Geology and Geological Engineering News

June 2002

for friends and alumni of the
Department of Geology and Geological Engineering
The University of North Dakota, Grand Forks, North Dakota

A Note from the Chair

Greetings from the Department. For the first time, we are producing a spring newsletter issue. Please let us know what you think.

We have made many significant changes during the past few years. Some changes involve degree programs, some departmental staffing, and there have been many others.

Last year we redesigned our EGT degree to make it stronger and more relevant for the 21st century. We also initiated a 5-year combined BS-MS degree program. This year we are starting an MS degree in Geological Engineering.

During the coming academic year, a couple of faculty will be temporarily absent. Scott Korom will be on developmental leave; he will be collaborating with researchers at NDSU. Will Gosnold will continue as interim director of the Office of Research and Program Development.

We are also pleased to have a new program, Indians into Geosciences (ingeos), within the Department. The program is sponsored by NSF, and is being coordinated by Phil Gerla. (See next page.)

Richard W. Later

A Great Spring Break in Hawaii

The 2002 Spring Break trip went to Hawaii. We were last there in 1999. The 24 participants included 11 from NDSU and UND faculty Joe Hartman and Dex Perkins. We toured Maui, the Big Island, and Oahu (picture, below).

We saw terrific geology everywhere, but the highlight of the trip was getting nose to nose with fresh flowing basalt in Hawaii Volcanoes National Park. We were able to get within just a few feet of red-hot glowing pahoehoe, and we walked on thin crusts that were just hours old. (One student melted the soles of his boots!)

Some things haven’t changed in three years: Rupert is still singing songs at the Lava Rock Cafe.

View from the west coast of Oahu, near Magnum P.I.’s house
LEEPS and Other Lectures, 2001-02

You may recognize a few names, because we invited some old friends to come see us again:

• Martin Lockley, Univ. of Colorado-Denver: “New approaches to dinosaur Tracking”

• David Fox, Univ. of Minnesota: “Stable isotopes in tusks - reconstructing subannual ecological variability in extinct elephants” and “The Great Plains ecosystem during the Late Cenozoic [last 10 Million Years] - mammal teeth, soil carbonates, and carbon isotopes”

• Donna Whitney, Univ. of Minnesota: “Vertical tectonics: construction and collapse of the mountains of western America” and “The tectonic evolution of an oblique orogen: metamorphism and exhumation of blueschists, eclogites, and Al₂SiO₅-bearing rocks in the Alpine-Himalayan Belt of Turkey”

• Perry Rahn, South Dakota School of Mines and Technology: “Flood hazards” and “Transmissivity anisotropy”

• Randy Hunt, United States Geological Survey: “Urbanization and water resources: computer applications to solving problems and conflicts” and “Introduction to groundwater modeling using the analytical element method”

• Roger Slatt, Univ. of Oklahoma, AAPG distinguished Lecturer: “Outcrop/behind-outcrop characterization of deepwater (turbidite) petroleum reservoir analogs: why and how”

• Catherine McCammon, Univ. Bayreuth, Mineralogical Society of America Distinguished Lecturer: “Diamonds are not forever: how compositional zoning in garnets can tell us why” and “Oxidation-reduction in the Earth: what old cars and the lower mantle have in common”

• Alan Ashworth, North Dakota State Univ., Geology Department Spring Banquet Speaker: “The case for Neogene warmth in Antarctica.”
Wetlands Project Continues

Phil Gerla reports that surficial geological mapping continues near The Nature Conservancy's Glacial Ridge Preserve southeast of Crookston, Minnesota. Calcareous fens (wetlands fed by groundwater discharge) along the beach ridges in the area host rare and unusual plant species. Last August, The Nature Conservancy (TNC) acquired 25,000 acres to restore original wetland and prairie in the eastern beach ridges of ancient Lake Agassiz. For some time, The Nature Conservancy and others have wondered if fen hydrology will be affected by nearby prairie restoration.

Resistivity imaging by MS student Mark Keefer and Gerla last fall shows that ridges are thin (see figure below), suggesting that fens receive most of their water from local sources. Arrows on the figure show groundwater recharge and discharge. Keefer and Gerla presented their work at the 2nd Annual Glacial Ridge Science and Technical Meeting held on 22 March.

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Thanks for your help and contributions!

Here is a list of some recent donors, according to the UND Alumni Association. If we left you off, we apologize.

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Spring Banquet

The photo at left shows Mardi and Bud Holland (Emeritus faculty), Julie and Rich LeFever, and (in the background) undergraduate student Chris Laveau at our spring Geology Banquet. This year’s event was the best attended ever. We were really too much to fit in our space at GF Goodribs - and so had to overflow into the bar 😊.

As part of the festivities, the Department (Rich) and SGE (President Mark Keefer) handed out awards and scholarships. We will give you all the names and details in our next newsletter.

Allen Ashworth, from NDSU, was our banquet speaker. He talked about some recent work he has done in Antarctica. Allen gave a great talk and had terrific slides.