AGENDA GHP CC Workshop: Determining Evapotranspiration

Tuesday 8 October 2019

09:00 – 09:15 Welcome

09:15 – 10:30 Basic processes (Convener: Aaron Boone)

- FAO reference crop evapotranspiration method overestimates ETo; a better & simpler alternative is proposed – Henk de Bruin (ass. prof. emeritus, previously WUR), presented by Anne Verhoef (UR)
- Direct measurements of evaporation from small to medium sized water bodies – Warren Helgason (USASK)
- How soil properties affect surface evaporation – Dani Or (ETH)
- The importance of evaporation dynamics – Eleanor Blyth (CEH)
- Interception and multi-source energy balance modelling – Emma Robinson (CEH)

10:30 – 11:00 **Coffee break**

11:00 – 11:30 Basic processes (continued, Convener: Aaron Boone)

- Predicting drought-induced tree mortality – Martin de Kauwe (UNSW)
- ET-induced mesoscale circulations between large irrigated areas and their dry surroundings – Joan Cuxart (UIB)

11:30 – 12:30 Discussion

12:30 – 14:00 **Lunch Break**

14:00 – 15:15 Process Modelling (Convener: Jan Polcher)

- Observation and modeling of lake-air turbulent heat flux in lakes on the Tibetan Plateau – Binbin Wang (ITP-CAS)
- Towards a physically based description of root water uptake in Landsurface models: Big root versus parallel root approaches – Jan Vanderborght (Jülich)
- Multi-component transpiration modelling of dry tropical forest; verification for Caatinga forest in NE-Brazil – Anne Verhoef (UR)
- CloudRoots: an integrated field experiment and modelling approach to study soil-plant-atmosphere interactions – Oscar Hartogensis (WUR)
- Observation and simulation of nocturnal phase changes – Jannis Groh (Jülich)

15:15 – 15:45 **Coffee break**

15:45 – 16:15: Process Modelling (continued, Convener: Jan Polcher)

- Evapotranspiration in the JULES land surface model – Toby Marthews (CEH):
- Modeling Evapotranspiration in semi-arid regions – Aaron Boone (CNRM)
- Plant profit maximisation and hydraulic adjustments predict European forest responses to drought – Manon Sabot (UNSW)

16:30 – 17:30 Discussion

Wednesday 9 October 2019

09:00 – 10:30 Estimating ET 1 (Convener: Oscar Hartogensis)

- ET evolution along the drying transition season in a Mediterranean island – Joan Cuxart (UIB)
- Scintillometry-Direct Measurements of Evapotranspiration at Field- to Landscape Scales – Oscar Hartogensis (WUR)
- Global and regional evapotranspiration by a process-based model ETMonitor using multi-source satellite observations – Jia Li (RADI-CAS)
- Estimation of the daily potential evapotranspiration in the region of PannEx RHP based on CarpatClim observational dataset – Monika Lakatos (OMSZ)
- Sentinel-2 derived relative transpiration for groundwater recharge models in New Zealand – Rogier Westerhoff (GNS Sci)

10:30 – 11:00 **Coffee break**

11:00 – 11:30 Estimating ET 1 (continued, Convener: Oscar Hartogensis)

- Multi-year (2008-2016) energy and water balance of three small endorheic lakes Northern Kazakhstan – Anne Verhoef (UR)
- Accurate estimation of water-limited ET from weather data – Kaighin McColl (Harvard U.)

11:30 – 12:30 Discussion

12:30 – 14:00 **Lunch break**

14:00 – 15:00 Estimating ET 2 (Convener: Anne Verhoef)

- Derived Optimal Linear Combination Evapotranspiration (DOLCE): a global gridded synthesis ET estimate – Sanaa Hobeichi (UNSW)
- Impact of land surface heterogeneity on estimation and validation of evapotranspiration – Qiting Chen (RADI-CAS)
- ET affected by Meso-scale Transport in Semi-Arid Regions – Oscar Hartogensis (WUR)

15:00 – 15:30 **Coffee Break**

15:30 – 16:00 Estimating ET 2 (continued, Convener: Anne Verhoef)

- Terrestrial vs Dynamical contributions to heatwave amplification – Annette Hirsch (ARC)
- Terrestrial water loss at night from observations and climate models – Ryan Padrón (ETH)(remotely)

16:00 – 17:30 Discussion

Thursday 10 October 2019

09:00 – 10:00 Break out Groups 1) Soil Evaporation & 3) interception (snow/ice sublimation);

10:00 – 11.30 Break out Groups 2) Transpiration; 4) Landscape ET/advection & 5) Open Water Evaporation

Coffee break will be in the middle of this period

11.30 – 12.30 Group feedback and general discussion

12:30 Adjourn