

|                  | Expected output                                                            | Deadline                             | Steps                                                                                                                                                                                                                                                                              | Responsible       | Planned expenditure 2011 | OK or Delayed 2011 |
|------------------|----------------------------------------------------------------------------|--------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|--------------------------|--------------------|
| <b>CONTRACTS</b> |                                                                            |                                      |                                                                                                                                                                                                                                                                                    |                   |                          |                    |
| Contract type I  | Weekly report of services and incidences                                   | Weekly.                              | Weekly elaboration and dissemination reports to isanzz@aemet.es and ecabrera@wmo.int                                                                                                                                                                                               | Consultant type I | 45.000                   |                    |
|                  | Manual about web site structure                                            | October 2011                         | Manual: linking at the web site <a href="http://afrimet.org/marinemet/">http://afrimet.org/marinemet/</a> and sending an e-mail to the focal points in Senegal, The Gambia, Cape Verde and Mauritania                                                                              | Consultant type I |                          |                    |
|                  | Manual of remote sensing images products guide                             | April 2011                           | Manual: linking at the web site <a href="http://afrimet.org/marinemet/">http://afrimet.org/marinemet/</a> and sending an e-mail to the focal points in Senegal, The Gambia, Cape Verde and Mauritania                                                                              | Consultant type I |                          | OK                 |
|                  | Manual of remote sensing products: theoretical basis of product derivation | April 2011                           | Manual: linking at the web site <a href="http://afrimet.org/marinemet/">http://afrimet.org/marinemet/</a> and sending an e-mail to the focal points in Senegal, The Gambia, Cape Verde and Mauritania                                                                              | Consultant type I |                          | OK                 |
|                  | Software and scripts updates                                               | Continuously                         | Software and scripts updates related to procures changes, improvements and software updates                                                                                                                                                                                        | Consultant type I |                          |                    |
|                  | Migration IDL procedures to R-cran                                         | 1 July 2011                          | Avoid the use of IDL or any commercial tools and migrate to free tools                                                                                                                                                                                                             | Consultant type I |                          | OK                 |
|                  | Migration to kubuntu operating system                                      | 31 August 2011                       | Change from mandriva linux to kubuntu linux to use the same operating system of SAPOs developments                                                                                                                                                                                 | Consultant type I |                          | OK                 |
|                  | Delivery products                                                          | Continuously                         | Delivery a daily remote sensing real-time service: daily real time remote sensing maps of Sea Surface Temperature, Chlorophyll-a concentration and Thermal fronts for four windows: MARINEMET project window, Cape Vert, Mauritania and Senegal-Gambia. Addressed to general users | Consultant type I |                          |                    |
|                  | Annual internal report in Spanish, English and in French                   | 20 October 2011                      | Before October, 20 elaboration and dissemination annual internal report: AEMET and WMO                                                                                                                                                                                             | Consultant type I |                          |                    |
|                  |                                                                            | 24 October 2011                      | Internal report: checking and approval                                                                                                                                                                                                                                             | AEMET             |                          |                    |
|                  |                                                                            | 28 October 2011                      | Internal report: checking and approval                                                                                                                                                                                                                                             | WMO               |                          |                    |
|                  |                                                                            | 30 October 2011                      | Internal report is added at the Annual Report of the MARINEMET Pilot Project 2011                                                                                                                                                                                                  | Consultant type I |                          |                    |
|                  | Renewal for 2012                                                           | 1st November 2011-31st December 2011 | WMO: 45 days are needed for the processing of renewal. From 1st November to 31st December there are 61 days to get the 2012 contracts are signed in January 2012 without delays (12 payments)                                                                                      | WMO               |                          |                    |
| Contract type II | No longer exists                                                           | Finished 2010                        |                                                                                                                                                                                                                                                                                    |                   | 0                        | -----              |

|                             | Expected output                                                                                                 | Deadline                             | Steps                                                                                                                                                                                         | Responsible         | Planned expenditure 2011 | OK or Delayed 2011 |
|-----------------------------|-----------------------------------------------------------------------------------------------------------------|--------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|--------------------------|--------------------|
| Contract type III           | Bathymetries for the ports of Nouakchott, Dakar and Mindelo in a regular grid with a minimum resolution of 200m | 15 june 2011                         | Implementation of the bathymetries and interpolation in regular grids using the vectorized charts given by the company PROES.                                                                 | Consultant Type III | 42.000                   | OK                 |
|                             | 3 SAPOs systems ready to be implemented at African equipments                                                   | 15 june 2011                         | Reception of boundary/wind conditions from WAM Africa                                                                                                                                         | AEMET               |                          | OK                 |
|                             |                                                                                                                 | 20 October 2011                      | Run SWAN model of the 3 SAPOs for test cases                                                                                                                                                  | Consultant Type III |                          | OK                 |
|                             | Wave maps and html tables of the three SAPOs for the web                                                        | 20 October 2011                      | Preparation of the wave modelling outputs                                                                                                                                                     | Consultant Type III |                          | OK                 |
|                             | Validation document                                                                                             | 30 November 2011                     | Preparation of tools to do the validation                                                                                                                                                     | Consultant Type III |                          |                    |
|                             |                                                                                                                 | 30 November 2011                     | Validation of the SWAN output for the test cases                                                                                                                                              | Consultant Type III |                          |                    |
|                             |                                                                                                                 | 15 December 2011                     | Preparation the document about the validation                                                                                                                                                 | Consultant Type III |                          |                    |
|                             | Annual internal report in English and an abstract in French                                                     | 20 October 2011                      | Before October, 20 elaboration and dissemination annual internal report: AEMET and WMO                                                                                                        | Consultant Type III |                          |                    |
|                             |                                                                                                                 | 24 October 2011                      | Internal report: checking and approval                                                                                                                                                        | AEMET               |                          |                    |
|                             |                                                                                                                 | 28 October 2011                      | Internal report: checking and approval                                                                                                                                                        | WMO                 |                          |                    |
|                             |                                                                                                                 | 30 October 2011                      | Internal report is added at the Annual Report of the MARINEMET Pilot Project 2011                                                                                                             | Consultant type III |                          |                    |
|                             | Renewal for 2012                                                                                                | 1st November 2011-31st December 2011 | WMO: 45 days are needed for the processing of renewal. From 1st November to 31st December there are 61 days to get the 2012 contracts are signed in January 2012 without delays (12 payments) | WMO                 |                          |                    |
| Contract type IV            | No longer exists                                                                                                | Finished 2010                        |                                                                                                                                                                                               |                     | 0                        | -----              |
| Pay per view L-band antenna | No loger exists                                                                                                 | Finished 2010                        |                                                                                                                                                                                               |                     | 0                        | -----              |

|                            | Expected output         | Deadline                             | Steps                                                                                                                               | Responsible                                       | Planned expenditure 2011 | OK or Delayed 2011 |
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| EQUIPMENT                  |                         |                                      |                                                                                                                                     |                                                   |                          |                    |
| Tide Gauges (TG)           | Miros radar station in: | 29th March 2011                      | TheToR for the supply of Tide Gauges is sent to 17 potential suppliers                                                              | WMO                                               | 325.000                  | OK                 |
|                            | Dakar                   | 24th April 2011 -<br>24th May 2011   | 24th May: deadline for the reception offers.<br>Assessment of the offers<br>24th May 2011: Adjudication the tide gauges acquisition | WMO                                               |                          | Delayed            |
|                            | Mindelo                 |                                      |                                                                                                                                     |                                                   |                          |                    |
|                            | Standard stations:      |                                      |                                                                                                                                     |                                                   |                          |                    |
|                            | Nouadhibou              |                                      |                                                                                                                                     |                                                   |                          |                    |
|                            | Praia                   | Second half 2011-<br>First half 2012 | Tide Gauges installation and management and maintenance in-situ course                                                              | Supplier                                          |                          |                    |
|                            | St. Louis               |                                      |                                                                                                                                     |                                                   |                          |                    |
|                            | Banjul                  |                                      |                                                                                                                                     |                                                   |                          |                    |
| Spare parts                |                         |                                      |                                                                                                                                     |                                                   |                          |                    |
| Automatic Weather Stations | 2 Senegal               | 1st April 2011                       | Sending an e-mail to Senegal, The Gambia, Mauritania and Cape Verde asking about the emplacements selected for the AWS              | AEMET                                             | 333.000                  | OK                 |
|                            | 3 Mauritania            | 15th April 2011                      | Deadline for the reception emplacements                                                                                             | The Gambia<br>Senegal<br>Mauritania<br>Cape Verde |                          | OK                 |
|                            | 3 Cape Verde            | 1st April 2011 -<br>1st May 2011     | Elaboration of AWS Terms Of Reference                                                                                               | WMO                                               |                          | Delayed            |
|                            | 1 The Gambia            | 1st May 2011 -<br>15th June 2011     | Sending offers for the potential suppliers                                                                                          | Potential suppliers                               |                          |                    |
|                            | Spare parts             | 15th June 2011 -<br>15th July 2011   | Offers assessment and contract adjudication                                                                                         | WMO                                               |                          |                    |
|                            |                         | 16th July 2011-31st<br>December 2011 | AWS installation                                                                                                                    | Supplier                                          |                          |                    |

|                                    | Expected output                                                   | Deadline          | Steps                                                                                                                                                                                | Responsible         | Planned expenditure 2011 | OK or Delayed 2011 |
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| <b>EQUIPMENT</b>                   |                                                                   |                   |                                                                                                                                                                                      |                     |                          |                    |
| PCs for SAPOs                      | 1 PC in Senegal (Dakar)                                           | 1st February 2012 | Elaboration of the PCs Terms Of Reference for direct acquisition                                                                                                                     | Consultant type III |                          | -----              |
|                                    | 1 PC in Mauritania (Nouakchott)                                   | 1st March 2012    | Processing the PCs' acquisition: direct acquisition                                                                                                                                  | WMO                 |                          |                    |
|                                    | 1 PC in Cape Verde (Mindelo)                                      | 1st June 2012     | Reception equipment (6 PCs) in Madrid. Information transference and application in the PCs. Establishment communications for the BC's and wind fields. Start of operational activity | Consultant type III |                          |                    |
|                                    | 3 PCs replicas in Madrid                                          | Second half 2012  | Sending the PCs to Dakar, Nouakchott and Mindelo                                                                                                                                     | Consultant type III |                          |                    |
|                                    |                                                                   | Second half 2012  | Administrative proceedings to install the PCs in Africa                                                                                                                              | WMO                 |                          |                    |
| Navigational charts digitalization | Navigational charts digitalized for Dakar, Nouakchott and Mindelo | February 2011     | Search for the navigational charts and the company to digitalized them                                                                                                               | Consultant type III | 2.020                    | OK                 |
|                                    |                                                                   |                   | Contract preparation for the navigational charts digitalization                                                                                                                      | WMO                 |                          |                    |
| PCs for satellite products         | 1 PC in Dakar                                                     | 1st June 2012     | Reception 1 PCs in Las Palmas de Gran Canaria                                                                                                                                        | Consultant type I   |                          | -----              |
|                                    |                                                                   | June 2012         | Implementation software                                                                                                                                                              | Consultant type I   |                          |                    |
|                                    |                                                                   | Second half 2012  | Sending the PC to Dakar                                                                                                                                                              | Consultant type I   |                          |                    |

|                         | Expected output                                                                    | Deadline           | Steps                                                                   | Responsible         | Planned expenditure 2011 | OK or Delayed 2011 |
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| <b>OTHERS</b>           |                                                                                    |                    |                                                                         |                     |                          |                    |
| Deep sea water modeling | Deep sea water modeling development                                                | March 2009         | Setting up the local area sea wave forecast system                      | AEMET               |                          | OK                 |
|                         |                                                                                    | April 2009         | Adaptation for using BCs and forcings from ECMWF                        | AEMET               |                          | OK                 |
|                         |                                                                                    | March 2010         | Solving issues after ECMWF spectral resolution upgrade                  | AEMET               |                          | OK                 |
|                         |                                                                                    | September 2010     | Validation against bouys data                                           | AEMET               |                          | OK                 |
|                         |                                                                                    | 20th January 2011  | Post-processing outputs to match SAPO requirements                      | AEMET               |                          | OK                 |
|                         |                                                                                    | 15th February 2011 | Automation of sending data to website                                   | AEMET               |                          | OK                 |
|                         |                                                                                    | 20th May 2011      | Automation of sending data to SAPOs                                     | AEMET               |                          | OK                 |
|                         |                                                                                    | 20th June 2011     | Exploring an alternative for ECMWF boundary conditions                  | AEMET               |                          |                    |
| Web site                | Web site development                                                               | Continuously       | Reorganize web site front-end                                           | Consultant type I   |                          |                    |
|                         | Development of procedures to automate remote sensing product ingestion in web site | 15th April 2011    | Development                                                             | Consultant type I   |                          | OK                 |
|                         |                                                                                    | 29th April 2011    | Test                                                                    | Consultant type I   |                          | OK                 |
|                         |                                                                                    | 21st May 2011      | Operational                                                             | Consultant type I   |                          | OK                 |
|                         | Development of web site to ingest ocean modelling products                         | 29th April 2011    | Development                                                             | Consultant type I   |                          | OK                 |
|                         |                                                                                    | 13rd May 2011      | Approval                                                                | Consultant type I   |                          | OK                 |
|                         |                                                                                    | 21st May 2011      | Operational                                                             | Consultant type I   |                          | OK                 |
|                         | Data products archive                                                              | 29th Sep 2011      | Searching utilities for remote sensing and ocean modeling products      | Consultant type I   |                          | OK                 |
|                         | Development of web site to ingest SAPOs products                                   | 20th April 2011    | Sending examples to adapt the web site                                  | Consultant type III |                          | OK                 |
|                         |                                                                                    | 31st Oct 2011      | Development                                                             | Consultant type I   |                          |                    |
|                         |                                                                                    | 18th Nov 2011      | Approval                                                                | Consultant type I   |                          |                    |
|                         |                                                                                    | 30th Nov 2011      | Operational                                                             | Consultant type I   |                          |                    |
| Validation activities   | Development of sapos validation                                                    | 31st March 2013    | Development of tools for the validation of sapos againts satellite data | Consultant type III |                          | -----              |
|                         |                                                                                    | 30th June 2013     | Compilation of satellite data in african north west coast               | Consultant type III |                          | -----              |
|                         |                                                                                    | 30th June 2013     | Validation of SAPOs aplication againts satellite data                   | Consultant Type III |                          | -----              |

|                                                                                 | Expected output                                     | Deadline                                             | Steps                                                                                                                                                                                                          | Responsible         | Planned expenditure 2011 | OK or Delayed 2011 |
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| <b>TRAINING ACTIVITIES</b>                                                      |                                                     |                                                      |                                                                                                                                                                                                                |                     |                          |                    |
| Training to build capacities in the general curricula adopted by WMO-Toulouse   | Senegal                                             | 2009                                                 | On time                                                                                                                                                                                                        | AEMET-WMO           |                          | OK                 |
|                                                                                 | Cape Verde                                          |                                                      |                                                                                                                                                                                                                |                     |                          |                    |
|                                                                                 | Mauritania                                          |                                                      |                                                                                                                                                                                                                |                     |                          |                    |
| Training to build capacities in the general curricula adopted by WMO-Met Office | The Gambia                                          | 2010                                                 | On time                                                                                                                                                                                                        | AEMET-WMO           |                          | OK                 |
| Short term course for meteorologist                                             | In Las Palmas de Gran Canaria                       | June 2012                                            | Maritime meteorology course                                                                                                                                                                                    | AEMET               |                          | ----               |
| On job training fellowship under AEMET's call conditions and schedule           | Out of the MARINEMET Pilot Project                  | When the fellowship is open                          | Oceanography, remote sensing, in-situ observation, wave modeling and others issues                                                                                                                             | AEMET               |                          | ----               |
| Specific courses for in-situ instrument maintenance and management              | SAPOs: Senegal, Cape Verde and Muritania            | When the equipment is installed.<br>Second half 2012 | Management and maintenance in-situ course                                                                                                                                                                      | Consultant type III |                          | ----               |
|                                                                                 | TG: Senegal, Mauritania, The Gambia and Cape Verde  | When the equipment is installed.<br>First half 2012  | Management and maintenance in-situ course                                                                                                                                                                      | Supplier            |                          | ----               |
|                                                                                 | AWS: Senegal, Mauritania, Cape Verde and The Gambia | When the equipment is installed.<br>First half 2012  | Management and maintenance in-situ course                                                                                                                                                                      | Supplier            |                          | ----               |
| Users' formation courses                                                        | In Senegal, Mauritania, Cape Verde and The Gambia   | First half 2013                                      | Final users training course in-situ                                                                                                                                                                            | NMHSs               |                          | ----               |
| Ad-hoc technology transfer                                                      | Senegal, Mauritania, Cape Verde and The Gambia      | Continuously                                         |                                                                                                                                                                                                                | AEMET               |                          | ----               |
| <b>TECHNICAL MEETINGS</b>                                                       |                                                     |                                                      |                                                                                                                                                                                                                |                     |                          |                    |
| Technical meeting                                                               | Participants (Coordination committee):              | June-July 2011                                       | Technical meeting will held in Dakar when the milestones have been reached: - wave ocean modeling finished<br>- Adjudication of tide gauges procurement<br>- Beginning automatic weather stations procurements | AEMET-WMO           |                          | Delayed            |
|                                                                                 | Senegal (without cost)                              |                                                      |                                                                                                                                                                                                                |                     |                          |                    |
|                                                                                 | The Gambia                                          |                                                      |                                                                                                                                                                                                                |                     |                          |                    |
|                                                                                 | Mauritania                                          |                                                      |                                                                                                                                                                                                                |                     |                          |                    |
|                                                                                 | Cape Verde                                          |                                                      |                                                                                                                                                                                                                |                     |                          |                    |
|                                                                                 | OMM                                                 |                                                      |                                                                                                                                                                                                                |                     |                          |                    |
|                                                                                 | Consultant type I                                   |                                                      |                                                                                                                                                                                                                |                     |                          |                    |
|                                                                                 | Consultant type III                                 |                                                      |                                                                                                                                                                                                                |                     |                          |                    |
|                                                                                 | E. Barrera-AEMET                                    |                                                      |                                                                                                                                                                                                                |                     |                          |                    |
|                                                                                 | AEMET                                               |                                                      |                                                                                                                                                                                                                |                     |                          |                    |

|                                 |                   |                                                                    |
|---------------------------------|-------------------|--------------------------------------------------------------------|
| Type I consultant commitments   | WMO commitments   | NMHSs (Senegal, Mauritania, Cape Verde and The Gambia) commitments |
| Type III consultant commitments | AEMET commitments | Supplier commitments                                               |