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Title:	On the Recent Amplification of Dust Over the Arabian Peninsula During 2002-2012
Authors:	Attada, Raju (/jspui/browse?type=author&value=Attada%2C+Raju)
Keywords:	Arabian peninsula Dust amplification Tokar gap jet Net radiation Soil moisture
Issue Date:	2019
Publisher:	American Geophysical Union
Citation:	Journal of Geophysical Research: Atmospheres, 124(23), pp.13220-13229.
Abstract:	Using available satellite observations and Modern-Era Retrospective analysis for Research and Applications Version-2 data sets for the period 1980–2016, this study reveals a summertime dust amplification over the Arabian Peninsula (AP) during about past two decades. Our results demonstrate a significant positive trend in summertime dust loading over the AP since the year 2002, with a maximum increase of 21% over the southern Red Sea. The increased summertime dust over the southern AP is attributed to the intensification of the remote dust transport from the Sahara Desert through Sudan by a strengthened Tokar Gap westerly jet and a general increased gustiness in the AP. Furthermore, increased both air and soil temperature and reduction in the soil moisture along with increased sensible heat flux led to increased local dryness in the AP and played a significant role in enhancing wind-induced localized dust emissions therein. The associated changes in the AP include an enhancement of net radiative fluxes, particularly the long wave radiative flux.
Description:	Only IISERM authors are available in the record.
URI:	<a href="https://agupubs.onlinelibrary.wiley.com/doi/full/10.1029/2019JD030695">https://agupubs.onlinelibrary.wiley.com/doi/full/10.1029/2019JD030695</a> ( <a href="https://agupubs.onlinelibrary.wiley.com/doi/full/10.1029/2019JD030695">https://agupubs.onlinelibrary.wiley.com/doi/full/10.1029/2019JD030695</a> ) <a href="http://hdl.handle.net/123456789/1638">http://hdl.handle.net/123456789/1638</a> ( <a href="http://hdl.handle.net/123456789/1638">http://hdl.handle.net/123456789/1638</a> )
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