

1st progress meeting
LAMAR project (LAMAR-DRCT/FRCT- M2.1.2/F/008/2007)
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Project tasks overview:

1. The major task of the project is to allocate productive zones of the Azores region and relate those with physical background.
2. The project started **01.11.2007** and is to be ended **01.11.2008**. It is separated on 3 WPs.
3. The region of study is Azores (**33-43°N and 22-32°W**), depths: upper ocean layer **0-700m**, time of study: **1995- 2007** (in case of luck/scarceness of recent data, data may be collected from **earlier years**, like 1980s), time scales on which the information will be analyzed: **annual** and seasonal (**monthly**) means.
4. Please note that seasonal means, though is to describe **4 biological seasons**, will be some (unknown) function of monthly means. At the moment we may suggest the “seasons” to be: spring-bloom (March-April), summer-stagnation (June/July-August), autumn-bloom (October-November), winter-stagnation (December-February). (But these definitions may change, so **orienting on monthly means will be the best strategy**).
5. The **WP1** is designed in creation of **database** for the project, basically by **April 2008**. The data we are interested in are: physical oceanography parameters (temperature, salinity, sea-level, currents) and biochemical parameters related to estimation of primary production (phytoplankton, nutrients, zooplankton, bacteria?, viruses?).

In the meeting, the WP1 **responsibilities** on construction of the physical-biochemical data-base were agreed to be the followings:

- **Physics** (responsible- Igor, support team: Sandra)
- **Satellite imagery** (responsible- Ana Martins, team: Adriano, Ana Mendonça, Igor, João, Miguel, Paolo, Patricia)
- **nutrients** (responsible- Ana Filipa/Ana Mendonça, support team: Catià, Clara, Sandra, Silvia)
- **phytoplankton (primary production and biomass)** (responsible- Ana Mendonça, support team: Ana Martins, Catià, Clara, Silvia)
- **bacteria-plankton** as primary producer, **viruses** as phytoplankton predators (responsible- Paula, support team: Catià, Clara, Silvia)
- **zooplankton** (responsible- Paolo)
- **LAMAR site** (responsible- Guilherme)

The tasks include literature overview on the topics. The way how the chemical-biological data can validate/expand/add to the St.Petersburg model equation is encouraged. The present equation is the following:

$$\frac{\partial P}{\partial t} = a_1 \frac{\partial P}{\partial x} + a_2 \frac{\partial P}{\partial y} + a_3 \Delta P + a_0 + a_4 P + a_5 P^2$$

P is concentration of plankton, or primary production.

Coefficients a_1 , a_2 , a_3 are to take into account horizontal transport of plankton by currents.

Coefficient a_4 is describing the speed of plankton growth

Coefficient a_5 is describing the inter-species competing for resources

Coefficient a_0 is to take into account all other unknown factors, regulating the process (phytoplankton death, zooplankton (etc.) predation, vertical plankton transport by ocean dynamics, etc.)

Besides the data-bases available in internet (as NODC, etc.), we are using our cruise data. There is a suggestion also to use complex EMEPC cruise stations (Paula).

All in-situ data are to be send to Sandra Sequeira, who will include those in the “Azores data base”. The data send should include **position** of the station and **date-time** of the station.

NOTE: The validation of the data should be done before sending! Please **do document (!)** the validation procedures (wherever these are your procedures or the ones from data base). This info will form a part of the report on WP1.

Igor contact St. Petersburg team to see what images they have/need for their model to give primary production from satellite data, and to relate their work with ours.

WP2: “fill the gaps” and analysis of each data set. Under this WP we conduct **2 cruises:** NW and SE of Faial: 6-7days each in May-June and start of August 2008. Igor contact Octavio for the ship-time.

Equipment to be used:

Available:

- CTD-SBE19 (600m) and current profiler Valeport: T, S, currents.

- EK 500: zooplankton and fish biomass acoustic detection

Expected soon:

- Turbidity and PAR sensors – approved, to be bought under re-equipment.
- stand-alone ADCP, Aruipelago built-in ADCP: currents
- XBTs to be bought under LAMAR: T profiles.
- Some consumables for bio-samples processing to be bought under LAMAR.

Under question:

- XBT electronic board: to be bought under CIMBA, rent form Isabel Ambar (Instituto de Oceanografia, Lisbon) or from other company (France?).
- CTD SBE9 with sensors: oxygen and fuorometer, and with water sampler – to be approved under re-equipment.

The next LAMAR meeting is designed to be on the **26 of February 2008**. By this time we expect to have information on various physical-biochemical parameters (or at least their availability) to be presented and/or included into “Azores data base”.