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الهيئة القومية للاستشعار من البعد وعلوم الفضاء



Curriculum Vitae of Mohammed El Bastawesy

Surname: El Bastawesy

First name: Mohammed

Date of Birth: 27th of April, 1975

Address:

The National Authority for Remote Sensing and Space Science (NARSS)

23 Joseph Brows Tito St., ElNozha El Gedida, PO Box 1564, Cairo, Egypt.

Contacts: m.elbastawesy@narss.sci.eg

Tel: + 2 1226963284

Education:

Ph.D., 2005: University of Reading, UK. “Development of a GIS-based hydrological model for the hyper-arid catchment of Wadi Haymour, Egypt”.

M.Sc., 2001: GIS with Remote Sensing, School of Earth and Environmental Sciences, University of Greenwich, UK.

B.S., 1997, Geology, Faculty of Science, El-Menoufia University, Egypt.

Positions:

2018-Present : Professor of hydrogeology, Head of the geological application division, NARSS.

2013-2018t: Associate Professor of geology, NARSS.

2010-2013: Associate Professor, Umm Al Qura University, Makkah, KSA.

2008-2010: Researcher, NARSS, Egypt

2007-2008: Research Fellow, University of Reading, UK

2006 – 2007: Researcher, NARSS, Egypt

2000 -2005: Post-Graduate Student, UK

23, Josef Tito St., Nozha El-Gedida, Cairo, Egypt.

P. O. Box: 1564 Alf-Maskan

☎ +20 2 26251202, 3☎ +20 2 26225800

E-mail: narssco@narss.sci.eg

23 شارع جوزيف تيتو ، النزهة الجديدة ، القاهرة – مصر ، (خلف مطار القاهرة)

ص ب: 1564 ألف مسكن

تليفون: 26251202 – 26251203 -26225836 فاكس: 26225800



1998-2000: Assistant Researcher, NARSS, Egypt.

Research Topics:

- Hydrology and environmental geology
- Geomorphology
- Remote sensing
- Geographic Information Systems (GIS)

Recent Relevant Publications:

El Bastawesy, M. 2007. Influence of DEM source and resolution on the hydrographical simulation of Wadi Keed catchment, Southern Sinai, Egypt. The Egyptian Journal of Remote Sensing and Space Science, vol. 9, p. 68-79.

El Bastawesy, M., Ali, R.R., and Nasr, A.H. 2008. The Use of remote sensing and GIS for catchments delineation in Northwestern Coast of Egypt: An assessment of water resources and soil potential. The Egyptian Journal of Remote Sensing and Space Sciences, vol. 10, p. 1-13.

El Bastawesy, M., Khalaf, F., and Arafat, F. 2008. The use of remote sensing and GIS for the estimation of water loss from Tushka lakes, South Western Desert, Egypt. Journal of African Earth Sciences, Vol. 52, p. 73-80.

El Bastawesy, M., White, K.H., and Nassr, A.H. 2009. Integration of remote sensing and GIS for modeling flash floods in Wadi Hudain catchment, Egypt. Hydrological Processes, 23 (9), 1359-1368.

El Bastawesy, M., Faid, A., and El Gammal, S.A., 2010. The Quaternary development of tributary channels to the Nile River at Kom Ombo area, Eastern Desert of Egypt, and their implication for groundwater resources. Accepted Manuscript. Hydrological Processes, 24, 1856-1865.



Abou El-Magd, I., Hermas E.A. and El Bastawesy, M. (2010). GIS-modelling of the spatial variability of flash flood hazard in Abu Dabbab catchment, Red Sea Region, Egypt, Egyptian Journal of Remote Sensing,13,81-88. doi:10.1016/j.ejrs.2010.07.010

Wade, A. J., Black, E. C. L., Brayshaw, D. J., El-Bastawesy, M., Holmes, P. A. C., Butterfield, D., Nuimat, S. and Jamjoum, K. (2010). A model-based assessment of the effects of projected climate change on the water resources of Jordan. Philosophical Transactions of the Royal Society. Part A, 368 (1931). pp. 5151-5172. ISSN 1364-503X doi: 10.1098/rsta.2010.0207.

Wade, A., Holmes, P., El Bastawesy, M., Smith, S., Black, E. and Mithen, S. (2011). The hydrology of the Wadi Faynan. In: Mithen, S. and Black, E. (eds.) Water, life and civilisation: climate, environment and society in the Jordan Valley. International hydrology series. Cambridge University Press, Cambridge, pp. 157-174. ISBN 9780521769570.

Foote, R., Wade, A., El Bastawesy, M., Oleson, and Mithen, S. (2011). A millennium of rainfall, settlement and water management in Humayma, southern Jordan, c. 2050-1150 (PB) (100 BC to AD 800). In: Mithen, S. and Black, E. (eds.) Water, life and civilisation: climate, environment and society in the Jordan Valley. International hydrology series. Cambridge University Press, Cambridge, pp. 302-334. ISBN 9780521769570.

Wade, A. J., Smith, S.J., Black, E.C.L., Brayshaw, D.J., Holmes, P.A.C., El-Bastawesy, M., Rambeau, C.M.C., and Mithen, S.J. (2011). A new method for the determination of Holocene palaeohydrology. Journal of Hydrology, 420-421, 1-16. doi:10.1016/j.jhydrol.2011.10.033

Al Harbi, K., El Bastawesy, M., Habeebullah, T., and Mandour, M. (2012).

Assessment of Landslides of the Hillslopes in Makkah Using Remote Sensing and GIS Techniques. Journal of American Science, 8, 46- 53.

El Bastawesy, M., Al Harbi, K., and Habeebullah, T. (2012). The Hydrology of Wadi Ibrahim Catchment in Makkah City, the Kingdom of Saudi Arabia: The Interplay of Urban Development and Flash Flood Hazards. Life Science Journal, 9, 580- 589.

El Bastawesy, M., Ali, R.R., Deocampo, D.M., and Al Baroudi, M.S. (2012). Detection and assessment of the waterlogging in the dryland drainage basins using remote sensing and GIS



techniques. Selected Topics in Applied Earth Observations and Remote Sensing and GIS Techniques, 5, 1564- 1571. 10.1109/JSTARS.2012.2200456

El Bastawesy, M., Ali, R.R., Al Karbi, K., and Faid A. (2013). Impact of the geomorphology and soil management on the development of waterlogging in closed drainage basins of Egypt and Saudi Arabia. Environmental Earth Sciences, 68, 1271- 1283.

El Bastawesy, M., Ramadan Ali, R., Faid, A., and El Osta, M. (2013). Assessment of waterlogging in agricultural megaprojects in the closed drainage basins of the Western Desert of Egypt, Hydrology and Earth System Sciences , 17, 1493-1501, doi:10.5194/hess-17-1493-2013, 2013.

El Bastawesy, M., White, K.H., and Gabr, S. (2013). Hydrology and geomorphology of the Upper White Nile Lakes and their relevance for water resources management in the Nile basin. Hydrological Processes, 27, 196-205. DOI: 10.1002/hyp.9216

El bastawesy, M., and Ali, R.R. (2013). The use of GIS and remote sensing for the assessment of waterlogging in the dryland irrigated catchments of Farafra Oasis, Egypt. Hydrological Processes, 27, 206-216. DOI: 10.1002/hyp.9218

El Bastawesy, M. Al Ghamdi, K. (2013). Assessment and Management of the Flash Floods in Al Qaseem Area, Kingdom of Saudi Arabia. International Journal of Water Resources and Arid Environments, 3, 146-157.

El Bastawesy, M. Habeebullah, T. Balkhair, K. Ascoura, I. (2013). Modelling flash floods in arid urbanized areas: Makkah (Saudi Arabia). Secheresse, 24, 171-181.

El Bastawesy, M. (2014). The geomorphological and hydrogeological evidences for a Holocene deluge in Arabia. Arabian Journal of Geosciences, 1-10. DOI10.1007/s12517-014-1396-9



El Bastawesy, M. (2015). Hydrological Scenarios of the Renaissance Dam in Ethiopia and Its Hydro-Environmental Impact on the Nile Downstream. *Journal of Hydrologic Engineering*, 20, 0414083- 11.

Gabr, S. El Bastawesy, M. (2015). Estimating the flash floods quantitative parameters affecting the oil- fields infrastructures in Ras Sudr, Sinai, Egypt during the January 2010 event. *The Egyptian Journal of Remote Sensing and Space Sciences*, 18-137-149.

El Bastawesy, M. Gabr, S., Mohamed, I. (2015). Assessment of hydrological changes in the Nile River due to the construction of Renaissance Dam in Ethiopia. *The Egyptian Journal of Remote Sensing and Space Sciences*, 18, 1-65-75.

El Bastawesy, M. Shalaby, A. Mohamed, I.N.L. (2016). Management of waste water discharge within the Nile Valley of Egypt: The collapse of Al Ballanah waste water's lake in Aswan in September 2013. *The Egyptian Journal of Remote Sensing and Space Sciences*. In Press, <http://dx.doi.org/10.1016/j.ejrs.2016.11.004>

El-Sawy, E.K. Ibrahim, A.M. El Bastawesy, M. El- Saud, W.A. (2016). Automated, manual lineaments extraction and geospatial analysis for Cairo-Suez district (Northern Cairo-Egypt), using remote sensing and GIS. *International Journal of Innovative Science, Engineering and Technology*, 3, 491- 500.

El Bastawesy, M. Cherif, O.H. Sultan, M. (2017). The geomorphological evidences of subsidence in the Nile Delta: Analysis of high resolution topographic DEM and multi-temporal satellite images. *Journal of African Earth Sciences*. In press, <http://dx.doi.org/10.1016/j.jafrearsci.2016.10.013>

Gabr, S.S. Morsy, E.A. El Bastawesy, M, Habeebullah, T.M. Shabaan, F.F. (2017). Exploration of potential groundwater at Thuwal area, north of Jeddah, Saudi Arabia using remote sensing and geophysical survey. *Arabian Journal of Geosciences*, 10, 509, 2-19.



El Bastawesy, M. Abu El Ella, S.M. (2017). Quantitative estimates of flash flood discharge into waste water disposal sites in Wadi Al Saaf, the Eastern Desert of Egypt. *Journal of African Earth Sciences*, 136, 312-318.

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El Bastawesy, M. Shalaby, A. Mohamed, I. (2017). Assessment of the Hydrological and Environmental Problems of Waste Water Disposal Sites in Aswan of Egypt Using Remote Sensing and GIS Assessment of the Hydrological and Environmental Problems of Waste Water Disposal Sites in Aswan of Egypt Using Remote Sensing and GIS. *International Journal of Hydrology*, 1, 0004.

Gaber, A. Khalaf, F. El Bastawesy, M. El Baz, F. (2017). Combining satellite image data and field observations to characterize fresh-water carbonate in Kurkur Oasis, Southern Egypt. *Journal of African Earth Sciences*, doi:10.1016/j.jafrearsci.2017.12.008

El Bastawesy, M. Shabaly, A. Gad, A.I. Gebremichael, E. (2017). Adaptation of Anthropogenic activities to the landforms and hydrological processes in Idku Lake area, northwest of the Nile Delta. *Sophia Journal of Asian, African, and Middle Eastern Studies*, 35, 113-124.

E Gebremichael, M Sultan, R Becker, M El Bastawesy, O Cherif, M Emil., (2018). Assessing land deformation and sea encroachment in the Nile Delta: A radar interferometric and inundation modeling approach. *Journal of Geophysical Research: Solid Earth* 123 (4), 3208-3224.

El Bastawesy, M. Attwa, M. Hafeez, THA. Gad, A. (2019). Flash floods and groundwater evaluation for the non-gauged dryland catchment using remote sensing, GIS and DC resistivity data: A case study from the Eastern Desert of Egypt. *Journal of African Earth Sciences* 152, 245-255.

Books and chapters :

El Bastawesy, M. (2010). Estimation of Surface Runoff and Recharge to Ground Water for Azraq Catchment, Jordan using Multi-Temporal Satellite Images and GIS. In: Eds (G.Hirsch and B. Kappel). *Hydraulic Engineering: Structural Applications, Numerical Modeling and Environmental Impacts*, pp259-276. Nova Science Publisher Inc, Hauppauge, New York. ISBN: 978-1-60876-825-



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El Bastawesy, M. (2010). Flash Floods of the Dryland Catchments: concepts, techniques and modeling, 236 pp. Lambert Academic Publishing, Saarbrücken Germany.—ISBN-13: 978-3838398143.

Hermas, E. and El Bastawesy, M. (2011). Flash Flood from Space: A Case Study from Wadi El-Arish Catchment, Sinai Peninsula, Egypt. In: Eds (Veress, B. and Szigethy, J.) Horizons in Earth Science Research, volume 5, pp. 413-426. Nova Science Publisher Inc, Hauppauge, New York. ISBN: 978-1-62417-296-0.

El Bastawesy, M.(2013). Assessment of some hydrological and environmental problems in Makkah. 98 pp, Lambert Academic Publishing, Saarbrücken, Germany.

Conferences and presentations:

El Bastawesy, M., 2006. Integration of Remote Sensing and GIS for the Assessment of Transmission Loss in Arid Regions. International Symposium on Drylands Ecology and Human Security, Dubai.

El Bastawesy, M., Arafat, S., and Khalaf, F., 2007. Estimation of water loss from Tushka lakes using remote sensing and GIS. 10th AGILE International Conference on Geographic Information Science, Aalborg University, Denmark.

El Bastawesy, M. 2007. Integration of remote sensing and GIS for the assessment of flash flood modeling in arid regions. European Geosciences Union General Assembly, Vienna.

El bastawesy, M. 2010. A Remote Sensing and GIS approach for the study of recent non-planned cultivation and its influence on water-logging in the Farafra Oasis (Egypt). Egypt-USA Workshop on Space Technology and Geoinformation for Sustainable Development, Cairo, Egypt 14-17 June 2010.



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El Bastawesy, M. 2010. Mapping defunct channels in the Nile delta and their impact on the groundwater. The international conference of Deltas in Time of Climate Change, Rotterdam, 2010. Connecting world science with deltas.

El Bastawesy, M. and Al Gahmdi, K., 2013. Assessment and Management of the Flash Floods in Al Qaseem Area, Kingdom of Saudi Arabia. 5th international conference on water resources and arid environments, Al Riyadh, Saudi Arabia, 7-9 January 2013.

Research grants and Awards:

2007: Assoc. of Geographic Information Laboratories for Europe Travel Grant,

2007: the second-best poster paper award of the 10th AGILE GIS conference, Denmark.

2008: Water Life Civilisation collaboration grant, University of Reading, UK.

2009: Assessment of flash flood hazard on the proposed location of the industrial facility to be established by SPRC on Gulf of Suez area, Egypt. Contract research project between NARSS and Environics company, Egypt.

2010: Geotechnical studies for the proposed site of East Port Said new city. Contract research project between NARSS and the General Authority for Housing and Development, Ministry of Housing, Egypt.

2010: Assessment of flash flood hazard on sites of the Petroleum General Company in Ras Sudr area, Gulf of Suez, Egypt. Contract research project between NARSS and the Egyptian General Petroleum Corporation.

2010: El Bastawesy, M. Assessment and management of flash floods in Wadi Al Arish, Sinai, Egypt. Consultancy report for the Governorate of Northern Sinai, Egypt.



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2010: El Bastawesy, M. and Gabr, S. Geological and geotechnical studies for the " Future City, New Cairo. Consultancy project for the Arab Contractor Company, Egypt.

2012: Assessment of landslides and debris flows on the hillslopes of Makkah. Research project funded by the Centre of Research Excellence in Hajj and Omrah Research, Umm Al Qura University (contract number P1112).

2013: The hydrological modeling of flash floods in Makkah and the holy sites. Research project funded by King Abdul Aziz City for Science and Technology (contract number T-X- 10-140)

2013: Assessment of flash floods and sewage discharge on the groundwater of Wadi Urana, Makkah. Research project funded by the institute of scientific research at Umm Al Qura University (contract number 43305023).

2014: El Bastawesy, M. Abdeen, M. and Mohamed, I. Geological and geotechnical studies for "The New Atfeh" area, Giza, Egypt. Consultancy project for the General Authority for Construction and Housing Cooperatives, Egypt.

2015: El Bastawesy, M and Mohamed, I. Geological and hydrological studies for the waste water ponds and woodland cultivation areas of Al Ballanah area, Aswan, Egypt. Consultancy Project for the National Authority for Potable Water and Sewage, Egypt.

2015: El bastawesy, M. and Attwa, A. Geological studies for the waste water ponds and woodlands cultivation areas in Wadi Allaqi, Aswan, Egypt. Consultancy Project for the National Authority for Potable Water and Sewage, Egypt.

2015: El Bastawesy, Shalaby, A. and Attwa, A. Hydrogeological and soil studies for the allocated areas for woodlands cultivation by waste water from Al Qusiyah treatment facilities, Asyut, Egypt . Consultancy Project for the National Authority for Potable Water and Sewage, Egypt.



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2015: El Bastawesy, M. Attwa, M., and Al Ousta, M. Geological and geotechnical studies for " City Gate" premises in the New Cairo area, Egypt. Consultancy report for Qatari Diar.

2016: El bastawesy, M. and Attwa, A. Hydrogeological and geophysical studies for the sewage plants in Wadi Al Saaf, Helwan, Egypt: mitigation measures from flash floods. Consultancy project for the Executive Agency for potable Water Sewage Projects, Egypt.

2016: El Bastawesy, M. and Shalaby, A. Hydrogeological and soil studies for the allocated areas for woodlands cultivation by waste water from Al Saaf treatment facilities, Helwan, Egypt . Consultancy project for the Executive Agency for potable Water Sewage Projects, Egypt.

2016: Hegazy, M. El Bastawesy, M. and Attwa, M. The geological and geophysical studies for "The New Bani Suef City" to mitigate the perched groundwater problems from the waste water disposal sites. Consultancy project for the New Urban Communities Authority, Egypt.

2016: Cherif, O. El Bastawesy, M. and Gabr, S. Evaluating subsidence in the Nile Delta by using radar interferometry. Research project funded by the Academy of Scientific Research and Technology, Egypt (STDF USA-Egypt Funding Program).

Memberships:

American Geological Society