

# **Bio-Optical Characterization of the Black Sea for Remote Sensing Applications**

**NATO Science for Peace Project # 982678**

## **Minutes of Management and Science Meeting**

**Venue: Golden Age II Hotel, Abdulhakhamit Cd. No. 40, Taksim**

**Dates: 10-11, November 2009**

**Start Time: 9. 30 A.M**

### **Meeting participants:**

- Temel Oguz (NPD) – Institute of Marine Sciences, IMS, Turkey
- Atanas Palazov (PPD) – Institute of Oceanology –BAS, Bulgaria
- Michael Lee (Co-Director) - Marine Hydrophysical Institute, Ukraine
- Vaorel Malciu (Co-Director)- National Institute of Marine Research Development, Romania;
- Oleg Kopelevich (Co-Director)- P.P. Shirshov Institute of Oceanology – RAS, Russia;
- Giuseppe Zibordi - Joint Research Centre of the European Commission
- Jean- Francois Berthon - Joint Research Centre of the European Commission
- Hasan Orek - Institute of Marine Sciences, IMS, Turkey
- Luminita Buga - National Institute of Marine Research Development, Romania
- Razvan Mateescu - National Institute of Marine Research Development, Romania
- Violeta Slabakova -Institute of Oceanology –BAS, Bulgaria

### **Management Session (November 10, 2011)**

#### **1. Welcome**

The meeting was opened by NATO Project Director, Prof. Temel Oguz who welcomed participants. Dr. Giuseppe Zibordi introduced the agenda of the meeting. Agenda was adopted as attached in Annex 1.

## **2. Project summary was given by Dr. G. Zibordi**

In the first part of the talk, the general overview of the project was given, co-directors and participating institution, project objectives and activities were recalled. In the second part, detailed scientific task and current activities were discussed. Special emphasis was given to what was achieved to date:

- Procurement/delivery of the bio-optical profiler
- Execution of the first bio –optical cruise (EUROFLEET BIO OPT r/v Mare Nigrum and r/v Akademik and BioMap cruises) in the western and central Black Sea;
- Filed measurements
- Trainings

## **3. Status of the project budget was presented by Violeta Slbakova**

The current status of the project budget was presented. It was pointed that a bigger part from the project budget remains unrealized. There was a suggestion to apply to the NATO Sfp program and ask if it is possible to extend project with the same money. The agreement on six month extension of the project activities was reached. It was recalled that PRFs for the unused balance of a 2009 grant need to be sent to NATO for payment before 15 November 2011, otherwise these funds will be lost to the project.

## **4. Overview of individual partner activities (2010-2012)**

Each partner gave a presentation about the individual activities that were carried out within the NATO project. All presentations are available on the NATO Sfp 982678 website: <http://www.natosps.io-bas.bg/>

## **5. Work plan for 2012: cruise planning, activities and funding**

It was considered and discussed the work plan for 2012, as well as the individual responsibilities of the partners on the respective activities.

### **1. Next bio-optical cruise:**

- will take place from 31 August till 15 September 2011 on the Bulgarian r/v Akademik;
- will be funded by joint ROSA/ESA project.
- will be carried out in the Western Black Sea (mostly in Romanian waters)

It was agreed the number of the participants in the next cruise to be 16 (JRC – 3 persons, METU- 3 persons, IO-BAS – 3 persons, NIMRD- 2 persons, MHI-2 persons, SIO – 2 persons and Romanian Hydrographic Directorate (MHD) -1 person).

### **Information that should be sent to IO-BAS until end of January 2012:**

- **Participants in the next bio-optical cruise should send the scanned copies of their passport pages with photograph and names;**
- **Name and short description of the equipment that will be used during the cruises.**

## 2. Next report:

Next Project Progress Report should be submitted in 20 April 2012. **All Co –Directors should send their text on activities and updated budget tables to Atanas Palazov ([palazov@io-bas.bg](mailto:palazov@io-bas.bg)) and Violeta Slabakova ([v.slabakova@io-bas.bg](mailto:v.slabakova@io-bas.bg)) by 7 April 2012.**

## 6 Status on 2011 measurement activities and data sharing

The status on bio- optical measurements was presented by Dr. Zibordi. The issue of data sharing was discussed. It was agreed that the data will be owned by the team producing the measurements, but data access will be granted to all project participants with co-sharing of results.

## 7 Training activities were presented by Dr. G. Zibordi

Trainings on *Optical Profile Measurements and Data handling* and *Optical Profile Data Analysis and Applications* were carried out onboard Mare Nigrum and Akademik between stations. Basic training activities, included tutorials on:

- i. Optical Radiometric Profile Measurements by G.Zibordi;
- ii. Inherent Optical Measurements of Seawater (a, b, c, bb) by J.F.Berthon;
- iii. Water Sampling and Conditioning for Bio-Optical Analysis by E.Canuti.
- i. Optical Radiometric Profile Data Handling and Processing by G.Zibordi;
- ii. Analysis of Seawater Inherent Optical Properties (a, b, c, bb) by J.-F.Berthon;
- iii. Determination of Seawater VSF by Y.Shibanov;
- iv. Pigments Quantification through HPLC by E.Canuti;
- v. Underway Fluorometry using a Flow-Through System by V.Levchenko.

It was agreed the third planned training course: “Bio-optical modeling and remote sensing applications” to be organized during the last project meeting in Ispra, Italy in the middle of November 2012.

## 8 Publication Plan and Project Workshop

The issue of publication was discussed. The importance of publishing the scientific results of the project activities was emphasized. I was recalled that no publications from the activities to date, although there is a large amount of high quality scientific material. It was proposed some of the results to be presented on the conferences and a project workshop to be organized.

## Science Session (November 11, 2011)

Individual talks of relevance for satellite ocean color in the Black Sea were presented:

1. *AOP measurements and Neural Net bio-optical algorithms for the Western Black Sea* was presented by Dr. G. Zibordi, JRC (<http://www.natosp.io-bas.bg/>)
2. *Variability of IOPs in European Seas including the Western Black Sea* was presented by Dr. Jean- Francois Berthon, JRC
3. *The problem of reliable detection of coccolitophore blooms in the Black Sea from satellite ocean color data* was presented by Dr. O. Kopelevich, SIO

4. *AERONET-OC: Gloria* was presented by Dr. G. Zibordi, JRC (<http://www.natosps.io-bas.bg/>)

**Closure of the meeting**

Professor Oguz thanked the participants for their contributions and closed the meeting.

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## **Management and Science Meeting**

**10-11, November 2011, ISTANBUL, TURKAY**

*Host:* Institute for Marine Sciences, METU

*Venue:* Golden Age II Hotel, Abdulhakhamit Cd. No. 40, Taksim

### **DRAFT AGENDA**

***Day 1: Thursday, 10 November 2011***

#### ***Management Session***

09:30 Welcome (Prof. T. Oguz, METU)

09:45 Project summary (Dr. G. Zibordi, JRC)

10:15 Project budget and funding ( V. Slabakova, IO-BAS )

11:00 *Coffee break*

11:30 Individual partner activities:

- Institute of Marine Sciences, METU, Turkey (Dr. H. Oreg, METU)
- Joint Research Centre of the European Commission; (Dr. G. Zibordi, JRC)
- Institute of Oceanology – BAS, Bulgaria; (Violeta SlabakovaIO-BAS)
- Marine Hydrophysical Institute, Ukraine ( Dr. Michael Lee, MHI)
- National Institute of Marine Research Development, Romania (Dr. R. Mateescu, NIMRD)
- P.P. Shirshov Institute of Oceanology – RAS, Russia; (Dr. O. Kopelevich, SIO)

13:00 *Lunch break*

14:30 Work plan for 2012: cruise planning, activities and funding (All)

15:15 Status on 2011 measurement activities and data sharing (All)

16:00 *Coffee break*

16:30 Training activities (Dr. G Zibordi, JRC)

17:00 Publication Plan and Project Workshop (All)

***Day 2: Friday, 11 November 2011***

***Science Session***

09:30 AOP measurements and Neural Net bio-optical algorithms for the Western Black Sea (Dr. G. Zibordi, JRC)

10:15 Variability of IOPs in European Seas including the Western Black Sea (Dr. Jean- Francois Berthon. JRC)

11:00 *Coffee break*

11.30 The problem of reliable detection of coccolithophore blooms in the Black Sea from satellite ocean color data (Dr. O. Kopelevich, SIO)

12:15 AERONET-OC: Gloria (Dr. G. Zibordi, JRC)

13.00 Closure of the meeting