

CURRICULUM VITAE

Dr. Islam Abou El-Magd

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<i>Full Name</i>	Islam Hamza Abou El-Magd
<i>Born</i>	1965
<i>Qualifications</i>	PhD, CSci, CEnv
<i>Profession</i>	Environmental Scientist (Remote Sensing and GIS)
<i>Present Position</i>	Senior Scientific Researcher
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<i>Outline</i>	Islam Abou El-Magd graduated from the University of El-Mansoura, Egypt where he also obtained a Masters degree in Environmental Sciences. After graduation he worked as a GIS analyst and then GIS project manager to the Cabinet Information and Decision Support Centre (IDSC), the Cabinet, Egypt. Then he moved to academic work and appointed as GIS lecturer to the Geography department, United Arab Emirates University. Then he worked as scientific researcher to the National Authority for Remote Sensing and Space Sciences, Cairo, Egypt, which focus on the applied research using remote sensing and GIS in environmental related issues. Islam Abou El-Magd obtained a PhD at the school of Civil Engineering and the Environment, University of Southampton, UK on the application of GIS and remote sensing in water management. He has also involved in developing many of GIS projects in different disciplines. He worked as a GIS consultant to the Centre of Environment and Development for Arab Region and Europe (CEDARE), Arab League & UN. Recently, he has worked as a consultant to the FAO (Food and Agriculture Organization), UN. Then he appointed as GIS project coordinator to Gifford/University of Southampton where he was responsible for building the technical skills of remote sensing and GIS together with implementing projects. Currently he joined NARSS again as senior scientific research. He is working as part-time lecturer at Ain Shams University to teach both undergraduates and postgraduates the fundamentals and advanced of remote sensing and GIS. His GIS/remote sensing experience extended over 17 years at academic research, teaching and business.

Key Skills

- Experienced in scientific research
- Expereinced in teaching under/post graduates
- Expereinced in GIS and remote sensing training
- Expereinced in writing research proposals and seeking fund
- Expert in GIS design, application and implementation
- proficient in using remote sensing in irrigation water management
- proficient in using Esri's GIS packages such as Arc/info and ArcGIS
- proficient in using Erdas Imagine package for image processing and raster GIS applications
- Higly skilled in GIS training and presentation of information
- Experience in project handeling and management

- Highly skilled in liason with clients

Career History

March 2007 –
Present

Job Title: Senior Scientific Researcher [F/T]

Employer: National Authority for Remote Sensing and Space Sciences (NARSS), 23 Josef Tito St., El-Nozha El-Gedidah, Cairo, Egypt

Job Description:

Re-join the Environment Department, NARSS to resume my role as a scientist. The challenge is how to transfer the up-to-date technology of remote sensing and GIS and their application that have been learnt abroad to NARSS. I am initiating two key areas; a) using remotely sensed data as valuable source of information in water resources management and b) using GIS as a powerful application tool in establishing the Environmental Impact Assessment (EIA). This is together with developing a new training program and sharing in the administrative work.

March 2007 –
Present

Job Title: Lecturer [P/T]

Employer: Geography Department, Ain Shams University, Cairo, Egypt

Job Description:

Teach both undergraduate and post-graduate (Diploma) both fundamentals and advanced remote sensing and GIS. This is together with the supervision on the postgraduates research projects.

May. 2004 –
February 2007

Job Title: GIS Project Manager [F/T]

Employer: Gifford (Carlton House, Ringwood Road, Woodlands, Southampton, SO40 7HT)

Job Description:

My role was to establish a GIS unit capable to run and implement projects. This was together with offering GIS training to develop the individual's technical skills by preparing and providing training courses. I have also implemented GIS systems in various big projects particularly for issuing the environmental impact assessment. The team was working to publish some articles in international journals.

Jul. 2003 – Dec.
2003

Job Title: Consultant [P/T]

Employer: IPTRID/FAO (Food and Agriculture Organisation), Rome Italy

Job Description:

This job was for the IPTRID/FAO working on the Wca-Infonet system, and was done remotely from UK. The main objectives were: 1) evaluating the system; 2) providing Knowledge Objects (KOs) to increase the digital library of the GIS and remote sensing applications for water, agriculture and environment; 3) acting as editor to judge some of the existing KOs.

Jan. 2003 –
Dec. 2003

Job Title: GIS Research Developer [P/T]

Employer: SPUTNIK Project (School of Civil Engineering and The Environment, University of Southampton, Southampton, SO17 1BJ, UK: Prof. Trevor Tanton)

Job Description:

This job was for the SPUTNIK project (EU funded project), and I was responsible for developing a methodology to estimate the crop water demand from multi-temporal satellite images and then integrate the result in to a GIS interface to manage a large irrigation scheme at Arys-

Turkstan, Kazakhstan. The work included field trips and installing a micro-climatic station for calibrating the results from satellite data using the mathematical formula of Penman-Monteith.

Mar. 1998 –
Oct. 1998

Job Title: GIS Project Manager [F/T]

Employer: CIDA-EEAA (Canadian International for Development Agency & Egyptian Environmental Affairs Agency)

Job Description:

My role was to manage the EEIS project (Egyptian Environmental Information System). This project was sponsored by CIDA (Canadian International for Development Agency) and EEAA (Egyptian Environmental Agency). The main objective of this national project was to build an Environmental Information System covering the whole country (Egypt) focusing on three main themes – water, air and land. GIS system was developed to assess the impact of the pollution on these themes. Remotely sensed data was used for providing a real time information about water and land particularly in the dynamic areas of changes. Hotspot applications were implemented on the threatened areas that endanger the environment, one of these applications was the Industrial Pollution Information System (IPIS) for one of the biggest industrial estates in Cairo (Shubra El-Khima).

Aug. 1997 –
Feb. 1998

Job Title: Researcher [F/T]

Employer: National Authority for Remote Sensing and Space Sciences (NARSS), 23 Josef Tito St., El-Nozha El-Gedidah, Cairo, Egypt

Job Description:

NARSS is a governmental scientific research institute, which is focusing on the applied research of remote sensing, space sciences and GIS in different disciplines. I was working for the Environmental Studies and Land Use Planning Department. The main research objective of this department is applying the state-of-the-art of remote sensing and GIS in environmental monitoring and land-use mapping. One of the key projects that I have been involved was mapping the land use and land cover classes for the northern Sinai region using high resolution satellite data coupled with field survey.

Sep. 1996 - Jul.
1997

Job Title: Lecturer [F/T]

Employer: United Arab Emirates University, Faculty of Humanities and Social Sciences, Geography Department, Al-Ain, UAE

Job Description:

My role was to teach undergraduate the following courses:

- Remote Sensing
- Geographic Information Systems
- Principles of Mapping
- Landforms
- Coastal Geomorphology
- Thematic Maps

During this academic year, I have also involved in a research project that aims at studying the flash flood hazardous in the southern region of UAE.

Jan. 1993 –
Aug. 1996

Job Title: GIS Project Manager [F/T]

Employer: The Cabinet, Information and Decision Support Centre (IDSC), Cairo, Egypt

Job Description:

I was managing the GIS projects including system design, data automation and system implementation. One of the key projects I have managed was the environmental information system of the state of Kuwait after the Gulf war I. This project included system design and implementation for environmental management plan for the coastal zone of the state of Kuwait

*Jan. 1990 –
Dec. 1992*

Job Title: GIS Specialist [F/T]

Employer: The Cabinet, Information and Decision Support Centre (IDSC), Cairo, Egypt

Job Description:

GIS Specialist undertaking the following duties:

- Remote sensing analysis
- GIS system design
- System analysis
- GIS database structure design
- Applications development

*Jan. 1991 –
Dec. 1996*

Job Title: GIS Consultant [P/T]

Employer: CEDARE (Centre of Environment and Development of Arab Region and Europe), Head Office, Cairo, Egypt

Job Description:

Part time GIS Consultant, my role was building GIS data library for all the GIS database of the ISU (Information Services Unit). This was based on Arc/Info and Arcview. I have been involved in many of their projects which cover the Mediterranean basin countries.

Postgraduate Supervision

Khalid A.M. AlMonsib - MSc Thesis “Use of Geographic Information Systems in Studying the Malaria in Yemen”

Qualifications and Awards

Professional Qualifications

Chartered Scientist (CSci), Council of Science, UK – November 2006
Chartered Environmentalist (CEnv), Council of Environment – November 2006

PhD, School of Civil Engineering and The Environment, University of Southampton, UK

The thesis entitled “Improved image processing and geographic information systems techniques for improved water resources management” School of Civil Engineering and The Environment, University of Southampton (2004)

MSc, Faculty of Science, University of El-Mansoura, Egypt

The thesis entitled “Environmental studies on Lake Manzala, Egypt using remote sensing and geographic information systems” University of El-Mansoura, Egypt (1996)

Diploma: Faculty of Science, University of El-Mansoura, Egypt (1993)

BSc: Faculty of Science, University of El-Mansoura, Egypt (1987)

Memberships

Organisation	Type of membership	Start date
CIWEM – Council of Science	Chartered Scientist (Csci)	November 2006
CIWEM – Council of Environment	Chartered Environmentalist (CEnv)	November 2006
Royal Geographical Society	Ordinary	March 2005
Egyptian remote sensing society	Acting member	January 1996

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- Currently, I am a peer reviewer to the International Journal of Remote Sensing

Recent projects (NARSS)

August 2007–
January 2007

Master planning for the determination of the most suitable paths for the proposed regional ring road around greater Cairo

Traffic congestion is one of the severe problems in large cities like Cairo. A new big national project of constructing a regional ring road is introduced by the General Authority of Roads, Bridges and Local Transport (GARBLT). NARSS took the responsibility to conduct a research to determine the different alternative scenarios of this newly proposed regional ring road. Indeed, this new ring road would relief the traffic congestion of greater Cairo and link at least six governorates together through this free way. The project is based on real-time satellite imageries together with GIS modeling to locate the proposed scenarios according to pre-specified criteria from the GARBLT office considering the existing land use and environmental constraints.

December 2007–
February 2007

Master planning for the determination of the most suitable paths for the proposed road from Kafar Al-Zayat City to Alexandria City

Traffic congestion in the central Delta region particularly that flow to the North going to Alexandria is becoming a pain. The General Authority of Roads, Bridges and Local Transport (GARBLT) proposed to construct a rout from Kafar Al-Zayat city to Alxanderia and to be joined with the new DEFRA route. This would relief the congesion on Cairo-Alexandria road and relieve the traffic congestion directed to Alxanderia.

NARSS took the responsibility to conduct this research and determine the alternative scenarios of this proposed road. The project is based on real-time satellite imageries together with GIS modeling and field survey to locate the proposed scenarios according to pre-specified criteria from GARBLT office considering the existing land use and environmental constraints.

February 2008 –
March 2008

Extraction of Digital Elevation Model (DEM) from SPOT 4 satellite images to the Catchment Area of Wadi Watir, Sinai Peninsula, Egypt

This project is commissioned by Water Research Institute with main objective to extract a high resolution and accurate DEM for the catchment area of Wadi Watir. This DEM would be integrated with hydrodynamic model to predict the flash flood hazard and propose mitigation measures to the human resources and infrastructures.

Recent projects (Gifford/University of Southampton)

- February 2006 – Present Watford Health Campus - Master planning
 Design and implement a GIS system for the masterplanning and redevelopment of Watford Health Campus. This includes variable amount of environmental information as well as other sections information such as transportation. Involved in the interpretation and analysis of the environmental constraints for the masterplan.
- October 2005 – Present River Wye Geomorphological Assessment
 The same as been done for River Dour, developing a mobile GIS methodology (using ArcPad package) for data collection from the field. ArcPad forms were designed for gathering information about geo reaches, flow types, bars, structures, erosion, and bank protection information. The collected information feeds directly to a GIS system for the geomorphological analysis and assessment of the River Wye, UK. This aids in developing restoration plans.
- September 2005 - Present Stonehenge Archaeology
 Developing GIS system for the assessment of the implications of the proposed route on to the potential archaeological areas at Stonehenge.
- September 2005 – Present River Dour Geomorphological Assessment
 Currently developing a mobile GIS methodology (using ArcPad package) for data collection from the field. ArcPad forms were designed for gathering information about geo reaches, flow types, bars, structures, erosion, and bank protection information. The collected information feeds directly to a GIS system for the geomorphological analysis and assessment of the River Dour, UK. This aids in developing restoration plans.
- August 2005 – Present River Wyllye Geomorphological Assessment
 Developed a routine work to enumerate the intersected geomorphological features (i.e. bars, flow types, etc..) within the geomorphological reaches. This been used to calculates the total patchiness and diversity as well as the standardised patchiness and diversity. This information is essential for the analysis of the geomorphology as well as establishing a restoration options for the River Wyllye.
- January 2005 – Present HMS CollingWood GIS System for Contaminated Land Register
 Developed a GIS system for the management of the contaminated land register of the HMS Collingwood. Work involved in this project includes, customization of a GIS and database system for data entry and management and data analysis to produce the EMP.
- January 2005 – September 2005 Chichester City Wall GIS. Archaeological Appraisal
 Developed a GIS system for the structural appraisal of the Chichester City Wall, Chichester, UK. Work involved in this project includes, customization of a GIS for overlaying the filed survey data and historical maps to visualize the defects of the Chichester city wall. The GIS analysis allowed for mapping the emergency plan for remediation and restoration of the city wall.

- September 2004 – March 2005 River Beult Geomorphological Assessment
 The same as River Darent, developed an Access database system for GIS purposes for the geomorphological assessment of the River Beult, Kent, UK. This customized access database system for automation the field based survey, data entry and interpretation which will straightaway downloaded into a GIS system. This allowed for a comprehensive understanding of the riverine issues of the catchment.
- May 2004 – February 2005 River Darent Geomorphological Assessment
 Developed an Access database system for GIS purposes for the geomorphological assessment of the River Darent, Kent, UK. This customized access database system for automation the field based survey, data entry and interpretation which will straightaway downloaded into a GIS system. This allowed for a comprehensive understanding of the riverine issues of the catchment.
- June 2004 – June 2005 Old Shippam's GIS, Contaminated Land Register
 Developed a GIS based Contaminated Land Register for the Old Shippam's factory in Chichester. Work involved includes, customization of a GIS and database system for data entry and analysis, management of the boreholes data.
- June 2004 – Present Old Shippam's GIS, Archaeological investigation
 Developed a GIS based archaeological investigation for the Old Shippam's factory in Chichester. Work involved includes, customization of a 3D GIS for visualizing the historical records (Roman, Medieval and Post medieval).
- May 2004 - Present New Mersey Crossing EIA: A case study
 Work involved includes, developing a conceptual/physical GIS database design that allows structuring, organizing and managing the huge amount of information. I have also developed a methodology to rectify and analyze vertical aerial photographs for hydrodynamic analysis.
- May 2004 – September 2004 Amlwch, Cooper Kingdom - Conservation Management Plan
 The project was a desk based study required to complete a Conservation Management Plan in conjunction with Archaeology. Work involved includes, using GIS to manage the collected archaeological data and gazetteer, which used for the analysis and interpretation as well as producing a map of conservation management plan.

Previous Projects

- 07/2003-12/2003 Wcalnfonet project IPTRID/FAO
The work included evaluating the system, providing knowledge objects (KOs) to create e-database about the application of GIS and remote sensing in water management, environmental management, agriculture and soil. Part of the work was to act as editor to referee some of the existing KOs, and report the acceptance/rejection to the author.
- 04/1997-08/1998 Egyptian Environmental Information System (EEIS)
This project was sponsored by CIDA (Canadian International for Development Agency) and EEAA (Egyptian Environmental Affairs Agency). The main objective of this national project was to build a national Environmental Information System for the whole country (Egypt) focusing on three main themes – water, air and land. The key issue in this project was to create an e-network for the environmental information in a GIS platform. The environmental nodes will keep updating the system with the up-to-date information and the central based node at EEAA will develop the environmental scenarios and legislations. In some areas remotely sensed data was used for real-time updates of information about land and water.
Key hotspot applications were implemented on the threatened areas that endanger the environment, for example the Industrial Pollution Information System (IPIS) for Shubra El-Khima, which is the biggest industrial estates in Cairo and supply 1/3 of the pollution to the inland water.
- 08/1997 – 03/1998 Landuse Planning of Northern Sinai, Egypt
The main objective of this project was to map the land use/cover classes in the Northern Sinai region for planning purposes. Landsate TM (Thematic Mapper) satellite imagery coupled with field survey were used to map the land use/land cover classes. The final land use/cover map was interfaced in to a GIS platform, which overlaid on to the development plans. This allowed for prioritizing the development scenarios.
- 07/1997 – 01/1998 Flash Flood Hazards in Dronka Southern, Egypt
Dronka area, southern Egypt was hit by a sever flooding, which call for a major work to be done about flash flooding. NARSS (National Authority for Remote Sensing and Space Sciences) as a governmental scientific research institute lead a project to draw the flooding maps from satellite imagery. The objective of this project was to use satellite imagery to map the drainage network and model the flooding implications on the local community. The data was interfaced into a GIS platform to create a flood risk management map.

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- 01/1994- 10/1995 Kuwait Environmental Information System
RITSC-IDSC (Regional Information and Technology Centre – Information and Decision Support Centre) were commissioned by Kuwait Institute of Scientific Research (KISR) to build up an environmental information system for the state of Kuwait after the Gulf war I. The system was required to be developed in a GIS interface. ArcInfo package was chosen to be the core of the system. Desk study was done to collate all the archived information and some site investigations. The data was transferred into digital GIS format and database design was conceptually designed and approved by Kuwait Institute of Scientific Research (KISR), which is physically implemented later on. Four technical documents were created to describe the system; the GIS database design, data dictionary and a system manual. The interface was developed using Arc Macro Language (AML). The system, data, and results have been refereed and approved by UNDP.
- 03/1992 – 09/1993 Natural Resource Assessment of Sinai Peninsula, Egypt
Information and Decision Support Centre (IDSC), the Cabinet, Egypt, was commissioned to develop a GIS system for the natural resources in Sinai, peninsula. This was to aid the decision makers in building sustainable development plan to this remote region. The main objective of the project was to map the natural resources elements including geological strata, geological structures, mining, agricultural, water resources, services such as roads, electricity, and land use and land cover. The overlaying of these multi-layers helped in putting where and which development plan should they start with. The system has been disseminated to the local counties to use for further development plans.
- 01/1994– 12/1994 Ecological Assessment of the Tourists Implications on Red Sea
In the last two decades huge tourism activities were implemented on to the red sea coast without doing any environmental impact assessment or environmental management plan. This project was initiated to encourage the environmental affairs agency to look at the environmental implications from the rapidly developed tourism projects. High resolution satellite imagery (Spot, TM) integrated with GIS was used to map the impact of these tourism activities on to the environment particularly the ecosystems. A key result was a map showing the areas of coral reefs that are severely affected, which require more than 10 years for recovering or growing up again. The results ended up with some recommendation for quick action to safe the ecosystems within a buffer zone of 200 meter.
- 01/1991 – 06/1992 Costal Zone Management of Northern Egypt
Coastal erosion is one of major problems that endanger the development plans in the northern coastal zone of Egypt. The main objective of this project was to monitor the costal erosion of the northern coast of Egypt. Multi-temporal satellite imagery coupled with topographic base maps were used to map the erosion/accretion in the last 50 years. This allowed building a prediction model to show the most vulnerable areas. A key result was that there is a smoothing of the coast line and the sediment eroded from one part is transported by the lateral currents (west-east direction) to be accreted in to another part with an overall smoothing of the coast line.
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Key Publications

1. **El-Magd, I A. & Ali, E.M. (in press)** Mapping and estimating chlorophyll a in Manzala lagoon, Egypt, using landsat ETM+7 satellite images (Australian Journal of Basic and Applied Sciences, in press).
2. **El-Magd, I A, (in press)** Estimation of the Spatial Distribution of Crop Coefficient (K_c) from Landsat Satellite imagery , **Egyptian Journal** of Remote Sensing (*in press*)
3. **El-Magd, I A,** and Hillman P., (*In Press*) Geomorphological Monitoring of Highly Dynamic Estuary Using Oblique Aerial Photographs, International Journal of Earth Science (In press)
4. **El-Magd, I A,** German, S and Hillman P., (*In Press*) GIS for River Morphology and River Restoration, Case Study River Dour, UK, Journal of Water and Environment Management (WEM), (*In Press*)
5. **El-Magd, I A.,** et al., (2007): Phase III Environmental Impact Assessment of the Mersey Crossing, Halton Borough Council, UK, Internal Report.
6. **El-Magd, I A.,** et al., (2007): Phase II Environmental Impact Assessment of the Watford Health Campus for the Redevelopment and Masterplanning of Watford General Hospital, Watford Borough Council, UK, Internal Report.
7. **El-Magd, I. A.** (2005). CAD drawing standards for GIS purposes, *Technical report:* Gifford, Southampton, UK, pp 12.
8. **El-Magd, I. A.** (2005). Survey standards for GIS purposes, *Technical report:* Gifford, Southampton, UK, pp 11.
9. **El-Magd, I A and German, S (2005)** Access-Geodatabase Modelling to Aid Decision Making in River Restoration: Case Study River Beult, Kent, UK, Proceedings of the 19th International Conference Informatics for Environmental Protection (EnvirolInfo 2005), Brno, Czech Republic
10. **El-Magd, I A and Tanton, T (2005)** Remote sensing and GIS for estimation of irrigation crop water demand, *International Journal of Remote Sensing*, Volume: **26 (11)**.
11. **El-Magd, I A., (2004)** Real-time crop coefficient from SEBAL method for estimating the evapotranspiration, Proceedings of SPIE Volume: **5232**, Remote Sensing for Agriculture, Ecosystems, and Hydrology V.
12. **El-Magd, I A and Tanton, T (2003)** Improvements in Land Use Mapping for Irrigated Agriculture from satellite Data Using a Multi Stage Maximum Likelihood Classification, *International Journal of Remote Sensing*, Vol., **24 (21)**.
13. **El-Magd, I A and Tanton, T (2003)** GIS Modelling for Irrigation Water Scheduling. Proceedings of the GIS Research UK, GISRUUK2003, City University, April 2003.
14. **El-Magd, I A and Tanton, T (2002)** Remote Sensing and GIS for Irrigation Water Planning. Proceedings of the GIS Research UK 10th Annual Conference GISRUUK2002, Sheffield University.
15. **El-Magd, I A., (2001)** Remote Sensing and GIS Application for Monitoring the Environmental Changes and Water Quality; Case Study of Lake Manzala, Egypt. Proceedings of the GIS Research UK, 9th Annual Conference GISRUUK2001, University of Glamorgan.
16. **Abdel-Kader, AF and El-Magd, I A (1998)** Environmental Assessment of Lake Manzala Using Remote Sensing and GIS. National Forum on Support of Remote Sensing Techniques to Planning and Decision Making Processes for Sustainable Development in Egypt; Cairo, Egypt, 8 March 1998. MAP/UNDP, CTM-RAC/ERS.
17. **Abdel-Kader, A F, El-Magd, I A,** and Hegab, O (1997) Using Remote Sensing and Geographic Information Systems in the Environmental Assessment of Lake Manzala, Egypt. African Journal of Environmental Assessment and Management (AJEAM), Vol **1(2)**.