (CORDIO) plus flood forecasting • Ghana meteorological agency ocean • Madagascar early warning system for agriculture (drought) • ICPAC IGAD Climate prediction and applications used for climate forecast • Indian Ocean Tsunami early warning system • Nigerian meteorological services daily weather forecasting and AgroMet (floods)	Provision of marine and coastal data Need for data for prevision of storm surges along the coasts of Africa	X X		

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WG2 – An African M&C Forecast System and a Disaster Early Warning System - OUTPUTS

Question	WG Session 2 Answers (max. 3) - please delete table rows if not needed -	Suggested Actions towards GMES & Africa Service	S T	M T	* L T
2.2.2. Advantages of Continental Forecast and DEW Systems	• Need for a forecast system at all levels, benefits at all levels, specially at national level		x		
	• Interoperable Regional Centres are useful (for certain issues, maritime navigation) for dissemination of information, need for networking at all levels (data exchange protocols need to be standardised)	Identify Regional Centres to be used as training centres (Centres of excellence) on relevant issues Training activities	x	x	
2.2.3. What Information to Whom?	• There are internationally agreed data exchange format, need to follow those formats				
	• Information to be made available to everyone in the network			x	
	• Need to translate technical information into user friendly format for end users	Need for training	x		

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WG2 – An African M&C Forecast System and a Disaster Early Warning System - OUTPUTS

Question	WG Session 2 Answers (max. 3) - please delete table rows if not needed -	Suggested Actions towards GMES & Africa Service	S T	M T	* L T
2.2.4. Current Partner Organisations, Programmes and Projects (M&C Forecast and DEW Systems)	• Regional Implementation Center Mauritius Oceanographic Institute for the Indian Ocean AMESD and MESA	Networking	x	x	x
	• Nigeria Support from Japanese Meteo Organisation • Ivory Coast Ghana Senegal Congo Mozambique SAGA EO project support from EU FP7 International project with Thales GEOSAT GAF • For the Indian Ocean support from UNESCO IOC for the tsunami alert system • Kenya EUMETSAT + support from IOC UNESCO JCOMM	Networking	x	x	x
	• ODINAfrica IOC UNESCO starting 2013 (next phase) • UNEP supports an early warning system (DIWA) • Madagascar: système d alerte précoce a la sécheresse (SAP) supported by FAO	Networking	x	x	x

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WG2 – An African M&C Forecast System and a Disaster Early Warning System - OUTPUTS

Question	WG Session 2 Answers (max. 3) - please delete table rows if not needed -	Suggested Actions towards GMES & Africa Service	S T	M T	* L T
2.2.5. Suggestions for technical and financial support action, projects and institutions (M&C Forecast and DEW Systems)	• UNEP DIWA for general technical support				
	• African regional banks, GEF, AfDB, relevant UN agencies, EU EDF 11, IHO, WMO, Islamic Development Bank, World Bank for financial and or technical support	Financing and technical support system(s) established by AU and EU	x	x	x
	• GOOS Africa Programme				

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Topic 2.3 An African Network of Marine and Coastal Sentinel Stations - Specific Questions

2.3.1. What marine and coastal sentinel stations are already operational in your Country, your Region, Africa and what is their quality? ➔ **Existing M&C Sentinel Stations**

2.3.2. Which institutions, organisations or authorities are operating and maintaining these marine and coastal sentinel stations? ➔ **Organisations operating these M&C Sentinel Stations**

2.3.3. What would be the advantages of an African network of marine and coastal sentinel stations over more national/ regional systems? ➔ **Advantages of a Continental Network of Sentinel Stations**

Topic 2.3 An African Network of Marine and Coastal Sentinel Stations - Specific Questions (ctd.)

2.3.4. What would be the minimum geospatial distribution of sentinel station in an African network of marine and coastal sentinel stations and where would they have to be most effectively and (cost) efficiently placed? ➔ **Required Minimum Density and Distribution of M&C Sentinel Stations**

2.3.5. What information and analyses would need to be provided to by an African network of marine and coastal sentinel stations and to which authorities and institutions in your Country? ➔ **What Information to Whom?**

Topic 2.3 An African Network of Marine and Coastal Sentinel Stations - Specific Questions (ctd.)

2.3.6. Which are your Country's current partner organisations (IO, RO, REC, etc.), programmes and projects supporting existing, or the development of new marine and coastal sentinel stations and does this support include networking aspects (targets)? ➔ **Current Partner Organisations, Programmes and Projects (M&C Network of M&C Sentinel Stations)**

2.3.7. Which regional or international organisations, programmes or projects would you identify/ suggest for intermediate technical and financial support to such an African network of marine and coastal sentinel stations? ➔ **Suggestions for technical and financial support action, projects and institutions (M&C Network of M&C Sentinel Stations)**

WG2 – An African Network of Marine and Coastal Sentinel Stations - OUTPUTS

Question	WG Session 3 Answers (max. 3) - please delete table rows if not needed -	Suggested Actions towards GMES & Africa Service	S T	M T	* L T
2.3.1. Existing M&C Sentinel Stations	• South Africa has coastal operational sentinel station • Nigeria has one (Navy) • Ghana: putting coastal radar systems in place • Cape Verde, Guinea Bissau with US support? • Kenya has radar surveillance along the coast	Complement in situ data with EO data Upgrade the sentinel stations to include meteorological data	x	x	x
	• Senegal (All systems operational) • ODIN Africa Network of sensors (tide, temp sensors)				
	• Kenya meteorological network of tide gauges	Linking to satellite telemetry	x		

WG2 – An African Network of Marine and Coastal Sentinel Stations - OUTPUTS

Question	G Session 3 Answers (max. 3) - please delete table rows if not needed -	Suggested Actions towards GMES & Africa Service	S T	M T	* L T
2.3.2. Organisations operating these M&C Sentinel Stations	• ODIN Africa Network of sensors – Ghana (Fisheries Commission, focal point)				
	• In most African countries Port Authorities, Hydrographic services, Marine Research and Academic Institutions • Oil companies platforms have sensors • GOOS Africa related projects	Support existing stations and whereas needed establish new ones	x	x	x
2.3.3. Advantages of a Continental Network of Sentinel Stations	• Need for a forecast system at all levels, benefits at all levels, specially at national level		x		
	• Interoperable Regional Centres are useful (for certain issues, maritime navigation) for dissemination of information, need for networking at all levels (data exchange protocols need to be standardised)	Identify Regional Centres to be used as training centres (Centres of excellence) on relevant issues Training activities		x	

WG2 – An African Network of Marine and Coastal Sentinel Stations - OUTPUTS

Question	WG Session 3 Answers (max. 3) - please delete table rows if not needed -	Suggested Actions towards GMES & Africa Service	ST	MT	*LT
2.3.4. Required Minimum Density and Distribution of M&C Sentinel Stations	• Minimum: each coastal states should have one • Countries with long coastlines should have more than one	Support existing stations and provide for countries which do not have any	X	X	X
	• Need for regional reference Centres for networking and data exchange + exchange of experiences	Training	X	X	x
2.3.5. What Information to Whom?	• There are internationally agreed data exchange format, need to follow those formats				
	• Information to be made available to everyone in the network			x	
	• Need to translate technical information into user friendly format for end users	Need for training	x		

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WG2 – An African Network of Marine and Coastal Sentinel Stations - OUTPUTS

Question	WG Session 3 Answers (max. 3) - please delete table rows if not needed -	Suggested Actions towards GMES & Africa Service	S T	M T	* L T
2.3.6. Current Partner Organisations, Programmes and Projects (M&C Network of M&C Sentinel Stations)	• ODIN Africa (Africa wide network) sea level related programme				
	• Other In situ observation programmes	Reactivate dormant and build on existing programmes	X	X	X
2.3.7. Suggestions for technical and financial support action, projects and institutions (M&C Network of M&C Sentinel Stations)	• African regional banks, GEF, AfDB, relevant UN agencies, EU EDF 11, IHO, WMO, Islamic Development Bank, World Bank, oil and gas companies for financial and or technical support	Financing and technical support system(s) established by AU and EU	x	x	x
	• GOOS Africa Programme				

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Thank You

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