The International Ocean Carbon Coordination Project (IOCCP)

Presented by Gustavo Goni on behalf of the IOOCP (K. Tedesco and M. Hood, managers)

“The International Ocean Carbon Coordination Project is a communication and coordination service for the ocean carbon community”
Major IOCCP Activities

Funded by US NSF through grants to UNESCO - IOC and to SCOR and from the Intergovernmental Oceanographic Commission of UNESCO. (black, Of high relevance to this meeting; Gray less so)

1. **Underway Systems**: Contact the SCOR working group on commercial ship observations about collaboration and inclusion of carbon in this project. Develop a small informational document about CO$_2$ systems appropriate to provide to commercial shipping companies. Contact the JCOMM Ship Observations Team about the status of its liaison service for scientists looking for commercial ships / routes.

2. **SOCAT**: Surface Ocean Carbon Atlas- A global compilation of QC’d underway pCO$_2$ data carry out the 2nd level consistency checks on the SOCAT dataset.

3. **Flux Maps Workshop**: Investigate possibility for SOLAS-IMBER Carbon Group to host a workshop to bring together groups making ocean carbon flux maps to compare methods. Ocean Carbon Sensors: Continue developing the inventory of most often used ocean carbon sensors on the IOCCP site.

4. **GO-SHIP**: Continue revision of the 1994 WOCE Hydrographic Program Manual, development of a whitepaper for OceanObs09 on a strategy for a global survey,
5. **Changing Times**: Develop a multi-platform inventory of ocean biogeochemistry time series programs
Major funded collaborations for underway pCO$_2$ work:

**USA: NOAA pCO$_2$ on ships project**
6 PI’s, 11 ships global (research, polar supply vessels, commercial)
Status: Sustained

**UE: CarboOcean: underway pCO$_2$ measurements**
8 PI’s, 9 ships N. Atlantic (mostly commercial)
Status: Projects ends in 2009, looking for avenues of continuation (e.g. ICOS)
Examples of IOCCP Activities:

**Operation of system on ships:**
Recruitment of ships (see prospectus)
Exchange of information

**Advocacy for uniform operation:**
Technology transfer to commercial company (General Oceanics) for ready purchase of instrumentation

**Best Practices**
International intercomparisons

**Uniform data reduction schemes:**
Data reduction freeware

**Collation of data:**
Participation in SOCAT: 6 million + datapoints. Data served from CDIAC
Potential Areas of collaborations with SOT groups:

1. **Recruiting ships:**
   UW pCO$_2$ is a “high maintenance” project
   Hull penetration, gas standards, monthly maintenance visits

2. **Real Time Data transmission from ships**

3. **Obtaining “calibrations samples” from ships**

4. **Collaboration on data QC and calibration**: We need SST and benefit from SSS

5. **Collaboration on expansion of efforts**: Biogeochemical sensors: O$_2$, chlorophyll, nutrients to better constrain parameters affecting CO$_2$ and ocean acidification

6. **Advocacy to allow operations in foreign EEZ’s**
Examples of Products resulting from collaborations:

Global Air-sea CO$_2$ flux climatology (Takahashi et al., 2009)

Flux maps- near real time seasonal flux estimates (Wanninkhof, Pierrot, Trinanes, 2009)

Estimates of ocean acidification (Gledhill et al. 2008)