



THEMATIC SECTION

Regional Estuarine and Coastal Systems of the Americas: An Introduction

Gerardo M.E. Perillo^{†,*} and Björn Kjerfve[‡]

[†]Instituto Argentino de
Oceanografía
CC 804
8000 Bahía Blanca
Argentina
perillo@criba.edu.ar

[‡]Departamento de Geología
Universidad Nacional del Sur
San Juan 670
8000 Bahía Blanca
Argentina
kjerfve@tam.u.edu

ABSTRACT

PERILLO, G.M.E. and KJERFVE, B., 2005. Regional estuarine and coastal systems of the Americas: an introduction. *Journal of Coastal Research*, 21(4), 729-730. West Palm Beach (Florida), ISSN 0749-0208.



Coasts in general and estuaries in particular are the most dramatically variable environments in the world ocean realm. Interactions between physical processes, geomorphology, and biology are closely linked and gradients in most variables are very large. Although research on coasts and estuaries has grown steadily during the past 40 years, our understanding of the processes and linkages still requires refinements and further detailed knowledge that new available technologies hopefully will be able to provide. Most of the knowledge about estuaries has been derived from environments in North America and Europe with more than 87% of all papers published in international scientific journals based on estuaries located there. In comparison, less than 1% of published papers derive from estuaries located in Latin America (PERILLO and PICCOLO, 1998; PERILLO *et al.*, 1999). However, the Americas, both North and South, include more than 40% of the estuaries of the world, and only a small fraction of these have been treated scientifically with findings reported in the international scientific literature. Exception are the recent surveys and synthesis of a number of estuarine and coastal environments in Latin America (PERILLO *et al.*, 1999; SEELIGER and KJERFVE, 2001).

The Regional Estuarine and Coastal Systems of the Americas (RECSA) symposium, organized in 2001 in Mar del Plata, Argentina, was a venue for a large number of researchers and graduate students from all over the Americas, as well as from other parts of the world, to present studies on estuaries

and estuarine processes. The RECSA symposium was the largest of the 17 symposia and workshop included within the Joint International Association for the Physical Sciences of the Oceans and the International Association for Biological Oceanography Assemblies: 2001: An Ocean Odyssey. The main purpose of the symposium was to provide a forum where specialist from all oceanographic disciplines presented their findings in a relaxed environment, and discussed the possibilities of integrated and multidisciplinary research.

A total of 90 oral and poster papers were presented at the symposium during two and half days. The distribution of presentations by country and discipline are shown in Table 1. There was an obvious bias towards South America with two thirds of the presentations originating from Argentina and Brazil and focusing on estuaries and coastal systems from the South American continent. Most interesting, the symposium included several estuarine presentations from countries such as Cuba and French Guiana on which very little has been published in international science journals. Further, physical oceanography and sediment transport presentations dominated in numbers and accounted for 56% of the total, whereas presentations related to biological oceanography and biogeochemistry accounted for 28% of the total.

The geographical distribution of estuarine systems covered by the presentations at the symposium are shown in Figure 1. The focus on estuaries in South American is strongly biased towards the Atlantic side of the continent. This reflects the prevalence of much larger river drainage basins and more extensive estuarine ecosystems on the eastern side of the continent, including the estuarine areas of the Amazon River and Río de la Plata; the world's largest coastal lagoon, Lagoa

DOI: 10.2112/001-NIS.1 received and accepted in revision 8 March 2004.

* Present address: College of Geosciences, 205 Eller D&M Building, Texas A&M University, College Station, TX 77843-3148.

Table 1. Distribution of papers submitted to the RECSA symposium by discipline and country. In parentheses are the number of papers included in this issue.

Country	Physical	Biology	Biogeochemistry	Geology/ Geomorphology	CZM	Ecology	Total
Argentina	20 (3)	3 (1)	3 (1)	5			31
Brazil	15 (3)	3	8 (2)	2		2	30
Canada	1 (1)				1		2
Chile	3						3
Cuba	1				1		2
Ecuador		1	1 (1)	1			3
French Guiana		1				2	3
Mexico	1		1		1		3
Others	2						2
Peru		1					1
Uruguay	2		1				3
USA	4	1	1				6
Venezuela	1						1
Total	50	10	15	8	3	4	90

dos Patos; and many coastal large bays such as Bahía Blanca. This is maybe also true for estuaries in North America, where the largest and best studied estuaries are located on the Atlantic coast, including Chesapeake Bay, Delaware Bay, and the Bay of Fundy, also west coast systems such as San Francisco Bay, Puget Sounds, and the Columbia River have also been studied intensely. A number of estuaries, including several on the US west coast, were included in a comparative study of the hydrodynamics effects on the turbidity maxima (Uncles and Smith, this issue).

During the RECSA symposium in Mar del Plata, the sci-

entists make the presentations were invited to submit full papers of their presentations to be included in a special issue of *Journal of Coastal Research*. After peer review, thirteen papers were finally accepted and included in this special issue, covering a wide range of geographical and thematic topics. Those ecosystems described in these papers are underlined in Figure 1. The geographical and subject distributions of presentations at the RECSA symposium is very similar to the distributions of the accepted papers included in this special issue.

ACKNOWLEDGMENTS

We would like to thank both the International Association for the Physical Sciences of the Oceans and the International Association for Biological Oceanography for providing the organizational structure for the development of the RECSA symposium. We are also very grateful to many organizations that provided travel support to the participants. Also we are in debt to the extensive list of reviewers that unselfishly have lend their valuable time to review all the papers and to provide advise and input that greatly improved the quality of the papers.

LITERATURE CITED

- PERILLO, G.M.E. and PICCOLO, M.C., 1998. Where are the papers about South American Estuaries? *Estuarine and Coastal Science Association Bulletin*, 29, 60–62.
- PERILLO, G.M.E.; PICCOLO, M.C., and PINO QUIVIRA, M., 1999. What do we know about the geomorphology and physical oceanography of South American estuaries? In: PERILLO, G.M.E.; PICCOLO, M.C., and PINO QUIVIRA, M., (eds.), *Estuaries of South America: their geomorphology and dynamics. Environmental Science Series*, Berlin: Springer-Verlag, pp. 1–13.
- SEELIGER, U., and KJERFVE, B. (eds.), 2001. Coastal Marine Ecosystems of Latin America. *Ecological Studies, Vol. 144*. Heidelberg, Germany: Springer-Verlag, 360 p.

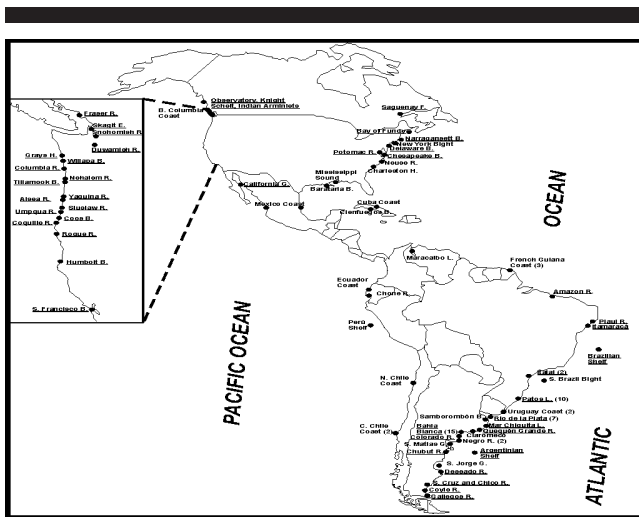


Figure 1. Geographical distribution of the estuarine studies reported during the RECSA Symposium. The underlined names refer to those estuaries discussed in the articles included in this thematic section.