

# Table of Contents

<b>Chapter 1</b>	<b>Complexity Concepts and Non-Integer Dimensions in Climate and Paleoclimate Research</b>	<b>1</b>
<b>Chapter 2</b>	<b>New Approach of Geomechanical Properties by Scale Effect and Fractal Analysis in the Kedougou-Kenieba Inlier (Senegal-West Africa)</b>	<b>37</b>
<b>Chapter 3</b>	<b>Fractal and Chaos in Exploration Geophysics</b>	<b>63</b>
<b>Chapter 4</b>	<b>Shorebird patches as fingerprints of fractal coastline fluctuations due to climate change</b>	<b>89</b>
<b>Chapter 5</b>	<b>Fractal Analysis of InterMagnet Observatories Data</b>	<b>125</b>
<b>Chapter 6</b>	<b>Rank-Based Methods for Selection of Landscape Metrics for Land Cover Pattern Change Detection</b>	<b>153</b>
<b>Chapter 7</b>	<b>Fractal Analysis of Lineaments in Equatorial Africa: Insights on Lithospheric Structure</b>	<b>183</b>
<b>Chapter 8</b>	<b>Characterization of the Atmospheric Dynamics in Riobamba City Using the Chaos Theory</b>	<b>203</b>
<b>Chapter 9</b>	<b>Spatial Up-Scaling Correction for Leaf Area Index Based on the Fractal Theory</b>	<b>221</b>

**A Review 247**

**Index 283**