



# Library Indian Institute of Science Education and Research Mohali



**DSpace@IISERMohali (/jspui/)**

**/ Publications of IISER Mohali (/jspui/handle/123456789/4)**

**/ Research Articles (/jspui/handle/123456789/9)**

Please use this identifier to cite or link to this item: <http://hdl.handle.net/123456789/1730>


Title:	Inverse relationship between south-west and north-east monsoon during the late Holocene: Geochemical and sedimentological record from Ennamangalam Lake, southern India
Authors:	Ankit, Y. (/jspui/browse?type=author&value=Ankit%2C+Y.) Ambili, Anoop (/jspui/browse?type=author&value=Ambili%2C+Anoop)
Keywords:	North-east and south-west monsoon Geochemistry Clay mineralogy Grain size
Issue Date:	2019
Publisher:	Elsevier
Citation:	Catena, 182.
Abstract:	<p>The southern peninsula of the Indian sub-continent is characterized by moisture source from both the south-west (SW) and north-east (NE) monsoon. However, the long-term climate variability associated with these two moisture sources and their relative contribution in the region is less known. In this study, we have used a multiproxy approach (geochemistry, clay mineralogy and end member mixing analyses of the grain size parameters) on the radiocarbon dated sediment profile from Ennamangalam Lake, southern India to reconstruct the past moisture sources in the region. Based on our systematic investigation, we have identified three hydrological stages in the region: stage 1 (ca. 4800 to 3150 cal BP)-relative drier condition, marked by low detrital content, and higher contribution of relatively fine-grained end member (EM) 2; stage 2 (ca. 3150 to 1640 cal BP)-transition phase, high sedimentation rate as compared to the preceding stage; and stage 3 (1640 cal BP to present)-represented by enhanced detrital content, intense chemical weathering (shown by increasing CIA and continuous declining value of Mg/Al) and dominance of EM 1 characterized by coarse grain sediments indicating high energy condition due to the intense precipitation. The regional comparison of paleoclimate records demonstrate that the increase in precipitation observed in Ennamangalam region during the late Holocene is in contrast to the records from the core monsoon zone. The overview of regional records indicate an inverse relationship between the south-west and the north-east monsoon strength during the late Holocene affected by the increasing ENSO variability.</p>
Description:	Only IISER authors are available in the record.
URI:	<a href="https://www.sciencedirect.com/science/article/abs/pii/S0341816219302590">https://www.sciencedirect.com/science/article/abs/pii/S0341816219302590</a> ( <a href="https://www.sciencedirect.com/science/article/abs/pii/S0341816219302590">https://www.sciencedirect.com/science/article/abs/pii/S0341816219302590</a> ) <a href="http://hdl.handle.net/123456789/1730">http://hdl.handle.net/123456789/1730</a> ( <a href="http://hdl.handle.net/123456789/1730">http://hdl.handle.net/123456789/1730</a> )
Appears in Collections:	Research Articles (/jspui/handle/123456789/9)

Files in This Item:

File	Description	Size	Format
Need to add pdf.odt (/jspui/bitstream/123456789/1730/1/Need%20to%20add%20pdf.odt)		8.63 kB	OpenDocument Text

[View/Open \(/jspui/bitstream/123456789/1730/1/Need%20to%20add%20pdf.odt\)](#)

Show full item record (</jspui/handle/123456789/1730?mode=full>)

 (</jspui/handle/123456789/1730/statistics>)

Items in DSpace are protected by copyright, with all rights reserved, unless otherwise indicated.