



## Editorial

**T**wo new informational products - *Issues in Risk Science* and *BGHRC Technical Papers* - will be launched in December. *Issues* is produced for Benfield ReMetrics, with the aim of making advances in risk and hazard science more accessible to insurance & reinsurance professionals with an interest in natural catastrophe exposure and loss. *Issues* will appear four times a year and will address specific research

themes that are relevant to the insurance market. They are also likely to interest other stakeholders in the risk business, including government departments, international bodies, NGOs and a broad range of indus-

trial and commercial concerns. The first in the series, written by palaeo-seismologist Dr. Iain Stewart (Glasgow University), focuses on a reassessment of seismic risk in NW Europe.

*BGHRC Technical Papers* incorporate the results of in-house studies covering a wide range of hazard and risk science and disaster studies. The first, written by David Crichton, a visiting professor at BGHRC, provides a critical evaluation

of the current flood risk and insurance situation in England and Wales (see below). Both *Issues* and *BGHRC Technical papers* will be accessible online at [www.bghrc.com](http://www.bghrc.com), with only limited printed copies available.

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## Flood Risk and Insurance in England & Wales: Can Scotland Lead the Way?

**I**n the first of the BGHRC Technical Papers Professor David Crichton, former senior manager for a major insurer, and now an independent research consultant, presents a critical overview of UK flood issues from an insurance perspective. This comprehensive report addresses many of the flood-related problems currently facing the property insurance market and some of the background to the decision by insurers to maintain the flood insurance guarantee only up to the end of this year. Content includes planning issues, flood hazard, the London dimension, sewerage, health and climate change angles, flood warning and dissemination, and dams and reservoirs. The report concludes that, without drastic action, the costs arising from flooding in England and Wales

will rise dramatically, and recommends action along the lines of that taken in Scotland following devolution in 1999.

Here, new initiatives addressing flood defences, planning and insurance, legislation, surface water drainage and sewer over-

*Flooding in Exton, Hampshire, October 2000. Courtesy Tony Parker, Uckfield Flood Action Group.*



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## Flood Risk and Insurance in England & Wales: Can Scotland Lead the Way?

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flows, vulnerability, emergency planning and information for insurers, have proven particularly effective in preventing any increase in exposure to flood hazard, while at the same time an increasingly active and effective flood management programme is reducing the hazard itself. Fundamental to the Scottish strategy is a network of Flood Appraisal Groups in which stakeholders have an opportunity to influence local policies, and advise local planners. These groups are crucial in helping to balance the profit motives of housing developers with environmental and wider economic issues, not least the future availability of insurance, and the health and safety of local citizens.

Many insurance companies remain unaware of the progress made in Scotland and it is hoped and expected that this report will go at least some way towards remedying this. One insurer that has recognised that Scotland is different is *esure*. Chief executive, Peter Graham, recently observed that:

*'There has been an exceptional response to the problems of flooding in Scotland over the last five years. We believe that Scotland has in place many of the key elements that England and Wales are lacking in terms of planning and co-ordination. Now we are working to revise our risk-ratings across Scotland because of the speed with which the Scottish Executive and local authorities have acted to improve planning and defences.'*

David Crichton has represented insurers on Scottish Flood Appraisal Groups since 1995, and regularly attends meetings with local council planning departments all over Scotland to advise them on flooding issues. He has had a strong influence on the policies of council planners, persuading them of the importance of avoiding consents for new buildings in flood-prone areas.

David Crichton, BGHRC, [david@crichton.sol.co.uk](mailto:david@crichton.sol.co.uk)

## Rapid Environmental Assessment in Disasters

BGHRC and CARE International have been collaborating since 2001 on the development of a process to assess environmental impacts during disasters (See Alerts 3 and 6). The second of three field tests of the *Guidelines For Rapid Environmental Impact Assessment in Disasters* was recently completed in Ethiopia. The test took place in the Fentale and Awash-Fentale Districts in the northern Riff valley of

*Animal carcasses prepared for burning, a practice of questionable environmental justification. Awash-Fentale District, Ethiopia. Courtesy: C. Kelly*



eastern Ethiopia. These districts are experiencing a major drought and food security crisis. (See [www.reliefweb.int](http://www.reliefweb.int) for information on the Ethiopia crisis.)

The drought impact was most dramatically demonstrated in the two districts by a large-scale cattle die-off, a main source of food and income for pastoral populations. The impact of a large number of dead animals was

one of several environmental issues reviewed during the assessment. A number of other short- and long-term environmental issues, including overgrazing, ethnic violence, competition for limited resources, the shortage of fodder and water, and a lack of livelihood diversity were also identified as contributing to the scope and severity of the disaster.

One of the innovative aspects of the Ethiopia field test was the use of a *Community REA Questionnaire*. The questionnaire, based on the *Guidelines*, is intended to identify perceptions, concerns and expectations of disaster-environment linkages at the community level.

The questionnaire proved to be unexpectedly useful in collecting information on community concerns about the environment, and community views and concerns as to the solutions to these disaster-related problems. This input supplemented assessment results based on input from project and head office staff, and significantly strengthened the participatory aspects of the relief planning process.

Following the third field test a training module on the use of the *Guidelines* will be developed and tested with potential users. The training module, in hard copy and online at [www.bghrc.com](http://www.bghrc.com), will be available by the end of 2003. The *Guidelines* and reports on tests in Ethiopia and Afghanistan can be found at [www.bghrc.com/DMU/DMUSetup/Projects/rea.htm](http://www.bghrc.com/DMU/DMUSetup/Projects/rea.htm)

The REA project has received funding from UNEP/OCHA, Norwegian Royal Ministry of Foreign Affairs via CARE Norge, the Office of Foreign Disaster Assistance/USAID via CARE US and CARE International.

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## News in Brief

### Etna Erupts Again

Mount Etna (Sicily) has erupted spectacularly for the second time in two years. Ashfall from the summit vents lay up to 5cm thick 15km away and for a time closed Catania international airport at the foot of the volcano. Lavas were erupted



*Etna October 2002 eruption. Courtesy NASA.*

from fissure systems on the southern and northern flanks that parallel well established zones of weakness within the volcanic edifice itself and its underlying basement. GPS monitoring undertaken by BGHRC scientists and collaborators between 1997 and 1999 recorded ground surface movements interpreted as being due to the emplacement of fresh magma in the region of the southern eruptive fissure system. This region was also the site of last Summer's activity. *Bill McGuire*

### Italy Quake Highlights Incomplete Picture of Seismic Risk

On October 31st, an Mw 5.7 earthquake struck the Molise region of southern Italy. The quake produced maximum Modified Mercalli Scale intensities of VIII to IX in the village of San Giuliano di Puglia, where a school building collapsed, claiming 23 of the total 26 victims. The tragedy highlights the importance of addressing public buildings in earthquake protection policies



*Epicentre of Southern Italy earthquake October 2002. Courtesy USGS NEIC*

## Do Impacts Trigger Huge Eruptions?

Planetary geologists led by UCL's Adrian Jones have new evidence for the reign of the dinosaurs being ended 65 million years ago by multiple impact events, rather than a single big collision. Unusual textures in minerals from the famous Chicxulub impact site, off the coast of Mexico, reveal that the effects on the climate of this impact alone have been overestimated. In order, therefore, for conditions to have been bad enough for the dinosaurs and sixty percent of all life to have been obliterated, there must have been other impacts at about the same time. The locations of some smaller impacts are now coming to light and craters of similar age to Chicxulub, including Boltysh (25km diameter) in Russia, and the recently discovered Silverpit (12km across) in the North Sea, have been identified. Nothing really big has yet been found, however, and Jones and his colleagues suggest that a giant impact may have struck earlier than the Chicxulub object but the evidence now lies buried in western India, beneath the gigantic pile of lava known as the Deccan Traps.

Jones and his team propose that the volcanism that produced the Deccan Traps was actually the result of a major impact in the area, providing added support for a growing school

of thought that links impact events and giant outpourings of lava. The Jones et al. model also has major implications for past extinction level events, including that at the end of the Permian period, which wiped out ninety percent of all life on the planet. Then - around 250 million years ago - the greatest lava outpourings ever recorded were spreading across much of Siberia, possibly, suggests Jones's team, as a result of an object perhaps 20km across punching through the Earth's crust close to the present day mining town of Norilsk. The crater is no longer seen because it is buried beneath an enormous thickness of lava generated by the collision. A few million years earlier, similar lava outpourings in China may have resulted from another impact.

The idea of volcanism caused by impacts is a neat one that has the potential to unite two schools of scientific thought. One attempts to explain major extinctions in Earth history by impacts, while the other attributes such events to huge bouts of volcanism. The ideas of Adrian Jones and his team may help to reconcile the two models and the race is now on to find the incontrovertible proof that will bring this about. For more information go to [www.bghrc.com](http://www.bghrc.com) and click on Geological Hazards. *Adrian Jones, BGHRC, [adrian.jones@ucl.ac.uk](mailto:adrian.jones@ucl.ac.uk)*

and the consequences of earthquake timing; the occurrence of the earthquake during school hours resulting in the high number of fatalities. Early examination of the seismic data suggests that the quake occurred on an unknown strike-slip fault (possibly aligned E-W) that may be related to the Mattinata strike-slip fault around 50km to the east. Most significantly, the event occurred in an area where no large, historical earthquakes have been reported, highlighting the difficulties involved in building a complete picture of seismic risk assessment on the basis of historical data alone. *Ioannis Papanikolaou*

## Stormtracker Goes Online

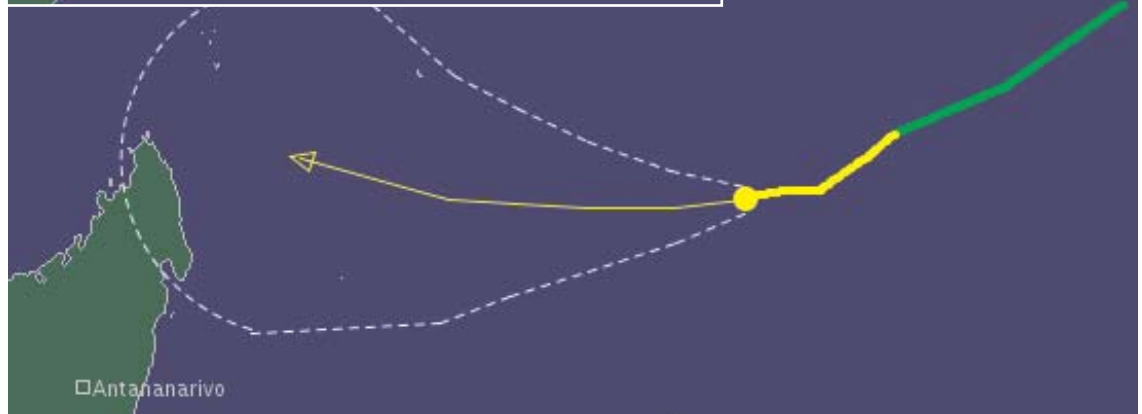
The damaging effects of hurricanes and typhoons are only too well known to the insurance industry. Of course, nothing can be done to prevent tropical cyclone (TCs) land strikes but gathering as much information as possible on potentially damaging storm systems as they develop can certainly help the industry prepare for the possible aftermath. [TropicalStormRisk.com](http://www.tropicalstormrisk.com) have recently introduced to their web-site the *TSR Tropical Storm Tracker*. The *Storm Tracker* makes the latest current and forecast conditions for all active tropical cyclones around the world available at a glance in a readily understandable format.

On the main *Storm Tracker* page, past and forecast tracks of all currently active TCs

Warning Center in Hawaii and are received by TSR via the UK Met Office. Any new data are automatically processed as soon as they are received, allowing the *Storm Tracker* to display the very latest information.

TSR continue to develop new features that will be added soon to provide a wider range of useful information to the user. These include a further level of zoom to give an indication of wind distribution around current and forecast storm positions and an option that compares currently active storms to similar storms of the past. These additions and its clear presentation and easy navigability are expected to make the site the industry standard web-site of its type. To view the *TSR Tropical Storm Tracker* go to:

<http://www.tropicalstormrisk.com> and click on the *Storm Tracker* option on the menu bar. Frank Roberts, BGHRC, [frank.roberts@benfieldgroup.com](mailto:frank.roberts@benfieldgroup.com)



are presented on a global map – colour coded according to storm wind strength at each point. An accompanying table details current and 24-hr forecast conditions for each storm system. From here, the user can use the clickable map or table to navigate through the site and zoom into specific regions. A further level of zoom is also available to enable a closer look at specific storms. Here, details of forecast conditions up to 72 hours ahead, with an indication of the possible range in those future positions, are also presented.

All the original data used by the *Storm Tracker* are obtained from the National Hurricane Center in Miami or the Joint Typhoon

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