

## **Peer reviewed Journal Papers, Book Chapters (selected)**

- Schmid, T., López-Martínez, J., Serrano, E., D'Hondt, O., Koch, M., Nieto, A., O'Neill, T., Mink, S., Durán, J.J., Maestro, A., Serrano, E., and Guillaso, S. (2016) Characterization of periglacial ice-free surfaces using polarimetric RADARSAT-2 data on Fildes Peninsula and Ardley Island, Antarctica, *Geomorphology*. Available online 17 September 2016
- Koch, M., and Missimer, T.M. (eds.) (2016) Water Resources Assessment and Management in Drylands. Book edition of the Special Issue of the online open access journal *Water*, 300 pp., MDPI publisher, Basel, Switzerland. (<http://www.mdpi.com/books/pdfview/book/216>)
- Erdman, E., Liss, A., Gute, D.M., Rioux, C., Koch, M., and Naumova, E. (2015) Does the presence of vegetation affect asthma hospitalizations among the elderly? A comparison between rural, suburban, and urban areas, *International Journal of Environment and Sustainability (IJES)*, **4**(1), 1-14.
- Gaber, A., Soliman, F., Koch, M., and El-Baz, F. (2015) Using Full-Polarimetric SAR Data to Characterize the Surface Sediments in Desert Areas: A Case Study in El-Gallaba Plain, Egypt, *Remote Sensing of Environment*, **162**, 11-28.
- Liss, A., Koch, M., and Naumova, E.N. (2014) Redefining Climate Regions in The United States Using Remote Sensing and Machine Learning: Application to Public Health and Vulnerability Assessment, *Journal of Geospatial Health*, **8**(3), 467-659.
- Zhu, J., Baise, L. G., Koch, M., and Gaber A. (2014) Mapping Earthquake Induced Liquefaction Surface Effects from the 2011 Tohoku Earthquake Using Satellite Imagery, *Seismological Research Letters*, **85**(2), 495 (abstracts of SSA annual meeting).
- Koch, M. (2014) Advanced remote sensing technology for sustainable land development in arid lands. *International Journal of Environment and Sustainability (IJES)*, **3**(1), 33-41.
- Gaber, A., Darwish, N., Sultan, Y., Arafat, S. and Koch, M. (2014) Monitoring building stability in Port-Said City, Egypt, using differential SAR interferometry. *International Journal of Environment and Sustainability (IJES)*, **3**(1), 14-22.
- Meléndez-Pastor, I., Navarro-Pedreño, J., Koch, M., Gómez, I., and Hernández, E.I. (2013) Evaluation of land degradation after forest fire with a fuzzy logic model. *Environmental Engineering and Management Journal*, **12**(11), 2087-2096.
- El-Din, M.S., Gaber, A., Koch, M., Ahmed, R.S., and Bahgat, E. (2013) Remote Sensing Application for Water Quality Assessment in Lake Timsah, Suez Canal District, Egypt. *Journal of Remote Sensing Technology*, **1**(3), 61-74.
- Gaber, A., Koch, M., Geriash, M.H., Sato, M., and El-Baz, M. (2013) Near-surface imaging of a buried foundation in the Western Desert, Egypt, using space-borne and ground penetrating radar. *Journal of Archaeological Science*, **40**(4), 1946-1955.
- Schmid, T., López-Martínez, J., Koch, M., Maestro, A., Serrano, E., Linés, C. (2012) Geomorphological mapping in the Antarctic Peninsula region applying single and multipolarization RADARSAT-2 data. *Canadian Journal of Remote Sensing*, **38**(3), 367-382.

- Koch, M., Schmid, T., Reyes, M., and Gumuzzio, G. (2012) Evaluating full polarimetric C- and L-band data for mapping wetland conditions in a semi-arid environment in Central Spain. *IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing (JSTARS)*, **5**(3), 1033-1044.
- Naumova, E.N., Jagai, J., Casronovo, D., and Koch, M. (2012) Remote sensing applications for assessing the seasonality of waterborne diseases. In: Morain, S.A. and Budge, A. (eds.) *Environmental Tracking for Public Health Surveillance*, CRC Press, Taylor & Francis Publisher, 490 pp.
- Koch, M., Gaber, A., Burkholder, B., and Geriesh, M.H. (2012) Development of new water resources in Egypt with Earth observation data: Opportunities and challenges. *International Journal of Environment and Sustainability (IJES)*, **1**(3), 1-12.
- Gaber, A., Koch, M., Geriesh, M.H., and Sato, M. (2011) SAR remote sensing of buried faults: Implications for groundwater exploration in the Western Desert of Egypt. *Sensing and Imaging: An International Journal*, **12**(3-4), 133-151.
- Koch, M. (2011) Book review: Allan Brimicombe, GIS, Environmental Modeling and Engineering (second edition). Boca Raton, FL: CRC Press, 2010: 378 pp. *Progress in Physical Geography*, **35** (3), 417-419.
- Mather, P.M., and Koch, M. (2011) *Computer Processing of Remotely-Sensed Images: An Introduction*, Fourth Edition. Chichester, UK: Wiley-Blackwell, 504 pp.
- Koch, M., and McCann, J.C. (2010) Satellite imagery, landscape history, and disease: mapping and visualizing the agroecology of malaria in Ethiopia. *PSAE Research Series*, **8**, African Studies Center, Boston University.
- Meléndez-Pastor, I., Navarro-Pedreño, J., Koch, M., and Gómez, I. (2010) Multi-resolution and temporal characterization of land use classes in a Mediterranean wetland with land cover fractions. *International Journal of Remote Sensing*, **31**(20), 5365-5389.
- Meléndez-Pastor, I., Navarro-Pedreño, J., Koch, M., and Gómez, I. (2010) Applying imaging spectroscopy techniques to map saline soils with ASTER images. *Geoderma*, **158**(1-2), 55-65.
- Martínez, P., Cristo, A., Koch, M., Pérez, R., Schmid, T., and Hernández, L.M., (2010) Diffused Matrix Format: a new storage and processing format for airborne hyperspectral sensor images. *Sensors*, **10**(5), 4996-5013.
- Meléndez-Pastor, I., Navarro-Pedreño, J., Koch, M., Gómez, I., and Hernández, E.I. (2010) Land-cover phenologies and their relation to climatic variables in an anthropogenically impacted Mediterranean coastal area. *Remote Sensing*, **2**(3), 697-716.
- Meléndez-Pastor, I., Navarro-Pedreño, J., Gómez, I., and Koch, M. (2010) Detecting drought induced environmental changes in a Mediterranean wetland by remote sensing. *Applied Geography*, **30**(2), 254-262.
- Gaber, A., Koch, M., and El-Baz, F. (2010) Textural and compositional characterization of Wadi Feiran deposits, Sinai Peninsula, Egypt, using Radarsat-1, PALSAR, SRTM and ETM+ data. *Remote Sensing*, **2**(1), 52-75.
- Schmid, T., Koch, M., and Gumuzzio, J. (2009) Application of hyperspectral imagery to map soil salinity. In: Metternicht, G. and Zinck, A. (eds.), *Remote Sensing of Soil*

## Magaly Koch

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- Salinization: Impact and Land Management*, Chapter 7, pp. 113-139, CRC Press, Taylor and Francis Publisher, Boca Raton, FL, USA.
- Meléndez-Pastor, I., Navarro-Pedreño, J., Gómez, I., and Koch, M. (2008) Identifying optimal spectral bands to assess soil properties with VNIR radiometry in semi-arid soils. *Geoderma*, **147**(3-4), 126-132.
- Schmid, T., Koch, M., DiBlasi, M., and Hagos, M. (2008) Spatial and spectral analysis of land cover properties for an archaeological area in Aksum, Ethiopia, applying high and medium resolution data. *Catena* (Special Issue), **75**(1), 93-101.
- Koch, M., Schmid, T., and Gumuzzio, J. (2008) Multisensor study of soil and wetland degradation in semi-arid Mediterranean ecosystems. *IEEE Geoscience and Remote Sensing Newsletter*, **147** (June), 10-17.
- Estrada-Belli, F., and Koch, M. (2007) Remote sensing and GIS analysis of a Maya city and its landscape: Holmul, Guatemala. In: Wiseman, J.R., and El-Baz, F. (eds.), *Remote Sensing in Archaeology*, Chapter 11, pp. 263-281, Springer Publishers, New York, USA.
- Al-Sarawi, M.A., El-Baz, F., and Koch, M. (2006) Geomorphologic controls on surface deposits of Kuwait as depicted in satellite images. *Kuwait Journal of Science & Engineering*, **33**(2), 123-146.
- Schmid, T., Koch, M., and Gumuzzio, J. (2005) Multi-sensor approach to determine changes of wetland characteristics in semi-arid environments (Central Spain). *IEEE Transactions on Geoscience and Remote Sensing*, **43**(11), 2516- 2525.
- Schmid, T., Koch, M., and Gumuzzio, J. (2005) Monitoring of saline wetland soils in central Spain using hyperspectral and multispectral data. In: A. Faz Cano, R. Ortiz Silla and A.R. Mermut (eds)., *Sustainable Use and Management of Soils, Arid and Semiarid Regions*, *Advances in GeoEcology*, **36**, Catena Verlag, Reiskirchen, Germany, pp. 569-578.
- Koch, M. (2004) Geological reconnaissance of the Red Sea coast in Egypt, Case Study Example (CSE) 1, 17 pp.; Agricultural land use change in Los Monegros, a semiarid Mediterranean environment, CSE 2, 18 pp.; Monitoring forest clearing in Holmul, an archaeological Maya site in Guatemala, CSE 3, 14 pp.; Mapping wetland features in La Mancha, central Spain, CSE 4, 15 pp. In: Mather, P.M., *Computer Processing of Remotely-Sensed Images: An Introduction*, Third Edition. Chichester: John Wiley & Sons, CD-ROM exercises.
- Schmid, T., Koch, M., Gumuzzio, J., and Mather, P. (2004) A spectral library for a semi-arid wetland and its application to studies of wetland degradation using hyperspectral and multispectral data. *International Journal of Remote Sensing*, **25**(13), 2485-2496.
- Al-Rawas, G., Koch, M., and El-Baz, F. (2001) Using GIS for flash flood hazard mapping in Oman. *Earth Observation Magazine*, August 2001, **10**(8), 18-20.
- Koch, M. (2000) Geological controls of land degradation as detected by remote sensing: A case study in Los Monegros, NE Spain. *International Journal of Remote Sensing*, **21**(3), 457-473.
- Koch, M. (2000) Oil Lakes. In: *Atlas of the State of Kuwait from Satellite Images*, El-Baz, F., and Al-Sarawi, M., (eds.), Kuwait Foundation for the Advancement of Sciences (KFAS), Safat, Kuwait, 73-76.
- Koch, M. (1998) Drainage basin analysis using GIS. In: *Ground Water Potential of the*

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*Sinai Peninsula, Egypt*, El-Baz, F., Kusky, T.M., Himida, I., and Abdel-Mogheeth, S., (eds.), Desert Research Center, Cairo, Egypt, 37-54.

- Koch, M., and El-Baz, F. (1998) Identifying the effects of the Gulf War on the geomorphic features of Kuwait by remote sensing and GIS. *Photogrammetric Engineering and Remote Sensing*, **64**(7), 739-747.
- Koch, M., El-Baz, F., and Abuelgasim, A. (1998) Application of a Geographic Information System (GIS) methodology to modeling geomorphological change in Kuwait's desert. In: *Sustainable Development in Arid Zones: Assessment and Monitoring of Desert Ecosystems*, Omar, S.A.S., Misak, R., and Al-Ajmi, D., (eds.), A.A. Balkema, Rotterdam, Netherlands, **1**, 333-340.
- Mather, P.M., Tso, B., and Koch, M. (1998) Evaluation of Landsat TM spectral data and SAR-derived textural information for lithological discrimination in the Red Sea Hills, Sudan. *International Journal of Remote Sensing*, **19**(4), 587-604.
- Koch, M., and Mather, P.M. (1997) Lineament mapping for groundwater resource assessment: A comparison of digital SIR-C SAR imagery and stereo LFC photographs, Red Sea Hills area, Sudan. *International Journal of Remote Sensing*, **18**(7), 1465-1482.
- Al-Dabi, H., Koch, M., Al-Sarawi, M., and El-Baz, F. (1997) Evolution of sand-dune patterns in space and time in northern Kuwait using Landsat TM images. *Journal of Arid Environments*, **36**(1), 15-24.
- Mather, P.M., Tso, B., and Koch, M. (1997) Geological mapping using multi-sensor data: a comparison of methods. In: *Neurocomputation in Remote Sensing Data Analysis*, Kanellopoulos, I., Wilkinson, F., Roli, F., and Austin, J. (eds.), Springer-Verlag, Berlin, Germany, 38-46.
- El-Baz, F., Abuelgasim, A., Koch, M., Pax-Lenney, M., Lambin, E., Al-Doasari, A., Marr, P., Ryherd, S., and Morency, R. (1994) Detection by Satellite Images of Environmental Change due to the Gulf War. In: *The Gulf War and the Environment*, El-Baz, F. and Makharita, R. (eds.), Gordon and Breach Science Publishers, Philadelphia, USA, 1-25.