



## **Role of the Hoggar massif on the West African monsoon onset**

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It has been observed that the West African monsoon onset is concomitant with the enhancement of the Saharan heat low. We show here through a combined diagnostic and modeling study a possible interaction between northern Africa orography and the deepening of the Saharan heat low at the time of the monsoon onset. The amplification of an anticyclonic circulation above and north of the Hoggar massif leads to an increase and a southeasterly-northeasterly rotation of the wind ahead of the Hoggar which contribute to an increased leeward-trough effect enhancing the Saharan heat low. The Atlas does not play any role during the monsoon onset but contributes to the mean climatological location of the Saharan heat low.