

Jan Christoph Friesen

Date and place of birth: 10.05.1976 in Bonn, Germany

Marital status: single

Nationality: German

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EDUCATION

- | | |
|--------------|--|
| 1982-86 | Primary school, Stiftsschule, Bonn |
| 1986-95 | Secondary school, Beethoven-Gymnasium, Bonn |
| 1995-96 | Civil Service – Ophthalmologic Research Laboratory, University Hospital Bonn. |
| 1996-2000 | Rheinische Friedrich-Wilhelms-University of Bonn
Major: Geography
Minors: Urban planning, land management, and water engineering &
Development sociology |
| 2000 | Intermediate Diploma (Vordiplom) in Geography & Urban planning, land
management, and water engineering (Kulturtechnik) & Development sociology |
| 2000-2002 | Rheinische Friedrich-Wilhelms-University of Bonn
Major: Geography
Minors: Urban planning & Development sociology |
| June 2002 | Master's Thesis (German <i>Diplom</i>) "Spatio-temporal Rainfall Patterns in
Northern Ghana" |
| 2004-present | PhD research on "Large-scale soil moisture monitoring and modelling in the
Volta Basin, West Africa", Water Resources Section, Faculty of Civil
Engineering and Geosciences, TU Delft, The Netherlands |

EMPHASIS OF STUDY

Hydrology, Water Resources Management, Soil moisture, Vegetation water, Remote Sensing, GIS, West Africa

EXPERIENCE

- Dec. 2001-present: 20 months (ten campaigns) of hydrological field work in Ghana and Burkina Faso.
- Jan 1999-Apr. 2004: Research Assistant
Center for Development Research (ZEF), Department of Ecology and Resource Management, University of Bonn, Germany
- Aug.-Sept 2000: Build-up of a GIS facility at the Savanna Agricultural Research Institute (SARI), Tamale-Nyankpala, Ghana

SOFTWARE PROFICIENCIES (SELECTED)

- | | |
|----------------|-----------------------------|
| Programming | MatLab, IDL |
| GIS | ArcGIS |
| Remote Sensing | IDRISI, ENVI, ERDAS Imagine |

TRAINING

- Programming course ENVI, 2002, CREASO, Germany
- Programming course IDL, 2003, CREASO, Germany
- Hydro-School “Advanced Techniques in Experimental Hydrology”, 5-9 February 2007, Luxembourg

AWARDS

- Principal Investigator for the European Space Agency (ESA), SMOS Calibration and Validation Team (SVRT), ID 3280
- Principal Investigator for the European Space Agency (ESA), “Soil moisture model assimilation with SMOS and MetOp data in the Volta and Rhine Basins”, ID 4677

PUBLICATIONS

- J. Friesen**, C. Rodgers, P.G. Oguntunde, J.M.H. Hendrickx, N. van de Giesen (2007): Hydrotape-based protocol to determine average soil moisture over large areas for satellite calibration and validation - With results from an observation campaign in the Volta Basin, West Africa. IEEE Transactions on Geoscience and Remote Sensing (accepted)
- Jan Friesen**, Hessel C. Winsemius, Rob Beck, Klaus Scipal, Wolfgang Wagner, and Nick van de Giesen (2007): Spatial and seasonal patterns of diurnal differences in ERS Scatterometer soil moisture data in the Volta Basin, West Africa. Remote Sensing for Environmental Monitoring and Change Detection (Proceedings of Symposium HS3007 at IUGG2007, Perugia, July 2007). IAHS Publ. 316.

Compaoré, H., Hendrickx, J.M.H., Hong, S-h., **Friesen, J.**, van de Giesen, N.C., Rodgers, C., Szarzynski, J., Vlek, P.L.G. (2007): Evaporation mapping at two scales in the White Volta Basin, Upper East Ghana, using optical imagery. *Physics and Chemistry of the Earth*, doi: 10.1016/j.pce.2007.04.021

Amisigo, B.A., van de Giesen, N., Rogers, C., Andah, W.E.I., **Friesen, J.** (2007): Monthly Streamflow Prediction in the Volta Basin of West Africa: A SISO NARMAX Polynomial Modelling. *Physics and Chemistry of the Earth*, doi: 10.1016/j.pce.2007.04.019

Mohsin Hafeez, Marc Andreini, Jens Liebe, **Jan Friesen**, Andreas Marx, Nick van de Giesen (2007): Hydrological parameterization through remote sensing in Volta Basin, West Africa. *International Journal of River Basin Management*, 5(1): 49-56

Hendrickx J.M. , Sung-ho Hong, **Jan Friesen**, Halidou Compaore, Nick C. van de Giesen, Charles Rodgers, Paul L. Vlek (2006): Mapping energy balance fluxes and root zone soil moisture in the White Volta Basin using optical imagery. *Proc. SPIE Vol. 6239, 62390Q, Targets and Backgrounds XII: Characterization and Representation*; Wendell R. Watkins, Dieter Clement; Eds. May 2006

Oguntunde P.G., **J. Friesen**, van de Giesen N., Savenije H.H.H. (2006). Hydroclimatology of the Volta River Basin in West Africa: Trends and Variability from 1901-2002. *Physics and Chemistry of the Earth*, 31 (18), pp. 1180-1188.

Hendrickx J.M., J. Bruce J. Harrison, Remke L. van Dam, Brian Borchers, David I. Norman, Christian D. Dedzoe, B. O. Antwi, R. D. Asiamah, Charles Rodgers, Paul Vlek, **Jan Friesen** (2005): Magnetic soil properties in Ghana. *Proc. SPIE Vol. 5794*, p. 165-176, *Detection and Remediation Technologies for Mines and Minelike Targets X*; Russell S. Harmon, J. Thomas Broach, John H. Holloway, Jr.; Eds. Jun 2005

Friesen, J., Andreini M., Andah W., Amisigo B., van de Giesen, N. (2005): Storage capacity and long-term water balance of the Volta Basin, West Africa. *Regional Hydrological Impacts of Climatic Change—Hydroclimatic Variability (Proceedings of symposium S6 held during the Seventh IAHS Scientific Assembly at Foz do Iguaçu, Brazil, April 2005. IAHS Publ. 296, 2005, 138– 145. Edited by Stewart Franks, Thorsten Wagener, Eva Bøgh, Hoshin V. Gupta, Luis Bastidas, Carlos Nobre, Carlos de Oliveira Galvão*

Friesen, J. (2002): Spatio-temporal Patterns of Rainfall in Northern Ghana. Diploma thesis, Faculty of Mathematics and Natural Sciences, University of Bonn, Germany

CONFERENCES & WORKSHOPS ATTENDED

7th SMOS Workshop - Calibration, Validation and Commissioning
ESRIN, Frascati, Italy. October 29-31, 2007

XXIV IUGG General Assembly, “Spatial and seasonal patterns of diurnal differences in ERS Scatterometer soil moisture data in the Volta Basin, West Africa”
Perugia, Italy. July 9-13, 2007

EGU General Assembly 2007, “Elastic Stem Measurements of Above Ground Tree Mass Change”
Vienna, Austria. April 15-20, 2007

GLOWA Volta Project Phase III Inception Meeting and Workshop
Accra, Ghana. September 25-27, 2006

EGU General Assembly 2006, “Improvement of ground sampling schemes via hydrotopes”
Vienna, Austria. April 2-7, 2006

International Workshop on Soil Moisture
Research Center Juelich, Juelich, Germany. November 17, 2005

First Experimenters Meeting - SMOS Validation and Retrieval Team (SVRT) 2005, "Soil moisture monitoring in the Volta Basin."
Avila, Spain. November 21-24, 2005

Seventh IAHS Scientific Assembly 2005, "Storage capacity and long-term water balance of the Volta Basin, West Africa."
Foz do Iguaçu, Brazil. April 3-9, 2005

EGU 1st General Assembly 2004 "Basin-scale calibration of TRMM rain products"
Nice, France. April 25-30, 2004

EGS - AGU - EGU Joint Assembly Meeting 2003. "An Analysis of the North - South Distribution of high-resolution Rainfall in the Volta Basin, West Africa"
Nice, France. April 6-11, 2003

AGU 2002 Fall Meeting, "Spatio-Temporal Rainfall Patterns in Northern Ghana, West Africa."
San Francisco, USA. December 6-10, 2002

GLOWA Status Conference.
Munich, Germany. May 6-8, 2002

International Conference on Freshwater.
Bonn, Germany. December 3-7, 2001

GLOWA Volta Workshop: Kick-off workshop
Accra & Ada, Ghana. August 2000

Progress in Classification Methods and Algorithms Using Satellite Data.
Remote Sensing Research Group (RSRG) & Center for Remote Sensing on Land Applications (ZFL), University of Bonn, Bonn, Germany. June 8-9, 2000

GLOWA Volta Workshop: Proposal development
Bonn, Germany. August 1999

MEMBERSHIPS

American Geophysical Union (AGU)

European Geophysical Union (EGU)

International Association of Hydrological Sciences (IAHS-AISH)

LANGUAGE SKILLS

German: native speaker

English: fluently spoken and written

Dutch: basic knowledge

French: basic knowledge