

Contents

1	Introduction	1
2	Continental Margins in the Global Context	3
	References.	8
3	The Argentina Continental Margin:	
	Location and Significance	11
	3.1 Geotectonic Considerations, Types of Margins and Stratigraphy	15
	3.1.1 Brief History of the Margin Evolution in the Context of the Southern Hemisphere.	15
	3.1.2 Margin Types and Geotectonic Configuration.	18
	3.1.3 Stratigraphic Evidences of the Margin Evolution	21
	References.	27
4	Morphosedimentary Configuration of the Argentina Continental Margin	33
	4.1 Coastal Plains	34
	4.2 Continental Shelf	36
	4.3 Shelf Break.	42
	4.4 Slope	42
	4.5 Rise	47
	4.6 Submarine Canyons	48
	4.7 Argentine Basin	48
	References.	49
5	Climate and Oceanographic Background	55
	5.1 Regional Climate Background	55
	5.1.1 Intertropical Convergence Zone	56
	5.1.2 South American Monsoon System	57
	5.1.3 Southern Hemisphere Westerlies.	58

5.1.4	South Atlantic Convergence Zone.	58
5.2	Oceanographic Background	59
5.2.1	The Western South Atlantic and the Meridional Overturning Circulation.	59
5.2.2	Western South Atlantic Main Currents	61
5.2.3	Western South Atlantic Hydrographic Structure	64
	References.	65
6	Principles of Paleoceanographic Reconstruction	71
6.1	Paleoceanography and Proxy Data	72
6.2	Climate Proxies	77
6.3	Biological Proxies: Fossils as Paleoceanographic Proxies.	78
6.3.1	Foraminiferida.	79
6.3.2	Coccolithophorids	79
6.3.3	Dinoflagellates.	80
6.3.4	Diatoms.	80
6.3.5	Radiolarians	81
6.3.6	Corals	81
6.3.7	Ostracods	82
6.3.8	Mollusks	82
6.4	Biomarkers as Paleoceanographic Proxies	83
6.4.1	Alkenones	83
6.4.2	N-Alkyl-Lipids	84
6.5	Geological Proxies	84
6.5.1	Geomorphology.	85
6.5.2	Sedimentary Architecture and Structures.	86
6.5.3	Physical Properties	87
6.5.4	Geochemical Properties.	87
	References.	88
7	State of the Art in the Paleoceanographic Reconstructions at the Argentina Continental Margin.	91
7.1	Reconstructions in the Continental Shelf	91
7.2	Reconstructions in the Slope and Rise	97
7.2.1	Paleoceanographic and Biostratigraphic Background Offshore the Argentina Continental Margin.	97
7.2.2	Geomorphological Records	99
7.2.3	Sedimentary Architecture and Structures as Records.	100
7.2.4	Physical Proxies	100
7.2.5	Geochemical Proxies.	101
	References.	103
8	Conclusions	111
	Further Readings.	112

The Argentina Continental Margin

A Potential Paleoclimatic-Paleoceanographic Archive for
the Southern Ocean

Violante, R.A.; Laprida, C.; García Chaporí, N.

2017, XV, 117 p. 15 illus., 13 illus. in color., Softcover

ISBN: 978-3-319-04195-7