MOHAMED ABOELGHAR

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Date of Birth: 29 September 1974

INTRODUCTION

After graduation from Faculty of Agriculture in 1995, I worked as an assistant researcher in the Egyptian National Authority for Remote Sensing and Space Sciences (NARSS) until 2001. During that time, I obtained my Master's from Menoufiya University, Egypt in Applications of Remote Sensing in Agriculture in 1998. In 2001 I enrolled in Chiba University, Japan, where I graduated with a PhD in Remote Sensing, in March 2005. In April 2005, I was employed by the Center for Environmental Remote Sensing (CEReS), Chiba University, as postdoctoral research associate till April 2008 when I returned to (NARSS) as a Research Staff in the Agricultural Applications department. In September 2013, I was promoted as Associate Professor and Head of Agricultural Applications Department of NARSS.

RESEARCH FIELDS / WORK EXPERIENCE

My main research fields are:

1) Analyzing and processing of satellite remotely sensed data

2) Application of remote sensing in environmental assessment, land cover mapping and land cover change detection at local, regional and global scales

3) Applications of remote sensing in agriculture including crop monitoring, crop yield prediction and estimation of different agricultural biophysical parameters through satellite data or ground observation tools

(September 2013 till current) / Assistant Professor and Head of Agricultural Applications Department, National Authority for Remote Sensing and Space Sciences, Egypt (NARSS)

(April 2008 till August 2013) / Researcher, National Authority for Remote Sensing and Space Sciences, Egypt (NARSS)

Since I joined the National Authority for Remote Sensing and Space Sciences in Egypt as a researcher, I have involved in different research projects:

- Study on Validation of Crop Leave Area Inversion Using Multi - Source Remote Sensing Data 2008-2009
- Modeling yield prediction for the main cereal crops in Egypt using multi-source remote sensing data 2008-2009/2009-2010.
- Flow pattern of rice cultivation in the Nile delta of Egypt2009. 2010, 2011.
- Building spectral library for common crops and soil types in Egypt 2010- current
- Sinai Information System for Land Management and Environment Monitoring 2011- current
- Monitoring and estimation of the area of the main Strategic crops in Egypt 2013 - current

(June 2005 till March 2008) / Postdoctoral Research Associate, Center for Environmental Remote Sensing (CEReS), Chiba University, Japan

Since I joined the Center for Environmental Remote Sensing (CEReS) of Chiba University as a post-doctoral research associate, I have involved in International global land cover mapping project. My duties in this project include:

- Preparing a global training sites database by collecting appropriate sites for each land cover type; evaluating these training sites through analyzing the trend of (NDVI), then finally input them in GIS database to be used in the current project and also to be available for any future land cover mapping work in any scale.
- Land cover classification for continental MODIS 16-day composite 1km resolution data of the year 2003, mosaicking the classification results and finalizing the global legend to produce a global land cover map.

(April 2001 – March2002) Research student, (April 2002 – March2005) PhD student in Graduate School of Science and Technology, Chiba University, Japan

During these four years, my work focused mainly on using high resolution satellite imageries for Land cover mapping, land cover change detection and crop yield prediction. The main objectives of my PhD work were:1) addressing and analyzing land cover changes over time in one of the most important agricultural productive area in Egypt and in all Egyptian territory in order to help the strategists and the planners to come up with more

effective land use policies, 2) examining the capability of Linear Mixture Model as a sub-pixel classification technique to solve a serious technical problem facing land cover mapping in the intensive and heterogeneity cultivated lands in Egypt and 3) proposing empirical (wheat and rice) crop yield prediction models as parts of pre-harvest wheat yield prediction system in Egypt and pre-harvest rice yield prediction system in Japan through developing coefficients of remotely-sensed biophysical parameters, vegetation indices and climatic factors. It could be said that the study so far achieved the main objectives.

(February 1996 – March 2001) Assistant Researcher, Egyptian National Authority for Remote Sensing and Space Sciences (NARSS)

I worked in the following research projects:

- Scientific cooperation between The State University of Ghent, Belgium, and The National Authority for Remote Sensing and Space Sciences, pilot project of "Soil salinity and water logging assessment in Egypt ", since November, 1995 up to 1996.

- Integration of satellite land surface assessment with SOCECON parameters for global desertification monitoring in the arid Mediterranean zone, Project no. CT- 92- 0008", November, 1995 up to 1997.

- Study of soil degradation in the Eastern Delta region using remote sensing and geographic information systems, June 1996 - June, 1998.

* Updating the soil maps of Sinai Peninsula – El-Salam canal command area, June 1996 - June, 1997.

* Project of integrated development of Halaybe - Shalateen area, July 1996 - December 2000.

* Preliminary assessment of the impacts of the drifting sands on the development activities in the northwestern Sinai, Egypt. January 1997 up December 1997.

During my study for M.Sc. and PhD and my work as a post-doctoral research associate, I gained good experience in analyzing satellite remotely sensed data, how this data could be integrated with other types of data, and the technical problems which may face this kind of work and the way to solve them. Also, I became familiar with most of satellite remotely sensed data as well as most of remote sensing and GIS software.

TEACHING EXPERIENCE

- Instructor for many remote sensing training courses, which were organized by the National Authority for Remote Sensing in Egypt and Center for Environmental Remote Sensing in Japan.
- Lecturer for Remote Sensing and GIS applications for graduate students in Menoufiya University.

PERSONAL INFORMATION

Name: ABOELGHAR, Mohamed

Date of Birth: 29 September 1974

Marital Status: Married

Nationality: Egyptian

ACADEMIC BACKGROUND

Ph.D., Graduate School of Science and Technology, Chiba University, Japan, March 2005. Dissertation topic: "*Agricultural Land Monitoring and Crop Yield Prediction Using Remote Sensing Technique*".

Master of Science, Plant Pathology Department, Faculty of Agriculture, Menoufiya University, Egypt, October 1998. Dissertation topic: "*Studies on Some Citrus Diseases Using Remote Sensing Techniques*".

Bachelor of Science, Plant Pathology, Faculty of Agriculture, Menoufiya University, Egypt, June 1995.

PUBLICATIONS

Journals:

[1] **Mohamed Aboelghar**, Adel Shalaby, Ryutaro Tateishi, Agricultural Land Monitoring in the Nile Delta of Egypt Using Landsat Data, International Journal of Environmental Studies, 61(6) 651-657, 2004.

[2]Mohamed Aboelghar, Tsolmon Renchin, Ryutaro Tateishi, Javzandulam Tsend-Ayush, Agricultural Land Monitoring Using Linear Mixture Model, International Journal of Environmental Studies, 62(2) 227- 234, 2005.

[3] Mohamed Aboelghar, Chiharu Hongo, Ryutaro Tateishi, Akio Hirayama, Developing a Mathematical Model for Rice Yield Prediction Using SPOT Data, Asian Journal of Geoinformatics, 5(4) 37- 41, 2006.

[4] Mohamed Aboelghar, Sayed Arafat, Ahmed Saleh, Sayed Naeem, Mohamed Shirbeny, Abdelaziz Belal, Retrieving leaf area index from SPOT4 satellite data, *Egyptian Journal of Remote Sensing and Space Sciences*, 13, 121-127, 2010.

[5] Mohamed Aboelghar, Sayed Arafat, Mahmoud Abo Yousef, Mohamed El-Shirbeny, Sayed Naeem, Abdelraouf Massoud, Naser Saleh, Using SPOT Data and Leaf Area Index for Rice Yield Estimation in Egyptian Nile delta, The Egyptian Journal of Remote Sensing and Space Sciences (2011) 14, 81–89.

[6] Mohamed Aboelghar, Abdel-Raouf Ali, Sayed Arafat, Spectral wheat yield prediction modeling using SPOT satellite imagery and leaf area index, Arabian Journal of Geosciences, 2014, 7 (2), pp 465-474.

[7] Mohamed Aboelghar and Hala Abdel Wahab, Spectral footprint of *Botrytis cinerea*, a novel way for fungal characterization, Advances in Bioscience and Biotechnology, 2013, 4, 374-382.

[8] **Mohamed Aboelghar**, Sayed Arafat, Eslam Farag, Hyper Spectral Measurements as a Method for Potato Crop Characterization, 2013, Vol. 2 (1), pp. 122 – 129.

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[10] Adel Shalaby, **Mohamed Aboelghar**, Ryutaro Tateishi, Desertification Impact Assessment in Egypt Using Low Resolution Satellite Data and GIS, *International Journal of Environmental Studies*, 61(4) 375-383, 2004.

[11] Afify Afify, **Mohamed Aboelghar** , Sayed Arafat, Nagwan Afify and Mona Yonis, Delineating rice belt cultivation un the Nile Pro-Delta of Vertisols using remote sensing data of Egyptsat-1, Minufiya J. Agric. Res. Vol.35 No. 6: 2263-2279, 2010.

[12] Mohammed El-Shirbeny, **Mohamed Aboelghar**, Sayed Arafat, Abdel-Ghany El-Gindy, Assessment of the mutual impact between climate and vegetation cover using NOAA-AVHRR and Landsat data in Egypt, Arabian Journal of Geosciences, 2014, 7 (4), pp. 1287-1296.

[13] Nasser Saleh and **Mohamed Aboelghar**, Land Cover Map Delineation, for Agriculture Development, Case Study in North Sinai, Egypt Using SPOT4 Data and Geographic Information System, Advances in Remote Sensing, 2013, 2, 35-43.

[14] Ryutaro Tateishi, Javzandulam Tsend-Ayush, **Mohamed Aboelghar**, Hussam Albilibisi and Takaki Okatani, Sampling method for validation of large area land cover mapping, Journal of the Remote Sensing Society of Japan, 27 (3),195-204, 2007.

[15] Afify Abbas, Sayed Arafat , **Mohamed Aboelghar**, Mohamed Khader, Physiographic soil map delineation for the Nile alluvium and desert outskirts in middle Egypt using remote sensing data of EgyptSat-1, Egyptian Journal of Remote Sensing and Space Sciences, 13, 129-135, 2010.

[16]Afify Abbas, Sayed Arafat , **Mohamed Aboelghar**, Ashraf Abdelghany, Monitoring the Informal urban expansion over the highly productive alluvium in Nile Delta Apex using EgyptSat-1 data, J. Biol. Chem. Environ. Sci., 2011,

[17]Ryutaro Tateishia, Bayaer Uriyangqai, Hussam Al-Bilbisi, **Mohamed Aboelghar**, Javzandulam Tsend-Ayush, Toshiyuki Kobayashi, Alimujiang Kasimu, Nguyen Thanh Hoan, Adel Shalaby, Bayan Alsaaideh,Tsevengee Enkhzaya, Gegentana and Hiroshi P. Sato, Production of global land cover data – GLCNMO, International Journal of Digital Earth, 4 (1), 2011.

[18]Abdel-Raouf Ali, Nemat Noureldin, Hani Saudy, **Mohamed Aboelghar**, Spectral regression wheat yield prediction models under Egyptian conditions based on SPOT Satellite imagery, J. Biol. Chem. Environ. Sci., Vol. 7(1): 303-327, 2012.

[19] Ghada Khdery, Usama Abdel-Hameed, **Mohamed Aboelghar**, Sayed Arafat, International Journal of Advanced Remote Sensing and GIS, 2014, vol. 3 (1), pp. 748-768.

[20] Mona Yones, **Mohamed Aboelghar,** Mohamed El-Shirbeny, Ghada Ali, Nasser Saleh, Hyperspectral indices for assessing damage by the red palm weevil Rhynchophorus ferrugineus (coleoptera: curculionidae) in date palms, International Journal of Geosciences and Geomatics, Vol. 2, Issue 2, 2014.

Conferences:

[1] Mohamed Aboel Ghar and Ryutaro Tateishi, Monitoring of Agricultural Area Trend in Eastern Nile Delta of Egypt Using Landsat ETM+ Data, ACRS, Kathmandu, Nepal (November 25-29), 2002.

[2] Mohamed Aboel Ghar, Ryutaro Tateishi and Renchin Tsolmon, Landcover Sub-pixel Classification Using Linear Mixture Model on Landsat ETM+ Data in Egypt, ACRS, Kathmandu, Nepal (November 25-29), 2002.

[3] Mohamed Aboel Ghar, Adel Shalaby and Ryutaro Tateishi, Developing a Mathematical Model for Wheat Yield Prediction Using Landsat ETM+ Data, ACRS, Busan, Korea (November 3- 7), 2003.

[4] Adel Shalaby, **Mohamed Aboel Ghar** and Ryutaro Tatesishi, Monitoring of Agricultural land in Egypt Using NOAA-AVHRR and SPOT Vegetation Data , ACRS, Busan, Korea (November 3- 7), 2003.

[5] Mohamed Aboel Ghar, Adel Shalaby and Ryutaro Tateishi, Developing a Mathematical Model for Rice Yield Predication Using High Resolution Satellite Data, JSPRS, Tokyo, Japan (June 17- 18), 2004.

[6] Mohamed Aboel Ghar, Chiharu Hongo, Ryutaro Tateishi and Akio Hirayama, Using Remotley sensed data to estimate rice yield in Niigatata prefecture, Japan, Indonesia-Japan Joint scientific symposium, Chiba, Japan (October 20-22), 2004.

[7] Mohamed Aboel Ghar, Hongo Chiharu, Itou Akihiko, Ninomiya Seishi, Tateishi Ryutaro, Tokui Kazuhisa and Takeshima Toshiaki, Utilization of remote sensing data for estimating damage ratio of rice crop part3, Remote sensing society of Japan, Chiba, Japan (May18-19), 2006.

[8] Mohamed Aboelghar, Sayed Arafat, Eslam Ahmed, Selection of the most efficient wavelength bands for discriminating different summer and winter crops, International Geoscience and Geomatics Conference, Istanbul, Turkey (November 24 – 28), 2013.

PROFESSIONAL MEMBERSHIP

- Remote Sensing Society of Japan
- Japanese Society of Photogrammetry and Remote Sensing
- Remote Sensing Society of Egypt

COMPUTER SKILLS

Remote Sensing and GIS Soft wares: PCI / ENVI / Idrisi / / ArcGIS

LANGUAGE SKILLS

English: Very good command in writing and speaking

Japanese: Conversational skills

Arabic: mother tongue

CONTACT DETAILS

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REFERENCES

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