

**Kirsten de Beurs, PhD**  
Department of Geography  
Virginia Polytechnic Institute and State University (Virginia Tech)  
107 Major Williams Hall, Blacksburg, VA 24060  
[kdebeurs@vt.edu](mailto:kdebeurs@vt.edu), T: 540-231-1642  
[www.mapseasons.net](http://www.mapseasons.net)

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

## BOOK CHAPTERS

de Beurs, K.M., Henebry, G.M., 2008. **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, submitted.

## JOURNAL ARTICLES

- 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*, submitted (September 2008).
- 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.
- 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.
- 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.
- 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.
- 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.

- 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.
- 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.
- 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.
- 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.
- 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.
- 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.
- 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.
- 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.

## REPORTS, CONFERENCE PROCEEDINGS AND ABSTRACTS

- A. Vrieling, K.M. de Beurs, M.E. Brown, 2008. **Recent trends in agricultural production of Africa based on AVHRR NDVI time series.** *SPIE Europe Remote Sensing*, September 2008, Cardiff, Wales, United Kingdom.
- P.A. Townsend, B.E. McNeil, K.M. de Beurs, S. Jin, P. Wolter, J.R. Foster, D.P. Helmers, C.K. Kingdon. 2008. **Remote Sensing of forest ecosystem and watershed processes in the eastern US.** *NASA Carbon Cycle & Ecosystem Joint Science Workshop* April, 2008 University of Maryland Inn and Conference Center.
- K.M. de Beurs, G.M. Henebry. 2008. **Northern Annular Mode effects on the land surface phenologies of Northern Eurasia.** *NASA Carbon Cycle & Ecosystem Joint Science Workshop* April, 2008 University of Maryland Inn and Conference Center.
- K.M. de Beurs, P.A. Townsend. 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.
- 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, San Francisco, CA, December. (INVITED).
- de Beurs, K.M., Townsend, P.A., Kingdon, C.C., Sturtevant, B.R., 2007. **Modeling the consequences of forest disturbance using MODIS.** Annual Landscape Ecology Meeting, Tuscon, AZ, April.
- 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, San Francisco, CA, December.

- Townsend, PA, Kingdon, C., de Beurs, KM, Pearsall, S., Eshleman, KN, 2006. **Detection of Forest Stress Using Seasonal MODIS Imagery.** EOS Trans. AGU, 87(52), *AGU Fall Meet. Suppl.*, Abstract, B33F-01, San Francisco, CA, December.
- de Beurs, K.M., Henebry, G.M., 2006. **War, drought and phenology: Changes in Land Surface Phenology in Afghanistan since 1982.** *CESS 2006 Proceedings.*
- de Beurs, K.M., Henebry, G.M., 2006. **War, drought and phenology: Changes in Land Surface Phenology in Afghanistan since 1982.** *IGARSS 2006 Proceedings.*
- Henebry, G.M., and K.M. de Beurs. 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.*
- 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.
- 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.
- 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.
- de Beurs, K.M., Henebry, G.M., Gitelson, A.A. 2004. **Regional MODIS analysis of abandoned cropland in the steppes of Kazakhstan.** *Digest of IGARSS 2004*, IEEE, Piscataway NJ, paper 3WE\_33\_06.
- 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.
- de Beurs, K.M., Henebry, G.M. 2004. **Land Surface Change in Kazakhstan: Land Surface Phenology, Climatic Variation and Sensor Artifacts.** *NASA Land Cover Land Use Change Science Team meeting.* Aderphi, MD, January.
- 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.
- 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.
- 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 2<sup>nd</sup> international symposium on spatial data quality.* The Hong Kong Polytechnic, Hong Kong, pp. 492-506.
- 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.
- 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.

- 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.
- 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.*
- 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.

## SYNERGISTIC ACTIVITIES

- 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 the following journals: *Global Change Biology* (1), *Remote Sensing of Environment* (5), *Photogrammetric Engineering and Remote Sensing* (3), *Climate Research* (1), *Journal of Landscape Ecology* (1)
- Reviewer for NSF.
- Start of the Mid-Atlantic Phenology Network and website: [www.mapseasons.net](http://www.mapseasons.net)

## AWARDS

**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.