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Atmospheric water balance and cloud formation over Nile Delta

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Application of the atmospheric water balance approach allowed determination of evaporation (E) over and around Nile Delta. It was found that E from Nile Delta was larger than that of the deserts, probably because of the extensive irrigated farmland in Nile Delta region. The moisture flux from the surface (i.e., evaporation) could generate larger amount of clouds and they can have positive and negative feedback to climate on a regional scale. However, the relative contribution of evaporation to the cloud formation of the area was in general smaller than that of moisture convergence in atmospheric columns, except for summer season when former influence was large.

Keywords: Nile Delta, evaporation, atmospheric water balance, cloud formation