

THE THRUST

SEPT 14, 2007

A NEWSLETTER FOR THE GEOLOGY DEPARTMENT – WHY DO WE NEED ONE?

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Welcome to the first issue of 'The Thrust' – a newsletter for the Geology Department of Malaspina.

Why do we need a newsletter? As a small (and dare I say dynamic) department we need an informal forum for all members instructors, staff and students alike to communicate ideas and issues that related to our field of interest - earth science. It also important for us to make other people aware of our department and activities - both within Malaspina and in the local community. In addition, now that we have new program the 'Minor in Earth Science' up and running, we have to think of it's future; such as how can we ensure the program is successful and in what directions do we want it to go.

What can be in the newsletter? Pretty much anything that relates to the earth science – reports on upcoming events or events that have happened, stories on students' field experiences, research projects that are in progress or ideas of new research,

items of geological interest in the news, etc.

Who can submit items?

Again anyone from instructors to students, just send content to myself at stokets@mala.bc.ca or Steve Earle at earles@mala.bc.ca. Any student who wishes to help with content and editing is also welcome to do so.

How often will it be issued?

Good question. For now I would say quarterly, but it really depends on your responses and submission of content. If enough interest and some assistance it could be done every other month. Otherwise at the very least it will be published in December, April and September. Send me your comments.

Where did the name come from?

Well I will take the blame for this. The idea came from a geology walking tour I was going to do on orientation day around the campus – no students actually came. However, as part of the preparation I overlaid a

map of the campus onto the Bickford 'Geology Map of Nanaimo' and tried to determine what was beneath. From this it was apparent that two splays of the Jingle Pot Fault cross the north part of the campus and are projected to occur underneath Building 360 and 370 – my office and the geology department. These faults that are interpreted as thrust faults that form along the boundary between the sedimentary rocks of Nanaimo Group and the older volcanic rocks of Karmutsen Formation. A number of people have suggested that the newsletter be called 'The Unconformity' or maybe 'The Non-Conformity'. If you have an opinion let me know. We should also investigate this geology problem more. Any ideas?

For the Bickford geology map and paper go to: <http://www.em.gov.bc.ca/DL/GSBPubs/GeoFldWk/1987/441-450-bickford.pdf>

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LAVA DOGS AND GREEN SAND – WHERE TO NEXT?

GEOL-390 Field Trip to Hawaii – May 2007

Imagine standing less than a kilometer from an erupting volcano, cooking hot dogs on a lava flow, peering into an underground river of 1000° C magma, swimming at a tropical beach made of green olivine sand or climbing to the top of the world's largest volcano! Those are just a few of the things that Malaspina students did on the GEOL-390 field trip to Hawaii in May of this year. Hawaii is home to the world's most active volcano

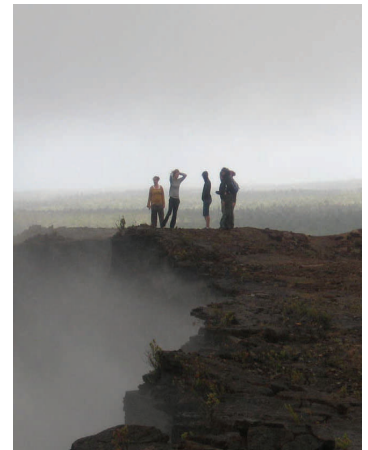
(Kilauea), but unlike some other volcanoes, where you either don't see anything happening, or, if you do, it's the pyroclastic flow that killed you, on Kilauea you can get right up close to the flowing lava without risking your life.

Of course GEOL-390 isn't just a holiday tour! Students researched and made presentations on the geology of three of the island's volcanoes, hiked for tens of kilometres over rough terrain, collected samples for later microscopic examination and kept detailed notes

on what they did. Other GEOL-390 courses have included a visit to Arizona and the Grand Canyon (2005), and a road-trip across the Rocky Mountains—stopping at a glacier, a gold mine, the Tyrell Museum and the Burgess Shale (2006)..

If you're interested in an earth science adventure that counts for credit, talk to your geology instructor and make it happen!

BY STEVE EARLE



“Imagine standing less than a kilometer from an erupting volcano, cooking hot dogs on a lava flow”

'WALK FOR ROCKS' - A NEW THIN SECTION MACHINE

On September 15, 2007 a team of inspired students, faculty, staff, and friends will trek 56 kilometres around Cowichan Lake to raise money for the purchase of a thin-section machine for the Malaspina University-College Geology Department. The *Great Lake Walk and Ultramarathon* is a fundraising event that allows interested groups to raise money by accepting pledges.

The walk begins at 5:00 a.m. meaning our group will be leaving the Malaspina campus at the mindboggling hour of 3:10 a.m. This alone deserves praise. A few of the team members are planning on running, al-

though the majority will be walking. We're hoping to be finished before the beer is all gone, but it depends on how many attractive outcroppings we pass, and how many rocks we pick up to carry home!

Our new thin-section machine will allow students to prepare thin sections of rocks and minerals mounted on glass slides that are viewed with a polarizing microscope. Anyone who has taken Mineralogy will appreciate how exciting it will be to prepare thin sections on campus rather than having to send samples to a lab. Sandra Johnstone's Mineralogy class will have ample opportu-

nity to use the new equipment this fall, and of course the equipment is available for other geology students as well. Each person making a pledge will have his or her name entered in a draw.

The first prize is a Rock and Mineral Identification Kit, the second prize is a beautiful Nanaimo Geoscape poster, and the third prize is a book titled 'The Map that Changed the World' by William Smith. So if you are able to make a pledge donation of any amount, please give your name and money to any of the geology faculty or any of the team members.

BY LORILL IRELAND



'Walk for Rocks'
September 15,
2007 and raise
\$\$ for a new
thin section
machine.

THE EARTH SCIENCES CLUB- COME SIGN UP!

The Earth Sciences club is a student run club that promotes Earth Sciences. This club is open to all students that would like to pursue their interests in any Earth Science related field (Geology, Geography, Astronomy etc..). For a one time fee members will be able to take advantage of fundraising activities in order to fund monthly activities that the club will participate in. Activities will include rock, mineral and fossil collecting, lapidary nights (cutting, and polishing rocks), as well as other exciting activities. This club will not only be a great opportunity to

participate in local geological activities, but it will also provide students with a place to ask questions, find information, and share resources for employment in this field.

We are currently planning to meet once a month, and a sign up sheet is located in the Geology room, Building 370 room 107. To receive more information, please include your email address on this sign up sheet, or speak to your instructor. More information about the times and dates of meetings will occur will be posted in the Geology lab.

There will be a club fair at the end of this month, and the Earth Sciences club will have a table there, which will have information about signing up. There is a plan to have one meeting before the club fair, so sign up early if you plan on helping with this. Thanks and we hope to see you at the first meeting!!

Melissa Dinsdale

sapphirestar-fish@hotmail.com

President, Earth Sciences Club

**CHECK OUT SOME OF
THE NEW LINKS ON
THE GEOLOGY WEB
SITE AT**

<http://www.mala.ca/geology/>

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THE 2007 GEOLOGY FIELD SCHOOL (GEOL 206) ON QUADRA, TEXADA AND SAVARY ISLANDS—SOME PHOTOS. MORE TO COME SOON.



A 25 M RISE IN SEA LEVEL WITHIN A 100 YEARS—IS THIS FOR REAL OR JUST SCARE MONGERING?

As usual there are lots of news articles about climate change, sea level rise and melting glaciers, and being an active Globe and Mail reader I get sucked into quite a few. However, after a while some patterns do start emerging.

A recent article in the Globe and Mail and a similar one in the July 28, 2007 issue of New Scientist titled 'Climate Catastrophe' highlighted the work of NASA physicist Dr James Hansen who has speculated that rises in sea level will likely top 25 m in the next 100 years or so, rather than the predicted ½ m or so suggested by the recent

Intergovernmental Panel on Climate Change (IPCC) report. Although the IPCC is a highly reliable source for information on climate change, Hansen has suggested that their predictions are way too conservative because they have not considered the most recent data on climate change.

Hansen also asserts that the IPCC report has not really considered the accelerated effects (positive feedback processes) that may occur once global warming truly takes hold. For example, once an ice sheet starts to melt it becomes less reflective

and melts even quicker.

Hansen makes an interesting point that research \$\$ are more likely to go to those that are 'middle of the road' in their predictions rather than those that are more extreme. If you consider this along with another September 5th article in the Globe and Mail titled 'Dramatic collapse of ice cap stuns experts' – which reports on the unprecedented never before recorded melting of the Arctic Ice Cap – you now start to wonder who has it right: a gradual slow sea level rise or something more catastrophic. (At least ocean front properties might go down in price!)

I think the jury is still out and only time and more work will tell. Maybe the IPCC's next report will have a stronger and clearer message. Anyway make up your own mind up and send back comments if you wish. Here is the Hansen publication from New Scientist http://pubs.giss.nasa.gov/docs/2007/2007_Hansen_2.pdf

BY TIM STOKES