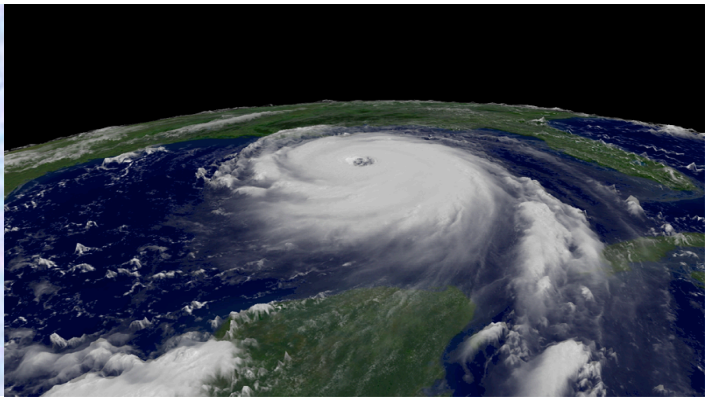
Engineers Australia
Sydney Division
Water Engineering Panel

Downscaling Climate Projections for Impact and Adaptation Applications in NSW



Speaker: Dr Jason Evans, UNSW Climate Change Research Centre

Abstract:

Ongoing climate change means that the historical record is no longer sufficient information for future infrastructure planning across multiple sectors. Climate projection information is derived primarily from Global Climate Models that operate at large spatial scales (100s km) that are inappropriate for most impact and adaptation work. Downscaling this information to an appropriate scale can be done using either "statistical" or "dynamical" approaches. In collaboration with the NSW Office of Environment and Heritage, the UNSW Climate Change Research Centre is producing dynamically downscaled climate projections as part of the NSW/ACT Regional Climate Modelling (NARCliM) project. This presentation will discuss downscaled climate projections, in particular the NARCliM project and its relevance for future water engineering across multiple scales.

NARCliM is producing climate projections over south-eastern Australia at ~10km spatial resolution, and one to three hourly temporal resolution. In addition to the usual climate variables, NARCliM will be tracking sub-daily precipitation and wind gust extremes down to the maximum 5 minute events. NARCliM outputs cover a wide range of climate variables relevant across many sectors and will provide a basis of climate projection information at scales appropriate for activities ranging from urban flood hydrology up to large water resource reservoirs.

Speaker bio:

Dr Jason Evans is an expert in the science of the climate system particularly in regards to land-atmosphere interactions, the water cycle and climate change. His research involves general issues of water cycle processes over land, and how we can change them, largely through changes in land use and changes in climate. He focuses at the regional (or watershed) scale and studies processes including river flow, evaporation/transpiration, water vapour transport and precipitation. He has been using regional climate models and remotely sensed data in this context for many years.

After completing his PhD at ANU which focused on hydrologic modelling and regional climate, he worked for several years at Yale University in the USA. While there he led a project that investigated the human impact on the climate and water resources of the Middle East through the use of regional climate models and satellite based data. He returned to Australia in 2007 to take up an ARC Australian Research Fellowship at the Climate Change Research Centre in UNSW.

Tuesday 22 November 2011

Time: 5:30pm for 6:00pm
Drinks & nibblies from 5:30pm.

Venue: Engineers Australia Auditorium, Ground Floor
8 Thomas St, Chatswood NSW 2067
See attached maps and follow signage on the day

Enquiries: Grantley Smith at g.smith@wrl.unsw.edu.au

Attendance can be credited towards IEAust Continuing Professional Development requirements