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Geophysical Research Abstracts (GRA)

Aims and Scope

Geophysical Research Abstracts (GRA) is a publication of collections of short summaries (abstracts) of up-to-date research in the Earth, planetary and space sciences in separate volumes. The collections may include summaries of presentations at scientific meetings or extended summaries on well defined topics compiled by editors or organizations.

All summaries must undergo an access review by the session conveners, editors or organizers, and they are then edited in the GRA style, compiled and published by Copernicus Publications. Editors or organizers should contact the Managing Editor before circulating their general announcement for publication.

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GRA

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Posters HS7.4/AS1.22/CL2.15

Hydrological extremes in a changing climate: Risk and impacts on water infrastructure and insurance costs

Convener: Manfred Mudelsee

Co-Conveners: Tim Cohn, João de Lima, Harry Lins, Xiaolan L. Wang, Maria Francisca Naranjo, Carla Arregoitia, Carmen Maftai, Andrej Soltesz, and Francisco Platas

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Attendance Time: Thursday, 11 Apr 17:30–19:00

Red Posters

Chairperson: Tim Cohn, João de Lima, Harry Lins, Xiaolan L. Wang, Maria Francisca Naranjo, Carla Arregoitia, Carmen Maftai, Andrej Soltesz, Francisco Platas, Manfred Mudelsee

R390 [EGU2013-3727](#)

★ **An analysis of ENSO impact on global extreme rainfall using a Bayesian regional model**

Xun Sun, Benjamin Renard, Mark Thyer, Seth Westra, and Michel Lang

R391 [EGU2013-5005](#)

★ **Sub- and multi-day precipitation extremes in high resolution Met Office regional climate model simulations**

Steven Chan, Elizabeth Kendon, Hayley Fowler, Stephen Blenkinsop, Christopher Ferro, and Nigel Roberts

R392 [EGU2013-7834](#)

★ **Global increasing trends in annual maximum daily precipitation**

Seth Westra, Lisa Alexander, and Francis Zwiers

R393 [EGU2013-7312](#)

★ **Evolution patterns of El Niño and characteristics of typhoon precipitation over East Asia**

Young-Il Moon, Jong-Suk Kim, Chan-Young Son, and Sun-Kwon Yoon

R394 [EGU2013-1978](#)

★ **Solar effect on water level change of Hulun lake at northeast of China**

ZhiQing Chen

R395 [EGU2013-4657](#)

★ **Modifications of natural hazard impacts and hydrological extremes in previous centuries (Southern Italy)**

Olga Petrucci, Aurora Angela Pasqua, and Maurizio Polemio

R396 [EGU2013-4851](#)

★ **Modeling pluvial flooding damage in urban environments: spatial relationships between citizens' complaints and overland catchment areas**

Santiago Gaitan, Marie-Claire ten Veldhuis, and Nick van de Giesen

R397 [EGU2013-5202](#)

★ **Damage caused by hydrological extremes in a region of southern Italy: comparison between the period 2002-2012 and the past century**

Olga Petrucci and A.Aurora Pasqua

R398 [EGU2013-6212](#)

★ **Change climate impact in hydrological events in Dobrogea region**

Carmen Maftai, Alina Barbulescu, and Gabriel Dobrica

R399 [EGU2013-7327](#)

★ **Studies and research on global climate change produced in Dobrogea**

Cristina Serban, Carmen Maftai, Sabina Zagan, Greti Chitu, and Remus Zagan

R400 [EGU2013-12401](#)

★ **A brief history of the interactions between climate and Mexican hydraulic design**

Francisco Platas, Santiago Osnaya, Raymundo Ocaña, and Jorge Zarur

R401 [EGU2013-12917](#)

★ **A historical perspective in climate and flood variability in Mexico City**

Maria Francisca Naranjo

R402 [EGU2013-13366](#)

★ **Climate change impacts on the design of stormwater drainage infrastructures**

Mário Pereira, Eduarda Macário, Sónia Gaspar, Luís Fernandes, and Joaquim Pinto

R403 [EGU2013-13920](#)

★ **The effect of spatial and temporal correlations in the evaluation of flood risk in Europe**

Dimosthenis Tsaknias, Anongnart Assteerawatt, Frederic Azemar, Sourima Ghosh, Arno Hilberts, Ludovico Nicótina, and Stephan Tillmanns

R404 [EGU2013-6959](#)

★ **Characterization of Large Scale Climate Pattern Associated with Extreme Rainfall Events Using Geometric Moments Based Ellipsoid Model**

Hyun-Han Kwon, Byung-Jin So, and Suk-Hwan Jang

R405 [EGU2013-8038](#)

★ **Green roof impact on the hydrological cycle components**

Carlotta Lamera, Maria Cristina Rulli, Gianfranco Becciu, and Renzo Rosso



A brief history of the interactions between climate and Mexican hydraulic design

Francisco Platas (1), Santiago Osnaya (2), Raymundo Ocaña (3), and Jorge Zarur (4)

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Weather in Mexico is always extreme, for instance, in some portions of the desert of México the temperature can reach 134° F in the shade. On the other side in the Sierra Tarahumara, which is in the Mexican state of Chihuahua, high altitude produce in this place a cool oceanic climate (Köppen climate classification Cwb), characterized by mild days (38° F) and cold nights (-9.4° F). Traditionally the equipment and hydraulic infrastructure in this kind of extreme zones has been building for engineers, architects and industrial designers. A brief history is given of the development of hydraulic design, infrastructure works and technical design guidelines from antiquity to XX Century.