

Christopher J. Crawford, Ph.D.

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Earth System Science Interdisciplinary Center
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Biographical Information

Current Positions

Landsat Science Team Scientist, Arctic Slope Research Corporation (ASRC) Federal InuTeq Contractor / U.S. Geological Survey Earth Resources Observation and Science (EROS) Center March 2017

Postdoctoral Research Associate, Earth System Science Interdisciplinary Center (ESSIC) University of Maryland / Cryospheric Sciences Laboratory, NASA/GSFC 2015 – present

NASA SnowEx Organizing Team Member 2015 – present

Previous Positions

2013 – 2015 **NASA Postdoctoral Program Fellow**, Oak Ridge Associated Universities (ORAU), Cryospheric Sciences Laboratory, NASA/GSFC

2010 – 2013 **NASA Earth and Space Science Fellow**, Department of Geography, University of Minnesota

Fall 2012 **Graduate Teaching Assistant**, Department of Geography, University of Minnesota

Fall 2011 **Visiting NASA Earth and Space Science Fellow**, Cryospheric Sciences Laboratory, NASA/GSFC

Fall 2010 **Graduate Teaching Assistant**, Department of Geography, University of Minnesota

2008 – 2010 **Graduate Research Assistant**, Department of Geography, University of Minnesota

2008 **Lecturer**, Department of Geography and Earth Sciences, University of North Carolina-Charlotte

2007 – 2008 **Remote Sensing/GIS Research Assistant and Lab Coordinator**, Center for Applied Geographic Information Science Laboratory (CAGIS), Department of Geography and Earth Sciences, University of North Carolina-Charlotte

2007 **Adjunct Instructor**, Department of Education, Kings College

2006 – 2007 **Graduate Teaching Assistant**, Department of Geography, Virginia Polytechnic Institute and State University (Virginia Tech)

Education

2013 (June) Ph.D. (Geography), Department of Geography, University of Minnesota

- 2007 (May) M.S. (Geography), Department of Geography, Virginia Polytechnic Institute and State University (Virginia Tech)
- 2004 (May) B.S. Cum Laude (Forest Resources), Department of Forestry, Fisheries, and Wildlife, University of Tennessee-Knoxville

Awards and Honors

- 2014 – 2015 NASA Postdoctoral Program Fellow, ORAU / NASA
- 2013 – 2014 NASA Postdoctoral Program Fellow, ORAU / NASA
- 2012 – 2013 NASA Earth and Space Science Fellow, University of Minnesota / NASA
- 2012 Ralph Hall Brown Prize-Best Graduate Student Publication, Department of Geography, University of Minnesota
- 2011 – 2012 NASA Earth and Space Science Fellow, University of Minnesota / NASA
- 2010 – 2011 NASA Earth and Space Science Fellow, University of Minnesota / NASA
- 2010 Chimborazo Student Research Award, Association of American Geographers (AAG) Mountain Geography Specialty Group
- 2010 Student Research Award, AAG Paleoenvironmental Change Specialty Group
- 2010 Student Travel Award-International Geographic Information Fund (IGIF), AAG
- 2009 Adams-Abler Summer Field Fellowship, Department of Geography, University of Minnesota

Scholarship

Refereed Publications (in print)

- [10] Crawford, C.J., P.K. Campbell, E.M. Middleton, M.G. Hom, K.F. Huemmerich, and D.R. Landis (to be published). Retrieval of Lake Superior ice surfaces using EO-1 Hyperion, Landsat ETM+, and Landsat OLI. *Proceedings from the 23rd IAHR International Symposium on Ice*.
- [9] Crawford, C.J., D. Griffin, and K.F. Kipfmueller. (2015). Capturing season specific precipitation signals in the northern Rocky Mountains, USA using earlywood and latewood tree rings. *Journal of Geophysical Research-Biogeosciences* 120.doi:10.1002/2014JG002740.
- [8] Hall, D.K., C.J. Crawford, N.E. DiGirolamo, G.A. Riggs, and J.L. Foster. (2015). Detection of earlier snowmelt in the Wind River Range, Wyoming, using Landsat imagery, 1972-2013. *Remote Sensing of Environment* 162:45-54.doi:10.1016/j.rse.2015.01.032.
- [7] Crawford, C.J. (2015). MODIS Terra Collection 6 fractional snow cover validation in mountainous terrain during spring snowmelt using Landsat TM and ETM+. *Hydrological Processes* 29:128-138.doi:10.1002/hyp.10134.
- [6] Klink, K., J.J. Wiersma, C.J. Crawford, D.D. Stuthman (2014). Impacts of temperature and precipitation variability in the Northern Plains of the United States and Canada on the productivity of spring barley and oat. *International Journal of Climatology* 34:2805-2818. doi:10.1002/joc.3877.

- [5] Crawford, C.J. (2013). Evidence for spring mountain snowpack retreat from a Landsat-derived snow cover climate data record. *The Cryosphere Discussion* 7:2089-2117.doi:10.5194/tcd-7-2089-2013.
- [4] Crawford, C.J., S.M. Manson, M.E. Bauer, and D.K. Hall (2013). Multitemporal snow cover mapping in mountainous terrain for Landsat climate data record development. *Remote Sensing of Environment* 135:224-235.doi:10.1016/j.rse.2013.04.004.
- [3] Crawford, C.J. (2012). Do high-elevation northern red oak tree-rings share a common climate-driven growth signal? *Arctic, Antarctic, and Alpine Research* 44:26-35.doi:10.1657/1938-4246-44.1.26.
- [2] Copenheaver, C.A., C.J. Crawford, and T.M. Ferrer (2011). Age-dependent climate responses identified in the growth of white oak (*Quercus alba*). *Trees, Structure, and Function* doi: 10.1007/s00468-011-0541-2.
- [1] Crawford, C.J. and L.M. Kennedy (2009). Spatial and temporal patterns of tree encroachment into a Southern Appalachian grass/heath bald. *Natural Areas Journal* 29(4):500-508.

Refereed Publications (in review or under revision)

Crawford, C.J., M.G. Hom, J.W. Cooper, K.M. Brunt, T.A. Neumann, D.J. Harding, P.W. Dabney, J.J. Butler, C.S. Cleckner, and T. Markus (under revision). Calibration of spectroscopic snow, ice and liquid water measurements for the airborne SIMPL/AVIRIS-NG 2015 Greenland campaign. *Resubmission to Applied Optics*