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PROFESSIONAL PREPARATION

Wageningen Agricultural University	Agricultural System Science	BSc, 1996
Wageningen Agricultural University	Agricultural System Science	MSc, 2000
University of Nebraska – Lincoln	Natural Resources	PhD, 2005
South Dakota State University	GIScCE	PDF, 2006
University of Wisconsin-Madison	Forest Ecology and Management	PDF, 2006-07

Appointments

Junior Consultant Remote Sensing & GIS, NEO	2000 – 2001
Support Engineer, ESRI Nederland	2001 – 2002
Assistant Professor Geography, Virginia Tech	2007 – Present

TEACHING

Fall semesters 2007-2009– NR 6104: Special Topic in Remote Sensing
Spring semesters 2008-2009- GEOG 4984 SS: Remote Sensing and Phenology

PEER REVIEWED PUBLICATIONS

1. de Beurs, K.M., Henebry, G.M., 2010. **Spatio-temporal statistical methods for modeling land surface phenology**. *Phenological Research: Methods for Environmental and Climate Change Analysis*, I. L. Hudson and M. R. Keatley, Eds., Springer, in press.
2. de Beurs, K.M., Wright, C.K., Henebry, G.M. 2009. **Dual scale trend analysis distinguishes climatic from anthropogenic effects on the vegetated land surface**. *Environmental Research Letters*, in press (September 2009).
3. White, M.A., de Beurs, K.M., et al. 2009. **Intercomparison, interpretation, and assessment of spring phenology in North America estimated from remote sensing for 1982 to 2006**. *Global Change Biology*, 15(10): 2335-2359.
4. Townsend, P.A., Helmers, D.P., McNeil, B.E., de Beurs, K.M., Eshleman, K.N., 2008. **Changes in the extent of surface mining and reclamation in the Central Appalachians: 1976-2006**. *Remote Sensing of Environment*, 113: 62-72, doi:10.1016/j.rse.2008.08.012.
5. de Beurs, K.M., Townsend, P.A., 2008. **Estimating the effect of gypsy moth defoliation using MODIS**, *Remote Sensing of Environment*, 112:3983-3990; doi: 10.1016/j.rse.2008.07.008.
6. de Beurs, K.M., Henebry, G.M., 2008. **Northern Annular Mode effects on the Land Surface Phenologies of Northern Eurasia**. *Journal of Climate*, 21:4257-4279.
7. de Beurs, K.M., Henebry, G.M., 2008. **War, drought and phenology: Changes in Land Surface Phenology in Afghanistan since 1982**. *Journal of Land Use Science*, 3(2-3):95-111.
8. Brown, M.E., de Beurs, K.M., 2008. **Evaluation of Multi-Sensor Semi-Arid Crop Season Parameters Based on NDVI and Rainfall**. *Remote Sensing of Environment*, 112 (5): 2261-2271.
9. McNeil, B. E., de Beurs, K.M., Eshleman, K.N., Foster, J.R., and Townsend, P.A., 2007. **Maintenance of ecosystem nitrogen limitation by ephemeral forest disturbance: An assessment using MODIS, Hyperion, and Landsat ETM+**. *Geophys. Res. Lett.*, 34.

10. Henebry, G.M., de Beurs, K.M., Gitelson, A.A. 2005. **Land surface phenologies of Uzbekistan and Turkmenistan between 1982 and 1999.** *Arid Ecosystems*, 11(26-27): 25-32.
11. de Beurs, K.M., Henebry, G.M. 2005. **Land surface phenology and temperature variation in the IGBP High-Latitude transects.** *Global Change Biology*, 11: 779–790.
12. de Beurs, K.M., Henebry, G.M. 2005. **A statistical framework for the analysis of long image time series.** *International Journal of Remote Sensing*, 26(8): 1551-1573.
13. Stein, A., de Beurs, K.M. 2005. **Map indices as measures for semantic data quality in segmented Landsat images.** *International Journal of Remote Sensing*, 26(14): 2937-2951.
14. de Beurs, K.M., Henebry, G.M. 2004. **Trend analyses of the Pathfinder AVHRR Land (PAL) NDVI data for the deserts of Central and Northern Eurasia.** *Geoscience and Remote Sensing Letters*, 1(4): 282-286.
15. de Beurs, K.M., Henebry, G.M. 2004. **Land surface phenology, climatic variation, and institutional change: analyzing agricultural land cover change in Kazakhstan.** *Remote Sensing of Environment*, 89(4): 497-509.
16. Boer, E., de Beurs, K.M., Hartkamp, A.D. 2001. **Kriging and thin plate splines for mapping climate variables,** *International Journal of Applied Earth Observation and Geoinformation*, 3(2): 146-154.

MANUSCRIPTS (IN REVIEW OR SUBMITTED)

- de Beurs, K.M., Henebry, K.M. 2009. **A land surface phenology assessment of the northern polar regions using MODIS reflectance time series.** *Canadian Journal of Remote Sensing*, accepted (pending revisions August 2009).
- Brown, M.E., de Beurs, K.M., Vrieling, A. 2009. **Impact of global climate indices on African vegetation phenology.** *Remote Sensing of Environment*, accepted (pending revisions June 2009).
- Wright, C.K., de Beurs, K.M., Akhmadieva, Z.K., Groisman, P.Y., Henebry, G.M. 2009. **Recent temperature and precipitation trends in Kazakhstan reveal significant changes in growing season weather.** *Environmental Research Letters*, accepted (pending revisions Sep 2009).
- Vrieling, A., de Beurs, K.M., Brown, M.E. 2009. **Phenological characterization and variability of African farming systems with NDVI time series.** *Agriculture, Ecosystems, & Environment*, submitted (April 2009).

AWARDS AND FUNDED PROPOSALS

- Global Length of Growing Season Changes over 30 years and their Impact on Agriculture and Food Production.** NASA Special Request (role Co-PI, 2009-2010: \$70,000, KdeB portion: \$24,991)
- Rebuilding Higher Education in Agriculture to Support Security, Economic Growth, and Peace Efforts in Post-Conflict Sudan** (role Co-PI, 2009-2010: \$50,000, KdeB portion: \$0).
- Land Abandonment in Russia: Understanding Recent Trends and Assessing Future Vulnerability and Adaptation to Changing Climate and Population Dynamics.** NASA Land Cover Land Use Change (role PI; 2009-2012: \$710,417).
- War, Drought and Phenology: *Changes in the land surface phenology of Afghanistan since 1982.*** American Institute of Afghanistan studies (AIAS) post-doctoral fellowship, supported by AIAS (2006: \$6500).
- Climate Change or Institutional Change? *On changes in land surface phenologies in Central and Northern Eurasia.*** NASA's Earth System Science (ESS) Graduate Student Fellowship, supported by National Aeronautics and Space Administration (NASA) (2004: \$24,000, with successful renewal in 2005: \$24000).

NASA-MSU Professional Enhancement Award 2004 to attend US-IALE, supported by the National Aeronautics and Space Administration (NASA) and Michigan State University (\$500).

Selected to participate in NSF Summer Institute in Ecological Forecasting, 2004, June, Duke University, Durham, NC, USA.

PENDING PROPOSALS

Exploring retrieval of land surface phenologies using optical-thermal synergy: a HypsIRI preparatory activity. NASA Land HypsIRI (role Co-PI, 2009: \$98,446, KdB portion: \$44,621).

Remote Sensing and Education in Post-Conflict Studies: Recovery and Change in Drylands. NASA New Investigator Proposal (role PI, 2009: \$352,522).

CONFERENCE AND MEETINGS PRESENTATIONS, POSTERS AND ABSTRACTS

Henebry, G.M. and **de Beurs, K.M.** 2009. Exploring retrieval of land surface phenologies using optical-thermal synergy: A HypsIRI preparatory activity. *Second HypsIRI Science Workshop*. Pasadena, CA. August 11-13.

Wright, C.K., **de Beurs, K.M.** Kovalsky, V., and Henebry, G.M. 2009. Contrasting trends in land surface phenologies since 2000 in western Russia and northern Kazakhstan. *European Geosciences Union General Assembly*, Vienna, Austria, April 19-24 (abstract).

Henebry, G.M., Wright, C.K., **de Beurs, K.M.**, Kovalsky, V. 2009. Recent trends in land surface dynamics across NEESPI and MAIRS revealed by MODIS Collection 5. *NASA-LCLUC Science Team Joint Meeting with MAIRS and GOF-C-GOLD Programs on Land-Cover/Land-Use Change Processes in Monsoon Asia Region*, Khon Kaen, Thailand, January 12-16.

White, M , **de Beurs, K.M.**, Didan, K, Inouye, D, Richardson, A, Jensen, O, O'Keefe, J, Zhang, G, Nemani, R, van Leeuwen, W, Schwartz, M, Brown, J, de Wit, A, Schaepman, M, : Baldocchi, D, Lin, X , Dettinger, M, Bailey, A, Kimball, J, Lee, J. 2008. Intercomparison, interpretation, and assessment of spring phenology in North America estimated from remote sensing for 1982 to 2006. *Eos Trans. AGU, 89(53), Fall Meet. Suppl.*, Abstract B54C-05 (abstract).

de Beurs, K.M., and Henebry, G.M. 2008. Physics-based approach for the monitoring of land surface phenology, *Eos Trans. AGU, 89(53), Fall Meet. Suppl.*, Abstract B51B-0374 (abstract, poster).

Dunn, A.H., **de Beurs, K.M.** 2008. Characterizing the Land Surface Phenology of Mountain Environments Using a Moderate Resolution Imaging Spectroradiometer. *Eos Trans AGU, 89(53) Fall Meet. Suppl.*, Abstract B51B-0381 (abstract, student poster).

Vrieling, A., **de Beurs, K.M.**, Brown, M.E. 2008. Food Security Through the Eyes of AVHRR: Changes and Variability of African Food Production. *Eos Trans AGU, 89(53) Fall Meet. Suppl.*, Abstract U43C-0074 (abstract).

Wright, C.K., Henebry, G.M., Kovalsky, V., and **de Beurs, K.M.** 2008. Trends in land surface phenologies across Central Asia and the Central Eurasian grain belt as viewed from MODIS Collection 5 NBAR. *Eos Trans. AGU, 89(53), Fall Meet. Suppl.*, Abstract B51B-0380 (abstract).

Vrieling, A., **de Beurs, K.M.**, Brown, M. E. 2008. Recent trends in agricultural production of Africa based on AVHRR NDVI time series. *Remote Sensing for Agriculture, Ecosystems, and Hydrology X*. Edited by Neale, C.M.U., Owe, M., D'Urso, G. Proceedings of the SPIE, Volume 7104, pp. 71040R-71040R-10 (proceedings).

de Beurs, K.M., and Henebry, G.M. 2008. Northern annular mode effects on the land surface phenologies of Northern Eurasia. *NASA Carbon Cycle & Ecosystem Joint Science Workshop*, Adelphi, MD, April 28 – May 2 (poster).

- P.A. Townsend, McNeil, B.E., **de Beurs, K.M.**, Jin, S., Wolter, P., Foster, J.R., Helmers, D.K., Kingdon, C.K. 2008. Remote Sensing of forest ecosystem and watershed processes in the eastern US. *NASA Carbon Cycle & Ecosystem Joint Science Workshop*, Adelphi, MD, April – May 2.
- de Beurs, K.M.**, Townsend, P.A. 2008. Green, yellow, red, redder, brown: Using MODIS phenology to estimate forest disturbance in the Upper Midwest. Insect Outbreaks in Forested Landscapes: Spatial Patterns and Ecosystem Responses, *US-LALE Symposium*, April (proceedings, oral presentation).
- de Beurs, K.M.** 2007. Spatio-temporal statistical methods for monitoring of land surface phenology. *EOS Trans. AGU, 88(52), AGU Fall Meet. Suppl.* Abstract, B53D-03 (abstract, invited oral presentation).
- Capehart, W.J., Henebry, G.M., and **de Beurs, K.M.** 2007. Exploring the consequences of changing land surface phenology on regional hydrometeorology in the Eurasian semi-arid grain belt. *EOS Trans. AGU, 88(52), Fall Meet. Suppl.*, Abstract B51A-0042 (abstract).
- de Beurs, K.M.**, Brown, M.E., 2007. Evaluation of Multi-sensor semi-arid crop season parameters based on NDVI and rainfall, *AGU, 88(52), Fall Meet. Suppl.*, Abstract B51A-0052 (abstract, poster).
- de Beurs, K.M.**, and Henebry, G.M. 2007. Phenological mixture models: using MODIS to interpret AVHRR land surface phenologies in the spring wheat belt of the Former Soviet Union. *NEESPI/LCLUC Science Team Meeting on Dryland Processes in Central Asia*. Urumqi, China, September 16-21.
- de Beurs, K.M.**, Henebry, G.M. and Townsend, P.A., 2007. Land surface phenology analysis to distinguish between direct and indirect impacts on the land surface dynamics: global examples, IALE World Congress, Wageningen, the Netherlands, July 8-12 (oral presentation).
- de Beurs, K.M.**, Townsend, P.A., Kingdon, C.K., Sturtevant, B.R., 2007. Modeling the consequences of forest disturbance using MODIS. *Annual Landscape Ecology Meeting*, Tuscon, AZ, April (proceedings, oral presentation).
- de Beurs, K.M.**, Henebry, G.M. 2006. Phenological Mixture Models: Using MODIS to Identify Key Phenological Endmembers and Their Spatial Distribution in the Northern Eurasian Semi-Arid Grain Belt. *EOS Trans. AGU, 87(52), AGU Fall Meet. Suppl.*, Abstract, B31A-1066 (abstract, poster).
- Townsend, P.A., Kingdon, C.K., **de Beurs, K.M.**, Pearsall, S., Eshleman, K.N. 2006. Detection of Forest Stress Using Seasonal MODIS Imagery. *EOS Trans. AGU, 87(52), AGU Fall Meet. Suppl.*, Abstract, B33F-01 (abstract).
- de Beurs, K.M.**, Henebry, G.M. 2006. War, drought and phenology: Changes in Land Surface Phenology in Afghanistan since 1982. *CESS 2006* (proceedings, oral presentation).
- de Beurs, K.M.**, and Henebry, G.M. 2006. War, drought, and phenology: changes in the land surface phenology of Afghanistan since 1982. *Proceedings of IGARSS 2006*, available online in IEEE Xplore, pp. 2432-2435. doi: 10.1109/IGARSS.2006.630 (proceedings, oral presentation).
- Henebry, G.M., and **de Beurs, K.M.** 2006. Using land surface phenology for spatio-temporal mining of image time series: a manifesto. *Second NASA Data Mining Workshop: Issues and Applications in Earth Science*.
http://datamining.itsc.uah.edu/meeting06/papers/henebry_sdstate.pdf (proceedings).
- de Beurs, K.M.**, and Henebry, G.M. 2006. A comparative analysis to understand the influence of dataset choice for land surface phenology research in the northern latitudes. *Global Vegetation Workshop 2006*. Missoula, MT, August 7-10.

- Henebry, G.M., Lioubimtseva, E., Capehart, W.J., and **de Beurs, K.M.** 2006. Evaluating the effects of institutional change on regional hydrometeorology: Assessing the vulnerability of the Eurasian semi-arid grain belt. *First NEESPI Science Team Meeting*, Vienna, Austria, February 22-24 (poster).
- de Beurs, K.M.**, Henebry, G.M. 2005. The Influence of the North Atlantic Oscillation on the Land Surface Phenologies of the Northern Hemisphere. *Eos Trans. AGU*, 86(52), *AGU Fall Meet. Suppl.*, Abstract, B42A-04, San Francisco, CA, December (abstract, oral presentation).
- de Beurs, K.M.**, Henebry, G.M., Gitelson, A.A. 2005. A comparative analysis to understand the influence of dataset choice for land surface phenology research in the northern latitudes. *Pecora-16 Conference Proceedings*, paper 23: 1-11 (proceedings, oral presentation).
- Henebry, G.M., **de Beurs, K.M.**, Ratcliffe, I.C. 2005 Spatio-temporal Change Analysis for the GIMMS NDVI dataset: A Preliminary Survey for Major Biomes. 5th International Scientific Conference on the Global Energy and Water Cycle (*GEWEX*), Orange County, CA, June 20-24 (poster).
- de Beurs, K.M.**, and Henebry, G.M. 2005 *NASA Workshop on Ecological Modeling*, CA, March 30 – April 1.
- de Beurs, K.M.**, Henebry, G.M. 2004. Land Surface Phenology and Climatic Variation in five IGBP High Latitude Transects. *Eos Trans. AGU*, 85(47), *AGU Fall Meet. Suppl.*, Abstract, B41A-0087, San Francisco, CA, December (abstract, poster).
- de Beurs, K.M.**, Henebry, G.M. and Gitelson, A.A. 2004. Regional MODIS analysis of abandoned agricultural lands in the Kazakh steppes. *Proceedings of IGARSS 2004*, volume 2, pp. 739-741. DOI: 10.1109/IGARSS.2004.1368507 (proceedings, oral presentation).
- de Beurs, K.M.**, Henebry, G.M., Gitelson, A.A. 2004. Regional MODIS analysis of abandoned cropland in the steppes of Kazakhstan. *Research Colloquium, School of Natural Resource Sciences, University of Nebraska, Lincoln*, October.
- de Beurs, K.M.**, Henebry, G.M. 2004. Analyzing land cover change in Kazakhstan: Land surface phenology, climatic variation and sensor artifacts. *ASPRS Proceedings*, paper 14: 1-12. (Proceedings, oral presentation).
- Henebry, G.M., **de Beurs, K.M.**, and Gitelson, A.A. 2004. Changing land surface phenology in Kazakhstan. *First International Workshop on Human Dimensions of Climate and Environmental Change in Central Asia*. Grand Rapids, MI, May 21-22.
- de Beurs, K.M.**, Henebry, G.M. 2003. Land Surface Change in Kazakhstan: Land Surface Phenology, Climatic Variation and Sensor Artifacts. *Eos Trans. AGU*, 84(46), *AGU Fall Meet. Suppl.*, Abstract, B41C-0889, San Francisco, CA, December (abstract, poster).
- de Beurs, K.M.**, and G.M. Henebry. 2003. Land surface phenology in Kazakhstan: climatic variability and institutional change. *Nebraska GIS Symposium*, Lincoln, NE, May 13-15.
- de Beurs, K.M.**, Henebry, G.M. 2003. Land surface phenology, climatic variation, and institutional change: analyzing land cover change in Kazakhstan. *AGU Chapman Conference on Ecosystem Interactions with Land Use Change*, Santa Fe, NM, June (proceedings, poster).
- Stein, A., **de Beurs, K.M.** 2003. Map indices as measures for semantic data quality in segmented Landsat images. In: W. Shi, M.F. Goodchild, and P.F. Fisher (eds.) *Proceedings of the 2nd international symposium on spatial data quality*. The Hong Kong Polytechnic, Hong Kong, pp. 492-506 (abstract).
- de Beurs, K.M.**, Henebry, G.M. 2002. Land surface phenology in Kazakhstan: climatic variability and institutional change. *Eos Trans. AGU*, 83(47), *AGU Fall Meet. Suppl.*, Abstract, B21B-0726, San Francisco, CA, December (abstract, poster).

- Henebry, G.M., **de Beurs, K.M.**, Gitelson, A.A. 2002. Land Surface Dynamics in Kazakhstan: Dynamic Baselines and Change Detection. *Digest of IGARSS 2002*, IEEE, Piscataway, NJ. II: 1060-1062 (proceedings).
- de Beurs, K.M.**, Henebry, G.M. 2002. Landscape dynamics in Kazakhstan: seasonal baselines for land cover change detection. *17th Annual US Landscape Ecology Symposium*, US-IALE, Lincoln, NE, April (proceedings, poster).
- Boer, E., **de Beurs, K.M.**, Hartkamp, A.D. 1999. A comparison of splining and geostatistics for climate variables, *Spatial Statistics for Production Ecology: GIS, Modeling and Remote Sensing* (abstract).
- Hartkamp, A.D., **de Beurs, K.M.**, Stein, A., White J.W., (eds.) 1999. Interpolation techniques for climate variables. *Geographic Information Systems series 99-01*. International Maize and Wheat Improvement Center (CIMMYT), Mexico (1999) 1-26 (report).

INVITED PRESENTATIONS

- Conference for Environmental Journalists, Roanoke, VA, October, 2008.
- RCN Phenology Network meeting, Milwaukee, WI, October, 2008.
- American Geophysical Union, Fall Meeting, San Francisco, CA, December 2007.
- International Institute of Geo-Information Science and Earth Observation, Enschede, the Netherlands, May 2006.
- USGS EROS Data Center, Sioux Falls, SD, May, 2004
- International Institute of Geo-Information Science and Earth Observation, Enschede, the Netherlands, January 2004.
- Centro de Investigacion en Matimaticas, A.C.,Guanajuato, GTO Mexico. June 1998.

PROFESSIONAL SERVICE

- Convener (with G.M. Henebry, SDSU, M. Losleben, USA-NPN, and J. Betancourt, USGS) of special session at the American Geophysical Union 2008 Fall Meeting: *Shifts in Phenology and Seasonality? Recent Evidence from Multiple Taxa, Ecoregions, and Models* (2 sessions: 1 oral & 1 poster). San Francisco, CA, 15-19 DEC.
- Convener (with G.M. Henebry, SDSU, J. Betancourt, USGS, J. Gross, NPS, and M. Schwartz, UWM) of special session at the American Geophysical Union 2009 Fall Meeting: *Toward Phenological Assessments: Regional, National, Global*. (4 sessions: 2 oral & 2 poster).San Francisco, CA, 14-18 DEC.
- NASA Panel Review - 2009
- Graduate Student department committee, department of Geography, Virginia Polytechnic Institute and State University, September 2008 – current.
- Departmental committee on technology., department of Geography, Virginia Polytechnic Institute and State University, September 2007 – current.
- Member of the National Phenology Network Remote Sensing working group (April 2008 – current).
- Organizer of “a workshop on Land Surface Phenology”, funded by the National Phenology Network. April 2008, Madison (WI). In collaboration with Geoffrey Henebry.

- Organizer of a symposium at the US-IALE meeting April 2008, Madison (WI): “Insect outbreaks in forested landscapes: spatial patterns and ecosystem responses”. In collaboration with Brenden McNeil.
- Radio interview for NPR's "All things considered", March 21, 2008
- Member of the LP DAAC User Working Group. The LP DAAC UWG is responsible for providing consultation and recommendations on a broad range of topics related to LP DAAC systems, services, and capabilities (August 2007 – current).
- Reviewer for: Global Change Biology, Remote Sensing of Environment, Photogrammetric Engineering and Remote Sensing, Climate Research, Journal of Landscape Ecology, Geoscience and Remote Sensing Letters, Journal of Environmental Management.
- Reviewer for NSF Postdoctoral fellowship.
- Mid-Atlantic Phenology Network and website: www.mapseasons.net
- Member of the Technical Program Committee of the IEEE International Geoscience & Remote Sensing Symposium - IGARSS 2006 (<http://www.igarss06.org>).
- Member of the Technical Program Committee of the IEEE International Geoscience & Remote Sensing Symposium - IGARSS 2004 (<http://www.igarss04.org>).

GRADUATE STUDENTS

Allisyn Hudson-Dunn (MS, graduation August 2009)

Allisyn Hudson Dunn (PhD, 2009 - current)

Dong Yan (PhD, start January 2010)

Ioannis Kokkinidis (PhD, start January 2010)

Jiaxun Chai (MSc., start January 2010)