

Nathaniel A. Brunsell

Curriculum Vitae

Contact

Department of Geography
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Education

PhD, Biometeorology with emphasis in Remote Sensing, 2003
Utah State University, Logan, UT
Dissertation: An examination of scale issues involved with remotely sensed data
Advisor: Dr. Robert Gillies

BS, Earth and Planetary Sciences, 1997
University of New Mexico, Albuquerque, NM
Undergraduate thesis: The effect of topography on precipitation
Advisor: Dr. David Gutzler

Professional Experience

Assistant Professor, 2004 - Present
Department of Geography – Atmospheric Sciences Program
University of Kansas

Postdoctoral Research Associate, 2002 - 2004
Department of Civil and Environmental Engineering
Duke University

Graduate Research Assistant, 1998 - 2002
Department of Plants, Soils, and Biometeorology
Utah State University

Research Assistant, 1997 - 1998
Department of Earth and Planetary Sciences
University of New Mexico

Teaching Experience

University of Kansas

Atmospheric Science 521: Microclimatology, Spring 2006
Atmospheric Science 642: Remote Sensing of the Atmosphere, Spring
Atmospheric Science 680: Physical Meteorology, Fall
Atmospheric Science 697: Senior Seminar, Fall

Atmospheric Science 606: Forecasting Practicum, Fall
Atmospheric Science 607: Forecasting Intern, Fall
Geography 531/731: Land-Atmosphere Interactions, Spring 2005

Peer-Reviewed Publications

Brunsell, N. A. and J. M. Ham: 2005, Surface energy fluxes in grasslands using large aperture scintillometry, *Agricultural and Forest Meteorology*, **to be submitted**.

Brunsell, N. A. and C. B. Young: 2005, A wavelet based information theoretic approach for assessing spatial-temporal variability of land surface processes using MODIS and NEXRAD data, *Journal of Hydrometeorology*, **submitted**.

Brunsell, N. A.: 2005, Characterization of land-surface precipitation feedback regimes with remote sensing. *Remote Sensing of Environment*, **submitted**.

French, A. N., F. Jacob, M. C. Anderson, W. P. Kustas, W. Timmermans, A. Gieske, B. Su, H. Su, M. F. McCabe, F. Li, J. Prueger, and N. Brunsell: 2005, Estimation of surface energy fluxes with ASTER. *Remote Sensing of Environment*, **in press**.

[7] White, M.A., N. Brunsell, and M.D. Schwartz: 2004, Vegetation phenology in global change studies. In *Phenology: An Integrative Environmental Science*. M.D. Schwartz, editor. Kluwer Academic Publishers, New York, NY. 453-466.

[6] Brunsell, N. A. and R. R. Gillies: 2003, Length scale analysis of surface energy fluxes derived from remote sensing. *Journal of Hydrometeorology*, **4**, 1212-1219.

[5] Brunsell, N. A. and R. R. Gillies: 2003, Determination of scaling characteristics of AVHRR data with wavelets: Application to SGP97, *International Journal of Remote Sensing*, **24**, 14, 2945-2957.

[4] Brunsell, N. A. and R. R. Gillies: 2003, Scale issues in land-atmosphere interactions: implications for the remote sensing of the surface energy balance, *Agricultural and Forest Meteorology*, **117**, 3-4, 203-221.

[3] Brunsell, N. A. and R. R. Gillies: 2002, Incorporation of surface emissivity into a thermal atmospheric correction, *Photogrammetric Engineering and Remote Sensing*, **68**, 12, 1263-1269.

[2] Brunsell, N. and Gillies, R.: 2001, The Effect of Emissivity on Evaporation in *Remote Sensing and Hydrology 2000: Proceedings of a Symposium Held at Santa Fe, New Mexico, April 2000*. eds: M. Owe, K. Brubaker, J. Ritchie and A. Rango, **267**, 276-280.

[1] Menking, K. M., R. Y. Anderson, N. A. Brunsell, B. D. Allen, A. L. Ellwein, T. A. Loveland and S. W. Hostetler: 2000, Evaporation from Groundwater Discharge Playas, Estancia Basin, Central New Mexico. *Global and Planetary Change*, **25**, 133-147.

Conference Proceedings, Meetings etc.

Brunsell, N. A. and C. B. Young: 2005, Assessing spatial-temporal variability of vegetation-precipitation interactions with combined NEXRAD and MODIS data. AGU Joint Assembly, 23-27 May, New Orleans, LA.

Brunsell, N. A.: 2005, Quantifying the dominant time scales of land-surface precipitation feedbacks. AAG Annual Meeting, 5-9 April, Denver, CO.

Lash, R. R., N. A. Brunsell, A. T. Peterson and B. Coles: 2005, Spatiotemporal context of Ebola and Marburg hemorrhagic fever outbreaks in Africa. AAG Annual Meeting, 5-9 April, Denver, CO.

Brunsell, N. A. and J. D. Albertson: 2003, Assessing the spatial scales of surface atmosphere interactions. AGU Fall Meeting, 8-12 December, San Francisco, CA.

Brunsell, N. A. and J. D. Albertson: 2003, Effects of surface heterogeneity on scalar and flux profiles in the atmospheric boundary layer. EGS-AGU-EUG Joint Assembly, 6-11 April, Nice, France.

Brunsell, N. A., R. R. Gillies, B. Lapenta, and S. Dembeck: 2003, Aggregation of remotely sensed vegetation and derived latent heat flux. 83rd AMS Annual Meeting, 9-13 February, Long Beach, CA.

Brunsell, N. A., and R. R. Gillies: 2002, Length scales of remotely sensed vegetation, surface radiometric temperature, and derived surface energy fluxes. 25th Conference on Agricultural and Forest Meteorology, 20-24 May, Norfolk, VA.

Brunsell, N. A., K. M. Menking, R. Y. Anderson, and B. D. Allen: 1998, Atmospheric and hydrologic estimates of evaporation for the Estancia basin playa complex. New Mexico Geological Society Spring Meeting, 9 April, Socorro, NM.

Currently Funded Projects

“Assessing multi-scale spatial-temporal variability of surface energy fluxes using scintillometry and remote sensing” KUCR New Faculty General Research Fund. \$7914.56. 2005-2006.

Awards

American Society for Photogrammetry and Remote Sensing. Lecia Geosystems Award for Best Scientific Paper in Remote Sensing. Second Place, 2003.

Service

Graduate Affairs Committee (2005-2006)
Undergraduate Studies Committee (2004-2005)

Professional Organizations

American Geophysical Union
American Meteorological Society
Association of American Geographer