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Deltas in Times of Climate Change

DeltaTimes magazine

Rotterdam, the Netherlands

News

29 September - 1 October 2010

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Summary of the conference

The first international delta conference *Deltas in Times of Climate Change* in Rotterdam was a tremendous success. The conference attracted over 1.200 participants from all over the world and from different backgrounds: science, policy and practice. The participants debated climate adaptation strategies for deltas and delta cities and exchanged knowledge, which was widely offered in 70+ sessions. Many contacts between scientists, policy makers and practitioners were established, refreshed and deepened. Relations between delta cities in and outside Connecting Delta Cities (CDC) were strengthened and the **Delta Alliance** was launched.



High profile guests during the opening session included *His Royal Highness the Prince of Orange*, who gave the opening speech, *Nguyen Thai Lai* (Vice Minister, Ministry of Natural Resources and Environment, Vietnam), *Ahmed Aboutaleb* (Mayor of Rotterdam), Delta Commissioner *Wim Kuijken* and *Cedric Grant* (Deputee Mayor of New Orleans) who gave a moving presentation on the state of



Download the **Meeting report** of this conference

Results international design competition: **Delta City of the Future**

Winners of the **DeltaCompetition2010**; Creative and innovative solutions for delta cities

Organisation

Deltas in Times of Climate Change is hosted by two Dutch Research Programmes, Climate changes Spatial Planning and Knowledge for Climate, and the City of Rotterdam. The conference is supported by C40 (a group of the world's largest cities committed to tackling climate change).

Steering Committee

- Prof.dr. Pier Vellinga (chair), Research Programme Knowledge for Climate
- Florrie de Pater MSc (secretariat), Research Programmes Knowledge for Climate / Climate changes Spatial
- John Jacobs MSc, City of Rotterdam
- Prof.dr. Peter Driessen, Research Programme Knowledge for Climate
- Dr. Raimond Hafkenscheid, Co-operative Programme on Water and Climate
- Prof.dr. Pavel Kabat, Research Programme Climate changes Spatial Planning
- Arnoud Molenaar MA, City of Rotterdam
- Paula Verhoeven MA, City of Rotterdam

Organising Committee

- Florrie de Pater MSc (chair), Research Programmes Knowledge for Climate / Climate changes Spatial Planning
- Ottelien van Steenis (secretariat), Research Programmes Knowledge for Climate / Climate changes Spatial Planning
- Marijn Kuitert BA, City of Rotterdam
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Scientific Committee

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- Prof.dr. Terry Barker, Cambridge Centre for Climate Change Mitigation Research, United Kingdom
- Dr. Bryson Bates, Commonwealth Scientific and Industrial Research Organization, CSIRO, Australia
- Dr. Ger Bergkamp, World Water Council, France
- Prof.dr. Guy Brasseur, National Center for Atmospheric Research, Earth and Sun Systems Laboratory, USA
- Prof.dr. Peter Driessen, Research Programme Knowledge for Climate, the Netherlands
- Dr. Wilco Hazeleger, Royal Netherlands Meteorological Institute, KNMI, the Netherlands
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- Dr. Roderik van de Wal, Utrecht University, the Netherlands
- Prof.dr. Tetsuzo Yasunari, Hydrospheric Atmospheric Research Centre, the Netherlands

Abstract title

PRECIPITATION VARIABILITY FOR ANNUAL, WET AND DRY PERIODS IN TURKEY

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Topic

Regional climate, sea level rise and storm surges and their effects on coastal flooding

Keywords

Mann-Kendall test, REOF, teleconnections, wavelet transform

Precipitation variability has a great impact on agriculture, economic and social characteristics of the regions. In the present study, annual, winter and summer precipitation records for the period 1961–2008 from 271 stations in Turkey were analyzed using the rotated empirical orthogonal function (REOF), the Mann–Kendall trend test and the continuous wavelet transform (WT) method. Additionally, relationships between time variability of the significant spatial patterns and NAO (North Atlantic Oscillation), AO (Arctic Oscillation), NSCP (North–Sea Caspian Pattern, and ME (Multivariate El Niño Southern Oscillation Index) are examined.

The REOF method was used to analyze the annual and dry and wet period variability of precipitation patterns over Turkey, the Mann–Kendall method was used to detect the temporal trend of the rotated principal components time series, and the continuous wavelet method was used to explore the periodicity of precipitation changes. Continuous wavelet transform results indicate that the significant 3–4 year, 6–10 year and 12–16 year bands are the major period components. Precipitation in Turkey is uneven in space and time, and its complex temporal structure and spatial variations are different in each dry and wet period. The Mann–Kendall test results show that, in throughout the Anatolia including west, and southwest sections are dominated by decreasing annual precipitation. Decreasing wet/dry period precipitation in throughout the country except northeast coasts and eastern parts of Turkey will have strongly impact on the life upon, agricultural production, drinking water and hydroelectricity production.