

## **Adam M. Davis**

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### **Professional Experience**

**Assistant Professor, Dept. of Earth Science & Agriculture, Vincennes University, Vincennes, IN – 8/2006 to Present**  
Courses Taught: Environmental Science, Physical Geology, Physical Geology Laboratory, Mineralogy, Historical Geology, Geographic Information Systems, Earth Science, Earth Science Laboratory  
Committees: Recruitment and Retention (Chair), Newsletter, General Education Requirements  
Other Duties: Advising, Campus Tours, Mentoring High School Faculty, Webpage design

**Associate Instructor, Dept. of Geological Sciences, Indiana University, Bloomington, IN – 1/2003 to 5/2006**

- Organized logistics, developed curriculum, lectured, and supervised 3 Associate Instructors for an introductory Physical Geology course.
- Developed curriculum for and instructed the laboratory part of an Environmental Geology course.
- Developed curriculum for and assisted in the instruction of a GIS course (3 semesters).
- Assisted in the instruction of a Geomorphology course.
- Developed curriculum for and instructed the laboratory portion of a Historical Geology course.
- Instructed the laboratory portion of an Introductory Physical Geology.

**Instructor, Department of Geological Sciences, Indiana University, Bloomington, IN – Summer 2005**  
G171 - Environmental Geology -planned and gave lectures and laboratory exercises.  
-supervised undergraduate teaching intern.

**Vegetation Survey Field Assistant, Bloomington, IN – Summer 2004 and Summer 2005**

- Identified and counted tree seedlings along old field – forest edges.
- Determined Height and DBH of mature trees in adjacent forest.

**Research Assistant, Indiana Geological Survey, Bloomington, IN – 6/2002 to 12/2002**

- Processed Geospatial data for a Riparian Buffer prioritization study in Johnson County, Indiana.
- Assisted with the installation of hydrologic monitoring equipment.

**Geologist, U.S. Geological Survey, Reston, VA – 6/1999 to 7/2001**

- Created a Geographic Information System (GIS) of Washington DC area geologic data (USGS OFR01-227).
- Assisted in the development of a standard data model for digital geologic map products.
- Conducted field investigations for a Baltimore, MD area geologic mapping project.
- Designed and maintained National Cooperative Geologic Mapping Program web pages.

**Database and GIS Analyst, RJO Enterprises, Annapolis, MD – 2/1998 to 5/1999**

- Provided Database, Cartographic, and general computer support for the Chesapeake Bay Program (CBP).
- Designed GIS and database applications including a quality assurance application for the CBP Water Quality Database and a geographical database querying tool with MapObjects and Visual Basic.
- Evaluated GIS software for the Chesapeake Bay Program.

**Analyst, DynCorp, Alexandria, VA – 1/1996 to 2/1998**

**Geologic and Environmental Work**

- Contributed to the development of environmental quality indices using air, water, and toxics release data.
- Incorporated geologic, geographic, and gas production data into a GIS and interpreted spatial trends to perform a natural gas resource assessment of the Michigan basin.
- Provided technical support for the Geothermal Division of the Department of Energy.

**Geographical Analysis and Cartography**

- Produced maps based on GIS analysis of environmental quality data and renewable energy industry trends.

**GIS and Database Design**

- Designed Geographic Information Systems (GIS) including modifications to the Superfund Economic Benefit Analysis System, the GIS interface for the National Biomass Power Database, and a Military Photovoltaics Projects database.

**Teaching Assistant – Dept. of Geology, University of Maryland, College Park, MD – 1/1994 to 1/1996**

- Developed curriculum and instructed both Introductory Geology Laboratory and Mineralogy Laboratory courses, and assisted in the instruction of an Optical Mineralogy Laboratory course.

**Field Geologist - Geological Survey of Canada – 6/1994 to 8/1994**

- Performed geologic mapping in the northern Northwest Territories, Canada.

**Education**

**Ph.D.: Geological Sciences, Geoecology – anticipated in Fall 2009**

Indiana University, Bloomington, IN

Dissertation Research: **Plant community composition and biodiversity compared between Southern Indiana geologic settings**

Courses Taken include: Surface Water Hydrology, Biodiversity and Ecosystem Functioning, Ecology, Environmental Statistics, Applied Mathematics, Evolution, Carbonates of Southern Indiana, Vascular Plants, Sedimentary Environments, Plant Communities of the Great Smoky Mountains

**M.S.: Geographic and Cartographic Sciences – 5/1999**

George Mason University, Fairfax, VA

Courses taken include: Geographic Information Systems (GIS), Remote Sensing, Spatial Statistics, Environmental Management, Mapping Foundations, Global Climate Change

**Graduate Studies in Geology – 1/1994 to 1/1996**

University of Maryland, College Park, MD

Graduate Research : Performed geologic mapping and collected isotopic and other geochemical data to investigate the origins of Northwest Territory granites

Courses taken include: Appalachian Geology, Chemistry of Natural Water, Thermodynamics, Isotope Geochemistry, GIS

**B.S.: Geology – 12/1993**

University of Maryland, College Park, MD

Courses taken include: Geomorphology, Soils, Structural Geology, Geochemistry, Hydrogeology, Sedimentation

Bachelor's Thesis: Petrogenesis of the Port Deposit meta-tonalite

**Geology Field Camp** – 6/1993 to 7/1993  
University of Oregon, Eugene, OR

## **Skills**

### **Geographic Information Systems (GIS)**

14 years of experience with ESRI software: ArcGIS, Arcview, ArcInfo, ArcIMS, MapObjects; Geostatistical analysis; Collecting point data with GPS receivers; Creating/working with DEMs and images; Geographical Analysis and Thematic Mapping; Compiling and publishing GIS datasets; Programming

### **Teaching Methodologies**

Blackboard, Dynknow, Tablet PC, Smart Classrooms, Completed Teaching Training course and workshops at Vincennes University

### **Geologic Mapping**

Southern Indiana bedrock and soils; Washington DC area map compilation; Anialik River Volcanic Belt in the Slave Province, Canada; Volcanic, sedimentary, and ophiolite sequence rocks in central and eastern Oregon

### **Hydrologic Monitoring**

Measuring soil water tension and water table levels; Installing weirs

### **Petrography**

Point counts of grain mounts and thin sections, and textural descriptions of thin sections

### **Soil Chemistry**

Soil acidity; Nitrogen concentration and nitrogen isotopic composition

### **Thermal Ionization Mass Spectrometry**

Rare Earth Element patterns by isotope dilution; Nd isotopic composition

### **Topographic Survey**

With traditional and laser transits

### **Vegetation Survey**

Tree height and diameter at breast height (DBH); Releve analysis; Tree species identification; Herb species identification and cover estimation; Tree seedling counts

### **X-ray Diffraction**

### **Computer Software**

Microsoft Word, Excel, Access, PowerPoint, Visio, PCord, GS+, SQL Server, Internet Explorer, Firefox, Dreamweaver, Adobe Illustrator, Adobe Photoshop

### **Computer Programming**

HTML, Visual Basic

## **Awards and Honors**

- BP-Amoco Fellowship, Department of Geological Sciences, Indiana University – 8/2001 to 5/2002
- Award for Meritorious Service, U.S. Geological Survey – 12/2000
- Academic Honors multiple semesters at University of Maryland and George Mason University
- Senior Summer Scholarship at University of Maryland – Summer 1993

## Grants

- IU Geology Department Grants-In-Aid – Summer 2003, Summer 2005
- USGS field expenses reimbursement – Summer 2004
- John B. Patton Award, Indiana Geological Survey – Summer 2002
- Indiana University Teaching and Research Preserve Award – 12/2002

## Publications

### *Papers and Reports:*

- Davis, A.M., Bryant, S.R., Peach, C.A., Burkhart, K., Wirthwein, J.P., Brown, J.K., Fleck, M.R., Steel, J.M., Mapping and Geographic Information System Exercises for Freshman and Sophomore College Students, in David R. Soller Editor, United States Geological Survey Open File Report, In press.
- Davis, A.M., Southworth, C.S., Reddy, J.E., and Schindler, J.S., 2002, Geologic Map Database of the Washington DC Area Featuring Data from Three 30 x 60 Minute Quadrangles: Frederick, Washington West, and Fredericksburg. United States Geological Survey Open-File Report 01-227, <http://pubs.usgs.gov/of/of01-227/>
- Davis, A.M., 2002, Will a Standard Data Model Work for Washington, DC Area Geologic Geospatial Data? in Digital Mapping Techniques '01 - Workshop Proceedings, David R. Soller Editor, United States Geological Survey Open-File Report 01-223, <http://pubs.usgs.gov/of/2001/of01-223/davis.html>
- Davis, A.M., Reddy, J., Southworth, C. S., 2000, A Washington DC Area Geologic Map Database: working toward implementation of the Digital Geologic Map Data Model, in Digital Mapping Techniques '00 – Workshop Proceedings, David R. Soller Editor, United States Geological Survey Open-File Report 00-325, p. 199-201, <http://pubs.usgs.gov/of/of00-325/davis.html>

### *Abstracts:*

- Davis, A.M., 2007, Environmental Effects on Plant Communities of Abandoned Agricultural Fields in Southern Indiana., *Eos Trans. AGU*, 88(52), Fall Meet. Suppl., Abstract B31B-0327
- Davis, A.M., 2005, Geoecology of abandoned agricultural fields in Southern Indiana. Ecological Society of America – 90<sup>th</sup> Annual Meeting, Montreal Canada
- Davis, A.M., 2004, Studying trends in biological diversity in abandoned agricultural fields: A geoecological approach. Geological Society of America *Abstracts with Programs*, Vol. 36, No. 2, p. 42
- Flory, S.L., Reynolds, H., Davis, A.M., Selby, M., 2003, Biodiversity and nutrient influences on growth of the invasive exotic *Centaurea maculosa* (spotted knapweed). Invasive Plants in Natural and Managed Systems: Linking Science and Management, 7th International Conference on the Ecology and Management of Alien Plant Invasions
- Davis, A.M., 2002, Geologic controls on secondary succession in an abandoned corn field. Geological Society of America, *Abstracts with Programs*
- Davis, A.M., 2001, The Washington DC Area Geologic Map Database: A tool for solving environmental and resource problems. U.S. Geological Survey, 2001 GIS Workshop.
- Davis, A.M., Krogstad, E.J., 1995, S-type granites in the northern Slave Province, Northwest Territories, Canada, in The Origin of Granites and Related Rocks: Third Hutton Symposium Abstracts, Michael Brown and Philip M. Piccoli Editors, United States Geological Survey Circular 1129, p. 40-41
- Davis, A.M., Krogstad, E.J., 1995, Nd isotopic evidence for sources of granites, northern Slave Structural Province, Northwest Territories, Canada. Geological Survey of Canada Current Activities Forum
- Davis, A.M., Krogstad, E.J., 1994, Magma Sources for the Port Deposit Gneiss, MD. Geological Society of America, *Abstracts with Programs*, 26: 14

### *News Articles:*

**Field Study in the Earth and Environmental Sciences at Vincennes University**, In Spring 2009 Factorial!, Newsletter of the Division of Science and Mathematics

**Vincennes Faculty Study the Environment**, In Spring 2008 Factorial!, Newsletter of the Division of Science and Mathematics

**Exploring Earth Science**, In Fall 2007 Factorial!, Newsletter of the Division of Science and Mathematics

## **Professional Affiliations**

- Geological Society of America
- American Geophysical Union
- National Association of Geologic Teachers

## **Service**

- Lead Vincennes Community ecosystem hikes, 2006 to present
- Science Olympiad Instructor, February 2007, 2008, and 2009
- Earth Science Club Advisor at Vincennes University Fall 2006 – Spring 2007
- Led ecosystem dynamics workshops at the Simply Living Fair in Bloomington, IN - 2003, 2004, 2008
- Volunteered with Brownie Math and Science Day at Indiana University - 2002
- Assistant Scoutmaster and Merit Badge Counselor, Boy Scouts of America, 1996-2000

*References available upon request*