

# Contents

<b>1</b>	<b>Earth System Monitoring, Introduction . . . . .</b>	<b>1</b>
	John Orcutt	
<b>2</b>	<b>Airborne and Space-borne Remote Sensing of Cryosphere . . . . .</b>	<b>7</b>
	Kenneth C. Jezek	
<b>3</b>	<b>Aircraft and Space Atmospheric Measurements Using Differential Absorption Lidar (DIAL) . . . . .</b>	<b>35</b>
	Russell De Young	
<b>4</b>	<b>Contemporary Sea Level Variations, Observations and Causes . . . . .</b>	<b>63</b>
	Anny Cazenave	
<b>5</b>	<b>Coral Reef Ecosystems . . . . .</b>	<b>77</b>
	Helen T. Yap	
<b>6</b>	<b>Earth System Environmental Literacy . . . . .</b>	<b>107</b>
	Margaret Lowman	
<b>7</b>	<b>Gravity Recovery and Climate Experiment (GRACE): Detection of Ice Mass Loss, Terrestrial Mass Changes, and Ocean Mass Gains . . . . .</b>	<b>123</b>
	Victor Zlotnicki, Srinivas Bettadpur, Felix W. Landerer, and Michael M. Watkins	
<b>8</b>	<b>Heat Content and Temperature of the Ocean . . . . .</b>	<b>153</b>
	Rui M. Ponte	
<b>9</b>	<b>Hurricane and Monsoon Tracking with Driftsondes . . . . .</b>	<b>181</b>
	Philippe Drobinski, Philippe Cocquerez, A. Doerenbecher, Terrence Hock, C. Lavaysse, D. Parsons, and J.L. Redelsperger	

<b>10 Large-Scale Ocean Circulation: Deep Circulation and Meridional Overturning . . . . .</b>	<b>199</b>
Stephen R. Rintoul	
<b>11 Long-Term Ecological Research Network . . . . .</b>	<b>233</b>
Robert B. Waide and McOwiti O. Thomas	
<b>12 Ocean Acidification . . . . .</b>	<b>269</b>
Maria Debora Iglesias-Rodriguez	
<b>13 Ocean Evaporation and Precipitation . . . . .</b>	<b>291</b>
Luis Gimeno, Raquel Nieto, Anita Drumond, and Ana María Durán-Quesada	
<b>14 Ocean Observatories and Information: Building a Global Ocean Observing Network . . . . .</b>	<b>319</b>
O. Schofield, S.M. Glenn, M.A. Moline, M. Oliver, A. Irwin, Y. Chao, and M. Arrott	
<b>15 Oil Spill Remote Sensing . . . . .</b>	<b>337</b>
Mervin Fingas and Carl Brown	
<b>16 Remote Sensing Applications to Ocean and Human Health . . . . .</b>	<b>389</b>
Frank E. Muller-Karger	
<b>17 Remote Sensing of Natural Disasters . . . . .</b>	<b>421</b>
Steve Chien and Veerachai Tanpipat	
<b>18 Remote Sensing of Ocean Color . . . . .</b>	<b>439</b>
Heidi M. Dierssen and Kaylan Randolph	
<b>19 Volcanoes, Observations and Impact . . . . .</b>	<b>473</b>
Clifford Thurber and Stephanie Prejean	
<b>Index . . . . .</b>	<b>507</b>

Earth System Monitoring  
Selected Entries from the Encyclopedia of Sustainability  
Science and Technology  
Orcutt, J. (Ed.)  
2013, VI, 518 p., Hardcover  
ISBN: 978-1-4614-5683-4