

## **Megan E. Van Fossen, Physical Science Technician, in EPA's National Exposure Research Laboratory**

Exposure Methods and Measurements Division

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**Area of Expertise:** My research focuses on the use of combined use of GIS and remote sensing tools and science to identify efficient and robust means to monitor and model spatio-temporal patterns and trends for both data interpretation and extrapolation. Geographic information science has been widely used in combination with state-of-the-art technology as a popular means to foster the adoption of more sustainable development practices. I focus primarily on developing, researching and testing methods to extract information from datasets to facilitate their integration into GIS decision support tools and GIS Web applications for their subsequent use in spatio-temporal analyses for land cover and land use monitoring and prediction modeling, biodiversity data analyses and modeling, and scenarios modeling for environmental conservation planning and sustainable development.

### **Select Publications**

Church, D., Gascon, C., Van Fossen, M., Velásquez, G. and Solórzano, L. A. "Testing the efficiency of global-scale conservation planning using data on Andean amphibians." Chapter 4 in Setting Conservation Targets for Managed Forest Landscapes. Eds. M.A. Villard and B.G. Jonsson (eds.). Cambridge: Cambridge University Press, 2009. 50-78. ISBN: 9780521877091.

Van Fossen, M.E. \*, Chacón, L. and Velásquez, G. (2008) Sistema CÓNDOR v3.0 – Una Herramienta para la Integración de Criterios Ambientales y de Conservación de la Biodiversidad en la Evaluación de Proyectos de Infraestructura. Conservation International-CAF Andean Development Corporation CÓNDOR GIS Workshop. Lima-Peru, Quito-Ecuador, La Paz-Bolivia, Caracas-Venezuela and Buenos Aires-Argentina.

Harper, G. and Van Fossen, M.E. (2007) Bosque y Deforestación en las Áreas Protegidas de los Andes Tropicales, 2ndo Congreso Latinoamericano de Parques Nacionales y Áreas Protegidas, San Carlos de Bariloche-Argentina.

Van Fossen, M.E. \* (2006) Análisis y Modelaje en Sistemas SIG para la Conservación de la Biodiversidad. Prioridades en la Investigación y la Conservación de las Mariposas Andinas. Tropical Andean Butterfly Diversity Project Training Workshop. Rancho Grande-Venezuela.

Eastman, J. R., Van Fossen, M. E. and Solórzano, L. A., (2005) "Transition Potential Modeling for Land Cover Change", in GIS, Spatial Analysis and Modeling, D. Maguire, M. Goodchild and M. Batty, eds. (Redlands, California: ESRI Press).

Eastman, J. R. and Van Fossen, M.E.\* (2004) Modelado de Transiciones Potenciales para el Cambio de la Cobertura del Suelo: Un Estudio Comparativo. 1er Congreso de Usuarios de Idrisi de Latinoamérica y España. Toluca-México.

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### **Education:**

- M.A. in GIS for Development and Environment, Clark University (2004)
- Certificate in Small Business Management, Scott Community College (2002)
- B.S. in Animal Ecology, Iowa State University (1998)

### **Professional Experience:**

- 2009 to Present: Physical Science Technician, USEPA-NERL (Research Triangle Park, NC)
- 2005 – 2008: Andes Regional Coordinator – Biodiversity Science Unit, Conservation International (Caracas, Venezuela and Quito, Ecuador – South America)
- 2005 – 2007: Acting Director - Biodiversity Science Unit, Conservation International (Caracas, Venezuela)
- 2003 – 2005: Research Associate, Clark Labs (Worcester, MA)
- 1999 – 2001: Natural Resources Advisor, U.S. Peace Corps (Zamora, Ecuador – South America)
- 1998: Conservation Crew Member, Scott County Conservation Board (Davenport, IA)
- 1997: Recycle Intern, City of Davenport Public Works Department (Davenport, IA)
- 1994 – 1997: Conservation Crew Member, Scott County Conservation Board (Davenport, IA)
- 1992: Conservation Crew Member, Iowa Conservation Corps (Davenport, IA)

### **Honors and Awards:**

- 2008 Sistema CÓNDOR v3.0 – ESRI International Award for Best GIS Web Application Design (Collaboration between Conservation International Biodiversity Science Unit, Corporación Andina de Fomento, and ESRI)