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### **Personal Data**

Name            Wei Yang  
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### **Education**

Oct, 2002-2007    Ph.D of “Discrete-continuous downscaling model for generating daily rainfall series”  
at the *Chair of Hydrology and Geohydrology, Institute of Hydraulic Engineering, University of Stuttgart, Germany*

October 2000      Master of Science in Water Resources Engineering and Management, entitled as  
“Optimization of the Operation of a SBR Plant with Submerged Hollow Fibre Membranes”,  
at the *Chair of Sewage Technology, Institute for Sanitary Engineering, Water Quality and Solid Waste Management, University of Stuttgart, Germany*

### **Working experiences**

May.2007            **Researcher**  
to present  
*Department of hydrology, Swedish Meteorological and Hydrological Institute (SMHI), Sweden*

- Developing bias-correction method to scale GCM/RCM output for hydrological uses
- Application of large-scale circulation patterns to hydrological seasonal forecasting system
- Forest fire risk assessment
- Extreme rainfall analysis
- Multivariate analysis in bias-correction field
- Climate change impact studies in hydrology and forest fire risk

Jan.2004 to            **Research assistant for EU project “RIVERTWIN” - a Regional Model for**  
April.2007            **Integrated Water Management in Twinned River Basins**  
*Chair of hydrology and geology at institute of hydraulic engineering, University of Stuttgart, Germany*

- Applying fuzzy-logic method to classify atmospheric circulation patterns
- Downscaling time series of meteorological variables for selected catchments, Neckar basin in Germany, Western Europe; Chirchik basin in Uzbekistan, Central Asia, and Oueme basin in Benin, Western Africa.
- Set up a new copula-based multivariate precipitation downscaling model

Dec.2002 to            **Research assistant for EU project “STADEx “Statistical and Regional**  
Jul.2005              **dynamical Downscaling of Extremes for European regions**  
*Department of Structure, Applied Science University of Stuttgart, Germany*

- Analyzing time series of critical circulation patterns due to the climate changes
- Focusing on the impact of atmospheric circulation patterns on the extreme events in the past decades

- Setting up a new discrete-continuous stochastic downscaling model to generate daily rainfall

### **Teaching experiences**

- 2010 Supervisor for thesis work, "Improving the Distribution Based Scaling Method for Bias Correction of Precipitation from climate models" by Södling, J., Linköping university (LiTH – AT – EX - - 2010/22 - - SE)
- 2003 to 2006 Teaching assistant at the Chair of hydrology and geology at institute of hydraulic engineering, University of Stuttgart, Germany

### **SCIENTIFIC JOURNALS (REVIEWED)**

- Berg, P., Christensen, O.B., Klehmet, K., Lenderink, G., Olsson, J., Teichmann, C. and **Yang, W.** (2019): Summertime precipitation extremes in a EURO-CORDEX 0.11° ensemble at an hourly resolution, *Nat. Hazards Earth Syst. Sci.*, 19, 957-971, <https://doi.org/10.5194/nhess-19-957-2019>.
- Olsson, J., Arheimer, B., Borris, M., Donnelly, C., Foster, K., Nikulin, G., Persson, M., Perttu, A-M., Uvo, C.B., Viklander, M. and **Yang, W.** (2016): Hydrological Climate Change Impact Assessment at Small and Large Scales: Key Messages from Recent Progress in Sweden, *Climate* 2016, 4(3), 39, doi:10.3390/cli4030039
- Olsson, J., Uvo, C. B., Foster, K., and **Yang, W.** (2016): Technical Note: Initial assessment of a multi-method approach to spring-flood forecasting in Sweden, *Hydrol. Earth Syst. Sci.*, 20, 659-667, doi:10.5194/hess-20-659-2016
- Yang, W.**, Gardelin, M., Olsson, J., and Bosshard, T. (2015): Multi-variable bias correction: application of forest fire risk in present and future climate in Sweden, *Nat. Hazards Earth Syst. Sci.*, 15, 2037-2057, doi:10.5194/nhess-15-2037-2015
- Berg, P., Bosshard, T. and **Yang, W.** (2015): Model consistent pseudo-observations of precipitation for bias correcting regional climate models. *Climate*, 3, 118-132. DOI:10.3390/cli3010118.
- Wilk, J., Hjerpe, M., **Yang, W.** and Fan, H. (2014): Farm-scale adaptation under extreme climate and rapid economic transition. *Environment, Development and Sustainability*. DOI:10.1007/s10668-014-9549-2.
- Pisinaras, V., **Yang, W.**, Barring L. and Gemitzi, A. (2014): Conceptualizing and assessing the effects of installation and operation of photovoltaic power plants on major hydrologic budget constituents. *Science of the Total Environment*. DOI: 10.1016/j.scitotenv.2014.05.132.
- Donnelly, C., **Yang, W.** and Dahné, J. (2014): River discharge to the Baltic Sea in a future climate. *Climatic Change*, 122:157-170.
- Olsson, J., **Yang, W.** and Bosshard, T. (2013): Climate model precipitation in hydrological impact studies: limitations and possibilities. *Journal of Water Management and Research* 69: 221-230.
- Ruete, A., **Yang, W.**, Barring, L., Stenseth, N.C., and Snäll, T. (2012): Disentangling effects of uncertainties on population projections: climate change impact on an epixylic bryophyte. *Proceedings of the Royal Society*, 279 (1740): 3098-105. Doi: 10.1098/rspb.2012.0428.
- Graham, L.P., Andersson, L., Horan, M., Kunz, R., Lumsden, T., Schulze, R., Warburton, M., Wilk, J. and **Yang, W.** (2011): Using multiple climate projections for assessing hydrological response to climate

change in the Thukela River Basin, South Africa. *Physics & Chemistry of the Earth, Parts A/B/C*, doi:10.1016/j.pce.2011.07.084.

Wetterhall, W., Graham, LP., Andréasson, J., Rosberg, J. and **Yang, W.**(2011): Using ensemble climate projections to assess probabilistic hydrological change in the Nordic region. *Nat. Hazards Earth Syst. Sci.*, 11, 2295-2306, doi:10.5194/nhess-11-2295-2011.

Olsson, J., **Yang, W.**, Graham, LP., Rosberg, J. and Andréasson, J.(2010): Using an ensemble of climate projections for simulating recent and near-future hydrological change to lake Vänern in Sweden. *Tellus A*, Vol. 63, issue 1, pp. 126-137.

**Yang, W.**, Andréasson, J., Graham, L. P., Olsson, J., Rosberg, J and Wetterhall, F. (2010): Distribution based scaling to improve usability of regional climate model projections for hydrological climate change impacts studies. *Hydrol. Res.*, 41.3-4.

**Yang, W.**, Bárdossy, A., and Caspary, H-J. (2010): Downscaling daily precipitation time series using a combined circulation- and regression-based approach. *Theoretical and Applied Climatology* Vol. 102, Numbers 3-4, 439-454, DOI: 10.1007/s00704-010-0272-0.

### **Proceedings and conference contributions:**

Berg, P., **Yang, W.**, Olsson, J., Simonsson, L., and T. Bosshard (2016) Sub-hourly precipitation extremes in EUR-11 RCA4: evaluation and projected changes, International Conference on Regional Climate - CORDEX 2016, 17-20 May, Stockholm, Sweden.

Olsson, J., Foster, K., Uvo, C.B., and **Yang, W.** (2016) Spring flood forecasting in Sweden: a multi-method approach, 7th International Conference on Water Resources and Environment Research, 5-9 June, Kyoto, Japan.

Donnelly C., Andersson J., Arheimer B., Berg P., Bosshard T., Hundecha Y., Olsson J., Pechlivanidis I.G., **Yang W.** (2016), 'Lessons learnt from top-down large-scale and bottom-up small scale impact studies', International Conference, presented on the European Geosciences Union General Assembly, 17-22 April, Vienna, Austria

Donnelly, C., Andersson, J., Olsson, J., Bosshard, T., **Yang, W.**, Berg, P, and B. Arheimer (2015) Robust Impacts of Climate Change in Europe: Why Study Scale is Important for Adaptation, AGU Fall Meeting, 14-18 December, San Fransisco, USA.

Berg, P., Bosshard, T and **Yang, W.** (2015): Construction of high resolution model consistent pseudo-observations of precipitation and their use for bias correction. European Geosciences Union General Assembly, Vienna, 12 – 17 April 2015

Nikulin, G., Bosshard, T., **Yang, W.**, Bärring, L., Wilcke, R., Vrac, M., Vautard, R., Noel, T., Gutiérrez, JM., Herrera, S., Fernández, J., Haugen, JF., Benestad, R., Landgren, OA., Grillakis, M., Ioannis, T., Koutroulis, A., Dosio, A., Ferrone, A and Switanek, M. (2015): Bias Correction Intercomparison Project (BCIP): an introduction and the first results. European Geosciences Union General Assembly, Vienna, 12 – 17 April 2015

Nikulin, G., Bosshard, T., Wilcke, R., **Yang, W.**, Kjellström, E. and Bärring, L. (2015): Uncertainties in projected climate changes of the rainy season over West Africa related to bias adjustment. European Geosciences Union General Assembly, Vienna, 12 – 17 April 2015.

**Yang, W.**, Olsson, J., Bosshard, T., Berg, P. and Arheimer, B. (2014): Multi-variable bias correction of RCMs for Climate Change Impact Studies. European Geosciences Union General Assembly, Vienna,

27 April – 02 May 2014.

Bosshard, T., **Yang, W.**, Sjökvist, E., Arheimer, B. and Graham, LP. (2014): Bias-correction of CORDEX-MENA projections using the Distribution Based Scaling method. European Geosciences Union General Assembly, Vienna, 27 April – 02 May 2014.

Foster, K., Olsson, J., Uvo, C.B., **Yang W.** and J. Södling (2012) A comparison of different approaches for forecasting spring floods in Sweden and the feasibility of a multi-model forecast system, Proceedings of XXVII Nordic Hydrological Conference (Nordic Water), 13-15 August, Oulu, Finland.

Graham, LP., Andersson, L., Horan, M., Kunz, R., Lumsden, T., Schulze, R., Warburton, M., Wilk, J. and **Yang, W.** (2010): Using multiple climate projections for assessing hydrological response to climate change in the Thukela River Basin, South Africa. Physics & Chemistry of the Earth for the 11<sup>th</sup> WATERNET/WARFSA/GWP-SA symposium 2010 in Victoria Falls.

Donnelly, C., Dahne, J., Rosberg, J., Strömquist, J., **Yang, W.**, and Arheimer, B. (2010): High-resolution, large-scale hydrological modelling tools for Europe. Global change: Facing Risks and Threats to Water Resources (Proc. of the Sixth World FRIEND Conference, Fez, Morocco, October 2010). IAHS Publ. 340, 2010, 553-560.

Donnelly, C., Dahne, J., Lindström, G., Rosberg, J., Strömquist, J., Pers, C., **Yang, W.** and Arheimer, B. (2009): An evaluation of multi-basin hydrological modelling for predictions in ungauged basins. New Approaches to Hydrological Prediction in Data-sparse Regions (Proc. of Symposium HS.2 at the Joint IAHS & IAH Convention, Hyderabad, India, September 2009). IAHS Publ. 333, 2009, 112-120.

Olsson, J., **Yang, W.**, and U. Willén (2009) Application of RCM output for urban hydrological modeling, Proceedings of the 8th IAHS Scientific Assembly & 37th IAH Congress, 6-12 September, Hyderabad, India.

Strömquist, J., Dahné, J., Donnelly, C., Lindström, G., Rosberg, J., Pers, C., **Yang, W.** & Arheimer, B. (2009) Using recently developed global data sets for hydrological predictions. In: New Approaches to Hydrological Prediction in Data Sparse Regions (Proc. of Symposium HS.2 at the Joint IAHS & IAH Convention, Hyderabad, India, September 2009). IAHS Publ. 333, 2009.

**Yang, W.**, Andréasson, J., Rosberg, J., Wetterhall, F., Olsson, J., and L.P. Graham (2009) Application of RCM to Climate Change Impact Study in Sweden, presented at FREE Workshop on Precipitation Downscaling and Modelling, 28-30 April, Norwich, UK.

**Yang, W.**, Andréasson, J., Graham, L. P., Olsson, J., Rosberg, J and Wetterhall, F. (2008): A scaling method for applying RCM simulations to climate change impact studies in hydrology. In: XXV Nordic Hydrological conference Nordic Association for Hydrology Reykjavik, Iceland, August 11-13, Vol. 1, pp. 256-265.

**Yang, W.**, Bardossy, A., Caspary, H (2005): Downscaling daily precipitation for flood risk estimation using copulas. Presentation of RIVERTWIN project and current research about climate downscaling at the European Geosciences Union General Assembly, Vienna, 24 - 29 April 2005.

Bardossy, A., Caspary, H., **Yang, W.** (2004): Downscaling daily precipitation for flood risk estimation. Presentation of current research about climate downscaling at the European Geosciences Union General Assembly, Nice, 25 - 30 April 2004

### **Grey publications:**

Berg, P., Bosshard, T., Yang, W.: Metodutveckling och analyser av klimatscenarier enligt FWI-modellen för framtida brandrisk i vegetation. MSB 2017-23.

- Olsson, J., Berg, P., Eronn, A., Simonsson, L., Södling, J., Wern, L. and Yang, W.: Extremregn i nuvarande och framtida klimat Analyser av observationer och framtidsscenarioer. SMHI Klimatologi Nr 47, 2017.
- Granström, A., Amon, F., Sjöström, J. and Yang, W.: Klimatpåverkan på skogsbrandrisk i Sverige. -Nulägesanalys, modellutveckling och framtida scenarioutveckling. MSB 1106
- Berg, P., Belking, A., Berggren, L., Persson, H. and Yang, W.: Förberedelse för operationalisering och testsimuleringar av skogsbrandriskprognosen enligt FWI-modell med en timmes tidssteg. MSB 2016-48.
- Olsson, J., Cintia, B.U., Foster, K., Yang, W., Södling, J., German, J. and Johansson, B.: A multi-model system for spring flodd forecasts. Elforsk report 11:72, 2011
- Gardelin, M., Andréasson, J., Ohlsson, J., Sahlberg, J., Stensen, B. and Yang, W.: Scenarier för framtida skogsbrandrisk- Studier med två brandriskmodeller. MSB 2011/77
- Södling, J. and Yang, W.: Improving the Distribution Based Scaling Method for Bias Correction of Precipitation from climate models. LiTH - MAT - EX - - 2010 / 22 - - SE
- Gardelin, M., Andréasson, J., Ohlsson, J., Sahlberg, J., Stensen, B. and Yang, W.: Klimatscenarier Brandrisk FWI - Delrapport Etapp 1. MSB **2009/729/180**