



Personal information:

Name: **Modathir Abdalla Hassan Zaroug**

Date of birth: 23rd Nov. 1977

Nationality: Sudanese

Marital status: Married, have three children.

Email: modathir_23@yahoo.com

Qualification:

PhD Civil Eng. Khartoum University & International Center for Theoretical Physics in Italy.

M. Sc. in Hydroinformatics, UNESCO-IHE 2006-2008, Delft, Netherlands.

B.Sc. Civil Eng. Sudan University of Science and Technology, second class division one, Honors. May 2001.

Languages:

Arabic, mother tongue

English, very good (spoken and written)

Memberships:

- National DSS Network- NBI.
- Sudan Engineering Society MSES.
- Sudan Engineering Council MSEC.
- Association of Cancer patients' Friends.

Employment:

Aug. 2001 – Aug. 2002	Al-Dar Consult, Sudan.
Jan. 2003 – Oct. 2003	Saas for Building and Construction, Sudan.
Jan. 2011- Dec. 2013	Dinder Center for Environmental Research, Sudan.
Nov. 2003 – Mar. 2015	Hydraulics Research Center, Sudan
Sep. 2014 – up to now	University of Cape Town, South Africa (study leave)

International papers:

1. Zaroug, M. A. H., Sylla, M. B., Giorgi, F., Eltahir, E. A. B. & Aggarawal, P. K. (2013) *A sensitivity study on the role of the swamps of southern Sudan in the summer climate of North Africa using a regional climate model*. Theoretical and Applied Climatology, 113(1-2), 63-81.
2. Zaroug, M. A. H., Eltahir, E. A. B., and Giorgi, F. (2014) *Droughts and floods over the upper catchment of the Blue Nile and their connections to the timing of El Niño and La*

Niña Events, Hydrol. Earth Syst. Sci. Discuss., 10, 10971-10995, doi: 10.5194/hessd-10-10971-2013.

3. Zaroug, M. A. H., Giorgi, F., Coppale, E., and Eltahir, E. A. B. (2014) *Simulating the Connections of ENSO and the Hydrology of the Blue Nile Using a Climate Model of the Tropics*, Hydrol. Earth Syst. Sci. Discuss., 11, 1–30, 2014 doi:10.5194/hessd-11-1-2014.
4. Chandni Singh, Daron J , Bazaz A, Zeirvogel G, Spear D, Krishnaswamy J, Zaroug M, Kituyi E, (2016). *The utility of weather and climate information for adaptation decision making: current uses and future prospects in Africa and India*, Climate and Development (submitted).
5. Spear D, Zaroug M.A.H., Daron J, Jarre A, Roux J.P., Haimbili E.N., Hegga S.S., Ziervogel G, Baudoin M, Angula M.N., (2016). *Vulnerability and responses to climate change in Namibia*. WIREs Climate Change, (submitted).
6. Rauser, F., M. Alqadi, S. Arowolo, N. Baker, J. Bedard, E. Behrens, N. Dogulu, L. Gatti Domingues, A. Frassoni, J. Keller, S. Kirkpatrick, G. Langendijk, M. Mirsafa, S. Mohammad, A. Naumann, M. Osman, K. Reed, M. , V. Schemann, A. Singh, S. Sonntag, F. Tummon, D. Victor, M. Villafuerte, J. Walawender, and AMERICAN METEOROLOGICAL SOCIETY M. Zaroug, 2016: *Earth System Science Frontiers - an ECS perspective*. Bull. Amer. Meteor. Soc. doi:10.1175/BAMS-D-16-0025.1, in press.
7. Zaroug M, Krishnaswamy J, New M, Bunyan M, Bazaz A, Wolski P, Daron J, (2016). *Are semi-arid regions hotspots of climate change in Africa and South Asia?* Journal of Arid Environments, (under revision).

Ongoing papers:

- See-Saw correlation between Amazon and Congo Basin.

Reviewer:

- Climate Dynamics.
- Regional Environmental Change.
- Physics and Chemistry of the Earth.

Awarded research and scholarships:

- Oct. 2006 to Apr. 2008. Master program in UNESCO-IHE for Water Education, Hydroinformatics. Delft, Netherlands.
- Feb. 2010 Aug. 2010 International Centre for Theoretical Physics (ICTP), Earth System Physics (ESP), Italy.

- ICTP-IAEA Sandwich Training Educational Programme (STEP):
 1. First visit from Mar. 2011 to Nov. 2011(Italy).
 2. Second visit from Mar. 2012 to Oct.2012 (Italy).
- Mar. 2013 Sep. 2013 International Centre for Theoretical Physics (ICTP), Earth System Physics (ESP), Italy.

Training and courses:

- Feb. 20th – 31st Mar. 2006 National Institute of Rural Development, Geoinformatics (GIS, GPS & RS) Application in Rural Development (In India).
- May 2 –May 15, 2006 Groundwater Management in the Framework of integrated Water Resources Management (In Egypt).
- May 25 –May 30, 2008 Remote Sensing course in UNESCO Chair (Khartoum).
- Nov. 23- Dec. 4, 2008 on- job training course on ArcGIS I & II Cairo (Egypt).

National workshops (more than 10):

Such as:

- Sudan National Discourse Forum (SNDF): NBI, present and future perspectives. Khartoum, 14th of Dec. 2009.
- National Consultative Workshop on the Nile Basin Sustainability Framework (NBSF).Khartoum, Oct. 5th-6th, 2009.
- River Morphology Cluster Workshop. Khartoum, April 5th-7th, 2009.
- Flood Forum II workshop (ENTRO). Khartoum, Jan. 5th-6th 2009.
- The 2nd Regional Nile Basin Development Forum of the Nile Basin Initiative. Khartoum, Nov. 17th-19th, 2008.
- Eastern Nile Cooperation: Opportunities for Regional Development. Khartoum, March 10th-12th, 2014.

Regional workshops:

- 5th Regional Workshop on Flood Management which held at Hotel Boulevard, Nairobi on 20th to 23rd of April, 2009.
- Friend/Nile: Hydrologic Modelling, Erosion and Sediment Transport Modelling and Ecohydrology Components Concurrent Workshops, Nairobi, Kenya; 26-30 January 2009.
- Friend/Nile Workshop, Cairo, Egypt; 22-25 May 2011.

- Improved Drought Early Warning and FORecasting to strengthen preparedness and adaptation to droughts in Africa (DEWFORA) General Assembly, Sharm El-Sheikh, Egypt, February 6th – February 10th, 2012.
- Climate Change Impacts on the Nile Basin “Exchange Experiences within the Basin”. Cairo, Egypt, 24th – 25th February 2013.
- Adaptation to climate induced water stress in the Nile Basin Final Technical Workshop – Work Package 1.1, NBI Secretariat, Entebbe, Uganda. 8-12 April 2013.
- Global Climate Change, Biodiversity and Sustainability: Challenges and Opportunities, an international, an international conference focused on the Arab MENA region and EuroMed. Alexandria, Egypt. April 15 to 18, 2013.
- Training Course on Drought Hazards, Vulnerability & Risk Analysis Tools in Africa”. Nairobi, Kenya, 7-11th October.
- 14th WaterNet/WARFSA/GWP-SA Symposium, In association with the International Commission on Water Resources Systems of the IAHS, Transboundary Water Cooperation: Building Partnerships. Dar es Salaam, Tanzania. 29 Oct. to 1 Nov 2013.

International workshops:

- Fifth ICTP Workshop on the Theory and Use of Regional Climate Models, Trieste, Italy, 31 May – 11 June 2010.
- Conference on Decadal predictability, Trieste, Italy 16-20 Aug. 2010
- International Conference on the Coordinated Regional Climate Downscaling Experiment CORDEX, Trieste, Italy, March 2011
- Agenda DEFORA kick off meeting and Management Team meeting, Delft, Netherlands, March 23rd – March 25th 2011.
- European Geosciences Union General Assembly, Vienna, Austria 03-08 April 2011.
- Conference on the Role of E-Infrastructures for Climate Change Research, Trieste, Italy, 16-20 May 2011
- School and Conference: The General Circulation of the Atmosphere and Oceans: A Modern perspective, Trieste, Italy, 11-15 July 2011.
- Summer school on climate impacts modelling for developing countries: Water, Agriculture and Health, Trieste, Italy, 5-16 Sep. 2011.
- Improved Drought Early Warning and FORecasting to strengthen preparedness and adaptation to droughts in Africa (DEWFORA) WP4 meeting at ECMWF, Reading, England, Oct. 4th – Oct. 5th 2012.
- Sixth ICTP workshop on the theory and use of regional climate models, Trieste, Italy, 7-18, May 2012.

- Improved Drought Early Warning and FORecasting to strengthen preparedness and adaptation to droughts in Africa (DEWFORA) General Assembly, Pretoria, South Africa, February 4th – February 9th 2013.
- 2nd Workshop on Water Resources in Developing Countries: Planning and Management in a Climate Change Scenario, Trieste, Italy, 6-17 May 2013.
- Advance course: Drought forecasting and its Use in Informed Decision Making, Zaragoza, Spain, 23-27 Sep. 2013.

Professional Experience:

- Aug 2001- Aug 2002 Al-Dar Consult: Taking direct responsibilities as consultant engineer. Preparing reports on monthly basis about the process of the project. Office work including checking bills, calculations of quantities, project time management...etc
- Jan 2003- Oct 2003 Saas for Building and Construction: Taking direct responsibilities as a contractor and manager of the project for the all activities.
- Nov 2003 – up to now Hydraulics Research Center (HRC), Ministry of Water Resources and Electricity. In HRC I participated in many of the ongoing research, such as:
 - ❖ Determination of the pump site of Al_Gabria Project in the Main Nile.
 - ❖ An Analytical Study: The Yield of the Nile River and its Tributaries- Volume 1.
 - ❖ Efficiency of Irrigated water usage on the Farm Level.
 - ❖ Collection of Pumps of the White Nile Projects.
 - ❖ Determination of Pump site for Almalaha Project in the White Nile.
 - ❖ Determination of Pump site for Gafa sugar project in the White Nil, 2008.
 - ❖ Sediment Monitoring Program for Sudan 2008.
 - ❖ Sediment Monitoring Program for Sudan 2009.
 - ❖ Determination of Abger Pump site in the White Nile.
 - ❖ Hydrological and morphological studies for Biat Almal pump.
 - ❖ Flood Analysis of the Blue Nile, a Case Study of Flood Simulation in Khartoum with Climate Change Scenarios.
 - ❖ Electronic Library for the Ministry of Irrigation and Water Resources.
 - ❖ Flood Embankment Design, Operation and Maintenance Manual, Sudan.
 - ❖ Ingeet Technical Study, Site investigation, hydrographic survey, and preliminary design.
 - ❖ Kenana Sugar Company on: Selection of Pumping location near el Jebelain Town.

Participated in many of the ongoing researches and activities at HRC, such as: field and office data collection; data processing, validation and analysis; and documentation and findings reporting.

International Projects:

- Drought Early Warning and FORecasting to strengthen preparedness and adaptation to droughts in Africa (DEWFORA), (Jan. 2011 to Dec. 2013).
- Adaptation at Scale in Semi-Arid Regions (ASSAR), (Sep. 2014 to Sep. 2018).

Programming and IT skills:

- RegCM4.1, RegCM3, CDO, NCO, shell scripts, FORTRAN, Grads and UNIX: used during PhD study.
- GIS, ENVI, SWAT, MIKE 11, MIKE SHE, PORTLAND DELFI, RBASIM, SOBEK, WIKA, MOD FLOW, HEC-HMS: used during the Msc.
- AUTOCAD14, SAB90, STADDIII, FORTRAN, PASCAL: used during university.
- MS PROJECT: used for small project.
- MS office skills: MS WORD, EXCEL, POWERPOINT.

Others

- Organization of conference, seminars workshop which held by HRC and collaborated institutes;
- Organization of lectures and technical talks to visiting universities students and honourable visitors to HRC.

References:

- 1- Abdeen Salih, Professor. Civil engineering department, University of Khartoum abdeensalih@gmail.com.
- 2- Gamal Murtada Abdo, Professor, (Water Research Center), Civil engineering department, University of Khartoum, gabdo2000@yahoo.com.
- 3- Sief Eldin Hamad Abdalla, Professor. ex- HRC manager and ex- minister. seifeldin_eltwaim@yahoo.com, tel: +249- (0)912152563.