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A rare but not impossible phenomenon in an arid Country: Heavy Rainfall in Egypt.

Marina Baldi (1), Magdy Kamal Badir (2), and Hamdey Abd El Rahma (3)

(1) CNR - Institute of Biometeorology, Roma, Italy (m.baldi@ibimet.cnr.it), (2) WMO RTC - Egyptian Meteorological Authority, Cairo - Egypt, (3) Climate Department - Egyptian Meteorological Authority, Cairo - Egypt

Today, the climate of Egypt is classified as arid, desert, and very dry, with an average annual temperature of 18° C, where rainfall is scarce, and only concentrated in the winter months along the Mediterranean coast. Despite these already extreme features, recent studies have shown not only that Egypt is experiencing, since the 60s, a rise in average temperatures, especially in the summer months, but also that improbable events such as sporadic torrential rains occur in the country. In addition the phenomenon is poorly forecasted due to its sporadic nature, to its fast development, and to the spatio-temporal scales involved.
In fact, severe atmospheric instability can occur and heavy rains and thunderstorms can affect the Country as far south as Luxor and Aswan, along the Nile Valley, in the Upper Egypt, which cause flash floods with serious impacts on the society, and, in some cases, casualties.
A torrential rainfall event which affected not only Egypt, but also Israel and Jordan occurred in 1994, and, more recently, other events occurred in Egypt in 2009, 2010, 2011, the last in March 2014.
In the present study the atmospheric dynamics conditions leading to strong instability and heavy rain are analyzed: the phenomena are often connected to the presence of a major meteorological feature, the Active Red Sea Trough (ARST) which favour a midlatitude-tropical interaction.
Focusing on the last event occurred in March 2014 its dynamics is analyzed and a possible triggering mechanisms is discussed and presented.