

Work Package I
Temporal Evolution of Surface Production and Fate of Organic Matter
Management Report

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After 12 months there are fewer deliverables for WP1 than indicated in the Technical Annex. This is mainly caused by the unavailability of ship time which is now available at month 15 instead of month 8. This lack was partly compensated by some partners in participating in other cruises. However, most partners had not this possibility. Results from the first cruise of WP1, Charles Darwin 114 (July-August) will be the earliest be available in the 18 months management report. This management report refers primarily to the 2 scheduled WP1 workshops which took place in Paris and Lisbon in November 28-29 November 1997 and 26-28 April 1998, respectively. These workshops took place in the months 6 and 11 (scheduled in the Technical Annex in months 4 and 7) were used to plan in detail the organisation of the first WP1 cruise and the principle co-operation of partner inside WP1. Two specific workshop reports have been prepared and were delivered in month 8 and 12. A third workshop (month 11) for partners SINTEF, UITO and IST on modelling has as yet not taken place, but is scheduled for month 14, the week 13-17 th July, in Trondheim, Norway.

During the workshops in month 6 and 11 the specific activities and plans of WP1 partners were presented in greater detail in order to create a better and necessary integration. Compromises had to be made in order to fit the plans and deliverables of the various partners as mentioned in the Technical Annex to the realities of timing of the cruise, the number available berth on the ship, the number of legs and days at sea. The co-ordination to WP2 was also discussed and the contribution of WP1 to WP4 was reviewed.

Most of the time was applied to find a best possible solution to the ship time schedule and balance between the various plans and activities during the upwelling/relaxation cruise in July/August 1998. The available vessel, R/V "Charles Darwin", is not big enough to give all partners the opportunity to carry out the planned research as planned. Therefore reductions in the activity scheme and the planned number of participants has been necessary. While the number of desired berths was 24 only 12 berths are available. The cruise will comprise on two legs of 10 days each, the first one following a filament off the shelf edge and the second on the shelf. A participant scheme was agreed upon by the WP1 community and the details of the activities of the major groups on the cruise were presented (see report from the Lisbon meeting). This scheme is the base for the future planning of the cruise (see workshop report). Several working groups inside the frame of WP 1 (physical oceanography, chemical oceanography, remote sensing, phyto- and zooplankton, vertical flux) were created. The goal of these groups is to integrate the work package furthermore.

Task I.1 On-, off- and along shore transport of water, filament transport and turbulence

NASA Coastal Zone Colour Scanner (CZCS) monthly composite images have been used to extract phytoplankton pigment concentration covering the Iberian Peninsula for November 1978 to June 1986. The pigment data have been converted to primary production estimates using a simple log 10 Production vs. log 10 Pigment relationship developed for the Celtic Sea region in OMEX 1, in order to show seasonal trends in production for the OMEX 2-2 study area. Both the pigment and production data are available as colour GIF images or as raw binary arrays via the OMEX Remote Sensing WWW server (<http://www.npm.ac.uk/rsdas/omex>).

A set of Argos drifters has been purchased and is presently being tested prior to deployment on the cruise.

Task I.2 Inorganic carbon biogeochemistry and atmospheric CO₂ uptake and release

Activities were carried out inside the frame of WP2.

Task I.3 Nutrient dynamics, primary production, biomass and phytoplankton

Task I.4 Zooplankton and microbial cycling

A Scanfish-MKII-OPC system has been purchased on funds outside OMEX, and we have been through a FAT test and the entire system will be delivered by the end of the year. The sea test (SAT) were run onboard "Jan Mayen" during different times of the first year. The staff in the UITO zooplankton group were trained in running the system.

At the OMEX II planning meeting in Paris last November, we agreed to do the grazing experiments as size fractionated groups of mesozooplankton described by Morales et al. (1991). The set-up for these experiments has been constructed, and most of the needed equipment is in the lab ready for use. Plankton nets for experimentation and abundance/biomass (MOCNESS) will be delivered by February 1998.

CPR data collection has been carried out as planned and all analysis is proceeding on schedule. Close liaisons have taken place with the microzooplankton group (PML-b) to determine the grazing experimental protocols and maximise integration of results.

In the absence of any work package 1 cruise this year PML-b participated in a WP2 cruise onboard RV "Poseidon" during February/March in order to generate some WP1 winter grazing data.

Task I.5 Suspended matter, aggregation potential, faecal pellet production and vertical flux

UITO prepared, organised and conducted 2 WP1 workshops, initiated the further integration of WP1 and contributed to the planning of the first WP1 cruise. Zooplankton related activities of the task were co-ordinated with those of Task I.4.

In the absence of any WP 1 cruise in the first year no work was carried out, except for the planning of the first WP1 cruise.

Task I.6 2-way nested submodel, Lagrangian particle-tracking and ecological model

Task I.7 3D-nested model for the Galician shelf: ecological response and interannual variation in the carbon export

Prospects and Conclusions

Most aspects are proceeding well, but there are some delays according to the time schedule of the Technical Annex. These are induced by the fact that the first WP1 cruise takes first place in months 14/15 and not in month 8. Major progress will take place in year 2 as the results from the first cruise come into view. The first modelling workshop for the partners UITØ, SINTEF and IST, scheduled for months 14, will pave the ground for a closer integration of future results of WP1 and a more thorough analysis of the ecological response of the Galician shelf and carbon export. Finally, continuous efforts are put into obtaining ship time for the second WP2 cruise. There may still be a chance to receive ship time for the down-welling period in March 1999, which would be the last possible time window for WP1 in the present time schedule of OMEX II-II since all data should be available for the data base at BODC.