



Rapid landscape change in 6th century Jordan: driven by climate or man-made?

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Compared to the rich cities of antiquity, many areas in the Levant appear today degraded. European travel reports of the 19th century and excavations in Jordan created the impression that population numbers were strongly reduced during the Islamic periods, leading to 'empty' lands which were only resettled during the early 20th century. However, our case study near the ancient site Abila of the Decapolis in northern Jordan found that the land was probably never 'empty' and always fertile – but valley fills provide evidence for a rapid and intense landscape change during the Late Byzantine period. This was probably caused by a significant shift to aridity which also triggered socio-economic changes of subsistence strategies from agriculture to pastoralism. The dates of sediments which are available so far indicate that the climatic change seemingly occurred rapidly within approximately 100 years during the late 6th and early 7th century AD, and rubble layers let it seem probable that it was associated with frequent heavy rainfall events. It might have been caused or triggered by a global climate event creating the "year without sun" or 'Mystery Veil' which the Byzantine historian Procopius described in the year 536 AD. If similar events repeat under the current climate change, it will be difficult to mitigate them.