

Dr. Ursula Gessner

CURRENT TASKS

- Head of team 'Agroecosystems and Phenology'
- Coordination of earth observation based research and information product development
- Project management
- Development of concepts and methods for the analysis of earth observation time series for agroecosystem-related research
- Research and coordination activities in interdisciplinary research projects

RESEARCH TOPICS

- Agricultural land use
- Agroecosystems
- Phenology and vegetation dynamics
- Land use adaptation
- Land surface – climate interactions
- Method development and analysis of multi-sensor earth observation time series

EDUCATION

- **Dissertation (Dr. rer. nat.)** at the University of Wuerzburg, Remote Sensing Unit, in cooperation with the German Aerospace Center (DLR) (2011).
- **Diploma degree** in Geography at the University of Augsburg with focus on GIS, soil science and remote sensing (2005).

EMPLOYMENT RECORD

- **03/2011 - present** Research Associate at the German Remote Sensing Data Center (DFD), German Aerospace Center (DLR), Oberpfaffenhofen, Germany.
- **01/2007 - 02/2011** Research Associate at the Remote Sensing Unit, University of Wuerzburg, in cooperation with the German Aerospace Center (DLR), Germany.
- **01/2006 – 06/2006** Department of Land Information (DLI), Satellite Remote Sensing Services, Perth, Australia.
- **06/2005 – 12/2005** Associate at Gesellschaft f. Angewandte Fernerkundung (GAF), Munich, Germany.

PUBLICATIONS

Reviewed Journals

- Faye, B.; Webber, H.; Naab, J.; MacCarthy, D.S.; Adam, M.; Ewert, F.; Lamers, J.P.A.; Schleussner, C.F.; Ruane, A.; **Gessner, U.**; Hoogenboom, G.; Boote, K.; Shelia, V.; Saeed, F.; Wissler, D.; Hadir, S.; Laux, P.; Gaiser, T (2018): Impacts of 1.5 versus 2.0°C on cereal yields in the West African Sudan Savanna" Environmental Research Letters 13, 034014.
- Winkler, K.; **Gessner, U.**; Hochschild, V. (2017): Identifying Droughts Affecting Agriculture in Africa Based on Remote Sensing Time Series between 2000–2016: Rainfall Anomalies and Vegetation Condition in the Context of ENSO. Remote Sensing 9(8), doi: 10.3390/rs9080831
- Klein, I.; **Gessner, U.**; Dietz, A.J.; Kuenzer, C. (2017): Global WaterPack – A 250 m resolution dataset revealing the daily dynamics of inland water bodies. Remote Sensing of Environment 198, 345-362.

- Knauer, K.; **Gessner, U.**; Forkuor, G.; Fensholt, R.; Kuenzer, C. (2017): Monitoring Agricultural Expansion in Burkina Faso over 14 Years with 30 m Resolution Time Series: The Role of Population Growth and Implications for the Environment. *Remote Sensing* 9(2), 132, doi:10.3390/rs9020132
- Dietz, A.; Klein, I.; **Gessner, U.**; Frey, C.; Kuenzer, C.; Dech, S. (2017): Detection of Water Bodies from AVHRR Data – a TIMELINE thematic Processor. *Remote Sensing* 9, 57, doi:10.3390/rs9010057
- Klein, C.; Bliefernicht, J.; Heinzeller, D.; **Gessner, U.**; Klein, I.; Kunstmann, H. (2016): Modelled feedbacks of observed inter-annual vegetation changes on the West African monsoon. *Earth System Dynamics*, published online in June 2016.
- Knauer, K.; **Gessner, U.**; Fensholt, R.; Kuenzer, C. (2016): An ESTARFM fusion framework for the generation of large-scale time series in cloud-prone and heterogeneous landscapes. *Remote Sensing* 8, 425.
- **Gessner, U.**; Machwitz, M.; Esch, T.; Tillack, A.; Naeimi, V.; Kuenzer, C.; Dech, S. (2015): Multi-sensor mapping of West African land cover using MODIS, ASAR and TanDEM-X/TerraSAR-X data. *Remote Sensing of Environment* 164, 282-297, <http://dx.doi.org/10.1016/j.rse.2015.03.029>
- Machwitz, M.; **Gessner, U.**; Conrad, C.; Falk, U.; Richters, J.; Dech, S. (2015): Modelling the Gross Primary Productivity of West Africa with the Regional Biomass Model RBM+, using optimized 250 m MODIS FPAR and fractional vegetation cover information. *International Journal of Applied Earth Observation and Geoinformation* 43, 177-194, <http://dx.doi.org/10.1016/j.jag.2015.04.007>
- Klein, I.; Dietz, A.; **Gessner, U.**; Dech, S.; Kuenzer, C. (2015): Results of the Global WaterPack: a novel product to assess inland water body dynamics on a daily basis. *Remote Sensing Letters* 6 (1), 78-87.
- Knauer, K.; **Gessner, U.**; Kuenzer, C.; Dech, S. (2014): Remote sensing of vegetation dynamics in West Africa. *International Journal of Remote Sensing* 35, 6357-6396.
- Kuenzer, C.; van Beijma, S.; **Gessner, U.**; Dech, S. (2014): Land surface dynamics and environmental challenges of the Niger Delta, Africa: Remote sensing-based analyses spanning three decades (1986-2013). *Applied Geography* 53, 354-368.
- Klein, I.; Dietz, A.; **Gessner, U.**; Galayeva, A.; Myrzakhmetov, A.; Kuenzer, C. (2014): Evaluation of seasonal water body extents in Central Asia over the past 27 years derived from medium-resolution remote sensing data. *International Journal of Applied Earth Observation and Geoinformation* 26, 335-349.
- **Gessner, U.**; Niklaus, M.; Kuenzer, C.; Dech, S. (2013): Intercomparison of Leaf Area Index Products for a Gradient of Sub-Humid to Arid Environments in West Africa. *Remote Sensing* 5, 1235-1257.
- **Gessner, U.**; Naeimi, V.; Klein, I.; Kuenzer, C.; Klein, D.; Dech, S. (2013): The relationship between precipitation anomalies and satellite-derived vegetation activity in Central Asia. *Global and Planetary Change* 110, 74-87, <http://dx.doi.org/10.1016/j.gloplacha.2012.09.007>
- **Gessner, U.**; Machwitz, M.; Conrad, C.; Dech, S. (2013): Estimating the fractional cover of growth forms and bare surface in savannas. A multi-resolution approach based on regression tree ensembles. *Remote Sensing of Environment* 129, 90-102.
- Klein, I.; **Gessner, U.** and Kuenzer, C. (2012): Regional land cover mapping and change detection in Central Asia using MODIS time-series. *Applied Geography* 35, 1-16.
- Dietz, A.J.; Kuenzer, C.; **Gessner, U.** and Dech, S. (2012): Remote Sensing of snow – a review on available methods. *International Journal of Remote Sensing* 33(13), pp. 4094-4134.
- Hüttich, C.; **Gessner, U.**; Herold, M.; Strohbach, B.J.; Schmidt, M.; Keil, M. and Dech, S. (2009): On the Suitability of MODIS Time Series Metrics to Map Vegetation Types in Dry Savanna Ecosystems: A Case Study in the Kalahari of NE Namibia. *Remote Sensing* 1, pp. 620-643.

Conferences

- **Gessner, U.**; Klein, I.; Hirner, A.; Kuenzer, C. (2018): Crop type mapping in Southern Germany using the full annual Landsat archive and LUCAS in-situ data. 38th Annual EARSeL Symposium, 9 – 12 July, Chania, Greece.
- **Gessner, U.**; Esch, T.; Dietz, A.; Leinenkugel, P.; Kuenzer, C. (2018): Potential and Challenges of Earth Observation Time Series for the Analysis of Global Change. Key note, 38th Annual EARSeL Symposium, 9 – 12 July, Chania, Greece.
- Kusche, J.; Doell, P.; Bolch, T.; van Dam, T.; Dettermin, D.; Eicker, A.; Engels, O.; Foglia, L.; **Gessner, U.**; Güntner, A.; Kuenzer, C.; Müller Schmied, H.; Seitz, F.; Sneeuw, N.; Tourian, M. (2018): The GlobalCDA Project - Understanding the global freshwater system by combining geodetic and remote sensing information with modelling, using a calibration/data assimilation approach, EGU General Assembly, 8-13 April 2018, Wien, Austria.
- Hadjimitsis, D.; Christofe, A.; Agapiou, A.; Lysandrou, V.; Themistocleous, K.; Nisantzi, A.; Tzouvaras, M.; Papoutsas, C.; Mamouri, R.; Mettas, C.; Evagorou, E.; Lasaponara, R.; Masini, N.; Danese, M.; Sileo, M.; Krauss, T.; Cerra, D.; **Gessner, U.**; Schreier G. (2018): ATHENA Twinning project: Remote sensing for cultural heritage, , EGU General Assembly, 8-13 April 2018, Wien, Austria.
- Klein, I.; **Gessner, U.**; Hirner, A., Dietz, A.; Dech, S.; Kuenzer, C. (2018): A surface water body dataset with daily temporal resolution – Selected examples and application potential of the Global WaterPack: ESA Mapping Water Bodies from Space, 28-29 March 2018, Frascati, Italy.
- Klein, I.; **Gessner, U.**; Hirner, A., Dietz, A.; Dech, S.; Kuenzer, C. (2018): Daily dynamics of water bodies over 15 years. Selected examples for the relationship of water body extents, temperature and precipitation. DLR Climate Change Conference, 17-19 April 2018, Cologne, Germany.
- **Gessner, U.**; Klein, I.; Dech, S.; Kuenzer, C. (2017): Dynamics of global wetlands reflected in the daily time series product Global WaterPack. ISRSE 2017, 8-12 May 2017, Tshwane, South Africa.
- Olusegun, C.F.; **Gessner, U.**; Hirner, A.; Salack, S.; Forkuor, G.; Berger, S.; Heinzeller, D.; Dieng, D.; Sylla, B.; Kunstmann, H.; Lamers, J. P.A.; Tondoh, J. (2017) WASCAL - West African Science Service Center on Climate Change and Adapted Land Use. Subsidiary Body for Scientific and Technological Advice (SBSTA), Ninth meeting of the Research Dialogue, 10.5.2017, Bonn, Deutschland.
- **Gessner, U.**; Knauer, K.; Machwitz, M.; Dech, S.; Kuenzer, C. (2016): Impacts of Socio-economic development and urbanization on natural resources – case studies from Africa. IGARSS,, 10-15 July 2016, Beijing, China.
- Klein, I.; **Gessner, U.**; Dietz, A.; Leinenkugel, P.; Dech, S. Kuenzer, C. (2016): Detection of inland water bodies with high temporal resolution – assessing dynamic threshold approaches. IGARSS, 10-15 July 2016, Beijing, China.
- **Gessner, U.**; Knauer, K.; Klein, I.; Kuenzer, C. (2016): Assessing socio-economic and climate related impacts on natural resources in rural areas of West Africa. EARSeL Symposium, 20-24 June 2016, Bonn, Germany.
- Eisfelder, C.; **Gessner, U.**; Xinwu, L.; Huang, C.; Dech, S.; Künzer, C. (2016): Remote Sensing based Modelling of Net Primary Productivity for China – Analysing trends, monitoring human impact and forest disturbance. EARSeL Symposium, 20-24 June 2016, Bonn, Germany.
- Agapiou, A.; Lysandrou, V.; Themistocleous, K.; Lasaponara, R.; Masini, N.; Krauss, T.; Cerra, D.; **Gessner, U.**; Schreier, G.; Hadjimitsis, D. (2016): Searching data for supporting archaeo-landscapes in Cyprus: an overview of aerial, satellite and cartographic datasets of the island. Proceedings of SPIE 4th International Conference on Remote Sensing and Geoinformation of the Environment Vol. 9688, 10 pages.
- Hadjimitsis, D.; Agapiou, A.; Lysandrou, V.; Themistocleous, K.; Lasaponara, R.; Masini, N.; Krauss, T.; Cerra, D.; **Gessner, U.**; Schreier, G. (2016): Establishing a remote sensing science center in Cyprus: first year of activities of ATHENA

project, 6th International Euro-Mediterranean Conference (EuroMed 2016), 31 October - 5 November 2016, Nicosia, Cyprus.

- Hadjimitsis, D. G.; Agapiou, A.; Lysandrou, V.; Branka, C.; Themistocleous, K.; Nisantzi, A.; Lasaponara, R.; Masini, N.; Krauss, T.; Cerra, D.; **Gessner, U.**; Schreier, G. (2016): ATHENA: Center of Excellence in Cyprus in the Field of Remote Sensing for Cultural Heritage in the Areas of Archaeology and Cultural Heritage, 6th GEOBIA 2016, 14-16 September 2016, Enschede, The Netherlands.
- Hadjimitsis, D. G.; Agapiou, A.; Lysandrou, V.; Branka, C.; Themistocleous, K.; Lasaponara, R.; Masini, N.; Krauss, T.; Cerra, D.; **Gessner, U.**; Schreier, G. (2016): ATHENA: Remote Sensing Science Center for Cultural Heritage in Cyprus. European Geosciences Union – EGU, General Assembly 2016, 17 – 22 April 2016, Vienna, Austria.
- Hadjimitsis, D. G.; Agapiou, A.; Lysandrou, V.; Branka, C.; Themistocleous, K.; Nisantzi, A.; Lasaponara, R.; Masini, N.; Krauss, T.; Cerra, D.; **Gessner, U.**; Schreier, G. (2016): Establishment of a center of excellence in the field of remote sensing for cultural heritage at the Cyprus university of technology: the 'ATHENA' Horizon 2020 Twinning project, Fourth International Conference on Remote Sensing and Geoinformation of the Environment (RSCy2016), 4-8 April, 2016, Cyprus.
- **Gessner, U.**; Forkuor, G.; Knauer, K.; Klein, I.; Kuenzer, C. (2015): Landbedeckung, Landnutzung und Klimawandel in Westafrika. Fernerkundungsbasierte Arbeiten im Projekt WASCAL. Jahrestreffen des AK Subsaharisches Afrika, 27-28 November 2016, Cologne, Germany.
- Knauer, K.; **Gessner, U.**; Fensholt, R.; Kuenzer, C. (2015): Remote Sensing of Vegetation Dynamics in West Africa: Improved Satellite Time Series for Agricultural Analyses. Jahrestreffen des AK Subsaharisches Afrika, 27-28 November 2016, Cologne, Germany.
- Klein, C.; Heinzeller, D.; Bliedernicht, J.; **Gessner, U.**; Klein, I.; Kunstmann, H. (2015): Modelled feedback of observed inter-annual vegetation changes on the West African monsoon. Water and Energy Cycles in the Tropics. 17-19 November 2015, Paris, France.
- Kuenzer, C.; van Beijma, S.; **Gessner, U.**; Dech, S. (2015): Exploring the Potential of Earth Observation for the Monitoring of Oil Industry Induced Impacts in the Niger Delta, Nigeria. ECSA 55 Unbounded boundaries and shifting baselines: Estuaries and coastal seas in a rapidly changing world. 6-9 September 2015, London, UK.
- **Gessner, U.**; Leinenkugel, P.; Klein, I.; Dietz, A.; Kuenzer, C. (2015): Assessment of land surface dynamics based on time series of OLCI-type moderate resolution earth observation data. Sentinel-3 for science workshop, 2-5 June 2015, Venice, Italy.
- **Gessner, U.**; Knauer, K.; Kuenzer, C. (2015): Tree cover patterns and changes in the West Sudanian Savanna and observed socio-economic impacts. 36th International Symposium on Remote Sensing of Environment, 11-15 May 2015, Berlin, Germany.
- Knauer, K.; **Gessner, U.**; Dech, S.; Kuenzer, C. (2015): Remote sensing of vegetation dynamics in West Africa: Improved satellite time series for phenological analyses. 36th International Symposium on Remote Sensing of Environment, 11-15 May 2015, Berlin, Germany.
- Kuenzer, C.; Leinenkugel, P.; Frey, C.; Huth, J.; Ottinger, M.; **Gessner, U.**; Dech, S. (2015): The Land-Use Dynamics and Water Nexus for the transboundary Mekong Basin: Potentials and Limitations of Earth Observation. Dresden Nexus Conference 2015, 25-27 March 2015, Dresden, Germany.
- **Gessner, U.**; Klein, I.; Knauer, K.; Arnault, J.; Bliedernicht, J.; Kuenzer, C. (2015): Earth observation based analyses of land-use dynamics in West Africa. Dresden Nexus Conference 2015, 25-27 March 2015, Dresden, Germany.
- Huth, J.; Ahrens, M.; Klein, I.; **Gessner, U.**; Hoffmann, J.; Kuenzer, C. (2015): WaMaPro – a user friendly tool for water surface derivation from SAR data – and

further products derived from optical data. ESA Mapping Water Bodies from Space Conference 2015 18-19 March 2015, Frascati, Italy.

- **Gessner, U.**; Knauer, K.; Thiel, M.; Forkuor, G.; Kuenzer, C.; Dech, S. (2014): High resolution tree cover mapping in the West Sudanian Savanna based on multi-temporal Landsat data. 10th International Conference of the African Association of Remote Sensing of the Environment, 27-31 October 2014, Johannesburg, South Africa.
- **Gessner, U.**; Knauer, K.; Bliefernicht, J.; Arnault, J.; Klein, C.; Kuenzer, C.; Müller, A.; Kunstmann, H.; Dech, S. (2014): Enhanced land surface dynamics from remote sensing and their use in regional climate modeling. Climate Symposium 2014, 13-17 October 2014, Darmstadt, Germany.
- **Gessner, U.**; Hartmann, A., Huth, J., Machwitz, M., Naeimi, V., Esch, T., Dech, S., Kuenzer, C. (2014): Exploiting multi-sensoral earth observation time series for regional land cover mapping. 5th Workshop of the EARSeL Special Interest Group on Land Use and Land Cover, 17-18 March 2014, Berlin, Germany.
- Knauer, K.; **Gessner, U.**; Kuenzer, C.; Dech, S. (2014): Challenges in the generation of LAI time series for West Africa: difficulties and potential improvements. GV2M, 3-7 February 2014, Avignon, France.
- Bliefernicht, J.; Kunstmann, H.; Hingerl, P.; Ruml, T.; Andresen, S.; Mauder, M.; Steinbrecher, R.; Fries, R.; Gochis, D.; **Gessner, U.**; Quensah, M.; Awoutuse, A; Neidl, F.; Jahn, C.; Boubacar, B. (2013): Field- and simulation experiments investigating regional land-atmosphere interactions in West Africa: experimental set-up and first results. Proceedings of H01, IAHS-IAPSO-IASPEI Assembly, Gothenburg, Sweden, July 2013 (IAHS Publ. 359, 2013) 226-232.
- **Gessner, U.**; Naeimi, V.; Klein, I.; Kuenzer, C.; Klein, D.; Dech, S. (2013): The response of vegetation to rainfall anomalies in Central Asia. 35th International Symposium on Remote Sensing of Environment, April 22-26, Beijing, China.
- Dietz, A.; Klein, I.; **Gessner, U.**; Kuenzer, C. (2012): The dynamics of Aral Sea, Caspian Sea, and Sharda Water Reservoir during the past decade based on MODIS data classification. 32nd International Geographical Congress, 26-30 August 2012, Cologne, Germany.
- **Gessner, U.**; Bliefernicht, J.; Rahmann, M. and Dech, S. (2012): Land Cover Maps for Regional Climate Modeling in West Africa – a comparison of datasets. 32nd EARSeL Symposium Proceedings, May 21-24 2012, Mykonos, Greece, 388-397.
- Bachmann, M.; Müller, A.; Heiden, U.; Kuenzer, C., **Gessner, U.**; Günther, K. (2012): Requirements for and potential of Sentinel-2 for Regional Applications. Sentinel-2 preparatory Symposium, April 23-27 2012, Frascati, Italy.
- Bachmann, M; Heiden, U.; Künzer, C.; **Gessner, U.**; Günther, K. and Müller, A. (2011): Requirements for and potential of HYSPIRI for regional applications. 2011 HyspIRI Science Workshop, 23-25 August 2011, Washington DC, USA.
- **Gessner, U.**; Wehrmann, T.; Huth, J.; Gebhardt, S.; Naeimi, V.; Kuenzer, C. and Dech, S. (2011): Towards transferable large area land cover mapping in central Asia using MODIS time series. 34th International Symposium on Remote Sensing of Environment, April 10-15 2011, Sydney, Australia.
- Klein, D.; Asam, S.; **Gessner, U.** and Dech, S. (2011): Assessment of Mountainous Ecosystems In Central Asia by using Remote Sensing Based Vegetation Cover Fractions. 34th International Symposium on Remote Sensing of Environment. April 10-15 2011, Sydney, Australia.
- Lex, S.; **Gessner, U.** and Dech, S. (2010): Identifizierung der Antriebskräfte von Landnutzungs- und Landbedeckungsänderungen in der Region Kavango in Namibia. Jahresversammlung Arbeitskreis Subsaharisches Afrika, June 18-19 2010, Wuerzburg, Germany.
- Asam, S.; Klein, D.; **Gessner, U.**; Conrad, C.; Beierkuhnlein, C. & Dech, S. (2010): Ableitung des Vegetationsbedeckungsgrades aus multiskaligen Fernerkundungsdaten für hydrologische Modellierung in Zentralasien. Symposium und Fachmesse für Angewandte GeoInformatik (AGIT) 2010 , Salzburg, Austria.

- **Gessner, U.**; Klein, D.; Conrad, C.; Schmidt, M. and Dech, S. (2009): Towards an automated estimation of vegetation cover fractions on multiple scales: Examples of Eastern and Southern Africa. 33rd International Symposium on Remote Sensing of Environment. May 4-8 2009, Stresa, Italy.
- Hüttich, C.; **Gessner, U.**; Schmidt, M.; Keil, M.; Strohbach, B. and Dech, S. (2009): Ecosystem Assessment in Savanna Ecosystems based on multi-scale Earth Observation data. 33rd International Symposium on Remote Sensing of Environment. May 4-8 2009, Stresa, Italy.
- Huettich, C.; Dech, S.; Fox, T.; Gessner, U.; Keil, M.; Schmidt, M.; Strohbach, B. (2009): Remote Sensing for Mapping Vegetation Types and Dynamics in Savanna Ecosystems of Namibia: Concepts for Integrated Vegetation Diversity Assessments, DIVERSITAS Open Science Conference, Cape Town, South Africa.
- **Gessner, U.**; Conrad, C.; Hüttich, C.; Keil, M.; Schmidt, M.; Schramm, M. and Dech, S. (2008): A multi-scale approach for retrieving proportional cover of life forms. IEEE International Geoscience & Remote Sensing Symposium, July 6-11 2008, Boston, USA.
- Colditz, R.R.; **Geßner, U.**; Conrad, C.; van Zyl, D.; Malherbe, J.; Newby, T.; Landmann, T.; Schmidt, M. and Dech, S. (2007): Dynamics of MODIS time series for ecological applications in southern Africa. Fourth International Workshop on the Analysis of Multitemporal Remote Sensing Images (Multitemp 2007), July 18-20 2007, Leuven, Belgium.
- Colditz R.R.; Keil, M.; Strohbach, B.; **Geßner, U.**; Schmidt, M. and Dech, S. (2007): Vegetation structure mapping with remote sensing time series: Capabilities and improvements. 32nd International Symposium on Remote Sensing of Environment, June 25-29 2007, San Jose, Costa Rica.
- **Geßner, U.**; Günther, K.P. and Maier, S.W. (2004): Land cover / land use map of Germany based on MERIS full resolution data. In: Proceedings of the 2004 Envisat & ERS Symposium, September 6-10 2004, Salzburg, Austria.

Book Contributions

- Müller, I.; Hipondoka, M.; Winkler, K.; **Gessner, U.**; Martinis, S.; Taubenböck, H. (2018): Monitoring flood and drought events – earth observation for multiscale assessment of water-related hazards and exposed elements. In Revermann, R.; Krewenka, K.M.; Schmiedel, U.; Olwoch, J.M.; Helmschrot, J. & Jürgens, N., ed., 'Climate Change and adaptive land management in southern Africa. Assessments, changes, challenges, and solutions'. Biodiversity & Ecology 6, Klaus Hess Publishers, Göttingen & Windhoek, pp. 136-143.
- **Gessner, U.**; Knauer, K.; Kuenzer, C. and Dech, S. (2015): Land surface phenology in a West African savannah: impact of land use, land cover and fire. In: C. Kuenzer & S. Dech, ed., 'Remote Sensing Time Series revealing Land Surface Dynamics'. Springer, Berlin, pp. 203-223.
- Niklaus, M.; Eisfelder, C.; **Gessner, U.**; Dech, S. (2015): Land Degradation in South Africa – A Degradation Index Derived from 10 Years of Net Primary Production Data. In: C. Kuenzer & S. Dech, ed., 'Remote Sensing Time Series revealing Land Surface Dynamics'. Springer, Berlin, pp. 247-267.
- Klein, I.; Dietz, A.; **Gessner, U.**; Kuenzer, C. (2015): Global WaterPack: Intra-Annual Assessment of Spatio-Temporal Variability of Inland Water Bodies. : C. Kuenzer & S. Dech, ed., 'Remote Sensing Time Series revealing Land Surface Dynamics'. Springer, Berlin, pp. 99-119.
- Klein, I., **Gessner, U.** and Kuenzer, C. (2013): Generation of Up to Date Land Cover Maps for Central Asia. In: L. Mueller, A. Saparov & G. Lischeid, ed., 'Novel Measurement and Assessment Tools for Monitoring and Management of Land and Water Resources in Agricultural Landscapes of Central Asia', Environmental Science and Engineering, pp. 329-346.
- Kuenzer, C.; **Gessner, U.** and Wagner, W. (2013): Soil moisture from thermal infrared satellite data: synergies with microwave data, in: C. Kuenzer & S. Dech,

ed., 'Thermal Infrared Remote Sensing. Sensors, Methods, Applications', Springer, Berlin, pp.315-330.

- Pröpfer, M., Gröngröft, A.; Falk, T.; Eschenbach, A.; Fox, T.; **Gessner, U.**; Hecht, J.; Hinz, M. O.; Hüttich, C.; Hurek, T.; Kangombe, F. N.; Keil, M.; Kirk, M.; Mapaire, C.; Mills, A.; Mukuya, R.; Namwoonde, N. E.; Overmann, J.; Petersen, A.; Reinhold-Hurek, B.; Schneiderat, U.; Strohbach, B. J.; Lück-Vogel, M. and Wisch, U. (2010): Causes and perspectives of land-cover change through expanding cultivation in Kavango, in M. T. Hoffman; U. Schmiedel & N. Jürgens, ed., 'Biodiversity in southern Africa. Volume 3: Implications for landuse and management', Klaus Hess Publishers, Göttingen & Windhoek, pp. 1-31.
- Keil, M.; **Gessner, U.** and Hüttich, C. (2010): Elevation profile along transects, in U. Schmiedel & N. Jürgens, ed., 'Biodiversity in southern Africa. Volume 2: Patterns and processes at regional scale', Klaus Hess Publishers, Göttingen & Windhoek, pp. 81-83.
- Keil, M.; **Gessner, U.** and Hüttich, C. (2010): Spatial patterns of topography in southern Africa, in U. Schmiedel & N. Jürgens, ed., 'Biodiversity in southern Africa. Volume 2: Patterns and processes at regional scale', Klaus Hess Publishers, Göttingen & Windhoek, pp. 29-31.
- Keil, M.; **Gessner, U.** and Hüttich, C. (2010): Using the MODIS Enhanced Vegetation Index (EVI) for BIOTA transect analyses, in U. Schmiedel & N. Jürgens, ed., 'Biodiversity in southern Africa. Volume 2: Patterns and processes at regional scale' , Klaus Hess Publishers, Göttingen & Windhoek , pp. 145 - 148 .
- Keil, M.; **Gessner, U.**, Hüttich, C. and Colditz, R.R. (2010): Large-scale vegetation assessments in southern Africa: concepts and applications using multi-source remote sensing data, in U. Schmiedel & N. Jürgens, ed., 'Biodiversity in southern Africa. Volume 2: Patterns and processes at regional scale', Klaus Hess Publishers, Göttingen & Windhoek, pp. 32-45.

PhD thesis

- **Geßner, U.** (2010): 'Räumliche und zeitliche Muster der Vegetationsstruktur in Savannen des südlichen Afrika'. PhD thesis, Julius-Maximilians-Universität Würzburg.