

GVSU Geology Department Newsletter February 2005

Alumni and friends of the GVSU Geology Department!

We are attempting a new and abbreviated GVSU Geology Newsletter that takes advantage of the communication capabilities of the internet in the hopes that we might communicate with you more often and effectively. We are in the process of updating faculty information and creating an alumni information link on our department web page (<http://www.gvsu.edu/geology/>). Since our last newsletter the department has continued to grow and evolve. You will notice the addition of several faculty in the last few years and the departure of others, mostly through retirements.

The department continues to stress quality undergraduate education and provides a variety of field trip and opportunities for student research activities. Please check out the department web page to see who we are. We hope that you will send us information about yourself to update that page so that we and your fellow alums can keep up with you. If we can keep the information on this newsletter short it will increase the likelihood that it gets out to you once a year. Please take a few minutes to send us information about yourself (see back of this page). We are keen to continue or renew contact with all of you.

Former Faculty News:

Tom and Nina Hendrix sold their "ranch" on Fillmore after living there 25 years and moved to a condominium in Allendale. They are looking forward to their new found freedom because now they can travel more easily and visit family and friends, especially in Pennsylvania and Florida. **Dick and Sandy Lefebvre** also went "condo"! But they moved to a retirement village in Green Valley, Arizona. They are enjoying a variety of activities there from swimming to metallurgy!

Bill Neal: (the last "old timer") concluded his tenure teaching Historical Geology and the Plate Tectonics theme course, and was on research appointment Fall '04; retiring at the end of December. For good behavior (?), He is keeping a workspace and continues to work on coastal projects. If you have any photos of Bill or stories that you can share with us we encourage you to send them our way along with information about you. In addition, we plan to celebrate Bill's significant contribution to the

department at the Spring department picnic and the end of the semester (date to be determined) and encourage any of you who are in the area to join us.

Norm and Shirley Ten Brink are also moving to Green Valley, Arizona! They recently bought a condo, apparently a few miles from Dick and Sandy, and are going to spend winters there. They will still spend summers (and falls we presume!) at their cottage up north. Norm retired at the end of the 2002-2003 academic year.

We hope all enjoy their new condos and environs!

Department personnel: (* GVSU alum)

Tenure-Track Faculty:

Dr. Kevin C. Cole - Unit Head of Geology

Dr. Patrick Colgan

Dr. Angela M. Hessler

Dr. Steve R. Mattox (sabbatical Fall 2004)

Dr. Figen A. Mekik

*Dr. Ginny Peterson**

Dr. Peter E. Riemersma (sabbatical 2004-05)

*Dr. Patricia E. Videtich**

Dr. Peter J. Wampler

Dr. John C. Weber (sabbatical 2003-04)

Non-tenure track Faculty:

Greg C. Wilson - lab supervisor*

Larry Fegel - affiliate faculty*

Dr. Jonathan Burr - visiting assistant professor

Charles Bunker - instructor*

Kelly Heid - instructor

Office Staff:

Mary Ann Bramer - Academic Department Coordinator

Janet H. Potgeter - Secretary

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Bill Neal on field trip to Alpena, MI

Faculty Shorts:

Jon Burr: I have been filling in for faculty on sabbatical for the last two years teaching Environmental, Physical, and Structural Geology. I previously taught at Western Carolina University with a stint teaching 3rd grade. My graduate degrees are from UMass, Amherst.

Kevin Cole: I am in my second year as unit head and continue to teach Mineralogy and Geophysics and lead summer field trips to the Canadian Rockies and to Canyonlands National Park.

Pat Colgan: I came to GVSU in 2003 and teach geomorphology and glacial geology. My research involves reconstructing the Quaternary glacial history of the Tibetan Plateau through mapping and cosmogenic exposure dating. I am also involved in mapping glacial deposits in Michigan.

Larry Fegel: I have been teaching introductory classes full time for the department in both Allendale and Holland for several years. This follows a career with the public school systems in the region. I continue to work with teachers and students in the public schools and am particularly interested in inquiry-based learning.



Norm leads one last field trip for faculty in Fall 2003

Kelly Heid: After 13 years teaching Earth Science at the secondary school level, I have graduated to being an adjunct professor. This past year I have taught GEO100 Environmental, GEO111 Physical Geology and GEO203 Weather for Elementary Education.

Angela Hessler: I arrived at GVSU in January 2002 shortly after graduating from Stanford University and completing an internship with Phillips. I am involved in the Integrated Science (K-8) program and continue to do research on sedimentary basins in the Andes Mountains.

Steve Mattox: I joined the department in 1998 when Dick Lefebvre retired. My teaching is focused on training future elementary and secondary teachers in Earth science. Two projects that interest you are *Geology Underfoot in Michigan*, for a general audience, and *Geology of Michigan*, for secondary teachers. I'd like to hear from any alums currently teaching Earth science.

Figen Mekik: I am a micropaleontologist using forams to understand ocean chemistry and CO₂ flux. I mostly teach oceanography and earth history. I received my PhD from Northern Illinois University prior to coming to GVSU and have been in the department long enough to be up for tenure this year.

Ginny Peterson: I consider myself to be a metamorphic field geologist (i.e. - I do whatever is necessary to decipher messed-up, high-grade metamorphic rocks). Most recently I have been working on metamorphosed mafic and ultramafic rocks in the Southern Appalachian Blue Ridge. The primary majors course that I teach is petrology (24 students this year!). I moved here with my husband and (now) 11-year old daughter in 2003, after teaching 9 years at Western Carolina University.

Peter Riemersma: I am a groundwater hydrogeologist. I mostly teach the introductory general education courses "Living With The Great Lakes" and "Environmental Geology". Undergraduate research projects include investigations of the hydrology of a pond at the Pierce Cedar Creek Institute near Hastings and the Grand River plume where it discharges into Lake Michigan at Grand Haven. I like reading to my 2 1/2 year old son, Dakota, and participating in the annual Wisconsin State Cow Chip Throw.

Pat Videtich: I am mostly teaching Sed-Strat, Geochemistry, and Intro and still working on gypsum mine dolomites! Fall 2003 I spent sabbatical partly at CMU and gathered long-needed microprobe data on the dolomites. Hope to see a bunch of my fellow alums at the picnic to help wish Bill a happy retirement!

Peter Wampler: My wife, two daughters, family dog, and I arrived in Michigan in August 2004, after spending the last 14 years in Corvallis, Oregon. My research passion is rivers and geomorphology, especially human modifications to river systems through restoration, dams, and diversions. I enjoy exploring geomorphology with students and look forward to getting to know this part of the country and its unique geomorphology.

John Weber: My passions are to do and teach science, and to learn about landscapes, active tectonics, people, music, food, culture, and language. I am lucky to be working in Trinidad and Tobago, Venezuela, Slovenia, Hungary, and Croatia. I am lucky that my wife Sarah enjoys some of these same passions and places. We enjoy traveling and exploring together! I also have an interest in the role catastrophic events play in Earth history, and have recently published my first paper on meteorite impacts.

Greg Wilson: I continue to work as the department lab coordinator and to teach geology courses for the honors program. I lead a field-based summer course in Grand Teton National Park.

Student news:

Currently there are 43 Geology majors and 25 Earth Science majors



Grand Valley geology students pose in front of John Van Regenmorter's poster at the GSA meeting in Denver, November, 2004.

Geology students participated in ~ 40 poster and oral presentations as part of GVSU Student Scholarship Day in April 2004.

Student Awardees for 2003-2004 Academic year:

Edward Tremba Geology Scholarship:

Rick Barnes, Shaun Lehman, Brent Ritchie, Mike Shelton, Jon Stark, Matt Weiss

Tulip City Gem and Mineral Club Award:

Rachel Czechowskyj, John Van Regenmorter

The Edward Tremba Geology Scholarship Fund is supported by your donations and goes to our outstanding Geology and Earth Science majors.

The Tulip City Award is provided by the Tulip City Gem and Mineral Club and goes to majors who make significant contributions to the department.

In the near future we hope to provide additional awards from The Geology Student Field Studies Fund to support student field activities, particularly field camp - we need your contributions to get this award endowed.

The Department received a small endowment from the estate of the late Paul Miller in support of adding mineral display specimens to our hall cabinets. Mr. and Mrs. Miller were avid mineral collectors, and our students have benefited from the Miller collection, which was donated some years ago.

Please consider a gift to one of these departmental scholarship funds (when giving to GVSU you need to specify one of these funds) or to the more general Geology Development Endowment Fund which is used for special needs in the department such as matching funds for equipment or field trips.

Departmental Field Trips in 2004:

March

- Kevin Cole took the Geology Club on a 5 day, spring break field trip to Arkansas and Missouri where they collected kimberlite but no diamonds at crater of diamonds, collected lots of quartz and were befriended by a local bluegrass band, toured a lead mine, and bought pyrite "suns" from local miners.
- Pat Colgan led one 1-day field trip in Geomorphology to look at west Michigan Quaternary geology.

April

- Ginny Peterson and Pat Videtich led a 4-day combined Petrology and Sedimentation-Stratigraphy trip to the Southern Appalachians (Kentucky, North Carolina, Virginia, and Tennessee). 17 students participated with Figen Mekik assisting

May

- Angela Hessler led an 8-day field trip to California for the Global Tectonics class - 7 students participated, Greg Wilson and Ginny Peterson joined the trip. Bill Neal joined us for a day.

June

- Steve Mattox took 13 students on a 10-day trip to explore the Black Hills. The trip was aimed at pre- and in-service teachers.
- Pat Colgan and Ginny Peterson led a 4-day field trip to North Manitou Island to do a GPR survey for the National Parks Service (Sleeping Bear Dunes unit).



Ascending snow dome - Columbia Ice Field behind

July

- Greg Wilson led a 2-week field trip for Honors students (6 students) to Yellowstone/Grand Teton region.

August

- Kevin Cole led a 23 day field trip to the Canadian Rockies. Highlights: swimming in Upper Grinnell lake, ascending the Grinnell Glacier in Glacier National Park, visiting the largest rockslide (4 billion cubic meters) in North America (4 day hike through Assiniboine), Yoho Valley glaciers, Walcott Quarry, exploring 3 new caves in the Wilcox Pass, ascending to the hydrologic apex of North America via a 35 mile, 3 day hike up the Saskatchewan Glacier and across the top of the Columbia Icefield, visiting 17 rock glaciers - Skyline Trail in Jasper, Tyrell Museum.

September

- Peter Wampler led 10 trips on the Angus research vessel for a total of 200 students in Geo 103 and 105.
- Larry Fegel, Angela Hessler, and Figen Mekik led a one-day trip to the quarry in Alpena for students in Geo 111, 112, and 201. Bill Neal and Ginny Peterson assisted.
- Kevin Cole took the 24-student Mineralogy class on a 4-day trip to Bancroft, Ontario

October

- Kevin Cole took the Geology club and some mineralogy students on a geode collecting and cave exploring trip to Southern Indiana.
- John Weber took 6 students in Structural Geology class on a weekend trip to Baraboo Wisconsin.
- Pat Colgan led 2 one-day and 4 half-day field trips in Geomorphology to exam west Michigan Quaternary geology.



Geo 105 students determining dissolved oxygen content of the Grand River

Grants awarded in 2004 to support faculty and student activities:

Pat Colgan - PRIME Lab Grant (Purdue Rare Isotope Measurement Laboratory, Purdue University), *Testing the hypothesis of an extensive marine isotope stage 3*

glacial advance in Tibet with an improved cosmogenic radionuclide chronology. This proposal seeks funding for cosmogenic isotope analysis at Purdue University. The grant asks for 24 sample analyses worth \$8600.

Pat Colgan - NASA, *Glacier Change in the Tanggula Shan of the Tibetan Plateau region of Western China.*

Michigan Space Grant Seed Grant Program. This project uses remote sensing to estimate glacier retreat in China. Geology major **Ryan Sleeper** is working on the grant. Total grant is for \$6000.

Pat Colgan - United States Geological Survey, *Quaternary Geologic mapping of the Muskegon East and Muskegon West 7.5' minute Quadrangles.* EDMAP grant for funds to map the surficial geology of two quadrangles in Muskegon County. This project trained undergraduate geology major **Jon Stark** in surficial mapping techniques as well as map the geology of the Muskegon area during the summer of 2004. Grant is for \$12,958.

Pat Colgan - United States Geological Survey, *Quaternary Geologic Mapping of the Sullivan, Michigan 7.5' minute Quadrangle.* EDMAP grant for funds to map the Quaternary geology a quadrangle in Muskegon County. The total grant was submitted in November 21, 2004. This project will train undergraduate major **Chris Tort** in field mapping techniques as well as map the geology of the Muskegon area during the summer of 2005. Funded on January 21, 2005. Grant is for \$11,210.

Steve Mattox was a co-investigator on a National Science Foundation proposal to develop a prototype, inquiry-based physical geology textbook for introductory college classes - not funded.

John Weber - NSF Tectonics grant to study Lithospheric coupling in oblique collision, Caribbean-South America plate boundary with field work in Trinidad and eastern Venezuela

John Weber - Petroleum Research Fund grant to study Neotectonics and seismic risk in Slovenia from GPS measurements; field work with GVSU Students in Slovenia.

John Weber - BHP grant to study Active tectonics in Trinidad - GPS, paleoseismology, tectonic geomorphology, field work in Trinidad

Publications in 2004 by GVSU faculty and students (GVSU professors and students in bold):

Bush, D.M., **Neal, W.J.**, Longo, N.J., Lindeman, K.C., Pilkey, D.F., Esteves, L.S., Congleton, J.D., and Pilkey, O.H., 2004, *Living with Florida's Atlantic Beaches: Coastal Hazards from Amelia Island to Key West.* Duke University Press, Durham, NC., 338p.

Bush, D.M., **Neal, W.J.**, and Young, R.S., 2004, After the storms: Geologists' perspectives for Architects on building in the coastal zone: *Architectural Record*, 11.04, p. 65-66.



Snowed out from the top of Mt. Rogers, VA (Petrology - Sed/Strat trip)

- Cruz, L., Fayon, A., Teyssier, C., and **Weber, J.**, Exhumation and deformation processes in transpressional orogens: the Venezuelan Parana peninsula, SE Caribbean-South American plate boundary, and the Southern Alps, New Zealand. In: *GSA Special Paper on Exhumation and Wrench Tectonics* (in review)
- Hessler, A.**, Love, D., Jones, R., and Bird, D., 2004, A lower limit for atmospheric carbon dioxide levels 3.2 billion years ago. *Nature*, 428, p. 736-738.
- Jackson, C.W., Bush, D.M., and **Neal, W.J.**, 2004, Gabions, a poor design for shore hardening: the Puerto Rico experience: *Journal of Coastal Research*, SI v. 39, p. xx-xx. (in press)
- King, C. and **Mattox, S.R.**, 2004, Great Trade Books for Teaching Earth Science. *Michigan Journal of Reading*, v. 37, no. 1, p. 52-58.
- Lang, H.M., Lee, A.J., **Peterson, V.L.**, and Ryan, J.G., 2004, Coexisting clinopyroxene/spinel and amphibole/spinel symplectites in metatroctolites from the Buck Creek ultramafic body, North Carolina Blue Ridge, USA. *American Mineralogist*, v. 89, p. 20-30.
- Loubere, P., **Mekik, A. F.**, Francois, R., and Pichat, S., 2004, Export fluxes of calcite in the eastern equatorial Pacific from the Last Glacial Maximum to present, *Paleoceanography*, vol. 19, doi.10.1029/2003PA000986.
- Mattox, S.R.**, and Babb, J.L., 2004, Volcanology for Earth Science Teachers: A Field-Oriented Course to Improve Earth Science Teaching. *Journal of Geoscience Education*, p. 122-127.
- Mekik A. F.** and Francois, R., 2004 What Came First: Pre-Anthropogenic pCO_2 Rise or Deep Sea $[CO_3^{2-}]$ Reduction? *Science* [under co-author review].
- Mekik, A. F.**, 2004, Foraminifer Fragmentation versus Size-Normalized Shell Weight: Searching for the Ideal Deep Sea Calcite Dissolution Proxy, *Geochemistry, Geophysics, Geosystems*, [submitted].

- Mickelson, D.M., and **Colgan, P.M.**, 2004, The southern Laurentide Ice Sheet, in Gillespie, A.R., and Porter, S., (eds.), *Quaternary History of the United States*, International Quaternary Association (INQUA) Special Volume for 2003 International Meeting in Reno, Nevada, *Developments in Quaternary Sciences*, v. 1, p. 1-15.
- Neal, W.J.**, Bush, D.M., and Pilkey, O.H., 2004, Managed Retreat. In Schwartz, M.L., editor, *Encyclopedia of Coastal Science*, Springer, New York, NY, p. 745-749.
- Pilkey, O.H., Rice, T.M., and **Neal, W.J.**, 2004, *How to Read a North Carolina Beach: Bubble Holes, Barking Sands, and Rippled Runnels: A beachcomber's guide to curiosities along the shore*: University of North Carolina Press, Chapel Hill, NC, 162p.



Student descending a moulin on the Saskatchewan glacier

- Pilkey, O.H., **Neal, W.J.**, and Bush, D.M., 2004, Coastal Erosion. In Isla, F.I., editor, *Coastal Zones and Estuaries, Coastal Dynamics, Encyclopedia of Life Support Systems (EOLSS)*, Developed under the Auspices of the UNESCO, Eolss Publishers, Oxford, UK, [http://www.eolss.net].
- Saleh, J., Edwards, K, Barbaste, J., Balkaransingh, S., Grant, D., **Weber, J.C.**, and Leong, T., 2004, On some improvements in the geodetic framework of Trinidad and Tobago. *Survey Review*, 37, 294.

Syverson, K.M., and **Colgan, P.M.**, 2004, The Quaternary of Wisconsin: A review of stratigraphy and glaciation history, in Ehlers, J. and Gibbard, P.L. (ed.), *Quaternary Glaciations - Extent and Chronology, Part II*, Elsevier, p. 289-305.

Wampler, P. J., 2004, Contrasting styles of geomorphic response to climatic, anthropogenic, and fluvial changes across modern to millennial time scales, Clackamas River Oregon: PhD thesis, Oregon State University, Corvallis Oregon, 398 p.

Wampler, P.J., and Grant, G.E., 2003, *Geomorphic changes as a result of River Mill Dam operations: PGE report*, Portland, OR, 43 p.

Wampler, P.J., 2004, Reconnaissance Evaluation of Large Wood in the Clackamas River Below River Mill Dam. Unpublished company report. Portland, Oregon 19 p.

Wampler, P.J., McBain, S., 2004, Lower Clackamas River Coarse Sediment Management Plan, submitted to Portland General Electric, 16 p.

Wampler, P.J. was coauthor on 2004, *United States Forest Service, 2004, Geomorphic Response of Rivers to Dams*, a CD-based short course for decision makers regarding dam effects, PNW-GTR-601.

Weber, J.C., Poulos, C., Donelick, R.A., Pope, M.C., and Heller, N., The Kentland impact crater, Indiana (USA): An apatite fission-track age determination attempt. In: Koeberl, C. Ed., *Impact Series, Mora* volume, Springer Verlag (in press)

Weber, J.C., Neotectonics in the Trinidad and Tobago, West Indies segment of the Caribbean-South American plate boundary. In: *Hungarian Geological Survey Special Publication* (in press)

Weber, J. is coeditor of 2004 NATO Advanced Research workshop on the Adriatic Microplate. Kluwer volume of proceedings.

Winguth, C., Mickelson, D.M., **Colgan, P.M.**, and Laabs, B.J.C., 2004, Modeling the deglaciation of the Green Bay Lobe of the southern Laurentide Ice Sheet: *Boreas*, v. 33, p. 34-47.

Presentations in 2004 by GVSU faculty and students (*GVSU professors and students in bold*):

Berquist, P., **Peterson, V. L.**, Miller, C., 2004, Bedrock Geologic Map of the Marshall 7.5' Quadrangle, North Carolina: Recent Mapping and Shrimp Geochronology of Proterozoic Rocks within the Blue Ridge Basement Complex. *Geological Society of America Abstracts with Programs, Southeastern/Northeastern Section meeting*.

Bush, D.M., Webb, R.M.T., Hyman, L., Liboy, J.G., and **Neal, W.J.**, 2004, Does scientific information for the public have an impact? *Living with the Puerto Rico Shore*, a ten-year retrospect: Abstracts with Programs, v. 36, no. 5, *Geological Society of America Meeting*, Denver, CO, p. 289 (120-6).

Colgan, P.M., Munroe, J. S., and Zhou, S., 2004, Evidence for multiple glaciations of the Tanggula Shan of the central Tibetan Plateau. *Abstracts and Programs for the Geological Society of America*, v. 36, n. 5, p. 498.

Demko, T. M., Bodenbender, B. E., **Baar, E. E.**, Holbrook, C.W., Kubarek, S. J., Murphy, J., Ramirez, E. M., Scott, J. E., Swor, E., and Yonovitz, M., 2004, Paleoenvironmental analysis of a Morrison Formation dinosaur site, Bighorn Basin, WY: Conducting an interdisciplinary field study through disciplinary tasks, *Geological Society of America Abstracts with Programs*, v. 36.

Grant, G. E., Tague, C., Jefferson, A., **Wampler, P. J.**, 2004 A River Runs Underneath It: New Insights into Hydrogeology of the Oregon Cascades and the Role of National Forest Lands, *Abstracts and Programs for the Geological Society of America*, v. 36.

Grant, G. E., **Wampler P.**, O'Connor, J., Lewis, S., 2004, A Geological Framework for Interpreting and Predicting the Downstream Geomorphic Response of Rivers to Dams. 32nd IGC Conference Proceedings, Florence.

Hessler, A., Fildani, Andrea, and Haefner, Karl, 2004, Detrital zircon geochronology of the Talara Basin, Northwest Peru. *Geological Society of America Abstracts with Programs*, v. 36.

Jackson, C.W., Bush, D.M., and **Neal, W.J.**, 2004, Gabions, a poor design for shore hardening: the Puerto Rico experience: 8th International Coastal Symposium, 3/04, Itapema, Brazil, Summary, p. 87 (299). [see papers]

Mattox, S.R., and Bolhuis, C., 2004, Developing a State-wide Applied Earth Science Exam. *Michigan Science Teachers Association Conference Program*.

Mattox, S.R., Pohl, D., and Gasparick, G., 2004, Engaging Elementary Students in Earth Science through Reading, an Update. *Michigan Science Teachers Association Conference Program*.



Geochemistry students using the microprobe facility at Central Michigan University



Peter Wampler and students describing Spring Lake Mud

- Mekik, F. A.**, Loubere, P. W., and Archer D., 2004. Does the Rain Ratio Reign in the Eastern Equatorial Pacific? In Search of the Ideal Carbonate Dissolution Index and Changes in Bottom Water Carbonate Ion Saturation over the Last 25,000 Years, AGU Fall Meeting.
- Mekik, F. A.**, Loubere, P. W., and Archer, D., 2004. Reconstructing Changes in Deep Sea $[CO_3^{2-}]$ in the EEP Over the Last 25000 Years, International Conference on Paleoceanography - 8, Biarritz, France.
- Neal, W.J.**, Rice, T.M., and Pilkey, O.H., 2004, *How to Read a North Carolina Beach*, an example of public Earth Science education: abstract, Michigan Academy of Sciences, Arts and Letters, 108th Annual Meeting, Grand Valley State University, Grand Rapids, MI., *Michigan Academician*, v. XXXVI, no. 1, p. 54.
- Peterson, V.L.**, Ryan, J. G., and Lehman, S., 2004, Amphibolites as a tool for Fingerprinting terranes in The Blue Ridge of Western North Carolina. *Geological Society of America Abstracts with Programs Southeastern/Northeastern Section meeting.*
- Riemersma, P.E., and **Neal, W.J.**, 2004, Living with the Great Lakes: teaching local hydrology and geology in a general education course: abstract, Michigan Academy of Sciences, Arts and Letters, 108th Annual Meeting, Grand Valley State University, Grand Rapids, MI., *Michigan Academician*, v. XXXVI, no. 1, p. 54.
- Stark, J. M.**, and **Colgan, P.M.**, 2004. Quaternary Mapping of the Muskegon East and Muskegon West, Michigan 7.5 minute quadrangles. *Abstracts and Programs for the Geological Society of America*, v. 36, n. 5, p. 583.
- Van Regenmorter, J.M.**, **Videtich, P.E.**, and **Neal, W.J.**, 2004. Coprolites and enterospirae from the Mississippian Michigan Formation, western Michigan (abs). *Geological Society of America Annual Meeting and Exposition Abstracts with Programs*, v. 36, p. 61.
- Van Regenmorter, J.**, **Videtich, P.E.**, and **Neal, W.J.**, submitted, Enterospirae, coprolites, and fish remains in the Michigan Formation: Visean of western Michigan (abs). *Michigan Academician*, v. XXXVII.
- Wampler, P. J.**, *Rock music and river disturbance at the end of the Oregon Trail.* invited talk at the Annis Water Resources Institute, June 12th, 2004.
- Wampler, P.J.**, *Gravel Augmentation in the Lower Clackamas River*, invited talk for the Clackamas River Project Relicensing SWG Fish and Aquatics Subgroup October 21, 2004.
- Wampler, P.J.**, **McBain, S.**, *Course sediment management plan for the Lower Clackamas River*, invited talk for the Clackamas River Project Relicensing SWG Fish and Aquatics Subgroup October 21, 2004.
- Weber, J.**, **Vrabec, M.**, **Stopar, B.**, **Pavlov, P.**, **Dixon, T.**, 2004, The Pivo-2003 experiment: A GPS study of Istria peninsula and Adria microplate motion, and active tectonics in Slovenia, in: NATO Advanced Research workshop on the Adriatic Microplate. Kluwer volume of proceedings.



California trip participants in Death Valley, 2004

Please send the following information about yourself in one of three ways:

- Email to Mary Ann Bramer geodept@gvsu.edu
- Mail it to us @ Geology Department, GVSU, Allendale, MI 49401
- We hope to have an online form in the near future for direct submission (<http://www.gvsu.edu/geology/>)

Name: (If your name has changed since you were a student here, let us know your previous name also)

Graduation year: _____

Employment/Life status or changes:



Students in Geo319 took photos to demonstrate the levels of the 1904 Grand River flood to raise awareness during its centennial year.

Contact information* (address, email, phone)

**note that we will not post contact information on the web site apart from your city of residence - please let us know if you do not want us to share your contact information with alumni or friends who request it.*