

Family name : Mohamed  
First names : Yasir A.  
Year of birth : 05 July, 1961  
Nationality : Sudanese  
Family status : Married  
Present position: Prof., Director HRC-Sudan; Assoc. Prof. UNESCO-IHE  
Years with the firm : Since 1985 with HRC-Sudan, and since 2006 with UNESCO-IHE  
E mail : [y.mohamed@hrc-sudan.sd](mailto:y.mohamed@hrc-sudan.sd) , [y.mohamed@unesco-ihe.org](mailto:y.mohamed@unesco-ihe.org)  
Web : <http://www.hrc-sudan.sd/>, <https://www.unesco-ihe.org/>  
Tel. : +31 15 2151 341, +249 9161 20 615



### Education:

2001 - 2005 PhD, (with distinction), Technical University, Delft, The Netherlands  
Title : *The Nile hydroclimatology: Impact of the Sudd wetland*  
1989 – 1990 M.Sc. in Hydraulic Eng. (with distinction), IHE Delft, the Netherlands  
Title: *Simulation and optimisation of the Blue Nile Double Reservoir System*  
1988 - 1989 Diploma in Hydraulic Eng. (with distinction), IHE Delft, the Netherlands  
1980 - 1985 B.Sc. Civil Eng. (div. 1), University of Khartoum, Sudan

**Languages:** Arabic, fluent  
English, Excellent

### Employment:

2009 - date Joint appointment HRC-Sudan<sup>1</sup>, and UNESCO-IHE<sup>2</sup>  
2006 - 2009 Joint appointment IWMI<sup>3</sup>, and UNESCO-IHE  
2001 - 2005 PhD Research at UNESCO-IHE, Delft, The Netherlands.  
1999 - 2002 Umm El Nar Hydraulic lab, ADWEA, Abu Dhabi, UAE.  
1998 - 1999 HRS-Sudan.  
1995 - 1998 WL|Delft Hydraulics Laboratory, the Netherlands and Pakistan.  
1992 - 1995 HRS-Sudan.  
1991 - 1992 WL|Delft Hydraulics Laboratory, the Netherlands.  
1985 - 1991 HRS-Sudan.

<sup>1</sup> Hydraulic Research Center (HRC-Sudan), before known as HRS, Ministry of Water Resources, Irrigation and Electricity (MoWRIE), Sudan

<sup>2</sup> UNESCO-IHE Institute for international education, Delft, The Netherlands .

<sup>3</sup> International Water Management Institute, Addis Ababa, Ethiopia.



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## KEY QUALIFICATIONS

Yasir A. Mohamed is a civil engineer by training and specialised in hydrology and water resources. He is presently professor of water resources management and Director General of the Hydraulics Research Centre, HRC-Sudan, and as a joint appointee, he is Associate Professor of water resources management at UNESCO-IHE, The Netherlands.

Yasir has wide experience in hydrological and hydraulics modelling, water resources systems, irrigation systems, remote sensing applications, and regional climate modelling. He started his career at the HRC-Sudan, in 1985, where he did research on irrigation systems, hydrology and hydraulics engineering. He obtained his diploma on Land and Water Development, and subsequently MSc on “*operation of reservoir systems*” in 1990 from IHE, Delft, and later in 2005 his PhD – on “*hydroclimatology of the Nile*”, from the same institute. He worked for WL|Delft Hydraulics on the development of the flood early warning system for the Nile River in Sudan (1991 to 92), and for the Indus System in Pakistan (1995 to 98). He worked between 1999 and 2002, on 2D and 3D modelling (Delft 3D) at UHL in Abu Dhabi, UAE. Between 2006 and 2009, Yasir joined the International Water Management Institute (IWMI), as a senior researcher at the Addis Ababa Office, where he led different research projects on hydrology and water resources, with emphasis on the Nile Basin. From 2009, he returned back to HRC, where he became the DG since 2012, and leading research work. As a joint appointee at UNESCO-IHE Since 2006, Yasir has been teaching and contributing to curriculum development with UNESCO-IHE in Delft, and in many other (developing) countries, in particular the Nile basin countries and in Asia. He has supervised many MSc and several PhD students. Yasir has published widely in international journals and conferences. He is a guest editor of the Journal of Physics and Chemistry of the Earth, and Journal of Spatial Hydrology.

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## Experience Record:

### 2009 to date HRC-Sudan

Professor of Water Resources Management and Director General of the Hydraulic Research Centre since 2012, formerly Hydraulic Research Station. The institute has considerably enlarged during the last 4 years, viz: number of researchers doubled from 15 to 30, research projects tripled, and scientific publications doubled.

- 2015 - Ongoing Project leader of the studies on the impacts of the GERD on the downstream hydrology and water resources along the Nile (HRC lead), Sudan,
- 2015 - 2016 Consultant for the study “*Management of environmental flows in the Nile River Basin: practices and experiences*”, implemented by HYDROC for NBI and GIZ, Germany.
- 2014 - 2016 Project manager of a number of projects, implemented by HRC, e.g., Mapping of cropped area in Gezira, Sudan using RS data, 2015-2016; Selection of the pumping site for North Bahri-El Tamaniat Station 2016; WA+ (WLE project with UNESCO-IHE), 2015-2016; Gash water resources (WLE project with MetaMeta) 2015-2016; Inland River Navigation, Sudan, 2015-2016; Gezira ICT (with eLeaf), 2015; calibration of hydraulic structures in Rahad Scheme, Sudan, 2015; Drainage in the Gezira Scheme, Sudan, 2015-2016; Operation of Jebel Aulia Reservoir, 2014, Sudan; Nile sediment monitoring program (ongoing).



- 2014 - 2015 Project co-leader of sediment management studies of the new dams across Atbara River in Sudan (Deltares lead), 2015.
- 2014 - 2016 Supervise and taught at a number of national and regional training courses at HRC, e.g., GIS course for ENTRO watershed project, 2014; Hydrology and time series analysis for IGAD, 2015; Transboundary watershed and groundwater system for IGAD, 2015; Advanced GIS and RS for PJTC, 2015; and many national courses, and many national courses.
- 2014 - 2015 International expert for the “*Business plan for establishment of WEC-RS&GIS Unit*”, implemented for MetaMeta for the Water and Environment Center, University of Sana'a, Yemen.
- 2015 Initiated and completed the procedure of HRC to join Sudan Academy of Science, accreditation for MSc and PhD degree from HRC.
- 2013 Chair of the New Nile conference, Khartoum, May 2013, convened jointly by UNESCO-IHE, HRC, Addis Ababa University.
- 2013 - 2015 Lead the rehabilitation and transformation of HRS to HRC (from station to center).
- 2013 - 2014 Project leader of IGAD funded research project on “Watershed management and groundwater recharge in the Tekeze-Atbara river basin”.
- Associate Professor (since 2004), and Director of water resources unit at HRS-Sudan.
- 2014 - 2015 Project supervisor of the “Smart ICT for Weather and Water Information and Advice to Smallholders in Africa, Sudan component”, led by IWMI,.
- 2011 - 2014 Project supervisor of the “Spate Irrigation System Project, Sudan”, led by UNESCO-IHE, ongoing. <http://www.hrs-sudan.sd/spate-irrigation-project>
- 2012 - 2013 Team Leader: “the Water Balance Dynamics of the Machar Marshes”, South Sudan, Consultancy assignment for ENTRO, Addis Ababa.
- 2011 - 2012 Team leader: Calibration of Gezira off-take structures, Sudan. Discharge measurement for three seasons, and derivation of new gate equations.
- 2010 - 2011 Team Leader: Development of Flood manual for Eastern Nile, Sudan. ENTRO project implemented by HRS.
- 2009 - 2010 Team leader: Ingeet irrigation system study, Sudan. Prefeasibility study for agricultural development in the Ingeet Island, Ministry of Agriculture project implemented by HRS.
- 2010 Manager of the knowledge and documentation centre, MoIWR, Sudan. Re-organization of the NBI projects, development of technical library, and establishing video conference halls.
- 2010 - 2011 Team leader Baro-Akobo-Sobat hydrological study, Ethiopia, Sudan. Consultancy assignment by ENTRO, Addis Ababa.
- 2010 - 2011 Team leader Sediment & Water Quality Monitoring for the EN Basin - Sudan, Consultancy assignment by ENTRO, Addis Ababa.



- 2009 - 2010 Team Leader: Development of Rainfall-Runoff and River Routing models of the Nile River System. These are the core component of the Sudan-FEWS.
- 2009 - 2010 Member of the National Committee of the Joint Multipurpose Project (JP).
- 2009 - 2010 Chairing a number of technical committees within the Sudan MoWRE, e.g.: Technical committee for the establishment of the Regional Water Harvesting Centre (UNESCO Category II institute); Technical committee for the adoption of IWRM approach in Sudan; among many others
- 2009 - 2010 Developing a number of research proposals for national and international calls

### 2006 to date UNESCO-IHE (joint appointment)

Associate Professor of Water Resources Management at UNESCO-IHE, since 2011;  
Senior Lecturer of Water Resources Management at UNESCO-IHE, since 2006.

#### Education:

Lecturing and coordinating number of modules at UNESCO-IHE, and overseas including:

- Water Resources assessment (and module coordinator)
- Watershed and River Basin Management
- Introduction to hydrology for water management
- The Water Resources System
- Advanced water system modelling, (and module coordinator)
- Geo-information management
- TMT course: Water Management in Mega Irrigation Schemes, Sudan, 2016.
- Refresher course: “water harvesting: A missed potential for food security in the semi-arid regions of Sub Sahara Africa, Sudan, 2015.
- Short courses: SEBAL applications, Jordan, 2015.
- Refresher course: “revisiting irrigation systems in sub-Saharan Africa: opportunities and constraints”, Sudan, 2013.
- Refresher course on “Decision Support Systems in River Basin Management”, 2011, Addis Ababa, Ethiopia.
- Short course on “water accounting” for the NBCBn participants, 2009, Kinshasa, DRC.
- Short courses: Energy balance techniques (SEBAL) for Irrigation Engineers, 2008, HRI, Cairo, Egypt.

#### Research and Capacity Building projects:

Contributing to a number of research and capacity building projects:

- Inclusive Accounting for Nile waters: connecting investments in large scale irrigation to gendered reallocations of water and labour in the Eastern Nile basin, 2015-2016.
- Planning of Water Resources and Agriculture in Yemen Using New Tools, 2013
- Blue Nile hydrosolidarity project “In Search of Sustainable Catchments and Basin-wide Solidarities; Transboundary Water Management of the Blue Nile River Basin”. Supervised 4 PhD students researching on different Blue Nile topics, 2008-2013.
- Up-scaling small-scale land and water system innovations in dry land agro-ecosystems for sustainability and livelihood improvements (SSI-2). Since 2008, I have been supervising one PhD student.
- Upgrade of the Sudan- Flood early warning System, Sudan-FEWS, together with Deltares, The Netherlands, 2010.
- University Water Sector Partnership “NPT Ethiopia”. Supervised development of a course on Integrated River Basin Management (IRBM), 2011.
- NPT Rwanda “Water Resources and Environmental Management”, 2010.



- Cooperating with water management group of TU Delft Prof. Savenije since 2010

Supervised and co-supervised more than 20 students MSc, and 6 PhD students working on related topics of hydrology, water management, and remote sensing.

#### **PhD mentor and co-mentor:**

- Gebremicael, T. G., Modelling the impact of catchment management dynamics on the hydrological process in the headwaters of Tekeze-Atbara River Basin, TUD 2015-2018.
- Digna, R.F., On optimising the operation of the multi-reservoir system in the Eastern Nile basin considering water and sediment fluxes, TUD 2011-2017.
- Hassaballah, K.E.A., The impacts of land degradation on the Dinder and Rahad hydrology and morphology, and linkage to the ecohydrological system of the Dinder National Park, Sudan, TUD 2012-2017.
- Kiptala, J.K., Managing Interdependencies: Understanding trade-offs and synergies in the Pangani River Basin, TUD, 2010-2016.
- Gebrekristos, S.T. Understanding catchment processes and hydrological modelling in the Abay/Upper Blue Nile basin, Ethiopia, TUD, 2010-2015.
- Ali, Y.S., The impact of soil erosion in the Upper Blue Nile on downstream reservoir sedimentation, TUD 2015.

#### **PhD Opponent**

- Elsheikh, E.R. Water productivity of Sunflower under different irrigation regimes on Gezira clay soil. Wageningen University, 2015.
- Goor, Q. Optimal Operation of Multiple Reservoirs in Hydropower-Irrigation Systems: A Stochastic Dual Dynamic Programming Approach, Universite Catholique de Louvain, 2010.

#### **Journal Review**

- Journal of Hydrology
- Journal of Physics and Chemistry of the Earth
- Hydrology and Earth System Sciences
- Hydrological Science Journal
- Water International
- Agricultural Water Management
- Irrigation and Drainage Engineering, American Society Civil Engineering
- International Journal of Applied Earth Observation and Geoinformation

## **2006 to 2009 IWMI NBEA Office**

Senior Researcher Int., IWMI; Senior Lecturer in Water Resources Management at UNESCO-IHE (joint appointment)

Team leader: The Nile Basin Initiative-IWMI-ASARECA project: Creating Synergies among the CGIAR, NBI and ASARECA: Consultations to Identify Opportunities to Support NBI through Research and Capacity Building.

Leader of Work Package 2 (Water Availability and Access), of the Nile Basin Focal Project, Funded by CPWF.

Secretary of the Steering Committee for the NBI Synergy Project on Research (Chaired by Nile-SEC).



Team leader of proposal development project: Integrated Management of the Sudd Wetland: In search for improved livelihood and conserved ecosystem services. Funded by Wetlands International.

Team member, ILRI lead project: Increasing water-use efficiency for food production through better livestock management – The Nile River Basin.

Team member of Blue Nile US DS project: Improved water and land management in the Ethiopian highlands and its impact on downstream stakeholders dependent on the Blue Nile.

Team member of the Blue Nile Hydrosolidarity project (lead by UNESCO-IHE): In Search of Sustainable Catchments and Basin-wide Solidarities; Transboundary Water Management of the Blue Nile River Basin.

Contributed to the development of concept notes and research proposals on: Impact of Climate Change on the Nile Waters; Water Harvesting toolbox; Lake Tana water balance, and others.

**2001 - 2005** PhD research: UNESCO-IHE, ITC, Enschede, KNMI, De Bilt. First year (2001/2002) sandwich, and from 2002 onward full time study.

Team leader: Proposal development on remote sensing application to irrigation water management for the Gezira Scheme, HRS, Sudan, late 2005.

Team leader: Strategy paper for the future role of the HRS (in Arabic), HRS, Sudan, late 2005.

**2000 - 2002** Senior research engineer at the hydraulic lab of the Abu Dhabi Water and Electricity Authority, Abu Dhabi, UAE. Involved in two main tasks:

(i) Calibration and operation of the Abu Dhabi physical scale model to study tidal hydraulics around Abu Dhabi Island.

(ii) The feasibility study of capacity extension of the Umm Al Nar desalination plant (led WL|Delft Hydraulics), includes; field measurements, development and calibration of 3D numerical models, re-circulation study and water quality modelling.

**1998 - 1999** Team leader: Water balance of the Blue Nile between Eddiem and Sennar, involved in; rainfall runoff modelling, river flow routing and water balance computation, HRS Wad Medani, Sudan.

Team leader: The Hydraulic and hydrologic design of the barrage cum bridge across the Dinder River, MOIWR, Sudan.

Research work on Kalman filtering. Investigation of the Kalman filter performance as applied to hydrodynamic river flow models, WL|Delft Hydraulics, Delft the Netherlands.

Secretary general of the Sudan National Committee on Irrigation and Drainage (SNCID) and editor of the SNCID newsletter, HRS Wad Medani, Sudan.

**1995 - 1998** International consultant on river flow modelling and local representative of consultant, participated with the WL|Delft Hydraulics team in all stages of development of the flood



forecasting system for the Indus and tributaries, Pakistan; data collection and validation, hydrological analysis, rainfall run-off modelling and hydrodynamic modelling. Local representative of WL|Delft Hydraulics in Pakistan taking care of project administrative and financial work.

**1993 -1995** Team leader: Investigation of the petroleum pipeline crossing under the Atbara River, Sudan. Proposals for river bank protection work, HRS, Sudan.

Team leader: Design and calibration of a stagnation tube as a simple measuring device of pipe flow, a research assignment carried out for IIMI Sudan office, HRS, Sudan.

Team leader: Evaluation of the filling criteria of Roseires reservoir. Modelling of the Blue Nile reservoir system and definition of optimum operating policy, HRS, Sudan.

Team leader: Calibration of the pumping stations No. 3 and 4 for the new extension of the Kenana Sugar Company, HRS, Sudan.

Participation with the WL|Delft Hydraulics team in the strengthening program of the flood early warning system (FEWS) in the Sudan.

**1992 - 1993** Team leader: Calibration of the Gezira Scheme headwork at Sennar, and investigation of the vertical velocity profile at the measuring section, HRS, Sudan.

Coordinator of the field training on discharge measurement and calibration of irrigation structures for the operation engineers, the Gezira scheme, HR, Sudan.

**1991 - 1992** Team member of WL|Delft Hydraulics team in all stages of development of the flood early warning system (FEWS) for the Nile and tributaries in Sudan, viz: data collection and river survey in the Sudan, hydrologic and hydraulic, modelling in the Netherlands, and real time testing of the full FEWS in the Sudan.

**1990 - 1991** Team leader: Calibration of the Gezira scheme head works at Sennar dam, Sudan for the low flow period, HRS, Sudan.

MSc study on the simulation and optimisation of the Blue Nile double reservoir system, IHE Delft, the Netherlands.

**1989 - 1990** Development of a computer database for the ground water well field in the Bergambacht area (the Netherlands), & ground water modelling of the double aquifer system in the area, IHE Delft, The Netherlands.

Development of planning models for a single reservoir as a tool for estimating reservoir size and irrigation potential, IHE Delft, The Netherlands.

**1988 - 1989** Postgraduate diploma course in Hydraulic Eng. (land and water development), IHE Delft, the Netherlands.

Participation in the data collection programme for the Gezira rehabilitation studies (K 57 team), Sudan.

Participation in the study of the low flow forecast of the Nile river system in the Sudan.

**1985 - 1987** Participation in the research works on water management of tertiary canals in the Gezira scheme. Studying the impact of water distribution (equity, efficiency, etc.) on the crop yield.

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Team member of the joined research with HRL Wallingford on the water management of minor canals in the Gezira scheme.

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### Other teaching, Training and Lectures:

- 2015 to date** Chair of the Water Council, Sudan Academy of Science
- April 2014** Invited lecture on “the downstream impacts of the Grand Ethiopian Renaissance on hydrology and water resources”, Ethiopian Embassy, Khartoum, Sudan.
- 2010 to date** Part time lecturer at the MSc course on water resources, Faculty of Engineering, University of Khartoum
- June 2014** Invited lecture on “Experiences from Sudan: Multiple use of floods for better rural livelihoods”, presentation given at the Regional Summit: Fulfilment of the Legacy of H.E Meles Zenawi, Mekele, Ethiopia.
- April 2007** Invited lecture on “Monitoring for Efficient Water Use in Irrigated Agriculture”, presentation given at ITC, Enschede, The Netherlands.
- March 2007** Invited lecture on “Nile Basin Research: challenges, and IWMI experience”, presentation given at Stakeholder Consultations Workshop on Monitoring in the Eastern Nile, Sudan.
- 2005** Invited lecture on “The impact of the Sudd wetland on the Nile hydroclimatology”, given to the Sudan meteorological society.
- 1993 - 1994** Lecturer of the course "On farm water management", University of Gezira, Wad Medani, Sudan.  
Lecturer of the course “Water resources of the Sudan”, University of Gezira, Wad Medani, Sudan.
- 1994** Organization and development of the training course on canal flow measurements for the field engineers of the Gezira Scheme, Sudan.
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### Publications:

#### Articles in refereed journals

- Reem F. Digna, Y. A. **Mohamed**, P. van der Zaag, S. Uhlenbrook & G. A. Corzo, 2016: Nile River Basin modelling for water resources management – a literature review, International Journal of River Basin Management, DOI: 10.1080/15715124.2016.1228656.
- Zenebe TF, **Mohamed Y**, Haile AM, 2015. Mitigation of Sedimentation at the Diversion Intake of Fota Spate Irrigation: Case Study of the Gash Spate Irrigation Scheme, Sudan. Irrigat Drainage Sys Eng 4:138. doi:10.4172/2168-9768.1000138A.
- Tilmant, G. Marques, and Y. **Mohamed**. 2015. A dynamic water accounting framework based on marginal resource opportunity cost. Hydrol. Earth Syst. Sci., 19, 1457–1467, www.hydrol-earth-syst-sci.net/19/1457/2015/, doi:10.5194/hess-19-1457-2015 [OPEN ACCESS].
- Yasir S. A. Ali, Alessandra Crosato, Yasir A. **Mohamed**, Nigel G. Wright , J.A. Roelvink. 2015. Water resource assessment along the Blue Nile River, North Africa with a one-dimensional

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- model. *Water Management*. Volume 167 Issue 7, pp. 394-413 DOI:10.1680/wama.13.00020 [OPEN ACCESS].
- S Tekleab, S Uhlenbrook, HHG Savenije, Y **Mohamed**, J Wenninger, 2015. Modelling rainfall-runoff processes of the Chemoga and Jedeb meso-scale catchments in the Abay/Upper Blue Nile basin, Ethiopia. *HSJ*, DOI:10.1080/02626667.2015.1032292.
  - Arjoon, D., **Mohamed**, Y., Goor, Q. and Tilmant, A., 2014. Hydro-economic risk assessment in the eastern Nile River basin. *Water Resources and Economics*, vol 8, 16–31
  - Y. **Mohamed**, H H.G. Savenije. 2014. Impact of climate variability on the hydrology of the Sudd wetland: signals derived from long term (1900 to 2000) water balance computations. *Wetlands Ecol Manage*, 22:191-198, DOI 10.1007/s11273-014-9337-7 [OPEN ACCESS].
  - Muala, E., Y.A. **Mohamed**, Z. Duan, P. van der Zaag, 2014. Estimation of reservoir discharges from Lake Nasser and Roseires Reservoir in the Nile Basin using satellite altimetry and imagery data. *Remote Sensing* 6(8), 7522-7545 [doi:10.3390/rs6087522] [OPEN ACCESS]
  - Kiptala, J.K., M.L. Mul, Y. **Mohamed**, and P. van der Zaag, 2014. Modelling stream flow and quantifying blue water using modified STREAM model for a heterogeneous, highly utilized and data-scarce river basin in Africa. *Hydrol. Earth Syst. Sci.* 18, 2287–2303. [doi:10.5194/hess-10-18-2287-2014] [OPEN ACCESS]
  - Kiptala, J.K., Y. **Mohamed**, M.L. Mul, P. Van der Zaag, 2014. Mapping evapotranspiration trends using MODIS and SEBAL model in a data scarce and heterogeneous landscape in Eastern Africa. *Water Resources Research* 49, 8495–8510 [doi: 10.1002/2013WR014240].
  - Diane Arjoon, Yasir **Mohamed**, Quentin Goor, Amaury Tilmant, 2014. Hydro-economic Risk Assessment in the Eastern Nile River Basin, *Water Resources and Economics*. Available online, doi:10.1016/j.wre.2014.10.004
  - Yasir S. A. Ali, Alessandra Crosato, Yasir A. **Mohamed**, Seifeldin H. Abdalla, Nigel G. Wright, J.A. Roelvink. 2014. Sediment balances in the Blue Nile River Basin. *International Journal of Sediment Research* 29 (2014) 316-328.
  - S. Tekleab, Y. **Mohamed**, S. Uhlenbrook. 2013. Hydro-climatic trends in the upper Abay / Upper Blue Nile basin, Ethiopia. *Journal of Phys. & Chem. of the Earth*, Special Issue on Nile, vol 61–62, p 32–42.
  - S. Tekleab , Y. **Mohamed** , S. Uhlenbrook , J. Wenninger, 2013. Hydrologic responses to land cover change: the case of Jedeb mesoscale catchment, Abay/Upper Blue Nile basin, Ethiopia. *Hydrol. Process*, doi:10.1002/hyp.9998.
  - Kiptala, J., M.J.M Cheema, M. Mul, Y. **Mohamed**, P. Van der Zaag, 2013. Land use and land cover classification using phenological variability from MODIS vegetation in the Upper-Pangani River Basin, Tanzania. *Physics and Chemistry of the Earth* 66: 112–122 [doi:10.1016/j.pce.2013.08.002]
  - T.Gebretsadkan, Y.A. **Mohamed**, G.D. Betrie, P. Van der Zaag, E. Teferi. 2012. Trend Analysis of Runoff and Sediment fluxes of the Upper Blue Nile Basin using: Statistical and Physically based model and Land use maps: Upper Blue Nile Basin. *Journal of hydrology*, <http://dx.doi.org/10.1016/j.jhydrol.2012.12.023>
  - M. Temesgen, S. Uhlenbrook, B. Simane, P. van der Zaag, Y. **Mohamed**, J. Wenninger, H. H. G. Savenije. 2012. Impacts of conservation tillage on the hydrological and agronomic performance of Fanya Juus in the upper Blue Nile (Abbay) River basin., *Hydrol. Earth Syst. Sci.*, 16, 4725-4735, doi:10.5194/hess-16-4725-2012.
  - **Mohamed**, Y.A., Bastiaanssen, W.G.M., Savenije, H.H.G., van den Hurk, B.J.J.M. Finlayson, C.M., 2011. Wetland versus open water evaporation: An analysis and literature review. *J. Phys. Chem. Earth*. doi:10.1016/j.pce.2011.08.005.
  - Tekleab S., Uhlenbrook, S., **Mohamed**, Y.A., Savenije, H.H.G., Temesgen, M., Wenninger, J., 2011. Water balance modeling of Upper Blue Nile catchments using a top-down approach. *Hydrol. Earth Syst. Sci.*, 15, 2179–2193, 2011, [www.hydrol-earth-syst-sci.net/15/2179/2011/](http://www.hydrol-earth-syst-sci.net/15/2179/2011/) doi:10.5194/hess-15-2179-2011.



- Betrie, G.D., van Griensven, A., **Mohamed**, Y.A., Popescu, I., Mynett, A.E., Hummel, S., 2011. Linking SWAT and SOBEK using open modelling interface (OPENMI) for sediment transport simulation in the Blue Nile. *Transactions of the ASABE*. 54(5): 1749-1757. @2011
- Betrie, G.D, **Mohamed**, Y.A., van Griensven, A., Srinivasan, R. Mynett, A. 2011. *Sediment management modelling in the Blue Nile Basin using SWAT model*. *Hydrol. Earth Syst. Sci.*, 15, 807–818, [www.hydrol-earth-syst-sci.net/15/807/2011/](http://www.hydrol-earth-syst-sci.net/15/807/2011/), doi:10.5194/hess-15-807-2011.
- Uhlenbrook, S., **Mohamed**, Y., Gragne, A. S., 2010. *Analyzing catchment behaviour through catchment modeling in the Gilgel Abay, Upper Blue Nile River Basin, Ethiopia*. *Hydrol. Earth Syst. Sci.*, 14, 2153-2165, doi:10.5194/hess-14-2153-2010.  
<http://www.hydrol-earth-syst-sci.net/14/2153/2010/hess-14-2153-2010.html>
- Goor, Q., Halleux, C., **Mohamed**, Y., Tilmant, A., 2010. *Optimal operation of a multipurpose multireservoir system in the Eastern Nile River Basin*. *Hydrol. Earth Syst. Sci.*, 14, 1895–1908., doi:10.5194/hess-14-1895-2010. [www.hydrol-earth-syst-sci.net/14/1895/2010/](http://www.hydrol-earth-syst-sci.net/14/1895/2010/)
- Hamid, S.H., Adeeb, A., **Mohamed**, Y.A., 2010, *Towards a performance oriented management for large scale irrigation systems. Case study Rahad Scheme Sudan*. ICID, DOI: 10.1002/ird.546. *Irrig. and Drain*. DOI: 10.1002/ird.546.  
<http://onlinelibrary.wiley.com/doi/10.1002/ird.546/pdf>
- Tesemma, Z. k., Mohamed, Steenhuis, T. S., 2010. *Trends in rainfall and runoff in the Blue Nile Basin: 1964–2003*. *Hydrological Process*. Published online in wileyonlinelibrary.com. DOI: 10.1002/hyp.7893 <http://onlinelibrary.wiley.com/doi/10.1002/hyp.7893/full>
- **Mohamed**, Y.A., van den Hurk, B.J.J.M., Savenije, H.H.G., W.G.M., 2007, Moisture recycling over the Nile Basin, in “Reducing the Vulnerability of Societies to Water Related Risks at the Basin Scale”, editors A. Schumann & M. Pahlow. IAHS Red Book “Reducing the Vulnerability of Societies to Water Related Risks at the Basin Scale”. IAHS Publ. 317, ISBN 978-1-901502-29-9, 450 + xiv pp. [http://iahs.info/redbooks/a317/iahs\\_317\\_0018.html](http://iahs.info/redbooks/a317/iahs_317_0018.html)
- **Mohamed**, Y.A., Savenije, H.H.G., Bastiaanssen, W.G.M., van den Hurk, B.J.J.M., 2006, New lessons on the Sudd hydrology learned from remote sensing and climate modelling, *Hydrology and Earth System Sciences*, 10, 507–518. <http://www.hydrol-earth-syst-sci.net/10/507/2006/hess-10-507-2006.html>
- **Mohamed**, Y.A., van den Hurk, B.J.J.M., Savenije, H.H.G., Bastiaanssen, W.G.M., 2005, The Impact of the Sudd wetland on the Nile Hydro-climatology, *Water Resources Research*, vol. 41, W08420, [doi:10.1029/2004WR003792](https://doi.org/10.1029/2004WR003792).  
<http://www.agu.org/journals/ABS/2005/2004WR003792.shtml>
- **Mohamed**, Y.A., van den Hurk, B.J.J.M., Savenije, H.H.G., Bastiaanssen, W.G.M., 2005, The Nile Hydro-climatology: Results from a regional climate model, *Hydrology and Earth System Sciences*, 9, 263–278. <http://www.hydrol-earth-syst-sci.net/9/263/2005/hess-9-263-2005.html>
- **Mohamed**, Y.A., Bastiaanssen, W.G.M., Savenije, H.H.G., 2005, Reply to the comments of Sutcliffe to the paper Y.A. Mohamed et al. (*J. Hydrol.* 289 (2004) 145–169). *J. Hydrology* 314:43–44.
- **Mohamed**, Y.A., Bastiaanssen, W.G.M., Savenije, H.H.G., 2004, Spatial variability of evaporation and moisture storage in the swamps of the upper Nile studied by remote sensing techniques. *J. Hydrology* 289:145–164.

### Conference Papers

- Y. A. **Mohamed**, “the Importance of the Great Ethiopian Renaissance Dam (GERD) for the Eastern Nile Region”, presented at the GERD workshop, Khartoum, 29 March 2016.
- Y. A. **Mohamed**, “The first filling of the GERD and downstream implications on hydrology and water resources”, presented at the regional workshop on Land and energy investments and changing hydrological landscapes in the Nile Basin, Addis Ababa, 24-25 May 2016.
- Yasir A. **Mohamed**, Wim G.M. Bastiaanssen. Water accounting at a river basin scale: the Nile Basin case. 3rd OpenWater symposium and workshops, Addis Ababa, Ethiopia, September 16-17, 2015



- Yasir **Mohamed**. Towards Prosperous Tigray Region through Sustainable Investment in Flood-based Farming Systems. Experiences from Sudan: Multiple use of floods for better rural livelihoods. Regional Summit: Fulfilment of the Legacy of H.E Meles Zenawi Mekelle, 06 June 2014
- Yasir S. A. Ali, Ahmed S. Hayaty, Yasir A. **Mohamed**. Modifying the Operation Rules of Jebel Aulia Reservoir for higher reservoir levels. Fourth Nile Basin Development Forum 6-7 October 2014, Nairobi, Kenya.
- Younis Gismalla, Yasir **Mohamed**, Gijs Simons, Maurits Voogt, Bharat Sharma, Giriraj Amarnath, Vladimir Smakhtin. Towards a remote sensing based operational decision support system for agricultural water and crop management in the Gash Delta - Sudan. Fourth Nile Basin Development Forum 6-7 October 2014, Nairobi, Kenya.
- Tammo S. Steenhuis, Seifu A. Tilahun, Muhammad Elkamil, Fasikaw Atanaw, Abeyou W. Worqlul, Anteneh Z. Abiy, Amy S. Collick, Zelalem K. Tesemma, Yasir A. **Mohamad**. Simulating discharge and sediment concentrations in the increasingly degrading Blue Nile basin. Presented at the Bahir Dar workshop, 2013.
- Giriraj Amarnath, Gijs Simons, Bharat Sharma, Younis Gismalla, Yasir **Mohammed**, Vladimir Smakhtin. Water and Agricultural Management using Satellite data and Smart-ICT in an emerging spate irrigation system in Gash catchment, Sudan. Presented at the ICID Conf., Turkey, 2013.
- Giriraj Amarnath, Gijs Simons, Bharat Sharma, Yasir **Mohammed**, Younis Gismalla, Vladimir Smakhtin. Smart ICT for Weather and Water Information and Advice to smallholders in Sudan. Presented at the New Nile conference, Khartoum, Sudan, 2013
- **Mohamed**, Y.A., 2012. Impact of climate variability on the hydrology of the Sudd wetland: signals derived from long term (1910 to 2010) water balance computations. The 9<sup>th</sup> INTECOL International Wetlands Conference, Orlando, USA.
- Osman, E., B. Schultz, Suryadi, **Mohamed**, Y.A., Akod. 2011. Improving the operation and maintenance for better sediment and water management in Gezira Scheme, Sudan. ICID Conference, 15-23 October, Tehran, Iran.
- **Mohamed**, Y.A., Thamotheampillai, T., Mamad, N., Mul, M., Van der Zaag, P., 2011. *Assessment of irrigation performance of large irrigation systems using satellite data: the case of the Gezira Scheme, Sudan*. ICID Conference, 15-23 October, Tehran, Iran.
- Micha Werner, Jan Vekade, and Yasir A. **Mohamed**. 2011. *Flood forecasting in developing countries: Challenges and Sustainability*. EGU General Assembly 2011, Vienna, Austria.
- **Mohamed**, Y.A., F. kebede. 2010. *Assessment of catchment water balance using RS data: Upper Awash*. The conference on water resources in Ethiopia. Addis Ababa, 12-16, January, 2010.
- **Mohamed**, Y.A., 2009. Reservoir operation under climate change conditions: Case Study Roseires reservoir, Blue Nile" in conference proceedings, WWF5.
- Werner, M., and Y.A. **Mohammed**, Operational flood forecasting as a key flood risk management strategy: past, present and future. Second Flood Forum Jan. 5-6, 2009, Khartoum, Sudan.
- **Mohamed**, Y.A., M. Loulseged, 2008. Knowledge development for the support of the NBI program. Nile Development Forum, Khartoum, 2008.
- G. Betria, Y.A. **Mohamed**, A. van Griensvena, A. Mynett, 2008. Hydrological modeling using SWAT 2005: Upper Blue Nile basin, Ethiopia. Nile Development Forum, Khartoum, 2008.
- **Mohamed**, Y.A., T.S. Steenhuis; S. Uhlenbrook, 2008. The Blue Nile PUB: Knowledge gaps in the Blue Nile hydrology. Workshop on the Nile Basin hydrology and ecology under extreme climatic conditions, Addis Ababa, Ethiopia, 2008.
- Jawi, A.H.; **Mohammed**, Y.A.; Uhlenbrook, S.; Tilman, A.; Van der Zaag, P., 2008. Time series stationarity analysis: the case of the Nile. Geophysical Research Abstracts Vol. 10, EGU2008-A-11990
- **Mohamed**, Y.A., Simon, T., Balila, I., 2005, editors of the workshop proceeding "Water For Peace: To promote conflict prevention over Water Resources, GWP – EnA, Khartoum, Sudan.
- **Mohamed**, Y.A., Savenije, H.H.G., 2005, Precipitation Recycling over the Nile Basin. International Conference of UNESCO Flanders Fit Friend/Nile Project, Towards a better cooperation. Sharm El-Sheikh, Egypt.



- Ramadan, K., **Mohamed, Y.A.**, El-Dahshan, M. E., Thabet, R., 2001, Tidal Characteristics and Flow Pattern in the Abu Dhabi Lagoon System. Paper presented for the 5th Gulf Water conference, Doha, Qatar.
- **Mohamed, Y.A.**, Ramadan, K., Alameri, K., 2001, Tidal Flow Simulation by Conjunctive use of Scale and Numerical models, Case Study: Abu Dhabi Lagoon System. Paper presented for the 5th Gulf Water conference, Doha, Qatar.
- **Mohamed, Y.A.**, 1999, editor of the workshop proceedings on “The impact of economical reform policies on the irrigated agriculture in the Sudan, The Gezira case” (in Arabic), HRS, Wad Meddani, Sudan.
- **Mohamed, Y.A.**, S.E. Ahmed. 1995. Irrigation water management in the Gezira Scheme: Challenges and solutions. Conference of the Gezira and Managil Farmers Union, Wad Medani, Sudan, (in Arabic).
- **Mohamed, Y.A.**, 1994, Water resources development in the Sudan: An overview. Paper presented for the World food day, FAO-Khartoum office, Sudan.
- **Mohamed, Y.A.**, 1994, Reliability of the hydrological data of the Nile river system within the Sudan, IAHR int. conf. on efficient utilisation and management of water resources in Africa, Khartoum, Sudan.
- **Mohamed, Y.A.**, Osman, H.M., 1994, Simulation and optimisation of the Blue Nile double reservoir system. Nile 2002 Conf., Khartoum, Sudan.
- Salih, A., Al Awad, O.M.A., Yousif, D.M., **Mohamed, Y.A.**, Khudary, M., 1994, editors of the proceedings of the Khartoum Nile 2002 Conference, comprehensive water resources development of the Nile basin: The vision ahead, HRS, Wad Medani Sudan.
- Grijsen, J.G., Snoeker, X.C., Vermeulen, C.J.M., Mohamed el Amin Moh. Nur., **Mohamed, Y.A.**, 1992, An information system for flood early warning, 3rd Int. Conf. on floods & flood management, Florence, Italy.

### Books and Book Chapters

- Yasir A. **Mohamed**, 2016. Machar Marshes: Nile River Basin (South Sudan), Chapter of the The Wetland Book, C.M. Finlayson et al. (eds.), DOI 10.1007/978-94-007-6173-5\_220-1, Springer Science + Business Media Dordrecht.
- Giriraj Amarnath, Niranga Alahacoon, Younis A. Gismalla, Yasir **Mohammed**, Bharat R. Sharma and Vladimir Smakhtin, 2016. “Trans-boundary river basin flood forecasting and early warning system experience in the Gash River Basin, Horn of Africa” Chapter of the book “Flood Forecasting: A Global Perspective”, edited by Thomas E. Adams and Thomas Pagano. ISBN: 978-0-12-801884-2, Elsevier.
- K. Hassaballah, Y. A. **Mohamed** and S. Uhlenbrook, 2016. “The Mayas wetlands of the Dinder and Rahad: tributaries of the Blue Nile Basin (Sudan)”, Chapter of the The Wetland Book, C.M. Finlayson et al. (eds.), 10.1007/978-94-007-6173-5\_223-1, Springer Science + Business Media Dordrecht
- **Mohamed, Y.A.**, 2005. The Nile Hydroclimatology: Impact of the Sudd Wetland. ISBN 0 415 38483 4 (Taylor & Francis Group). PhD Thesis, TU Delft, 145 p.

### Technical Reports

- **Yasir A. Mohammed**, A.A. Khider. Y.A.Ali, K. Biro, S.O. Eltom, 2016. The impacts of the Grand Ethiopian Renaissance Dam on downstream hydrology and water resources, (technical report), HRC Sudan.
- Y.S. Ali, Yasir A. **Mohamed**, 2016. The potential of river navigation in Sudan: White Nile and Main Nile, (technical report), HRC Sudan.
- Khalid Biro, Modathir Zaroug, Khalid Elnoor, Mohey eldin Kabeer, Yasir A. **Mohamed.**, 2015. Watershed Management and Groundwater Recharge in the Tekeze-Atbara River Basin (technical report), submitted for IGAD, HRC Wad Medani, Sudan.



- Sarah S.H. Abdalla, Amgad A. Khalifa, Younis A. Gismalla, Khalid Guma Biro, Yasir A. **Mohammed**, 2015. Satellite Based ICT for Improved Crop Production in the Gezira Irrigation Scheme in Sudan - Evaluation Report, (technical report), HRC Sudan.
- Yasir A. **Mohamed**, Abu Obieda B. Ahmed, Amira Mekawi, Ahmed Hayati, 2014. Water quality-agriculture-food safety-health Sudan situation assessment report, technical report prepared for FAO, HRC, Sudan.
- Yasir Salih, Ahmed Hayati, Yasir A. **Mohamed**, 2014. Modifying the operation rule of Jebel Aulia reservoir for higher reservoir level (technical report), HRC, Sudan.
- **Mohamed, Y.A.**, 2013. Assessment of the Water Balance Dynamics of the Machar Marshes. Prepared for ENTRO-NBI, Addis Ababa, Ethiopia.
- Mohamed, Y.A., 2011. The hydrological study of the Baro Akobo Sobat Basin. Prepared for ENTRO-NBI, Addis Ababa, Ethiopia.
- **Mohamed, Y.A.**, 2010. Sediment & Water Quality Monitoring for the Eastern Nile Basin - (Phase I) Sudan, technical report prepared for ENTRO-NBI, Addis Ababa, Ethiopia.
- **Mohamed, Y.A.**, Khider, A.N., 2010, Calibration of the Gezira and Managil Main Canals offtakes at Sennar dam -Low head period: June to September, (technical report) HRS Wad Medani, Sudan.
- **Mohamed, Y.A.**, and HRS team, 2010. Flood Embankment Design, Operation and Maintenance Manual, Sudan, prepared for ENTRO-NBI, Addis Ababa, Ethiopia.
- **Mohamed, Y.A.**, and HRS team, 2010. Ingeet Technical Study: Site investigation, hydrographic survey, and preliminary design, (technical report) HRS Wad Medani, Sudan.
- Molden, D., Awulachew, S.B., Conniff, K., et al., Rebelo, L., **Mohamed, Y.A.**, Peden, D., Kinyangi, J., van Breugel,P., Mukherji, A., Cascão, A., Notenbaert, A., Demise, S.S., Meguid,M., el Naggar, G., 2009. Nile Basin Focal Project. Synthesis Report, Project Number 59. Challenge Program on Water and Food and International Water Management Institute, Colombo, Sri Lanka. x+149 pp.
- **Mohamed, Y.A.**, M. Loulseged, 2008, The Nile Basin Water Resources: Overview of key research questions pertinent to the Nile Basin Initiative. IWMI Working paper 127, ISBN 978-92-9090-689-6.
- **Mohamed, Y.A.**, M. Loulseged, 2007. Project Final Report “CGIAR (IWMI), NBI and ASARECA: Creating Synergies and a Partnership; Consultations to Identify Opportunities to Support NBI through Research and Capacity Building” Project No. 103448; submitted to International Development Research Centre (IDRC), April 2007.
- Feasibility study on capacity extension at Umm Al Nar site, Final report, 2000, (technical report, co-author), Umm Al Nar Hydraulic lab and WL|Delft Hydraulics, Abu Dhabi, UAE.
- **Mohamed, Y.A.**, Gismalla, Y.A., Saghyron, A., Abdelhafeez, A.B., 1999, Water Balance study of the Blue Nile River for Eddeim Sennar Reach, (technical report), HRS Wad Medani, Sudan.
- **Mohamed, Y.A.**, Nur Al Daiem, H., Gismalla, Y.A., 1999, Design report of the Bridge cum barrage across the Dinder River, (technical report) HRS Wad Meddani, Sudan.
- Brummelhuis, P.G.J. ten, **Mohamed, Y.A.**, van Mierlo, T., 1998, Performance of Kalman filtering for flood forecasting: Case study Indus river system, (technical report) WL|Delft Hydraulics The Netherlands.
- Development of Indus flood forecasting system, Final report , 1997, (technical report co-author) prepared for the Pakistan government by WL|Delft Hydraulics et al.
- **Mohamed, Y.A.**, 1995, Calibration of the Gezira and Managil main canals intake at Sennar dam during the flood season (low head condition), (technical report), HRS Wad Meddani, Sudan.
- Abdallah, E.S., **Mohamed, Y.A.**, 1994, River Atbara behaviour during flood at the petroleum pipeline crossing, (technical report) HRS Wad Meddani, Sudan.
- Mohamed, Y.A., 1994, Calibration of the stagnation tube, technical report prepared for IIMI Sudan office, HRS Wad Meddani, Sudan.
- **Mohamed, Y.A.**, 1994, Calibration of the Pumping station No. 3 and 4 for Kenana Sugar Company, (technical report), HRS Wad Medani, Sudan.
- **Mohamed, Y.A.**, 1994, The petroleum pipeline crossing under the Atbara river, (technical report) HRS Wad Medani, Sudan.



- **Mohamed, Y.A.**, Obott, J., 1993, Calibration of the Gezira and Managil main canals intake at Sennar dam during the Medium and high flow period (winter period), (technical report) HRS Wad Medani, Sudan.
- Sudan Flood Early Warning System, Final report, 1992, (technical report co-author) prepared for the Sudan government by WL|Delft Hydraulics.
- **Mohamed, Y.A.**, 1991, Calibration of the Gezira and Managil main canals intake at Sennar dam during the low flow season, (technical report), HRS Wad Medani Sudan.
- **Mohamed, Y.A.**, 1990. M.Sc. thesis, simulation and optimisation of the Blue Nile double reservoir system, IHE Delft, the Netherlands.
- **Mohamed, Y.A.**, Nonner, J., 1990, Ground water database development and modelling with spreadsheet, a case study of Bergambacht area, the Netherlands, (technical report) IHE Delft, the Netherlands.
- Hamad, O.E., El Awad, O.M.A., **Mohamed, Y.A.**, Hamid, S.H., 1989, Water management of Abu XX (tertiary canal) in the Gezira scheme, Sudan, (technical report), HRS Wad Medani, Sudan.
- Ian Makine, El Awad, O.M.A., A. Khalid Aldawa, **Mohamed, Y.A.**, Minor canal management in the Gezira Irrigation scheme. Filed investigations on selected minor canals, 1988, (technical report, co-author), HRL Wallingford, England.
- Hamad, O.E., El Awad, O.M.A., **Mohamed, Y.A.**, 1987, Low flow forecast based on runoff record - Blue Nile case, (technical report), HRS Wad Medani, Sudan.

### Professional affiliations, memberships, and conferences

2016	Co-Chair of the regional workshop on “ <i>Land and Water Investments in the Eastern Nile Basin: Challenges and Opportunities for Regional Development (II)</i> ”, Sudan, 3-5 December 2016, Jointly organised by Stockholm International Water Institute (SIWI), International Water Management Institute (IWMI) and the Hydraulic Research Center (HRC).
2015 to date	Member of senate of Sudan Academy of Science.
2015 to date	Member of governing board of the Institute of Irrigation Water Management, University of Gexira, Sudan.
2013	Chair of the Scientif conference, New Nile Nile Perspectives: Scientific advances in the Eastern Nile Basin, 6-7 May 2013, Khartoum
2014	Member of the Scientif committee of the, New Nile Opportunities conference: Scientific Advances towards Prosperity in the Eastern Nile Basin, 8-9 December, 2014
2011 to date	Member research school SENSE (Socio-economic and natural sciences of the environment)
2009 to date	Member of the regional steering committee of the Joint Multi-Purpose Project of the Eastern Nile Technical Regional Office, ENTRO, Addis Ababa Ethiopia
1994	Member of the scientific committee of the 2nd Nile 2001 conference, "Comprehensive water resources development of the Nile Basin: The vision ahead"
199?	Member of the IAHS

### CERTIFICATION

I, the undersigned, certify that to the best of my knowledge and belief, this CV correctly describes myself, my qualifications, and my experience. I understand that any wilful misstatement described herein may lead to my disqualification or dismissal, if engaged.

Signature:

Date: 11 Nov 2016

Update: 11 Nov 2016