

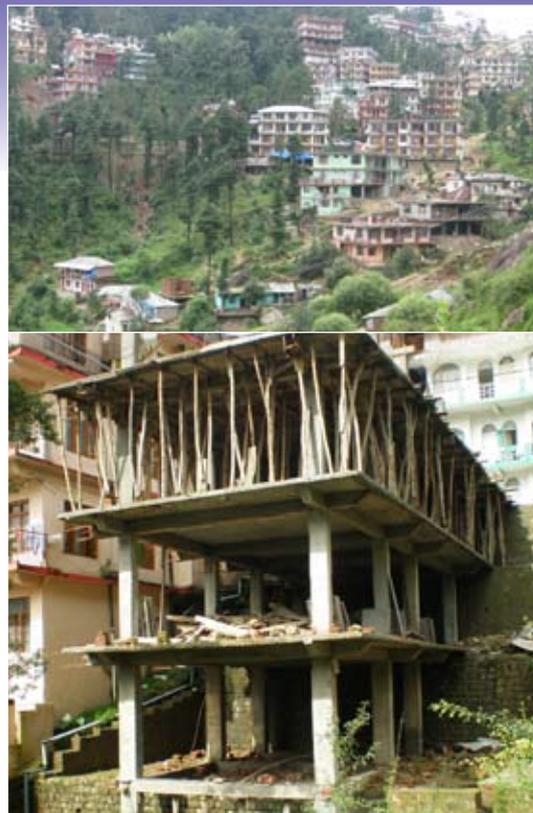
# Earthquake Risk in 'Little Lhasa'

**Justa Hopma**

After having spent the summer of 2007 teaching grammar to a horde of Spanish, Italian and Korean children, I decided 2008 should be even more adventurous, which is why I travelled to India. The project I joined was organized by the Cardiff-based UNA Exchange organization, specializing in volunteer projects abroad. The project focused on Tibetan culture and was located in Dharamsala, a town in the foothills of the Himalayas also known as 'Little Lhasa'. In 1959 the Chinese invaded Tibet and the Dalai Lama, the political and spiritual leader of the Tibetan people fled to India. Today, Dharamsala's population is a curious mix of Lama's (Tibetan monks), Indian merchants, yoga guru's and Western hippies seeking inner peace. My reason for being there was rather different.



Having done some background reading on Dharamsala before departure, I found out that the region had been completely deserted after a 7.8 Mw earthquake that killed 19,500 people in 1905. It was only after the Dalai Lama's decision to resettle here that population numbers started to increase again. Tourists like myself played and still play an important role in this development. Within India the mountainous states are the poorer ones and adventure sport junkies and yoga lovers alike are welcomed for the increase in income they bring. Having taken the inspiring Level 2 Geohazards module at IGES, I wondered how these dynamic pressures would affect any future earthquakes occurring in the region. In order to find out more about this and as part of the requirements for the Joint Honours Project, I carried out a building survey. For this project I assessed and mapped the seismic vulnerabilities of a particular area in Dharamsala, where concrete buildings arise like mushrooms from the ground.



It was interesting to see how construction practices were completely different to those in Europe. At home construction normally is a noisy and time-consuming business, but in Dharamsala things moved silently and at astonishing pace. Regulations and planning permissions are not enforced in Dharamsala. Local business owners who want a share in profits generated by tourism and the recent population boom get away with constructing whole apartment blocks on the hillsides, turning the landscape into a concrete jungle in the process. This construction is generally carried out by women and without the use of machinery. Flamboyantly dressed, these women carry up to eight bricks on their heads, whilst their babies rest on their arms. What impressed me most was how proudly these women went about their daily work.

Not all of my time in India was dedicated to research; for the remainder of the trip, our volunteer group hiked to the foot of the mighty Triund glacier, finding shelter from the monsoon in mountain huts that resembled both my student accommodation and the weather in Wales! Overall, this incredible journey and formative experience has influenced my outlook on life and possible future career paths. Without the financial support of IGES in the form of a Gareth Thomas travel bursary, I would never have had this opportunity.

## Contents



Page 1: Our World



Page 10: Travel Awards



Page 15: Fieldcourses



Page 16: Graduate Biographies



Page 20: Practical Glaciology



Page 22: Departmental News

“I lived through something unforgettable and learned that the Western point of view about Eastern nations is not always a just one. They work really hard to get anything, but they never forget about principles like family, friendship and fairness.”



# Exploring China

“Seeing it once is better than being told one hundred times” Zhou Chongguo, Han Dynasty  
Elzbieta Krüger

I was fortunate enough to be given the possibility to pay a visit to one of the most mysterious countries in the world-China. My dream would never have come true if I did not have the great support of the Gareth Thomas Travel Award.

For me the main aim of this award is for students to get to know the surrounding world beyond the walls of lecture halls. The consequence of this venture is a greater understanding of different environments, cultures and nations with their political and economical systems.

The land of my dream was China and I spent two weeks in June 2008 in its capital-Beijing. At that time this fascinating city was at the final stage with the preparations for the opening ceremony of the Olympic Games. Lucky to be there during this period, I could with my own eyes observe what a huge effort was put into it and how fast and unbelievably the city was changing day by day. My attention, however, was not only on these architectural and infrastructural changes, but also on the Chinese people with their culture, customs, habits and fantastic (but spicy!) cuisine. Each day was filled with a long-hours of sightseeing of well-know religious (Lama temple) and secular places (Tiananmen Square).

Experiencing Beijing by bike is not to be missed. Bike lines are everywhere and if you can put up with the exhaust fumes it is the most enjoyable way to get around the city. The rule, however, is: It is always the cyclist's job to get out of the car's way and not the other way around!

At Beijings heart is the Forbidden City – an absolute must for all to visit while in town. For hundreds of years China's psychic centre, open only to the emperor, his wives and advisors, a great statement of the emperors wealth. Beyond the characteristic red walls spreads a huge courtyard within which one hundred thousand people could assemble during ceremonies.

No matter whether in Beijing, London or New York the districts of luxury with extremely expensive shops, pubs and clubs are to be found. The very centre of Beijing SOHO offers entertainment round the clock reaching its climax late at night. Visiting this area I had an impression of being rather in Europe or North America than in Asia- neither Chinese people or their language were come across in the street. In places such like this Chinese are working either late during the night brushing pavements or in daytime chopping vegetables in upmarket restaurants never even dreaming to come there as customers. In comparison the Hutong – traditional alley-ways are a rare window into traditional Beijing. These alleyways teem with life and are intensely social. Everywhere we look people are sitting outside getting together in the open-air to play mah jong games. As the city modernises these places are being taken over by construction crews which are devoting them to the next skyscraper. Fortunately, the government has preserved 25 of these historical neighbourhoods mainly for the sake of tourist's entertainment.

These two weeks had a significant impact on me. Not only because I fulfilled my dream but also because I saw and realized things that I have never expected. I approached a developing country with a regime system and saw its astonishing economical, financial and all embracing changes. Moreover the appealing issues of globalization and gentrification became more transparent to me, not to mention matters connected with social polarisation. Personally, I lived through something unforgettable and learned that the Western point of view about Eastern nations is not always a just one. They work really hard to get anything, but they never forget about principles like family, friendship and fairness.

What is, however, especially important for me is that apart from the numerous photographs which remain after this wonderful trip, there are also deeply rooted marvellous memories and attached to them positive emotions.



“The very centre of Beijing SOHO offers entertainment round the clock reaching its climax late at night. Visiting this area I had an impression of being rather in Europe or North America than in Asia- neither Chinese people or their language were come across in the street. “

“It can’t be work when you’re having that much fun! Seeing a students eyes light up, as you point out an eagle while you’re hiking, or taking them to a bed of metamorphic rocks, explaining what they are and seeing that idea or piece of information ‘click’ for them - this is an unbelievable feeling.”

## Crossing Continents

Bridget Pitchers

Being a student at Aberystwyth is an amazing experience, you’ve got woodlands, hills, and the sea; along with the rest of Wales as your playground! Some how though, I think I’ve managed to get even more out of my experience here...

As an IGES student I couldn’t wait for the chance to go to New Zealand in my second year, definitely the most incredible field trip. Two weeks. Two islands. So many geological features! An unforgettable fortnight – some of my favourite memories are climbing the Franz Josef glacier, dunking my head to waist in a glacial moulin, naturally, exploring an amazing braided river and it’s valley for an assignment, watching a small eruption from ‘Mt Doom’ - and obviously doing a bit of Lord of the Ring scenery spotting!

But loving travel and change, I wanted something else to get excited about once we came back from New Zealand. I wanted to travel more, see more, and definitely learn more; so I got in touch with the Year in Employment Scheme. They helped me find SCICON.

SCICON is an outdoor centre of Science and Conservation in California, who run internships every year and hire university students from all over the world. SCICON is a chance for 6th graders (11-12 year olds) to learn about science and conservation in the foothills of the Sierra Nevada Mountains; they run weeklong programs to tie in with the students regular school lessons. 200+ 6th graders come to SCICON each week; it’s like one giant field trip!

Life at SCICON was always changing; every 3 weeks we changed job positions – teaching outdoors on trails using the California Science Standards, hands on experiences, and the Sierra Nevada Foothills as our classroom to really get the kids thinking. As a Trail Guide, we also had hands on experiences, working with injured birds of prey such as Owls, Vultures, Kestrels and Peregrine Falcons, snakes and my favourite – Salamanders. Other rotations we nicknamed ‘power positions’. These were the leadership roles; the Interns who did the planning and organizing, such as the evening entertainments, games and campfires; or the V.C. – Village Co-ordinator, in charge of their whole village, which could be a 100+ students and about 20 high school students who volunteer to be Cabin Leaders. There was without doubt a lot to do, but it never felt like hard work! It can’t be work when you’re having that much fun! Seeing a students eyes light up, as you point out an eagle while you’re hiking, or taking them to a bed of metamorphic rocks, explaining what they are and seeing that idea or piece of information ‘click’ for them - this is an unbelievable feeling.

It wasn’t just the experiences on campus that made SCICON a fantastic time. At weekends a group of the interns would head off exploring. Some of our expeditions were chances to be tourists, like our weekends in San Francisco watching baseball and catching the



ferry to Alcatraz Island; down to Los Angeles, exploring Hollywood - on the look out for celebrities and obviously, Disneyland. But the trips I enjoyed most were the ones to California’s coast and the National Parks. I turned 21 whilst I was in California and I spent my birthday in Yosemite National Park hiking through the glacial valleys, my best birthday ever. I loved Yosemite so much; that before I flew home I hiked one of the most famous mountains in the national park, Half Dome, my biggest ever achievement.

It’s great to be back in Aberystwyth, finishing my degree and catching up with friends. It’s been an action and memory packed couple of years. Aberystwyth and IGES have given me so many opportunities; I can wait to see what happens next!



“Our role centred around educating people about the true impacts of the wind farm and what we were doing to mitigate concerns.”



## Renewable Futures

Sam Pettipher

During the summer of 2008 I worked with E.ON Climate & Renewables based at the E.ON UK head office in Coventry. E.ON Climate & Renewables are responsible for the operation and development of renewable assets such as onshore and offshore wind farms; with one of the flagship developments being the proposed London Array, which will have a generating capacity of 1GW.

My duties included assisting wind farm project developers in various ways including general admin duties, GIS work for the wind farm origination team and project specific tasks. I attended numerous public exhibitions where the objective was to discuss project proposals with the local community and provide information on the various projects.

As you may expect numerous people felt very strongly against the development of a wind farm in their area. Many concerns were expressed over the effects of noise, shadow flicker and turbine visibility, all factors that a responsible wind farm developer models and scrutinises from the start of a project. Our role centred around educating people about the true impacts of the wind farm and what we were doing to mitigate concerns. Public exhibitions represent an important process in which we listened to the concerns of local people and attempted to find solutions.

I was asked by Jan Matthiesen, head of the onshore British Wind Energy Association (BWEA) to organise one of the BWEA’s regional planning conferences which took place at E.ON’s Out Newton wind farm near Hull. The objective of these conferences was to enable councillors, planners and local decision makers to experience an operational wind farm and make up their own opinions on the noise and other impacts of a wind farm. Additionally, we had a number of experienced planners and developers who presented on their experiences of wind farm development and planning. The Out Newton event was really successful as we had over one hundred attendees and the feedback showed overwhelmingly that the conference was very informative and useful.

The work experience I gained was fantastic as it has always been my ambition to be involved with renewable energy projects. However, it amazed me that so many factors are involved when developing a wind farm and despite the political will to increase renewable energy generation there are significant problems in the planning system which result in some difficult obstacles to successfully develop a wind farm

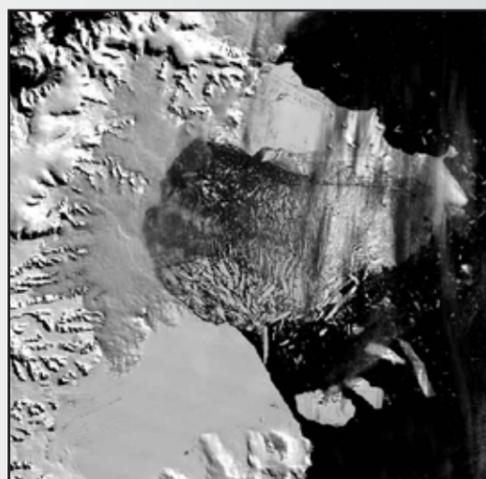
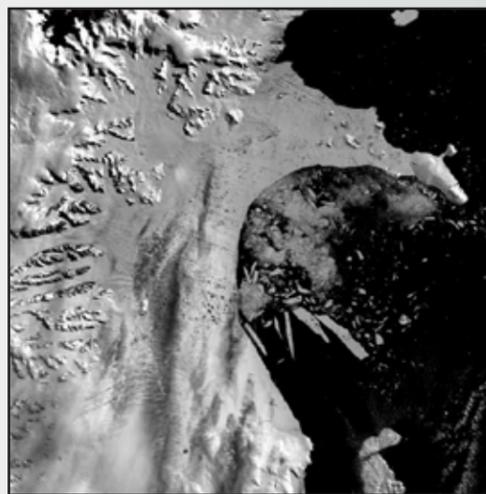
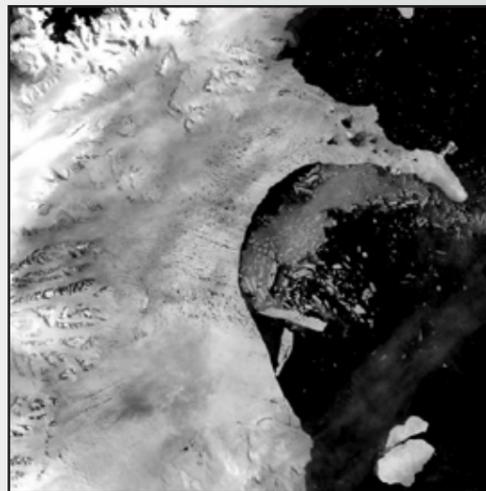
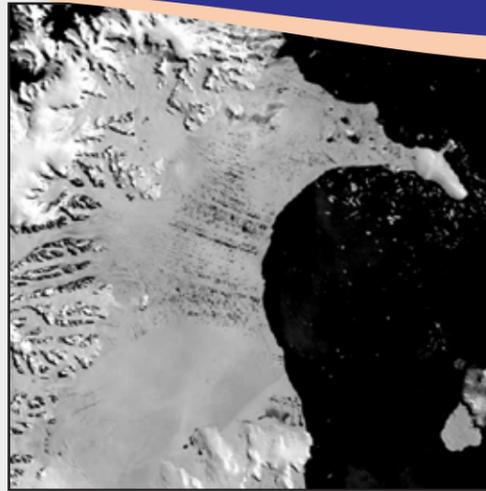
As a result of this successful experience I was offered degree sponsorship and was given a job offer as a project developer after I finish university with E.ON.



The Larsen B Ice Shelf broke up catastrophically in a matter of weeks in March 2002.

*The collapse of the Larsen B Ice Shelf between January and March 2002 as recorded by NASA's MODIS satellite sensor. (MODIS stands for Moderate Resolution Imaging Spectrometer, a sensor flying on NASA's Terra satellite.)*

*The images show the Larsen B ice shelf and parts of the Antarctic Peninsula (on left). The first scene from 31 January 2002 shows the shelf in late austral summer with dark melt ponds dotting its surface. In the next two scenes minor retreat takes place, amounting to about 800 km<sup>2</sup>, during which time several of the melt ponds well away from the ice front drain through new cracks within the shelf. The main collapse is seen in the last two scenes, on 5 March and 7 March, with thousands of sliver icebergs and a large area of very finely divided 'bergy bits' where the shelf formerly lay. The last phases of the retreat totalled ~2600 km<sup>2</sup>. Resolution of the original images is 500 m.*



## Antarctic Ice Shelf Collapse

### Professor Neil Glasser

Neil Glasser's research on the Larsen B Ice Shelf in Antarctica featured in newspapers, on the radio, on the BBC and NASA websites, and in a number of other publications around the world after he published a paper claiming that climate change was not the only cause of the collapse of a 500bn tonne ice shelf in Antarctica six years ago. The Larsen B Ice Shelf was a large area of floating glacier ice (about 15% the size of Wales) on the Antarctic Peninsula, the part of Antarctica that sticks up towards South America. It was fed by glaciers flowing from the mountains down to the ocean, where they merge and float to form an ice shelf.

The Larsen B Ice Shelf broke up catastrophically in a matter of weeks in March 2002. Scientists had always linked its demise to global warming because temperatures on the Antarctic Peninsula have risen dramatically in the last 50 years. In the summer before its collapse meltwater ponds formed on the surface too, adding to the speculation that climate change was to blame. The ice shelf collapse was assumed to be the latest in a long line of victims of Antarctic summer heat waves linked to Global Warming. Neil's paper, published in the Journal of Glaciology, took a new approach to trying to understand the ice shelf collapse. He used repeat satellite images to map out in detail the changes on the shelf leading up to its collapse. Working as a Fulbright Scholar in the US with Dr Ted Scambos of the University of Colorado's National Snow and Ice Data Center, Neil found that the ice shelf was already teetering on collapse before its final summer. They found that other factors e.g. the spacing of fractures, crevasses and rifts also helped it to break up because they determine how strong or weak the ice shelf is. The overall conclusion of the study is that the ice shelf was thinning from above because of rising air temperatures, thinning from below because of rising ocean temperatures, but also cracking up at the same time. The research shows a complicated picture- global warming was important but so were other mechanical factors too.

The study is important because ice shelf collapse contributes to global sea level rise, albeit indirectly. "Ice shelves themselves do not contribute directly to sea level rise because they are floating on the ocean and they already displace the same volume of water. But when the ice shelves collapse the glaciers that feed them speed up and get thinner, so they supply more ice to the oceans and this could lead to sea level rise" Prof. Glasser explained.

**The full story can be found at:**

<http://news.bbc.co.uk/1/hi/wales/mid/7231372.stm>  
[http://nasadaacs.eos.nasa.gov/articles/2007/2007\\_larsen.html](http://nasadaacs.eos.nasa.gov/articles/2007/2007_larsen.html)

**Further information:**

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 Tel: 01970 622785 E-mail: nfg@aber.ac.uk

**The paper is:**

Glasser, N.F. and Scambos, T.A. 2008. A structural glaciological analysis of the 2002 Larsen B ice shelf collapse. Journal of Glaciology 54(184) 3-16.

Barack Obama's proposed policies display a 'libertarian paternalist instinct', dubbed by commentators as 'ipod government'.



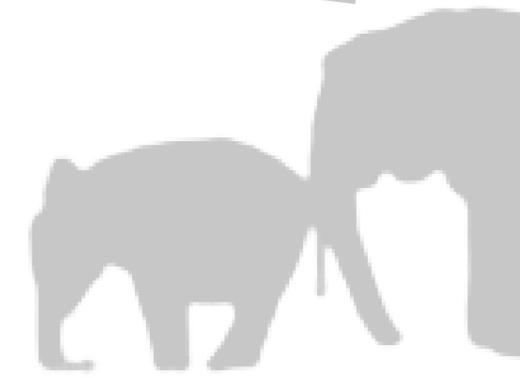
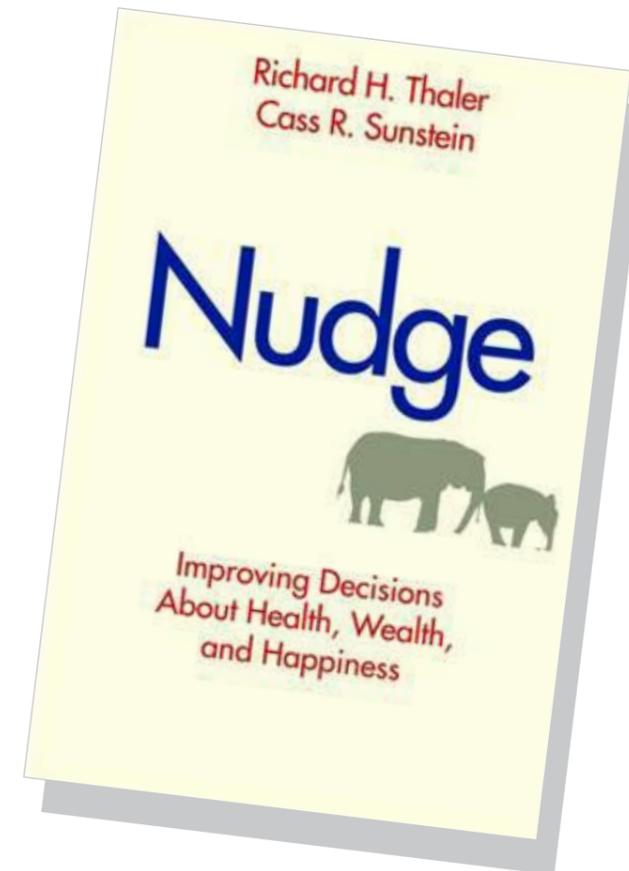
## Whats your poison?

Rhys Jones, Mark Whitehead and Jessica Pykett

### Governing temptation: from the nanny to the softly paternal state

Recent political debates have focused on the importance of shaping personal behaviours, and governing so-called poor moral conduct. Healthy eating, anti-binge drinking, smoking and obesity campaigns; personal pensions default options and carbon offsetting initiatives are all examples of the increasing currency of 'soft paternalism' as a novel form of government. This describes the way in which both public and private institutions have become involved in promoting individuals' welfare without coercion, where individuals are afforded an element of choice. Reports that David Cameron put Thaler and Sunstein's book, Nudge on the Tory party summer reading list, that Barnett council is to provide a test bed for 'nudge' policies this year, testify to the emerging popularity of soft paternalism as a rationality of government and distinctive set of governing practices. It is also said that Barack Obama's proposed policies display a 'libertarian paternalist instinct', dubbed by commentators as 'ipod government'.

In a new 3 year Leverhulme-funded research project at IGES, Rhys Jones, Mark Whitehead and Jessica Pykett will be exploring how soft paternalism is currently being promoted in the policy areas of health, personal finance and environment. We will examine the longer history of soft paternalism as a political philosophy, the particular way in which such policies are employed to reconfigure the spatial and temporal nature of state-citizen relations, and how citizens themselves accommodate or resist such interventions in their own governability. The project aims to go beyond critiques of the 'nanny state' in order to better understand the politics of soft paternalism in the UK.



What do the islands of Hawaii, the continent of Australia, and the planet of Mars have in common?

## To Infinity and Beyond:

Arid geomorphological studies in Hawaii and Australia: analogues for surface environments on Mars?

Stephen Tooth



Examples of gullies and river channels developed in the Ka'u Desert, Hawaii: left) example of a steep headwall near the upstream end of an eroding gully. During runoff events, water cascades over the headwall in the form of a small waterfall; right) looking downstream along one of the main channels in the desert. The virtual absence of vegetation means that the occasional heavy rainfall events generate intense runoff and erosion, with sediment being transported into the heart of the desert.



Examples of linear dunes in the Simpson Desert, central Australia: left) looking along the crest of an active dune, with small ripples on the surface providing evidence of recent sand movement; right) looking from the crest of a linear dune, across an intervening swale, and to the flank of a neighbouring dune (behind the vehicles). Much of the sand forming these linear dunes was originally brought into the desert by river action, and has since been reworked by the wind into these distinctive forms, some of which extend unbroken for many tens of kilometres.

What do the islands of Hawaii, the continent of Australia, and the planet of Mars have in common? Not much in terms of size, plant and animal life, or human population density. But in all three locations, landscape development is governed by a variety of arid geomorphological processes, at least in part. Ongoing collaboration between myself and a team of scientists headed by Dr Bob Craddock from the Smithsonian Institution (Washington DC, USA), the University of Virginia (Charlottesville, USA), and the Australian National University (Canberra), is undertaking studies of arid processes in Hawaii and Australia to further our interpretations of landscape development on Mars.

Hawaii (the Big Island) is an active volcanic island. Moisture-bearing trade winds blow predominantly from the northeast but localised arid conditions develop on the southwestern flanks of large volcanoes owing to rain shadow effects. In addition, sulphuric fumes that are outgassed by active volcanoes react with atmospheric moisture to form a weak sulphuric acid. These acidic conditions inhibit plant growth, giving rise to chemical deserts such as the Ka'u, located downwind of the active Kilauea Volcano in the south of Hawaii. The sparse plant life leaves the desert surface prone to erosion during occasional heavy rainfall and runoff events. For short periods during heavy rainfall, gullies and river channels (Fig. 1) transport sediment into the centre of the desert, and during drier spells, some of this sediment is reworked by the wind into low relief sand sheets and more distinctive sand dunes.

The interior of the Australia continent is arid, owing to its location beneath typically high pressure, stable air masses that ensure long spells of hot, dry weather. In these climatic deserts, only the hardiest plants can survive, and so here the land surface is also prone to erosion during the occasional heavy rainfall and runoff events, with wind later reworking the supplied sediment. The sand deposits that form the extensive dunefields (Fig. 2) of the Simpson Desert, for example, owe their origins to a long history of erosion, transport and deposition by floods and wind.

Mars is arid for yet another reason. At present, air temperatures are too cold and atmospheric pressures are too low to enable liquid water to persist on the surface. Plant life is of course absent, and rainfall and runoff does not presently occur, and so

the primary land-forming agent is the wind. This has not always been the case, however, with evidence gathered from orbiting satellites and ground-based rovers revealing that in the distant geological past (billions of years ago), Mars had a much more active hydrological cycle, with rainfall and runoff events that supported rivers, lakes and possibly an ocean, at least for periods of time. Evidence of this wetter phase in the planet's history is present in the form of clearly recognisable river valleys, channels, lake basins and various deposits, despite the long subsequent periods of weathering, erosion and partial infilling or burial by wind-blown sand.

Given the different reasons for aridity, what can the study of earth-bound deserts in places like Hawaii and Australia tell us about Mars? In terms of sediment composition, the Ka'u Desert is a good analogue for Mars, as both have large areas of basalt outcrop or basaltic debris. We can therefore study how basalt breaks down during weathering, and how this influences the effectiveness of erosion and deposition by water and wind. In terms of climatic history and surface stability, the Simpson Desert is a better analogue for Mars, as both have been subject to long periods of essentially arid conditions without major tectonic upheavals. We can therefore study the landforms and sedimentary products that result from millions of years of interactions between water and wind. Our studies in Hawaii and Australia thus cover two extreme environments, and tell us about a range of different arid processes that may have operated to shape the Martian surface in the past and that may continue to mould it at present.

The primary goal of both the American and European Mars exploration programmes is to "follow the water"; in other words, to prioritize exploration efforts in areas where there is evidence for past fluvial processes, as this raises the possibility of finding evidence for past or present life on Mars. Our research is at an early stage but will contribute towards this goal by improving environmental interpretations of Martian data being collected by orbiting spacecraft or ground-based rovers. Future trips are being planned to Hawaii and Australia in order to continue the research.

Verona

## From Prague to Paris

Stephen Bate



"The IGES Travel Award helped enormously in making my Summer travels so enjoyable and the whole trip was a perfect end to three awesome years at Aber."

In my lifetime, the Europe I was born into has changed dramatically. The break down of the USSR just after my birth led to tens of new nations emerging with independence and fledgling new governments appearing into the void left by the Soviet Union. Territorial boundaries have been redrawn as a result of war and diplomatic negotiations between neighbouring states. At the same time, the past two decades have seen massive advances in global communications with the constant improvements to infrastructure and the development of the internet. Since the European Union's enlargement in 2004, travel has become even easier between member states, something aided and abetted by the emergence of budget airlines flying to more Central and Eastern European destinations.

It was with these reasons that at the end of my third year as a geography student at Aberystwyth, I decided that I would never have a better time to travel through Europe.

Accompanied with two of my close friends, also geography students at Aberystwyth, and armed with little more than a tent, sleeping bag and an inter-rail ticket each, we set off to discover the people, history and culture that twenty-first Century Europe had to offer.

Our journey took us from Prague to Paris, visiting nine countries en route. The trip encompassed different experiences wherever we went. I had a true outdoor experience hiking through the Slovenian and Swiss Alps where I was also able to see first hand the things I had learnt through my geography course at IGES

There were the cultural experiences of the former communist cities of Prague, Bratislava and Budapest, as well as seeing the historical sites of Verona and Venice. We were also fortunate enough to be travelling at the same time that the Euro 2008 Championships were taking place and so settled down in 'Fanzones' in Vienna and Innsbruck to watch the football. On one unforgettable night we settled down in a sea of around two thousand, yellow-stripped, Swedish supporters, as choruses of various Scandinavian songs were sung through the night!

In my third year I had studied French through the School of Education and Lifelong Learning in Aberystwyth. It was really fulfilling to get an opportunity to practice what I had learnt.

The IGES Travel Award helped enormously in making my Summer travels so enjoyable and the whole trip was a perfect end to three awesome years at Aber.



Giant Football Players in Zurich Hauptbahnhof.



Grand Canal, Venice.

**"It was an unforgettable experience..."**

*Mike Martin*

Mike Martin visited Sareks National Park in Sweden to try and climb the mountains. Michelle Harris taught children in Uganda. Shaun Eaves spent six weeks travelling around Europe on over 50 train journeys! Joel Barder went as a relationship builder for four weeks to Madagascar. Justa Hopma taught English in Northern India and Mike Dray, Ben Robson and Dan Rixon spent a month exploring the differences between Eastern and Western Europe.

Each year we offer up to 13 travel awards, worth up to £400, to students looking to explore the world. Here are just some of the stories from those who made it back!

# IGES TRAVEL AWARDS 2008

## MIKE MARTIN VISITED SAREKS NATIONAL PARK, SWEDEN 2ND YEAR BSC GEOGRAPHY

Sareks National Park lies above the Arctic Circle in Northern Sweden. It is a pristine wilderness area of jagged peaks, glaciers and deserted tundra. There are no roads or houses in Sareks and access is difficult; it is often described as Europe's last wilderness and it certainly lives up to its name. I travelled there in the summer of 2008 to try and climb several of the mountains for 15 days. It was an unforgettable experience and pushed me to my limit both physically and mentally. The nature of the terrain was unforgiving and I spent many long days climbing mountains with no trace of previous ascents, the lack of bridges meant that hazardous river crossings were a daily occurrence and the unpredictable weather often necessitated hasty retreats as lightning crashed into the mountains around me. The rewards however were immense; from spectacular sunrises at 2.00am from mountain summits to encounters with moose, reindeer and golden eagles. It is truly a wild place.



## MICHELLE HARRIS IN UGANDA 2ND YEAR BA HUMAN GEOGRAPHY

Thanks to the Gareth Thomas Travel award, I was able to travel to Lake Bunyonyi in Western Uganda near the town of Kabale. Here I was able to experience living in a completely different culture and made many friends. I taught children at two schools, one at either side of the lake.

The aim of the classes were to teach English through sports and arts, incorporating teambuilding, individuality and creativity. We also spent an hour a day teaching swimming as the Lake is the number one killer in the area.



Canoeing to school and on safari at Queen Elizabeth National Park.

## JOEL BARDER 3RD YEAR HUMAN GEOGRAPHY AND FILM & TELEVISION STUDIES 4 WEEK TRIP TO MADAGASCAR, JUNE 2008

I went to Madagascar not really knowing what to expect. I was met by about 40 people with opened welcoming arms. It's hard to describe how that felt; the best I can describe it is incredible, so welcoming, but also so very humbling. The reason for the visit was as a relationship builder and to help in the practice of English. The very first Christian missionaries in Madagascar were from Wales, so the idea was set forward that a group of students from Wales would go and visit the Christian Unions in Madagascar. I was based in the capital city, Antananarivo. It was beautiful; supposedly one of the dirtiest, most polluted cities on the planet. It was both these and yet most lovely. The people were extraordinary. It is most often said that we, in the West are blessed with everything and yet remain in need of more, and therefore unhappy. Not so in Madagascar. They have nothing (or at least very little) and yet remain joyful and enthusiastic.

I was a person privileged to be welcomed into somebody's home and yet was treated as royalty. Nothing was too much. Madagascar is one of the poorest countries in the world, with unemployment absolutely massive. Even those who go into university education are no way guaranteed any kind of job. I spent three weeks in the capital, helping mainly with the English language (unofficial teacher), which is seen as the language that signifies economic development. I was there with my friend from Aber Uni, Rhys Curnow, also leading Bible studies in English and visiting groups run by Christians. The final week was spent in a city called Toamasina, the port where the Welsh missionaries first arrived and where a school is named after one of them (Thomas Bevan). It was not just amazing to meet new people, to learn of a culture and society never before made known to me, and for me to be able to help them, but also to know that God is working all over our world.



## JUSTA HOPMA IN INDIA 2ND YEAR HUMAN GEOGRAPHY & INTERNATIONAL POLITICS

During summer 2008 I taught English in Himachal Pradesh, Northern India through the UNA Exchange. In addition to working in Tibetan and Indian schools we also worked in an elderly people's home and made a trek through the lower Himalayas.

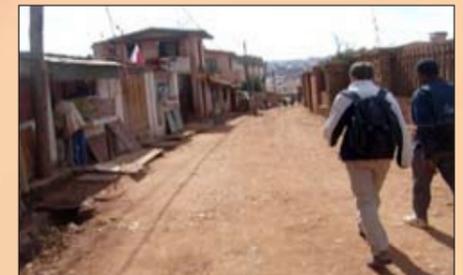
After the volunteer work, I had enough money left over to spend more time in India and conduct a building survey for my Joint Honours Project. With thanks to IGES, I enjoyed a fantastic summer whilst deepening my academic interests as well.



Foul Pointe beach, regarded most beautiful in Madagascar.



Everyone smiles after an outdoor bible study.



A typical shanty town street, which I had to walk through to reach the Christian Union building.

## SHAUN EAVES – EUROPEAN INTER RAIL JULY – SEPTEMBER 2008

I used my Gareth Thomas Travel Award to help fund a 6 week trip in central and southern Europe and Scandinavia. This involved taking over 50 train journeys between 30mins – 12 hours long. The destination order was as follows:-

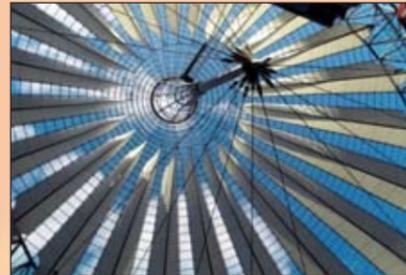
Athens • Kea • Kalonero • Patras • Bari • Rome • Sorrento • Capri • Pompeii • Milan • Aosta • Finale • Liguria • Florence • Stockholm • Glava • Copenhagen • Berlin • Zurich • Neuhausen am Rheinfall • Zurich • Munich • Prague • Cesky Krumlov • Gothenburg • Eidsvoll • Nesbyen • Oslo.



Excavated ruins of Pompeii with Vesuvius in background.



Christiania is a small, self-governed section of Copenhagen that has existed since 1971.



One of the highlights of the trip was the visit to Berlin. This city is full of modern architecture such as the Sony Centre and the new Reichstag dome and also the new train station which are all very impressive buildings.

## EURO TRIP BY MIKE DRAY, BEN ROBSON AND DAN

We spent nearly a month travelling around Europe by train, bus and ferry. While travelling around it was very noticeable to us (and our wallets) the contrast between Eastern and Western Europe. Much of Eastern Europe showed signs of developing at a rapid pace, many as a result of tourism. In contrast the Western European cities were centres of finance and business. This was most apparent in Geneva, which is very rich and is the location for the headquarters of many international organisations, including the United Nations.



Geneva was the first place we arrived at. The first thing we noticed on leaving the airport was the fountain, the tallest in the world. At any one time there were 7 tonnes of water in the air. It was a very affluent place with prices that matched. There was not much sightseeing to do so we spent the day exploring and the evening swimming.



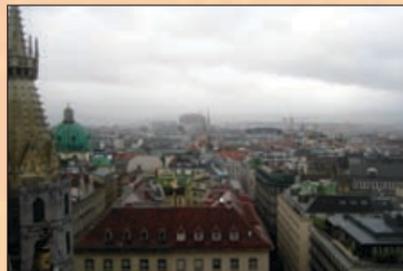
In Rome we visited the Coliseum and the Pantheon. Vatican City stood out as the highlight of this area as it was beautiful at night and clearly had a lot of money poured into it over the centuries. The Sistine Chapel in particular impressed us. The contrast between old Roman buildings next to new imposing blocks was intriguing.



Kotor in Montenegro was the first Eastern European place we visited after a long ferry ride from Italy. We spent most of our 5 days here exploring and swimming in the fjord, one evening we climbed the 1500 steps up the hillside to a castle and took the above photo. It was strange to visit such a place and see almost no tourists.



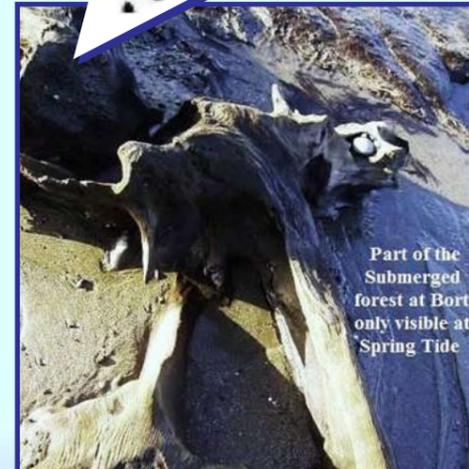
Mostar, in Bosnia and Herzegovina, was a very interesting place to visit. The only main attractions to be seen were right in the centre of the city in a tiny area. The surrounding areas were marked with signs of poverty and war damage after the collapse of Yugoslavia. The bridge shown in this picture was blown up by the Croats in the war, but has since been rebuilt and is now a symbol of hope.



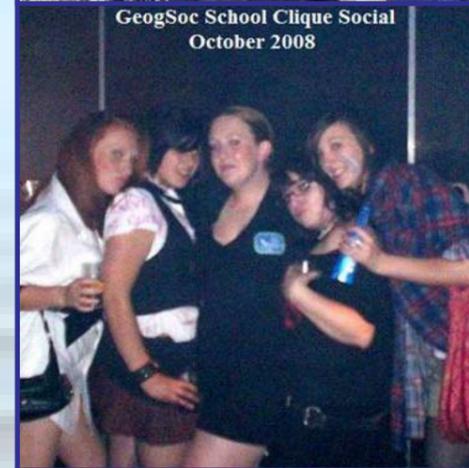
One of the last places we visited was Vienna. We were only here for a short period of time and spent the day mostly in the centre of the city. It was strange how a place so close to former Yugoslavia could be so different.



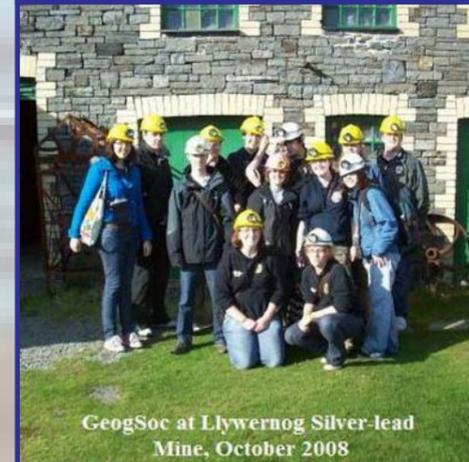
Berlin, our last stop before flying home, summed up all the contrast between East and West. Following the war when much of the city was levelled, the fate of each half of the city was left to the Soviets or the Allies. Nearly every building was sleek and modern with a clear divide down the former site of the Berlin Wall, now marked by a line running through the city.



Part of the Submerged forest at Borth only visible at Spring Tide



GeogSoc School Clique Social  
October 2008



GeogSoc at Llywernog Silver-lead  
Mine, October 2008

Aberystwyth's Geography Society is not your average bunch of geographers. GeogSoc, as we're known is a diverse bunch of people with members from throughout the IGES department and across the University creating an interesting social group with which to meet, be it at our weekly social in town, our 'Chill-Out' or on one of many trips which aim to be both educational and enjoyable. Other social events GeogSoc organises or is heavily involved in include the GeogSoc Christmas meal and the IGES Graduate Ball which is hosted before the end of term exclusively for those graduating within the department, staff and third year members of GeogSoc. This year we're extending our events to include guest lectures by members of the department exploring their personal research and expanding on topics which interest you and will hopefully help with assignments and exams. Our trips include paint-balling (not for the faint hearted!), Ynyslas to visit the spectacular sand-dunes, Borth to coincide with the Spring Tides to see the submerged forest and most recently the Silver-lead mine at Llywernog. The trips we offer aim to be recreational as well as informative and educational where possible. Towards the end of the academic year we successfully organised a camping trip in South Shropshire, a geographically rich area for both physical and human geography students. This included walking, exploring Mortimer's forest and the rural geographies of the area, as well as indulging in the local ales!

As a society our main aim is ensure that you, as a member, have an active, varied and enjoyable time whilst at Aberystwyth mixing with some of the most amazing people you will ever meet. As mentioned we are not exclusively for Geographers and many members of the society have developed an interest in the subject since being dragged along by their geography student flat-mates to one of our weekly socials. Our Socials take place every week throughout the pubs and clubs of Aberystwyth incorporating fancy dress and theme nights - we aim to offer something for everyone and prizes are often up for grabs! In contrast to our socials in town we also run a 'Chill-Out' every Sunday be it meeting on the beach for a BBQ, a roast dinner somewhere in town or just relaxing with a coffee and some cake at the Arts Centre on campus. These meetings give members a chance to ask questions of the committee, give us feedback on what as members you want from your society as well as enabling everyone to get to know each other in a relaxed and less hectic environment.

The committee this year is made up of human geographers, such as Heather the President, those studying geography such as Emily, the Trips Officer and non-geographers such as Zoe, the secretary. The positions on the committee are elected annually and provide you with the chance to really get involved and shape the society. As a society GeogSoc incorporates socialising and education to provide a secure and supportive network within which members can gain help and advice from older students, make some of the best friends they'll ever know and experience life at Aberystwyth University and within IGES to the max.

Heather Dicken



# EES

Hello and welcome to the Environmental Earth Science Society! EES for those in the know! We do more than colour in! As you may be aware, we are a small (some say elite!) group within the IGES department so there are no excuses, you can get to know everyone on your course! (Trust me you'll spend lots of time with them!)

We are a friendly group who meet once a week for a chill-out social event - be it in a pub, for a game of pool or the regular quizzes each term. We also like to take walks along our beautiful coastline, where you can find amazing rock formations and maybe a pretty rock or two, if you're so inclined, or you can just admire the view and the wildlife.

We like to make the most of living by the sea-BBQs and bonfires!- Huddling together round a camp fire and a little BBQ in November can't be beaten! To raise money, there are cool fundraisers including a Body Shop Party and paintballing, charity events, sports and games!

We bring together all 3 years of our course so there is always someone who has been through what you're going through and can offer a helping hand or a friendly smile. We also have close links with the lecturers and post-graduate students who are always willing to help you out (and beat us at quizzes!).

**So, join like-minded people and make some friends.  
Love a geologist - they'll rock your world!!**

The EES committee :  
Danielle Lightfoot - President  
Ashley Heighes - Social sec  
Victoria Adams - Publicity Officer  
Llinos Roberts - Secretary  
Michelle Clemmens - Treasurer  
Alex Barnes - Health and safety officer

*Danielle Lightfoot*

## Environmental Earth Science Society

# FIELD COURSES

## Gareth Hoskins New York Fieldtrip

*New York is best known for its dramatic skyline, impressive skyscrapers, the Empire State Building, shopping on 5th Avenue and the Statue of Liberty but it's behind the scenes in the back streets of the city that many of the most interesting geographical processes take place. In the last 10 years, The Meat Packing District on the lower west side of Manhattan has experienced dramatic social change.*

*The 150-year old industry of slaughterhouses, butchers, and meat dressers is being squeezed out to make way for fashion houses, design studios and high-end boutiques selling brands such as Geoffrey and Stella McCartney. The contrast in land-use makes for a bizarre backdrop. It's one that has been used in countless gangster movies and TV shows including Sex and The City, Friends, and CSI New York. Students carrying out interviews, taking photos and interpreting the landscape feel like they've entered a film set - and one that's very different from the (relatively) quiet streets of Aberystwyth!*

*Other sites visited during the field trip include Ground Zero, Chinatown, Wall Street and Central Park.*



## Spain Fieldtrip



## New Zealand Fieldtrip



## Hands-on Glaciology Tom Holt The MSc in Glaciology Field Course to the Swiss Alps

*The MSc in Glaciology has an introduction like no-other - a week long field course to the Swiss Alps, led by Professor Mike Hambrey and Dr Bryn Hubbard. After a quick flight and a short train journey, we found ourselves in breathtaking scenery in the middle of the Rhône Valley. Throughout the field course we were based near Arolla, a typical Swiss Village clinging to the mountain-side. Various excursions took place over the following five days, including visits to Glacier de Tsanfleuron, Bas Glacier d'Arolla, Glacier de Tsijiore Nouve, Glacier du Ferpécle and Glacier du Mont Miné. Aside from admiring the surroundings, we undertook various glaciological activities including geomorphological and structural mapping, meltwater analysis, sedimentary and structural analysis and assessment of glaciological landforms. Towards the end of the week we were given the freedom of choosing a research topic and following it through using techniques learnt over the week. The whole field course was a fantastic introduction to the basic principles of glaciology, and provided us with that 'hands on' experience which is often missing.*



# GRADUATE BIOGRAPHIES

You've worked hard and played hard for three years, and that degree is securely in your pocket, but what do you do next? Here are some of our recent graduates to show you just what you can do with a degree in Geography! Typically 91% of our graduates are in employment or studying for a postgraduate qualification within 6 months of graduation; a tribute to the high quality of our students and the quality of their tutors.

## ANGÉLIQUE CRYSTAL

NOW WORKS FOR: RIO TINTO MINING AND EXPLORATION LIMITED

*Exploration Geologist - SOUTH AFRICA*



I grew up following my Dad around the gold fields of Southern Africa so this has always been the obvious career for me, although it hasn't always seemed that way. I graduated last year with an Upper Second Class degree in Environmental Earth Science and so far have been to some amazing places. My mining career started in the summer of my second year when I went to the Cavanacaw Gold Mine in Northern Ireland operated by the Galantas Gold Corporation for two weeks work experience. I was then asked to stay on for the rest of the summer assisting with the drilling program and after a quick change in direction I was commissioned to do my dissertation for the company based on the work I was doing. This proved a bit of a success and the day after my final exam I was on my way back up to Ireland to work as the mine/exploration geologist.

In my second year I had applied for the Rio Tinto Summer Student Placement Program and was accepted for a position in Mauritania. So I started a six week placement on a diamond exploration drilling program in the Taoudeni Basin, part of the Western Sahara where this photograph was taken. This consisted of two weeks in the offices in Nouakchott and then a month out in the desert on the drilling program where I was responsible for a range of duties including logging chip recovery, samples and drill site rehabilitation. I had a complete blast out there, it was completely awesome and although it was tough I loved every minute of it.

Following my placement I was selected for the Rio Tinto Graduate program and was offered the position of exploration geologist in South Africa, where I've been relocated to. I started my current role in RTX where my duties include some office based data management and leading a field team on drilling programs in various projects around South Africa.

## Rebecca Anniss

NOW WORKS FOR: BRECON HIGH SCHOOL

*Head of Geography*

Geography had always been a huge interest of mine from an early age, encouraged through visiting different places and seeing different people and landscapes.

When in school, I always remember looking up to my Geography Teacher and thinking 'that's what I want'. I always knew I wanted to teach and that the subject was to be Geography. I wanted my own Geography Department and I wanted to inspire pupils to study and enjoy the subject as much as I did. I wanted to make people aware of how important and how influential a subject Geography actually is as I know many people under-appreciate its importance.

I applied and was accepted to study Human Geography at Aberystwyth University for my undergraduate degree between 2001 and 2004. These three years I regard as being some of the best years of my life. I met some amazing people, experienced a great fieldtrip to New York in 2003 and studied some fantastic modules, thoroughly enjoying my time there.

September 2005 I returned to Aberystwyth at the Department for Education and Lifelong Learning where I completed my PGCE in secondary Geography. I was sent to two very different schools during this year – a small rural school and a large urban school – that were both very different in nature. The experience was one I will never forget. It has been compared to a baptism of fire but I enjoyed myself all the same.

On completion of my PGCE in June 2006, I was lucky enough to see a job advertisement for Teacher of Geography of Brecon High School. I always knew I wanted to remain teaching in Wales, and what a fantastic place to teach the subject – set in the middle of the Brecon Beacons National Park with Cardiff right on the doorstep. I jumped at the chance.

The interview was scheduled for July 2006 and I was successful – I had got the job that I had always wanted and so I set out to try and inspire pupils and help them to appreciate the importance of Geography.

Well, it is now 2008 and I am Head of the Department. In the space of two years I have achieved my dream job. I am working in a fantastic school with great colleagues and pupils and I am doing my bit in promoting a subject that I hold very dear. I regularly recount my stories of my time at Aberystwyth University to encourage pupils to apply to the IGES; so far this has proved quite successful.



**CRAIG OWEN**  
NOW WORKS FOR: OXFAM



Craig Owen is a graduate of IGES. While in Aberystwyth he was particularly interested in the modules we offer that focus on Geohazards. Since graduating he has worked for Oxfam as a campaign co-ordinator and office manager. During 2006, Craig was managing communications work for Oxfam's Tsunami Relief programme in Banda Aceh, Indonesia. Craig worked with the world's media to keep people informed of key issues and developments, as well as using the media to bring about political pressure on governments and other organisations to respond effectively. Craig flew in to Yogyakarta on the day of the 2006 earthquake, and assumed a co-ordinating role in the

'first response' team – assessing immediate needs following the disaster, setting up distributions of supplies, and co-ordinating with organisations providing medical relief and support.

Craig found the applied approach of learning at Aberystwyth prepared him for a whole range of situations he has encountered professionally which have required critical thinking and fast decisions to be able to save lives and influence the future.

Craig now comes back to Aberystwyth to contribute to the Geohazards module that inspired him when he was an undergraduate.

For more information on Craig's work, visit: <http://www.cardiffoxfamgroup.org.uk/craig/>

**CHRIS NEWMAN**

NOW WORKS FOR: ENVIRONMENTAL RESOURCES MANAGEMENT (ERM)  
*Environmental Consultant*

Chris graduated from IGES and spent 18 months in the police force before going travelling around the world and returning to environmental studies, taking an MSc in Environmental Consultancy at Newcastle University. Chris now works as an environmental consultant for Environmental Resources Management (ERM), the world's largest all-environmental consultancy, and specialises in Environmental Impact Assessments (EIAs), primarily for major oil and gas projects and general marine development projects, throughout Europe, Africa and the Middle East.



Since joining ERM, Chris has worked on the development of a chemicals plant in Egypt, which involved a number of overseas site visits, as well as an underground gas storage project, the UK's first ever round of Regional Environmental Assessments, a review of environmental and social risks surrounding the rapidly developing biofuels industry, and a number of offshore drilling projects in Angola and several Middle Eastern countries.

Chris has found that the broad background of a wide range of environmental science disciplines provided by his Geography degree at Aberystwyth is useful for understanding the work produced by subject specialists such as ecology, geology and soils science, which he has to incorporate into written work.

**SABINA MICHNOWICZ**

NOW WORKS FOR: ROYAL BOTANIC GARDENS, KEW  
*CITES Researcher*

I chose Aberystwyth as the place to continue my education because of its rural location, which given my decision to study Geography at degree level, seemed like a suitable choice.

Six months after graduation I am working as a CITES Researcher for the Royal Botanic Gardens, Kew.

My job involves working for the UN Convention on International Trade in Endangered Species of wild fauna and flora; providing scientific advice to government, along with assisting Her Majesty's Revenue and Customs in the identification of illegal imports and exports of endangered species of plants and writing publications. I also give lectures to MSc students on environmental issues and international laws regarding these endangered species. I get to travel with my job, and just recently I have been to a scientific meeting at the European Commission in Brussels and to a UN meeting in Italy.

I completed an internship at the Botanic Gardens whilst studying at Aberystwyth having organised this through the Year in Employment Scheme with the Aber Careers Advisory Service. After graduation I applied for a post which had come up in the section where I completed my internship. My time at Aber, which included working as a volunteer Broadcaster on Radio Bronglais (Hospital Radio) and writing for the local newspaper, allowed me to develop into a more confident, motivated and independent person, which are skills useful in any employment.

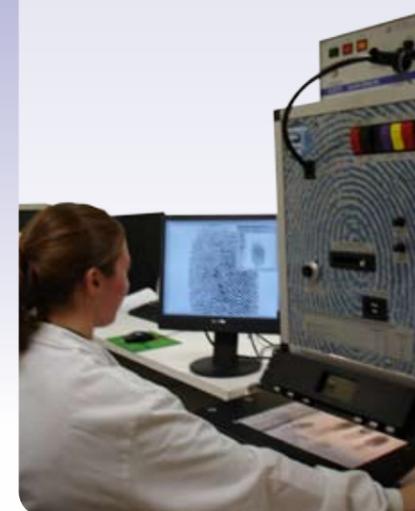
I am returning to Aberystwyth to be a postgraduate student - to study the effects of volcanoes on human health, climate and the environment.



**HELEN EDGINTON**

NOW WORKS FOR: HERTFORDSHIRE CONSTABULARY  
*FORENSIC SCIENTIST*

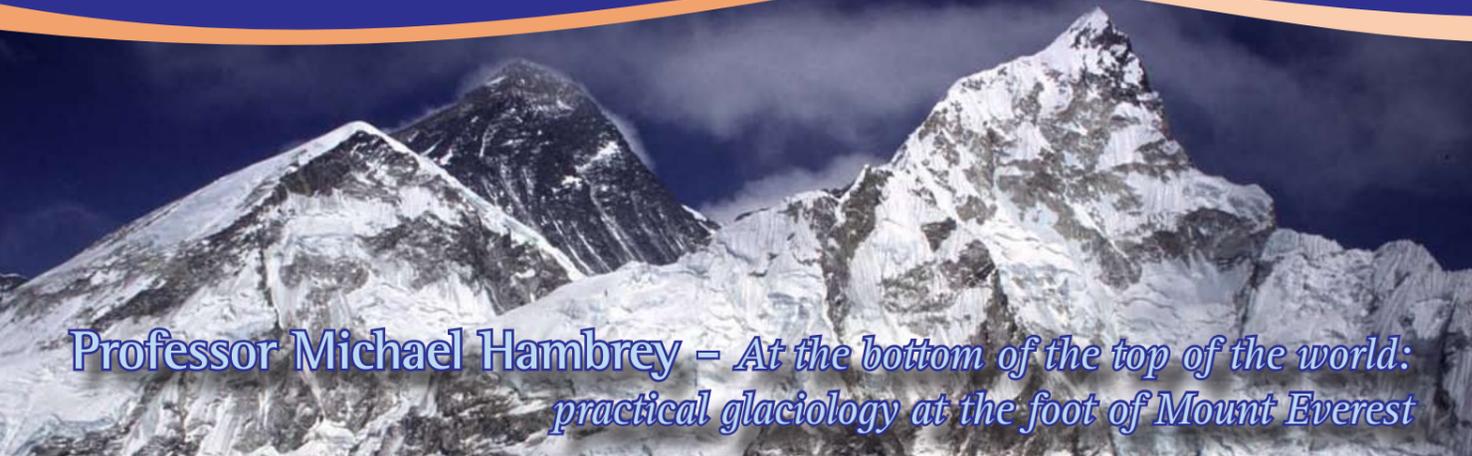
Since graduating, Helen has worked for Hertfordshire Constabulary as a Forensic Scientist. She is based at the Police Laboratory where they receive and chemically treat exhibits sent in by Scenes of Crime Officers for fingerprint recovery and recording.



Helen prepares and carries out a variety of chemical treatments that enhance latent finger marks and finger marks in blood or other contaminants, on both porous and non-porous items. She then photographs any useful finger marks and these photographs get sent to the fingerprint bureau for identification. Helen also carries out document analysis, fluorescence examinations and attends crime scenes to provide on site chemical treatments and photography of marks that cannot be lifted or sent to the laboratory.

*Helen found that the Environmental Science degree scheme and dissertation project developed her analytical skills and ability to work independently; whilst also providing good practical laboratory experience, which has been crucial to her role within Hertfordshire Constabulary.*





**Professor Michael Hambrey – At the bottom of the top of the world: practical glaciology at the foot of Mount Everest**

Staff from the Centre for Glaciology have just published a major paper on the glaciology and glacial geology of the Mount Everest region of Nepal. This follows a recent expedition to the area organised in association with Reynolds Geo-Sciences Ltd., an environmental geology consultancy specialising in (amongst other things) glacier hazards, based in Mold, North Wales. The work was funded under the government's Knowledge Transfer Partnership programme and by Aberystwyth University.

The field team consisted of myself, Prof. Michael Hambrey, along with Prof. Neil Glasser, Dr Duncan Quincey and Dr Shaun Richardson. All of us already had extensive glaciological field experience, ranging from the High Arctic through the tropical Andes to Antarctica. We combined our results with those obtained earlier by Prof. John Reynolds of Reynolds Geo-Sciences to contribute to our understanding of glacier hazards and glacier response to climate change.

The research is unique in combining geomorphological mapping, geophysical surveying and sedimentological studies, with remote sensing techniques to determine glacier morphology and dynamics. The team has already produced a number of papers focusing on remote sensing interpretation of Everest's glaciers.

Fieldwork was undertaken at an altitude of 4500 to 5500 metres on and around three glaciers, including the famous Khumbu Glacier which provides the southern approach route to Everest Base Camp. Supported by an excellent team of Sherpas and porters (and yaks), employed by Summit Trekking of Kathmandu, we had to undertake an 8-day trek from an air-strip at Lukla, passing through several Sherpa villages on the way. The walking was staged to allow acclimatisation to the high altitude, but even so, scrambling over steep loose moraines was a tough proposition for the party members. As many mountaineers and trekkers will testify, living at high altitude can induce severe headaches and coughs, which we experienced, along with the possibility of life-threatening pulmonary oedema (fluid on the lungs) which thankfully we did not!

The highlight of the trip was the walk up the 'trekking peak' of Kalar Patar (5545m), overlooking the 'tent city' of Everest Base Camp, which gave us a grandstand view of original first ascent route of Mt Everest (8848m), along with Nuptse (7879m) and Pumori (7185m), and more importantly from the project point-of-view an appreciation of the full length of the Khumbu Glacier.

We also spent time investigating Imja and Lhotse Glaciers in the neighbouring valley. The former has a moraine-dammed lake which Japanese scientists have argued may potentially fail, causing a catastrophic flood. Our own data suggest that this is unlikely to happen in the short-term, but the lake needs monitoring. Indeed, other glaciers in the area are showing signs of new moraine-dammed lake development as they down-waste under a thick debris mantle, increasing the threat of lake outburst floods over coming decades.

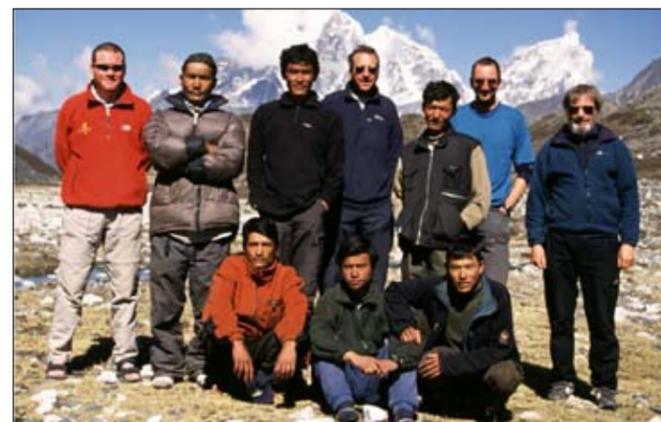
The substantial paper described here goes under a typically dry title: "Sedimentological, geomorphological and dynamic context of debris-mantled glaciers, Mount Everest (Sagarmatha) region, Nepal". It is published in one of the highest cited earth science/physical geography journals, Quaternary Science Reviews, which is where many IGES staff aspire to publish their best work.

The reason for examining these glaciers is because outburst floods from moraine-dammed lakes represent one of the major mountain hazards in the Himalaya, so it is important to understand the geomorphological and glaciological context of these events, which to date have received relatively little attention. In a sense, our fieldwork allows us to provide the necessary ground-truth in order to investigate hazards on a Himalayan-wide scale, embracing areas where access is too difficult or beyond our resources.

A second reason for working on Himalayan glaciers is to examine their response to global warming. A recent United Nations Environment Programme report on the state of the global cryosphere (those areas covered by ice and snow), showed that 40% of the world's population is dependent on meltwater from Himalayan glaciers. Most of the major rivers in, for example, Pakistan, India, Bangladesh and China are fed by glacial meltwater. Thus the impending demise of glaciers is likely to have serious consequences. In the long-term, therefore, our group intends to focus on rates of change of glaciers in the region, to allow for better management of a declining reservoir of water. Indeed, at the time of writing, two members of the group (Shaun Richardson and Duncan Quincey) are away in Pakistan, investigating a recent glacial outburst flood, funded by an 'Emergency Grant' of the Natural Environment Research Council.

For the party members, this research has proved very exciting and rewarding. We try to convey this aspect of our work in the various modules we teach, particularly through the medium of photography, which has been a key element in our research.

**Michael Hambrey**  
Director, Centre for Glaciology



**Shaun Richardson**  
*Carry on up the Khunjerab Ghulkin Floods, 2008*

Working in northern Pakistan in the post-September 11th era would not appeal to many people, but two of our researchers have done just that to investigate recent glacial floods that have affected local communities. Drs Shaun Richardson and Duncan Quincey are being funded under the NERC Urgency Scheme in response to several catastrophic floods that hit the Upper Hunza Valley in the Karakoram mountain range during the summer of 2008.

Three separate and unexpected glacier floods destroyed fields, property and infrastructure belonging to the Ghulkin village, and temporarily closed the Karakoram Highway, the main trade route from China to Pakistan via the Khunjerab Pass.

Glacier outbursts are uncommon in the Karakoram region. Historically, flooding has occurred predominantly from ice-dammed lakes formed when tributary glaciers advance across the main valleys. In this case, however, the floods have been described by local people to have originated directly from the Ghulkin Glacier, which sits menacingly above the settlement.

Shaun and Duncan have spent three weeks working on the Ghulkin Glacier to understand more about the processes of flood formation. Their field surveys and related studies of satellite images have shown that the Ghulkin Glacier is currently advancing and in places overriding its large terminal moraine. Consequently, meltwater stored within the many crevasses and conduits in the glacier is able to flood directly onto the land below. Avalanching of debris off the steep glacier snout towards the KKH and land below is also occurring on a daily basis.

The study has been carried out alongside national disaster agencies and NGOs based in Pakistan. These groups are working closely with the local communities in the upper Hunza valley to provide education on the nature of glacier hazards and to develop appropriate mitigation responses against future flood risk. By contributing to the understanding of how the Ghulkin floods were formed, the researchers' work will partly inform these community-led initiatives. It will also allow other glaciers with similar characteristics that may become hazardous to be identified and prioritised for longer-term monitoring.

Despite Western media reports of dangers for foreign travellers, Shaun and Duncan found the Hunza Valley to be an area of calm and peace in a nation otherwise characterised by widespread political and militant unrest. They found working in such a beautiful setting in close cooperation with the local people to be an exhilarating experience. "Waking up beneath some of the most rugged and inaccessible mountain peaks known to man was something very special" said Shaun. "The warmth and generosity of the local people made a strong impression that will stay with both of us for a very long time" he added.



# DEPARTMENTAL NEWS

## Ann Wintle - On top of the world

Whilst travelling to a conference on luminescence dating held in Beijing in September 2008, Professor Ann Wintle visited Qinghai Lake. At 3,205 m above sea level (10,515 ft), it is the highest salt lake in the world. It is home to fish that have adapted to the saline water and is on an annual bird migration route. After many years of decreasing in area, the lake is currently expanding. The sand dunes and beach ridges around its perimeter are the subject of study of one of Ann's colleagues at the Qinghai Institute of Salt Lakes in Xining.

She then visited the Salawusu River which is at the boundary of the Chinese Loess Plateau and the Mu Us Desert, close to the remoter parts of the Great Wall. She has recently helped colleagues in Hong Kong with the dating of stone tools exposed by the recent incision of the river.

*The conference in Beijing, which was hosted by one of her former students, provided a memorable event to mark her official retirement.*



## Glaciology Awarded NERC Funding

Neil Glasser and Mike Hambrey of IGES were awarded funding of nearly £350,000 from the Natural Environment Research Council (NERC) in April 2008 under the Antarctic Funding Initiative (AFI) for a project entitled "Glacial history of the NE Antarctic Peninsula region over centennial to millennial timescales". The majority of the funding (£287,000) will come to Aberystwyth University, with the remainder going to colleagues at Leeds University (£35,000), the British Antarctic Survey (£26,000), and Glasgow University. The project will run from April 2010 until March 2013 with fieldwork in Antarctica supported by the British Antarctic Survey scheduled for January 2011.



## Aberystwyth has the best range of Bursaries, Entrance Scholarships and Awards of any University in the UK.

All of Aberystwyth's comprehensive bursaries, entrance scholarships and awards are open to UK/EU students to help them during their time in higher education. They are split into two main categories: Scholarships and Bursaries.

Bursaries are open to UK/EU applicants and are designed to recognise excellence in academic achievement prior to admission. And new for 2009 is our sport bursaries available for any students applying to any department, who can demonstrate a high level of achievement in sports.

Entrance Scholarships are open to any student applying for a place at Aberystwyth University, and are awarded from the results of academic performance within two examinations set by the University.

Here within the Institute of Geography and Earth Sciences we encourage all our applicants to apply for this valuable addition to their studies. In 2008 we had excellent results, with 4 Entrance Scholarships being awarded to our applicants, as well as 96 Merit Awards through the Entrance Scholarship competition.

With Entrance Scholarships being worth up to £1200 a year, for your entire time at University, you could have up to £3600 extra in your pocket for three years study. In addition, those awarded also receive an unconditional offer, and the opportunity to live in University accommodation during their undergraduate years at Aberystwyth University.

Further information regarding all the Bursaries, Entrance Scholarships and Awards here at Aberystwyth University can be found at <http://www.ies.aber.ac.uk/en/teaching/bursaries>.

## Shaping Wales's Future

What is the future for the Welsh economy? How can we help to improve the quality of life of people in Wales? Why have some parts of Wales benefitted more from economic investment than others? These are some of the questions that will be investigated by a major new research initiative in which IGES is a key partner.

The Wales Institute of Social and Economic Research, Data and Methods (WISERD) brings together geographers, economists, sociologists and political scientists from Aberystwyth, Bangor, Cardiff, Glamorgan and Swansea universities to tackle some of the big challenges facing Wales today. Backed by over £4.5 million of funding, WISERD is unique in Britain.

The Aberystwyth team, led by Professor Martin Jones, Professor Michael Woods and Dr Graham Gardner in IGES, will bring a particularly geographical dimension to the programme. Their work will focus on studying differences between regions in Wales, examining the ways in which local factors can shape the impact of social and economic change, and asking whether 'place' matters in an increasingly globalized world.



## New Staff Mark Smith

Mark Smith recently joined the Department in October 2008 as a Lecturer in Physical Geography. His current research focuses on hillslope hydrology and runoff production in semi-arid environments. His Ph.D. (from Durham University) examined the applicability of theories of fluvial hydraulics and flow resistance to overland flows and the challenges of numerically representing the complex topographies observed in the field. Thus, having explained the restrained draining of the rain in Spain, he is now incorporating these results into hydrological models and attempting to transfer this knowledge to gravel bed rivers. He is currently developing an interdisciplinary theme by relating physical processes of runoff generation in semi-arid Portugal to how this water is perceived, understood and negotiated by local stakeholders. And yes, this involves fieldwork in the Algarve. Outside of work, Mark is a keen runner and can be regularly seen pounding the streets and hills. He recently ran 55 miles continuously for Sport Relief and even more ridiculous plans are afoot.

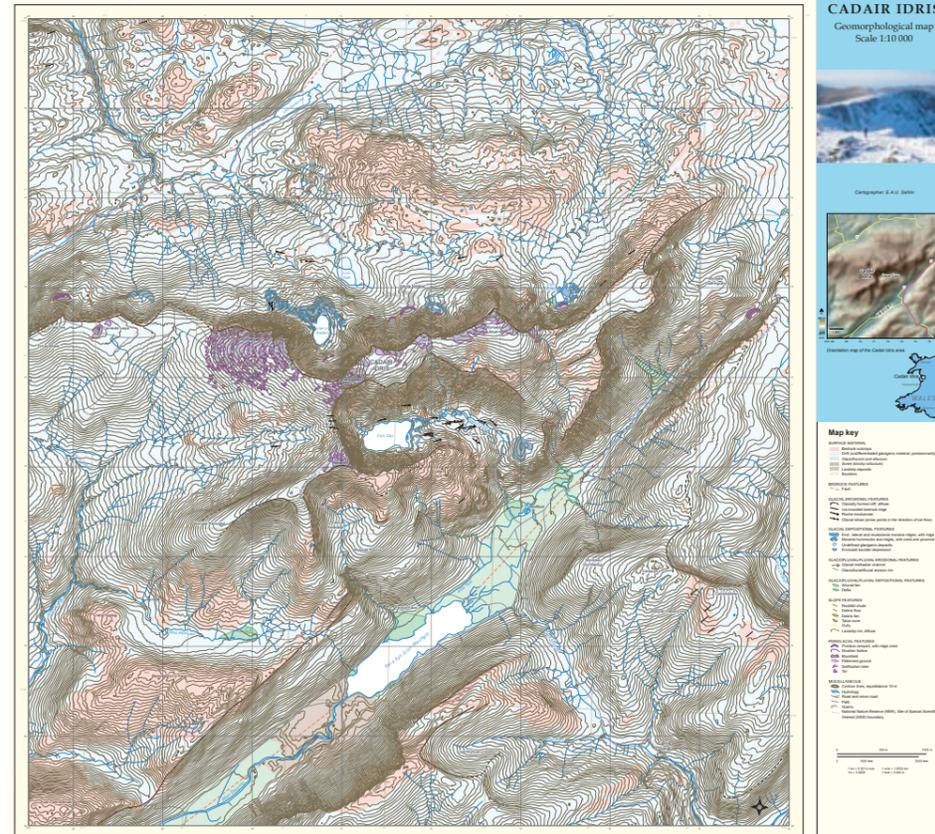
## Shaping Wales's Future

Eva Shalin and Professor Neil Glasser have been awarded the Journal of Maps "Best Map" prize for 2008 for our publication "A Geomorphological Map of Cadair Idris, Wales".

The map and accompanying text is online at <http://www.journalofmaps.com>

The Journal of Maps is an inter-disciplinary online, electronic, journal that aims to provide a forum for researchers to publish maps and spatial diagrams. Using full peer review and a reverse publishing method (where the author pays for the review process), all published maps are freely distributed to anyone wishing to view them, you just need to logon and register.

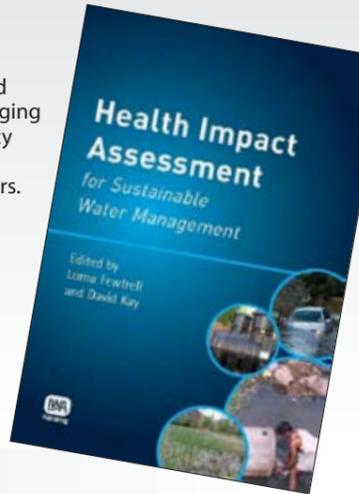
The prize for Best Map involves a full litho print run of 500-1000 copies of the map and hopefully this will be printed first quarter 2009.



## Health Impact Assessment for Sustainable Water Management

Edited by Lorna Fewtrell and David Kay, this new book is a pioneering and inspirational text, exploring this emerging discipline. It will be of interest to policy makers, planners, environmental and water utility scientists and practitioners.

The book illustrates the importance of considering health in water management and shows the role of health impact assessment in this process. A range of case studies illustrate different approaches and include the use of information from quantitative and qualitative sources.





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