MEMORANDUM

TO: Attendees, 2006 SCOR General Meeting
FROM: Ed Urban, SCOR Executive Director
RE: Background Book for Meeting
DATE: 22 September 2006

I am pleased to enclose the background book for the upcoming SCOR General Meeting in Concepción, Chile. I hope that you have a chance to read it before the meeting, although I know that the time is limited and the background materials are extensive. Please be sure to review the annotated agenda in Tab 1. I have tried to identify the actions that we need to consider at the meeting and have cross-referenced the issues to the pages where relevant background information can be found, so we can make the best use of our time together. Please skim the remainder of the book and focus on those sections that are most closely related to your interests and responsibilities. I hope that the book also will be a useful reference to you between SCOR meetings. The background book is also available on the Web, at http://www.jhu.edu/scor/2006GM.htm.

We will not be able to bring many extra background books to the meeting, so please bring your copy. Please let me know if you think other items should be made available to participants at the meeting.

I look forward to seeing each of you in Concepción next month.
2006 SCOR General Meeting
23 – 26 October, 2006
Concepción, CHILE
http://www.jhu.edu/scor/2006GM.htm
http://www.cona.cl/scor/index.htm
http://www.udec.cl

LOCAL ORGANIZING INSTITUTIONS & SPONSORS
Facultad de Ciencias Naturales y Oceanográficas, Universidad de Concepción
Comité Oceanográfico Nacional (CONA)
Servicio Hidrográfico de la Armada SHOA
Comisión Nacional de Ciencia y Tecnología (CONICYT)

VENUE
Concepción
Located along the Bio Bio River next to the Pacific coast, Concepción is the second largest city in Chile, and the capital of the VIII Region, central Chile. For more information on Concepción, please visit:
http://www.chile-travel.com/concepcion.htm

Hotel El Araucano
Caupolicán 521, Concepción, CHILE.
http://www.hotelaraucano.cl/  Telephone: 56 – 41 – 2740606, Fax: 56 – 41 - 2740690
Hotel El Araucano is located in downtown Concepción and has a specially equipped business centre for all its guests, with Internet access and WI-FI connection in every room and in common areas. Special room rates for SCOR participants are available. Taxi service is available at El Araucano’s Front Desk, upon request

SCOR LOCAL ORGANIZING COMMITTEE
Dr. Franklin Carrasco
President of the Local Organizing Committees (SCOR and OMZ workshop)
Dean, Faculty of Natural and Oceanographic Sciences, University of Concepción

Dr. Carmen Morales
SCOR Assembly Coordinator
camorale@udec.cl
Phone: 56 41 2683342
Fax: 56 41 2683902

Dr. Ricardo Rojas
Executive Secretary
Comité Oceanográfico Nacional (CONA)
rrojas@shoa.cl
Phone: 56 32 226674
Fax: 56 32 2266542

Ms. Monica Sorondo
Executive Assistant
monicaso@vtr.net, monica.sorondo@gmail.com
Phones: 56 41 2974526, 09–96821550
Fax: 56 41 2207254

Dr. Andrés Enríquez
Head of the Oceanography Department
Servicio Hidrográfico de la Armada (SHOA)
aenriquez@shoa.cl
Phone: 56 32 2266520
Fax: 56 32 2266542
PASSPORT, ENTRY VISA AND RECIPROCITY FEE

**Passport:** Citizens from Argentina, Perú and Brazil do not require passports to enter Chile. They can enter the country with their national identification document.

**Visa requirements:** Citizens from the following countries require a visa to enter Chile: Cuba, China, India, Kuwait, Namibia, Nepal, Pakistan, Russia and Taiwan (for other countries and more information, please visit: [http://www.minrel.gov.cl/webMinRel/home.do?sitio=1](http://www.minrel.gov.cl/webMinRel/home.do?sitio=1))

**Ordinary passport** holders from Australia, Canada, Mexico and the United States are subject to a reciprocity fee. This fee must be paid in cash in national currency or in U.S. dollars, only once in the life of a passport, at the desks established for this purpose at Santiago’s International airport (just before the passport control area).

<table>
<thead>
<tr>
<th>COUNTRY</th>
<th>COST</th>
</tr>
</thead>
<tbody>
<tr>
<td>AUSTRALIA</td>
<td>USD 56</td>
</tr>
<tr>
<td>CANADA</td>
<td>USD 132</td>
</tr>
<tr>
<td>MEXICO</td>
<td>USD 15</td>
</tr>
<tr>
<td>UNITED STATES</td>
<td>USD 100</td>
</tr>
</tbody>
</table>

**Diplomatic or Official Passport** holders from Australia, Canada, Mexico and the United States are exempted of the payment of the reciprocity fee.

**RATE OF MONEY EXCHANGE**

The rate of exchange varies daily and the most common currency available for exchange is the U.S. dollar. For daily rate of exchange please visit: [http://www.emol.com/](http://www.emol.com/). This site also offers a currency converter (“Convertidor de Monedas”). The following Currency Exchange Offices can be found within walking distance from Hotel El Araucano:

<table>
<thead>
<tr>
<th>Business</th>
<th>Address</th>
<th>Phone</th>
</tr>
</thead>
<tbody>
<tr>
<td>Afex</td>
<td>Barros Arana 565 Loc. 57</td>
<td>2239618 / 2210590</td>
</tr>
<tr>
<td>CC Varex Ltda.</td>
<td>Barros Arana 565 Loc. 54</td>
<td>2246623</td>
</tr>
<tr>
<td>Fides Ltda.</td>
<td>Barros Arana 565 Loc. 58</td>
<td>2228914 / 2259515</td>
</tr>
<tr>
<td>Money Exchange</td>
<td>O’Higgins 527</td>
<td>2910266</td>
</tr>
</tbody>
</table>

There are also currency exchange booths at the airport.

**TRANSPORT**

Concepción is located about 500 km south of Santiago, where all international flights end. Santiago’s International Airport is called “Comodoro Arturo Merino Benitez” [http://www.aeropuertosantiago.cl](http://www.aeropuertosantiago.cl). Concepción’s Airport is called “Carriel Sur” [http://www.aeropuertocarrielsur.co.cl](http://www.aeropuertocarrielsur.co.cl). You may travel from Santiago to Concepción:

**By plane:** Frequent hour-long flights from Santiago land at Aeropuerto Carriel Sur, in Concepción. For domestic flight information, please visit: [http://www.lan.com](http://www.lan.com). The airport at Concepción is very near the city, just a short fifteen-minute drive. There are vans that can take you directly to your hotel for around ten dollars. A taxi will charge you twice as much.

**By Bus/Train:** Travel to and from Concepción is also possible by train (4 hours to Chillán and 1 additional hour by bus to Concepción with the same ticket) or bus (around 7 hours). There are buses outside Santiago’s international airport building that will take you to the railway station or bus terminal in around 30 minutes.

**By car:** Driving from Santiago takes about 6 hours on the Pan American Highway. You can rent a car at the airport and drop it off at your final destination.
LOCAL WEATHER

October is spring time in Concepción, but early mornings and evenings can get quite chilly. Warm clothing is advisable for these times of day. Scattered showers can also be expected at this time of year. For complete information on local weather forecast, please visit: [http://meteochile.cl/reg08.html](http://meteochile.cl/reg08.html)

SECURITY TIPS

Chile in general and Concepción, in particular, are regarded as safe places to visit. Precautions should be the same as the ones taken when visiting any major city in the world. It is advisable to leave valuable objects and personal documents at the safety box in your hotel room. At the airport and walking downtown, make sure not to leave your personal belongings unattended.

OTHER INFORMATION

### MUSEUMS

<table>
<thead>
<tr>
<th>Name</th>
<th>Address</th>
<th>Telephone</th>
</tr>
</thead>
<tbody>
<tr>
<td>Buque Huascar</td>
<td>Sector Base Naval. Talcahuano</td>
<td>2745000</td>
</tr>
<tr>
<td>Casa del Arte</td>
<td>Barrio Universitario, Concepción.</td>
<td>2234985</td>
</tr>
<tr>
<td>Galería de la Historia</td>
<td>V.Lamas/Lincóyan, Concepción.</td>
<td>2231830</td>
</tr>
<tr>
<td>Museo Concepción</td>
<td>Plaza Acevedo Maipú 2359.</td>
<td>2310932</td>
</tr>
<tr>
<td>Museo de Arte Sagrado de la UC</td>
<td>Caupolicán 441, Concepción.</td>
<td>2735060</td>
</tr>
<tr>
<td>Museo Hualpén</td>
<td>Cam.Desemboadur Bio-Bio.</td>
<td>2251738</td>
</tr>
<tr>
<td>Museo Interactivo Big-Bang</td>
<td>Av. El Parque S/N Lot.</td>
<td>2871549</td>
</tr>
<tr>
<td>Museo Stom</td>
<td>Progreso 156 Chiguayante.</td>
<td>2350562</td>
</tr>
</tbody>
</table>

### RESTAURANTS (Service is not included: tip= 5-10%)

<table>
<thead>
<tr>
<th>NAME</th>
<th>ADDRESS</th>
<th>Telephone</th>
<th>Type of food</th>
</tr>
</thead>
<tbody>
<tr>
<td>Al Pan Pan al Vino Vino</td>
<td>Bahamonde 89 P.de Valdivia</td>
<td>2331394</td>
<td>Chilean Food</td>
</tr>
<tr>
<td>Arabian</td>
<td>Pedro de Valdivia 911</td>
<td>2791444</td>
<td>Arabian</td>
</tr>
<tr>
<td>Canto de Luna</td>
<td>Av.Costanera 825</td>
<td>2284545</td>
<td>International Cuisine</td>
</tr>
<tr>
<td>Catus Pizza</td>
<td>Salas 94</td>
<td>2231785</td>
<td>Pizzas</td>
</tr>
<tr>
<td>El Riquén</td>
<td>Av. Ramón Carrasco 395</td>
<td>2482501</td>
<td>Chilean Food</td>
</tr>
<tr>
<td>Chung Hwa</td>
<td>Barros Arana 262</td>
<td>2229539</td>
<td>Chinese</td>
</tr>
<tr>
<td>Doña Amelia</td>
<td>O´Higgins 340</td>
<td>2240078</td>
<td>Steak House</td>
</tr>
<tr>
<td>El Parque Restaurante</td>
<td>Veteranos del 79 N° 780</td>
<td>2245818</td>
<td>International Cuisine</td>
</tr>
<tr>
<td>Jazz Restaurant</td>
<td>Av. García de Ramón 215</td>
<td>2736161</td>
<td>International Cuisine</td>
</tr>
<tr>
<td>Le Citron</td>
<td>Aníbal Pinto 126</td>
<td>2520977</td>
<td>French Cuisine</td>
</tr>
<tr>
<td>Le Chateau</td>
<td>Colo-Colo 340</td>
<td>2229977</td>
<td>French Cuisine</td>
</tr>
<tr>
<td>Monte Rio</td>
<td>Cam.a Chgte. 5915 Calle 3</td>
<td>2349100</td>
<td>International Cuisine</td>
</tr>
<tr>
<td>Mutto’s Pizza</td>
<td>Av.Pedro de Valdivia 1065</td>
<td>2331459</td>
<td>Pizzas</td>
</tr>
<tr>
<td>Parrilladas.com</td>
<td>Bandera 334</td>
<td>2730102</td>
<td>Steak House</td>
</tr>
<tr>
<td>Piedra Molino</td>
<td>Pedro de Valdivia 1311</td>
<td>2733303</td>
<td>Chilean Food</td>
</tr>
<tr>
<td>Puerto Laguna</td>
<td>Av. Costanera 1025</td>
<td>2374462</td>
<td>International Cuisine</td>
</tr>
<tr>
<td>Rancho de Julio</td>
<td>O´Higgins 36</td>
<td>2239976</td>
<td>Chilean Food</td>
</tr>
<tr>
<td>Solo Carne</td>
<td>Av. San Andrés 78</td>
<td>2480119</td>
<td>Steak House</td>
</tr>
<tr>
<td>Sublime</td>
<td>Freire 1633</td>
<td>2245796</td>
<td>Steak &amp; Fish</td>
</tr>
<tr>
<td>Swin Bar Restaurante</td>
<td>Cam.Sta.Juana km.0,5</td>
<td>2947692</td>
<td>International Food</td>
</tr>
<tr>
<td>Tijuana</td>
<td>Cam.Sta.Juana Km. 2.5</td>
<td>2280019</td>
<td>Mexican Food</td>
</tr>
<tr>
<td>Torreon Restaurante</td>
<td>Freire 1743</td>
<td>2252797</td>
<td>Fish &amp; Seafood</td>
</tr>
<tr>
<td>HOTELS</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-----------------------------</td>
<td>------------------------------------------------------------------</td>
<td></td>
<td></td>
</tr>
<tr>
<td>NAME</td>
<td>Website</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hotel Alborada</td>
<td><a href="http://www.hotelalborada.cl">http://www.hotelalborada.cl</a></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hotel Terrano</td>
<td><a href="http://www.hotelterrano.cl">http://www.hotelterrano.cl</a></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hotel Diego de Almagro, Concepción</td>
<td><a href="http://www.hotelesdiegodealmagro.cl">http://www.hotelesdiegodealmagro.cl</a></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hotel El Dorado</td>
<td><a href="http://www.hoteledorado.cl">http://www.hoteledorado.cl</a></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Holiday Inn Express</td>
<td><a href="http://www.holidayinn.cl/app03/hogar/ccp.html">http://www.holidayinn.cl/app03/hogar/ccp.html</a></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hotel Alonso de Ercilla</td>
<td><a href="http://hotelalonsodeercilla.cl">http://hotelalonsodeercilla.cl</a></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>CAR RENTAL (Car rental companies at the Aeropuerto Carriel Sur, in Concepción)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Company’s Name</td>
</tr>
<tr>
<td>----------------</td>
</tr>
<tr>
<td>HERTZ, Rent a Car</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>ALAMO, Rent a Car</td>
</tr>
<tr>
<td>AVIS, Rent a Car</td>
</tr>
<tr>
<td>BUDGET, Rent a Car</td>
</tr>
</tbody>
</table>
Concepción, Chile
The Faculty of Natural and Oceanographic Sciences, the Department of Oceanography, and the Center for Oceanographic Research in the eastern South Pacific (FONDAP-COPAS) of the University of Concepción, are pleased to announce the Workshop on “Oxygen minimum systems in the ocean: distribution, diversity and dynamics”, to take place in Concepción, Chile, October 24-26, as an activity that will coincide with the 2006 SCOR (Scientific Committee on Oceanic Research) General Meeting.

The Workshop will bring together scientists and students from many countries into one meeting covering the following areas of oceanography related to oxygen minimum zones and oxygen deficient waters: physical and chemical oceanography, biogeochemistry, ocean-atmosphere interactions, biology, biodiversity, ecology, paleoceanography, and anthropogenic influences.

*The Sponsors of this Workshop are looking forward to welcome you in Concepción!*  

**Structure of the Workshop**

The Workshop will consist of invited lectures to be delivered during the first two days, and posters. Posters will be exhibited during the three days of the Workshop; brief poster presentations are scheduled for the last day of the Workshop.

A limited number of fellowships are available for students and young investigators.
**Workshop Registration Fees:**

**Pre-Registration**

Participants are advised to register in advance at reduced pre-registration rates by **September 1st 2006**. Pre-registration fees are:

- **Students**: US$ 50
- **Scientists**: US$ 100
- **Institutes, Centres & Companies**: US$ 200

**On-Site Registration**

On-site registration will be possible at the Workshop. On site-registration fees are:

- **Students**: US$ 60
- **Scientists**: US$ 120
- **Institutes, Centres & Companies**: US$ 250

Fees include a booklet with all abstracts, and a welcome reception on October 24th 2006.

**Presentations**

**Oral Presentations of Invited Speakers**

There will be a permanently installed desk top with projector at the Conference Hall. Invited speakers should bring their presentations on own data medium (CD – Pen Drive). Slide projectors and/or transparencies projectors should be requested beforehand.

**Poster Presentations and Poster Sessions**

The final day will be devoted to the brief presentation of posters and their discussion, in parallel sessions. For each poster one numbered poster board in portrait format will be reserved with a clear dimension of 150 cm (width) x 220 cm (height). All the material necessary for attaching the poster to the poster board will be available in the respective poster area.

We encourage the participation of students and young investigators in the poster session. A limited number of fellowships will be available for students and young investigators.
Abstracts

The deadline for the submission of abstracts is June 30, 2006.

Format for Abstracts
- Extended Abstracts (for invited speakers only): 4-5 pages, including figures.
- Poster Abstracts (for all other participants): 1 page of text.

Confirmed Invited Speakers

Yrene M. Astor
Fundación La Salle de Ciencias Naturales, Estación de Investigaciones Marinas, Venezuela
*Seasonal variability in the hydrochemical structure of the suboxic waters at the Cariaco Time-series station*

Kenneth W. Bruland
University of California, Santa Cruz, USA
*A review of the chemistries of redox sensitive elements within suboxic zones of oxygen minimum systems*
[http://oceansci.ucsc.edu/faculty/bruland.html](http://oceansci.ucsc.edu/faculty/bruland.html)

Tage Dalsgaard
National Environmental Research Institute, Denmark
*Nitrogen cycling in suboxic water columns*
[http://www2.dmu.dk/1_Om_DMU/2_medarbejdere/cv/employee2_NH.asp?PersonID=TDA](http://www2.dmu.dk/1_Om_DMU/2_medarbejdere/cv/employee2_NH.asp?PersonID=TDA)

Rubén Escribano
FONDAP-COPAS Center, Universidad de Concepción, Chile
*Zooplankton interactions with the oxygen minimum zone in the eastern South Pacific*

Víctor A. Gallardo
FONDAP-COPAS Center, Universidad de Concepción, Chile
*The sediment microorganisms under the Oxygen Minimum Zone, present day analogs of Precambrian Oceans?*

Humberto González
FONDAP-COPAS Center, Universidad de Concepción, Chile
*Downward fluxes of particulate organic matter in coastal and oceanic areas off Chile: the role of the OMZ and functional groups of the plankton*
Dimitri Gutiérrez  
Instituto del Mar del Perú, IMARPE, Perú  
Oxygen deficiency, sedimentary environments and benthic communities in the Peruvian upper continental margin

Dr. Samuel Hormazabal  
Department of Geophysics, Faculty of Physics and Mathematics, University of Concepción, Chile

Richard J. Matear  
CSIRO Division of Marine Research, Hobart, Australia  
New global warming projections of changes in dissolved oxygen concentrations in low oxygen regions of the oceans  

Syed Wajih Ahmad Naqvi  
National Institute of Oceanography, India  
Oxygen deficiency in the North Indian Ocean  
http://www.nio.org/jsp/ResearchersDisplay.jsp?pubkey=Naqvi,%20S.W.A.

Temel Oguz  
Middle East Technical University, Turkey  
Mechanisms controlling the Suboxic Layer of the Black Sea: Observations and Modeling  
http://www.ims.metu.edu.tr/cv/oguz/main.html

Silvio Pantoja  
FONDAP-COPAS Center, Universidad de Concepción, Chile  
Biogeochemistry of the OMZ off Chile  

Renato Quiñones  
FONDAP-COPAS Center, Universidad de Concepción, Chile  
Living in the oxygen minimum zone: a metabolic perspective  

Nancy N. Rabalais  
Louisiana Universities Marine Consortium, Louisiana, USA  
Oxygen Depletion in the Gulf of Mexico Adjacent to the Mississippi River  
http://www.lumcon.edu/research/faculty/faculty.asp?name=nrabalais
Wolfgang Schneider  
FONDAP-COPAS Center, Universidad de Concepción, Chile  
*Vertical and horizontal extension of the oxygen minimum zone in the eastern South Pacific Ocean*  

Mary I. Scranton  
Stony Brook University, New York, USA  
*The biogeochemistry of the suboxic and anoxic zones in the Cariaco Basin*  
http://www.msrc.sunysb.edu/people/scranton.htm

Osvaldo Ulloa  
FONDAP-COPAS Center, Universidad de Concepción, Chile  
*Microbial communities and their biogeochemical role in the water column of the oxygen minimum zone in the eastern South Pacific*  

**Workshop Coordinator**: Dr. Víctor A. Gallardo (vagallar@udec.cl;vgallardo@coreocean.org)  
**Coordinator at large**: Dr. John W. Farrington, Woods Hole Oceanographic Institution Woods Hole, Mass., USA

**English is the official language of the Workshop**  
**Contact**: Mónica Sorondo: monicaso@vtr.net; monica.sorondo@gmail.com

**Links**: http://www.cona.cl/scor/oms.htm  
http://www.copas.udec.cl