

Name	<b>Christopher M. U. Neale</b>
Academic rank	Professor (1998 – present) Associate Professor (1989 – 1998) Adjunct Professor in the Watershed Science Unit, Department of Geography and Earth Resources (1990- present)
Specialization area	Irrigation Engineering: Applied remote sensing from satellite & airborne systems; use of airborne multispectral imagery for monitoring & mapping; irrigation water management & water demands; precision agriculture using remote sensing & GPS equipment; crop water requirements.
Education	Ph.D. in Agricultural Engineering, Colorado State University (1987) M.S. in Agricultural Engineering, Colorado State University, (1983) B.S. in Civil Engineering, Escola de Engenharia Mauá São Caetano do Sul, São Paulo, Brazil (1980)
Languages	English and Portuguese (native languages); Spanish (fluent); French (good)
Professional membership	American Society of Agricultural Engineers (ASAE) American Society of Civil Engineers (ASCE) American Geophysical Union (AGU) American Society for Photogrammetry & Remote Sensing Sigma Xi, Gamma Sigma Delta, Alpha Epsilon
Professional registration	Civil Engineer, SP, Brasil, CREA #193933
Experience highlights	Secretaria de Recursos Hídricos – MMA, Brasilia, Brasil. One-year consulting assignment in the areas of remote sensing and geographical information systems, irrigation water management and water resources. CODEVASF – Brasilia, DF, Brasil. A one-year, in-house consulting assignment in their Remote Sensing and GIS Laboratory. Golder Associates: Mapping vegetation along the Paraguai-Parana waterway using TM & MSS Landsat Imagery and airborne multispectral videography. EMBRAPA: One-month consulting assignment in Brasil, to advise EMBRAPA, the Brazilian Agricultural Research Agency, on Irrigation Engineering Research. Consulting assignment with the Bureau of Reclamation at CODEVASF, Brasilia, Brazil, June 1990: Training of CODEVASF personnel on the theory and use of portable radiometers. Consulting assignment with Battelle, for the implementation of surface moisture retrieval algorithms for operational use by the U.S. army.
Teaching & research	<i>Teaching:</i> Irrigation Water Management; Irrigation Hydrology; Principles of Remote Sensing & Applications to Agriculture and Hydrology. <i>Research:</i> Presently directing a large mapping project in the Dominican Republic. Mapping of 3,000 km <sup>2</sup> of irrigated agriculture using aerial photography (1:20,000) and airborne multispectral digital imaging; obtaining rural property boundaries from photography in GIS environment; development of hydro-climatological database, monitoring for salinity and drainage problems. Ongoing research in the areas of applied remote sensing to resource mapping, hydrology and precision irrigated agriculture using satellite imagery and airborne multispectral digital imagery. Developed the USU airborne video/radiometer remote sensing system. Use of multispectral imagery for mapping riparian corridors, rangeland areas, forested areas and agricultural areas.
Publications	Refereed publications: 17. Reports and technical papers: 25.
Principal publications of last five	Neale, C. M. U. 1997. Classification and Mapping of Riparian Systems Using

years

Airborne Multispectral Videography. *Restoration Ecology*, Vol. 5, No. 48, pp.103-112

Hawkins, C. P., K. L. Bartz and C. M. U. Neale. 1997. Vulnerability of Riparian Vegetation to Catastrophic Flooding: Implications for Riparian Restoration. *Restoration Ecology*, Vol. 5, No. 48, pp. 75-84.

O’Niell, M. P., J.C. Schmidt, J. P. Dobrowolski, C.P. Hawkins and C.M. U. Neale. 1997. Identifying Sites for Riparian Restoration: Application of a model to the Upper Arkansas River Basin. *Restoration Ecology*, Vol5, No. 48, pp 85-102.

Artan, G. A., C. M. U. Neale and D. G. Tarboton. 1998. Characteristic Length Scale of Input Data to Distributed Models: Implications for Modelling Grid Size. Accepted for publication in the *Journal of Hydrology*.

Jayanthi, H., Christopher Neale, and James L. Wright. Seasonal Evapotranspiration Estimation Using Canopy Reflectance - A Case Study Involving Pink Beans. 2001. Proceedings of the Remote Sensing and Hydrology 2000 Symposium. Editors Manfred Owe, Kaye Brubaker, Jerry Richtie & Albert Rango. IAHS Publ. no. 267 (2001), ISBN 1-901502-46-5

May, C., Christopher Neale, and Norm Henderson. Mapping Riparian Resources in Semi-Arid Watersheds Using Airborne Multispectral Imagery. Proceedings of the Remote Sensing and Hydrology 2000 Symposium. Editors Manfred Owe, Kaye Brubaker, Jerry Richtie & Albert Rango. IAHS Publ. no. 267 (2001), ISBN 1-901502-46-5

Farag, F., Christopher Neale, and Roger Kjelgren. Development of A GIS-Based Model To Estimate Landscape Water Demand in the Urban/Rural Interface. Proceedings of the Remote Sensing and Hydrology 2000 Symposium. Editors Manfred Owe, Kaye Brubaker, Jerry Richtie & Albert Rango. IAHS Publ. no. 267 (2001), ISBN 1-901502-46-5

Neale, C.M.U., L. E. Hipps, J. H. Prueger, W. P. Kastas, S. Bawazir, W. E. Eichinger and D. I. Cooper Spatial Mapping of Energy Balance Components Over Riparian Vegetation Using High Resolution Airborne Remote Sensing. . Proceedings of the Remote Sensing and Hydrology 2000 Symposium. Editors Manfred Owe, Kaye Brubaker, Jerry Richtie & Albert Rango. IAHS Publ. no. 267 (2001), ISBN 1-901502-46-5.

Crosby, G.S., Christopher Neale, Mark Seyfried, and David Tarboton Remote Sensing Inputs and a GIS Interface for Distributed Hydrologic Modeling.. Proceedings of the Remote Sensing and Hydrology 2000 Symposium. Editors Manfred Owe, Kaye Brubaker, Jerry Richtie & Albert Rango. IAHS Publ. No. 267 (2001), ISBN 1-901502-46.

Awards

None

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