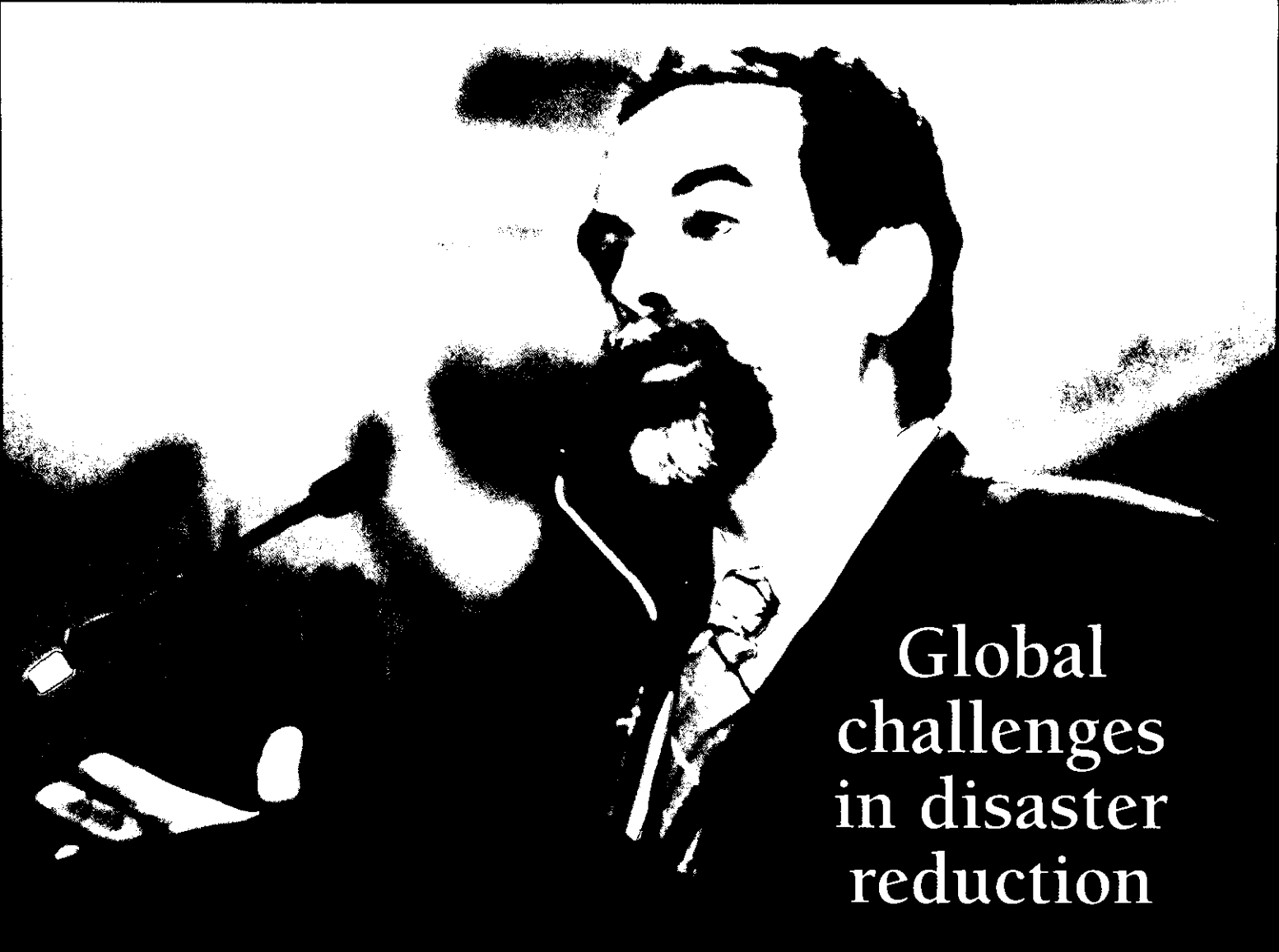


# EMA

# The Australian Journal of Emergency Management

SAFER SUSTAINABLE COMMUNITIES

Vol 19 | No 1 | March 2004



## Global challenges in disaster reduction



Developing Australia's  
urban search and  
rescue capabilities

Introducing the EM  
process into WA  
Indigenous communities

Sustainability  
and Disaster  
Management

# historical snapshot



*The Clemson family in overturned tank, with Albino Clavarino in the white shirt, after the fires of January 1906, at Mt Square Top.*

Destructive and widespread fires wiped out parts of the Gippsland district of Victoria in 1906. On the morning of the 23rd January, settlers close to the ocean saw heavy clouds of bushfire smoke covering the nearby hills. By that afternoon, the fire had raced along at incredible speed burning all in its path. The bushfire was relentless almost destroying the Mt Best settlement. Several houses, the church and the community hall were burned down. The Lonsdale family was devastated as the fire claimed the lives of six of their children. The Clemson children were also in terrible danger as the fire quickly surrounded them. Their rescuer was a 29 year old Italian labourer named Albino Clavarino. Albino found the children and led them to safety, putting them into an overturned water tank.

Source: *Wednesday's Closest to the Full Moon* – Barry Collett – Melbourne University Press 1994. Shire of South Gippsland Historical Society

Front Cover: Dr Sálvano Briceño, Director, United Nations International Strategy for Disaster Reduction. Keynote presentation: "Global Challenges in Disaster Reduction".



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# FOREWORD

## AJEM CONFERENCE EDITION

*David Templeman, Director General and Chair, Conference Steering Committee*

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Welcome to this special edition of AJEM which showcases the outcomes from the 2003 Australian Disaster Conference hosted by Emergency Management Australia (EMA) in Canberra.

The theme of "community safety is everyone's business" was certainly an appropriate corner stone on which our 150 speakers built their wide-ranging presentations, and I congratulate them for unselfishly sharing their thoughts and experiences with the 700 plus delegates over the three days in September.

EMA also acknowledges the interest and participation demonstrated by all delegates, without whom the Conference would not have been possible.

We were delighted to see everyone benefit, not only from the presentations, but also from the interactive workshops, breakfast sessions, poster and business exhibitions, and the social events.

Based on the 1999 Australian Disaster Conference celebrating the culmination of Australia's contribution to the International Decade for Natural Disaster Reduction, the Conference agenda was developed in close consultation with our stakeholders in the emergency management community.

The energy and dedication from our Conference Steering Committee with representatives from the various emergency management sectors resulted in a national event that was highly successful.

Their efforts were enhanced by strong support from sponsors such



*Mr David Templeman, Director General, Emergency Management Australia and General Peter Cosgrove AC MC*

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as the Australian Government's Department of Transport and Regional Services, the Bureau of Meteorology, Geoscience Australia, and AusAID; as well as the Insurance Australia Group and Critchlow Associates.

The opening day's key note addresses at the international, regional and domestic levels all touched on leadership and set the tone for the remainder of the Conference.

In particular, the personal contributions made by the Chief of the Defence Force, General Peter Cosgrove AC MC, were inspiring and relevant to the many challenges facing emergency managers in an all-hazards context.

I believe you will find the summary, samples of the papers and ideas presented, and the selection of papers from each of the Conference's seven streams very informative reading. Of particular

note is the international address – *Global Challenges in Disaster Reduction* – by Dr Sálvano Briceño, Director of the United Nations International Strategy for Disaster Reduction.

EMA also plans to publish Conference Outcomes—a report which will be available on our web site at [www.ema.gov.au](http://www.ema.gov.au), or by sending an email request to [ema@ema.gov.au](mailto:ema@ema.gov.au).

Based on the success of the 1999 and 2003 Conferences, and the strong support from the emergency management community, a third Australian Disaster Conference may be possible in 2006–07.

Mr David Templeman is Director General of EMA and Chair of the Australian Disaster Conference Steering Committee.

# Global Challenges in Disaster Reduction

*Sálvano Briceño*, Director, Inter-Agency Secretariat of the International Strategy for Disaster Reduction (UN/ISDR)

Gone are the days during which we reacted to disasters as they occurred, living from one catastrophe to another. Gone too are the days in which communities stand alone to cope with local hazards, receiving little (if any) acknowledgement or support from the outside world. Today we live in a globalised world, in every sense of the word: what impacts one community impacts us all.

*"We can and must build a world of resilient communities and nations."*

**Kofi Annan**  
UN Secretary-General

Together we must look to shift our emphasis from disaster response and relief to disaster reduction, incorporating preparedness, mitigation and prevention within the context of sustainable development towards reducing our collective risk and vulnerability to natural hazards. The World Summit on Sustainable Development (WSSD—Johannesburg, August 2002) reinforced awareness of the need for risk and vulnerability reduction in order to secure sustainable development. By reviewing past achievements (and failures) we can establish future priorities aimed at balancing the investment of resources between disaster response and disaster reduction.

We need to develop a common understanding on disaster reduction by means of ongoing communication and interaction among actors representing a wide variety of groups at all levels. This involves working together to ensure the efforts of the humanitarian, meteorological, developmental, environmental and agricultural sectors (among many others) are complementary, integrating disaster reduction within the respective agendas.

Climate change is a serious global concern that remains highly relevant to disasters and their reduction. Steps that enhance our ability to cope with the existing climate are needed, by identifying and reducing current and future climatic risks and promoting disaster reduction as a climate change adaptation strategy.

## How can the ISDR offer 'added value' as we face these global challenges?

Following the International Decade of Natural Disaster Reduction (IDNDR 1990–2000), the United Nations General Assembly launched the International Strategy for Disaster Reduction (ISDR) to provide a global framework for action with the objective of reducing human, social, economic and environmental losses due to natural hazards and related technological and environmental phenomena. The ISDR aims at building disaster resilient communities by promoting increased awareness of the importance of disaster reduction as an integral component of sustainable development.

Under the umbrella of the ISDR, four primary objectives are identified: 1. Increase public awareness to understand risk, vulnerability and disaster reduction; 2. Promote the commitment of public authorities to disaster reduction; 3. Stimulate multidisciplinary and inter-sectoral partnerships, including the expansion of risk reduction networks; and 4. Improve scientific knowledge about hazards, vulnerability and risk to disasters.

All four objectives are interdependent and interrelated. For instance, awareness-raising is possible by translating scientific knowledge and research into user-friendly information, disseminated throughout networks and partnerships across a variety of sectors, and encouraging decision-makers to incorporate this information into public policy and awareness campaigns to reach the general public.



Director General of EMA, Mr David Templeman and Dr Sálvano Briceño, UN/ISDR



Dr Sálvano Briceño, Mr Robert Cornall, Ms Martine Letts and Mr David Templeman

Following are some examples of how the ISDR is being implemented to address the above-mentioned challenges.

### **Learning from the past to balance the scales of disaster response and disaster reduction**

Currently in progress is a review of the *Yokohama Strategy for a Safer World: Guidelines for Natural Disaster Prevention, Preparedness and Mitigation and Plan of Action*, examining the achievements in the implementation of disaster reduction worldwide, identifying gaps and preparing recommendations for future priorities to guide action in longer-term development plans by UN Member States. The ten-year review – which commenced in the mid-1990s following the Yokohama World Conference on Natural Disaster Reduction – takes into account several relevant processes, such as the Johannesburg Plan of Implementation of the WSSD, and will culminate in the World Conference on Disaster Reduction (WCDR) planned for Kobe, Japan, 18–22 January 2005.

It is anticipated that the WCDR will adopt a programme of action 2005–2015 based upon an agreed set of principles and framework for disaster risk reduction, including benchmarks and criteria for indicators, to serve as a tool for guiding and monitoring progress at all levels<sup>1</sup>. The Conference will draw upon various regional and thematic consultations including regional consultations in Africa, Asia, Latin America and the Caribbean, the South Pacific, Europe, the Second International Conference on Early Warning, Review of Small Island Developing States and Barbados Plan of Action, the International Conference of the Red Cross and Red Crescent Societies as well as the 2003 Australian Disaster Conference.

### **A common vision to raise awareness and build understanding of disaster reduction**

The annual World Disaster Reduction Campaign is one way for communities to participate in the global interactive movement in which different parties are engaged, to create social pressure and change people's perceptions towards reducing risks and vulnerabilities. The dissemination of clear and motivating messages is crucial for the implementation of disaster reduction at the global, regional, national and local levels, with international agencies, non-governmental organizations, government representatives, local decision-makers, scientists, educators and communities all having the opportunity to participate in the Campaign. Each brings their complementary roles and responsibilities towards generating more widespread commitment and understanding to disaster reduction, contributing to the promotion of a 'culture of prevention'.

The ISDR is an opportunity for practitioners and institutions from all regions of the world to share experiences and exchange information on lessons learned and best practices in disaster reduction. The publication *Living with Risk: A global review of disaster reduction initiatives* (UN/ISDR, 2004) comprises a compilation of activities and case studies aimed at reducing the impacts of natural hazards, involving actors at all levels. By way of an open dialogue, we can identify trends, draw up policy and institutional guidelines, establish links that previously may have been overlooked, share success stories with a view to apply them elsewhere, and build a common understanding of disaster reduction across communities, nations and regions of the world.

### **Living with risk in a changing climate**

Weather-related disasters – such as droughts, floods, landslides, storms, fires and sometimes epidemics and pest outbreaks – far outstrip other types of disasters, and are impacting more communities than ever. Average economic losses in the 1990s were six times greater than in the 1960s (2003 Geo Risks Research Department of Munich Reinsurance, January 2003).

The Intergovernmental Panel on Climate Change (IPCC) has consistently projected the likelihood of increased frequency and intensity of hazards in the future as a consequence of changes occurring in the earth's climate, such as increases in concentrations of atmospheric greenhouse gases caused by human activity.

It is widely recognized that many countries are rapidly accumulating large latent risk burdens through the concentration of growing populations in hazardous

1. From 25 August to 26 September a preliminary consultation was carried out on-line to discuss the proposed framework for guiding and monitoring disaster risk reduction with experts around the world. More information can be obtained at [www.unisdr.org/dialogue](http://www.unisdr.org/dialogue) or by emailing [framework\\_consultation@un.org](mailto:framework_consultation@un.org)



*Inspecting one of the conference displays, Mr David Templeman and Dr Sálvano Briceño*

situations, the stripping of environmental capacities to withstand hazards, and the creation of new social and economic vulnerabilities from migration, urban development and economic growth. When a hazard occurs, it exposes a large accumulation of risk, unleashing unexpected levels of impacts. Disaster reduction provides a solid, meaningful, no-regrets set of activities in support of climate change adaptation plans.

A wide consensus is emerging on the need to move towards the goals of the International Strategy for Disaster Reduction. We need to harmonise our efforts towards sustainable development plans and poverty reduction initiatives to include disaster risk assessment as an integral component, increasing investment in reducing risks and vulnerabilities towards the achievement of the Millennium Development Goals and the Johannesburg Plan of Implementation for Sustainable Development. Disaster reduction is both a humanitarian and development concern that must be considered as a one of the core responsibilities of the international community at large.

As a result of extensive experience in facing a range of natural hazards, Australia has developed an integrated community approach to disaster management. This approach demonstrates its clear commitment to community education in risk reduction, through the promotion of a culture of 'spontaneous volunteers' and encouraging involvement at all levels, potentially serving as a model for other countries to adapt and follow. As a key member of the international community, Australia has much to contribute to the global movement towards building safer sustainable communities.

# Urban Search and Rescue— developing Australia's capability

Greg Mullins, Commissioner NSW Fire Brigades

## Summary

Throughout the world full-time urban fire services are usually tasked with managing the equipment, organisation, personnel, training and deployment of Urban Search and Rescue (USAR) Task Forces.

While fire services tend to form the core of Task Forces, by necessity they have a multi-agency, multi-disciplined structure. A typical USAR Task Force comprises fire service rescue technicians, ambulance paramedics, trauma doctors, structural engineers, search dogs and handlers, fire service hazardous materials specialists, logistics specialists, and fire service commanders.

Before terrorism came to prominence with the bombings of the World Trade Center in 1993 and the Alfred P Murrah building in Oklahoma City in 1995, USAR was perceived by many as a capability required solely for events such as earthquakes.

Development of USAR capabilities in Australia received renewed impetus following the events of September 11 2001 in the USA, and October 2002 in Bali. Current deployable USAR capabilities are restricted to NSW, Melbourne and Brisbane. Smaller states and territories may be experiencing difficulty financing and supporting development of USAR capabilities. The Australian Government has provided welcome assistance to the states and territories to develop Chemical, Biological and Radiological (CBR) capabilities, but decided not to provide any financial assistance for the development of USAR. It is timely that this decision be reviewed, as history suggests that the likelihood of a major structural collapse is higher than a CBR incident.

## What is Urban Search and Rescue?

The term Urban Search & Rescue was first used in the USA by the Metro-Dade Fire & Rescue Department in Florida which developed a specialised rescue squad for deployment nationally and internationally to earthquakes and other major disasters where people had been trapped in collapsed buildings. Since its humble beginnings, USAR has developed into a discipline of its own, with international guidelines provided by the United Nations on the organisation and equipment required.<sup>1</sup>

A USAR Task Force uses a range of specialist equipment such as fibre-optic cameras, acoustic listening devices, concrete cutting and core drilling equipment, tunneling and shoring techniques to locate, stabilise and release trapped persons. Task Force members are specially trained for their specialist tasks. A typical USAR Task Force of up to 70 people includes rescue technicians, hazardous materials specialists, engineers, paramedics, doctors, search dogs and handlers, command personnel, and logistics specialists. Internationally deployable Task Forces must be self-sufficient, and carry their own food, water, shelter, and medical supplies.

USAR training is divided into three categories:

- *Category 1:* first responders, such as fire, police, ambulance and SES personnel. Light surface rescue using hand tools and limited hydraulic lifting and cutting equipment.
- *Category 2:* USAR rescue technicians trained in the use of advanced rescue and search equipment, tunneling, shoring, etc. Specialist qualifications for engineers, doctors, paramedics, and search dog handlers.
- *Category 3:* Task Force management, command and control.

1. International Search and Rescue Advisory Group (2000) *INSARAG Guidelines*. United Nations Office for the Coordination of Humanitarian Affairs. Geneva.



## Is there a need for USAR capabilities in Australia?

There has been a perception in some quarters that major incidents requiring the skills and resources of a USAR team are infrequent.

Following is a list of instances where USAR resources were either deployed, or could have been deployed had they been readily available:

### Australia

- 2003 – Structural stability assessments following the Canberra bushfires (ACT)
- 2003 – Waterfall train derailment (NSW)
- 2001 – Childers backpackers' fire (Qld)
- 2000 – Glenbrook train crash (NSW)
- 1999 – Sydney hailstorm (NSW)
- 1997 – Thredbo landslide (NSW)
- 1989 – Newcastle earthquake (NSW)
- 1978 – Sydney Hilton Hotel bombing (NSW)
- 1977 – Granville train disaster (NSW)
- 1974 – Cyclone Tracy (NT)

### International

- 2002 – Bali bombing
- 2001 – New York City terrorist attack \*
- 2001 – Washington DC terrorist attack \*
- 2000 – Nairobi (US Embassy) terrorist attack
- 2000 – Taiwan earthquake\*\*
- 2000 – New Guinea tsunami
- 1999 – Athens earthquake
- 1999 – Turkey earthquake\*\*
- 1995 – Kobe earthquake
- 1995 – Oklahoma City terrorist attack
- 1993 – World Trade Center terrorist attack

\* Australian USAR Task Force offered by Australian Government

\*\* Australian USAR specialists deployed at UN request

In addition to the above major incidents, fire services in NSW, Victoria, the ACT and Queensland deploy USAR experts and equipment to complicated rescue incidents on a routine basis to back up regular rescue crews. Incidents involving heavy transport, building collapse or instability, aircraft crashes or similar, regularly see deployment of elements of a USAR Task Force.

## Current Australian capabilities

The Melbourne Metropolitan Fire Brigade (MFB) was the first agency in Australia to recognise the need for a USAR capability following the World Trade Center bombing in New York City in 1993. Similarly, the NSW Fire Brigades (NSWFB) recognised the need following the 1989 Newcastle earthquake, but due to unique NSW "rescue service politics" only commenced developing its capability following the 1995 Oklahoma City bombing. The NSWFB has worked in partnership throughout development of its capability with the ACT Fire Brigade (ACTFB), bringing overseas experts to Australia to train Australian personnel, and jointly developing an award-winning training CD for Category 1 USAR. The CD has been adopted nationally, and in a number of other countries throughout the world. In recent years the Queensland Fire & Rescue Service (QFRS) has also developed a comprehensive USAR capability.

The following table summarises the current situation.

**Figure 1: Current Australian USAR developments**

State/Territory	Current USAR capability
New South Wales	2 complete Task Forces (Sydney) 2 USAR response teams (Newcastle & Wollongong) 1 reconnaissance vehicle 1 medium helicopter for Reconnaissance. Team (shared with NSW Police)
Victoria	1 complete Task Force (Melbourne)
Queensland	1 complete Task Force (Brisbane)
Australian Capital Territory	12 person team with equipment
South Australia	Developing capability – some people trained
Western Australia	Developing capability – plans for complete Task Force
Tasmania	Developing capability – some people trained
Northern Territory	Developing capability – some people trained

As can be seen, current USAR resources are concentrated on the east coast of Australia, with the NSW Government investing a significant amount of money in developing a world class capability. The Western Australian Fire & Emergency Services Authority (FESA) has recently committed itself to developing a USAR Task Force capability. New Zealand is also developing a significant USAR capability, but would look to Australia for assistance in the event of a major collapse.



*The Thredbo disaster resulted in the deployment of almost all of Australia's USAR capabilities*

### **Possible scenarios**

A structural collapse leading to entrapment could occur due to a variety of reasons including earthquake, cyclone, flood, tsunami, transport and aircraft accidents, structural deficiency or damage, overloading, landslide, or explosion (accidental or intended).

The 1997 Thredbo landslide demolished two ski lodges, trapping 19 people, one of whom survived. This event resulted in deployment of a NSWFB USAR Task Force, the entire ACTFB USAR capability, and elements of both the MFB and QFRS USAR capabilities.

An earthquake or detonation of an improvised explosive device (IED) in a major Australian urban centre could result in significant structural collapse that could kill, injure and/or trap hundreds or even thousands of people. Overseas experience shows that chances of survival of entrapped people diminish with time. Deployment of USAR resources in a timely manner is therefore crucial.

A worst-case scenario would be a terrorist attack on either Perth, Darwin, Hobart, or Adelaide, where presently there is no structured USAR capability. Accordingly, lead-times for response of resources from NSW, Victoria, Queensland and the ACT could significantly reduce the chances of survival of trapped people.

The September 11 2001 attacks in the USA resulted in the deployment of 12 USAR Task Forces to New York, and 6 to Washington DC. Clearly, Australia does not have this depth of resource. It would therefore be necessary to seek urgent overseas assistance.

### **Overseas USAR assistance**

In the event of a major structural collapse and entrapment in Australia, external assistance could be sought (via the United Nations) from Singapore, Korea, Taiwan, Japan and the USA, all of which have well developed USAR capabilities. The lead-time factors are obvious. What is not so obvious however are the border control issues that would arise.

The National USAR Working Group has for a number of years been seeking to have issues such as passport control for rescuers, certification of medical personnel, customs clearance of food and drugs, and quarantine issues for search dogs resolved. Despite excellent cooperation and significant progress, these issues are still far from resolved, and there would therefore be significant delays in deploying international teams on Australian soil.

It therefore does not take a lot of imagination to realise that in the event of a catastrophic building collapse and mass entrapment in Australia, the tyranny of distance that protects us in many ways could also be an impediment to effective rescue operations.

### **Impediments to development of USAR capabilities**

USAR development is occurring against a background of constrained financial resources in the states and territories, several of which are experimenting with new funding models for fire services. Smaller fire service jurisdictions are struggling with the demands to develop terrorist consequence management capabilities in the area of CBR response, as well as USAR. Australian Government assistance to develop CBR capabilities has

been welcomed by the states, and recognises the cross-border and possibly catastrophic consequences of a CBR attack on the Australian community.

Unfortunately, when considering a recommendation from Emergency Management Australia (EMA) to help fund state and territory USAR capability development, the Australian Government determined that USAR is solely a state government responsibility. The high capital cost of specialised USAR equipment, and in particular the very significant and ongoing training costs make development of deployable USAR capabilities in the smaller jurisdictions very difficult.

Australian fire services consider that the likelihood of a natural, technological or terrorist event resulting in building collapse is far higher than that of a CBR attack. The consequences of both are potentially catastrophic, and would have national implications. The only major CBR attack to have taken place to date was in Tokyo in 1995. Since that time there have been numerous instances of IED detonations, terrorist attacks, earthquakes, and other events requiring deployment of significant USAR resources, resulting in significantly higher casualty rates than the Tokyo CBR attack.

It is hoped therefore that the Australian Government will reassess its earlier determination not to provide assistance to the states and territories to develop USAR capabilities. Cities such as Darwin, Perth, Adelaide, and Hobart could be subjected to terrorist attack, or, particularly in the case of Perth and Adelaide, experience an earthquake. A modest injection of Federal funds or USAR equipment, as well as national funding for ongoing USAR training, would ensure that Australia has an appropriately dispersed USAR capability.

### **Consultative processes**

EMA has, together with the Australasian Fire Authorities Council (AFAC), taken a leading role in helping to develop Australia's USAR capability. Each state and territory has a USAR committee that usually reports to the principal emergency management committee.

EMA chairs and facilitates the National USAR Working Group, which has representatives from each state and territory, New Zealand, peak bodies of the fire services, ambulance and health authorities, police services, and state emergency services, as well as the Australian Defence Force. It also arranges Australian representation on the International Search and Rescue Advisory Group (INSARAG) which is a part of the United Nations Office for the Coordination of Humanitarian Affairs (OCHA).

AFAC has a National USAR Steering Committee, and Working Group that coordinates development of training and procedures. The AFAC structure complements and supports the EMA efforts.



The National USAR Working Group is currently working on a range of issues including a mutual aid agreement with New Zealand, standardisation of training standards and Task Force roles, border control and quarantine issues.

### **Conclusion**

Australia needs to continue development of its USAR capability. States with smaller populations are experiencing some difficulty in funding development of USAR capabilities, and currently there is a reliance on the three eastern states and, potentially, on international assistance. New Zealand does not have a deployable USAR capability at present and is also in development mode.

The Australian Government has recognised the possibly catastrophic effect of a CBR attack, and has helped fund development of CBR capabilities by the states and territories. The likelihood of a need for USAR resources is demonstrably higher than for CBR, and the consequences of an earthquake or detonation of an IED by terrorists in an urban area are potentially as catastrophic, or more so, than for a CBR attack. Review of the decision by the Australian Government not to assist state and territory governments with USAR development would be welcomed, and would help ensure that Australia quickly develops a coordinated capability to deal with the consequences of terrorist attacks and major natural disasters.

# Integration of Emergency Risk Management into West Australian Indigenous communities

*Moya Newman and Scott Andrew Smith, Fire and Emergency Services Authority of WA*

## Summary

The Fire and Emergency Services Authority of Western Australia (FESA) has developed a framework to coordinate the introduction of the emergency risk management process into West Australian Indigenous communities. The Framework evolved from an original project originally funded by the EMA Projects Program in 2000. The draft FESA Framework was distributed to key FESA Directors for consideration as it is not intended to replace or halt existing initiatives, rather to enhance their effectiveness and to consolidate the efforts of the various FESA divisions to ensure a common and economically sound outcome. The first project focused on the development of a training program that was culturally appropriate and effective for use with indigenous communities irrespective of their location within Western Australia. The Framework includes a strategic overview, roles and responsibilities, outcomes and evaluation strategies. The Framework was developed to be consistent with FESA's values while acknowledging the specific cultural needs of West Australian indigenous communities.

## Introduction

Emergency risk management has been progressively integrated into West Australian emergency arrangements since July 1999 with assistance from the Australian Government through Emergency Management Australia. Most of the effort to date centres on the provision of a one-day workshop in Local Emergency Management Committees and the selection of key personnel to attend further emergency risk management training provided by Emergency Management Australia and coordinated locally by FESA.

The Pilbara/Kimberley region is located in the north of Western Australia spanning an area of 926,451 square kilometres. The population of these combined regions is 75,705 and of that number there are 16,700 Indigenous people living in major towns and remote communities throughout the area. Between April and November, the coastline is subjected to tropical weather conditions and is in a high-risk area for natural disasters such as tropical cyclone, flood, isolation (due to road closures) and fire in the dry season.

During the late 1970's and early 1980's, missions were handed back to Indigenous people, and many family groups returned to their homeland communities. The population of the communities varied from 50 to 1000 people. Many of the communities were located on riverbanks or pastoral properties and during the wet season could be isolated from the major towns for extended periods of time. Access into the community was by road and only in some cases by air, which was usually poorly maintained due to lack of financial and physical resources. As a result during the tropical wet season the people found themselves either facing the threat of tropical cyclones, flood, isolation or fire.

Although, the handover was considered a positive move for indigenous people, they were faced with many obstacles, especially during the tropical wet season. Preliminary research undertaken by FESA showed that a risk assessment or an audit of the community was not carried out prior to handover of the land back to the people. The physical infrastructure was old, run down, damaged and the buildings were not built to cyclone or flood specifications. In the early days of re-settlement back to the lands, communities often weren't appropriately funded to cater for emergency situations. As a consequence people were unaware of the risks to themselves and the environment, therefore, no emergency management arrangements were in place. In the past Indigenous people were not required to manage their own affairs and these matters were taken care of by either the missionaries or the pastoralist. The people found themselves with no real knowledge or awareness of the risks that they would face, who they

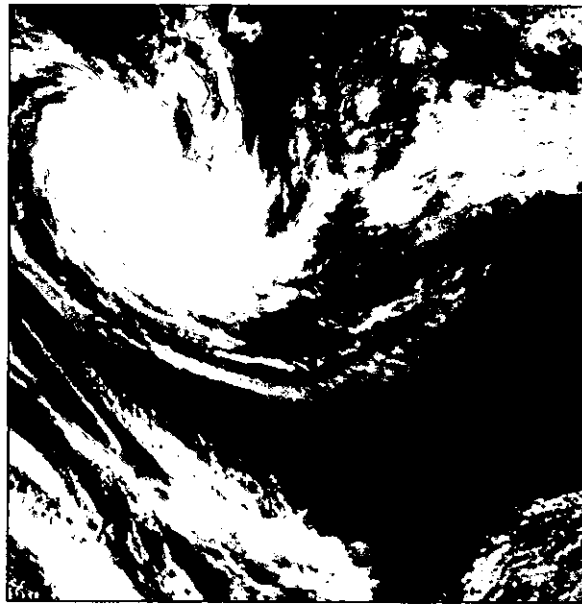
should contact for assistance, or what strategies they needed to put into place in the area of prevention, preparedness, response and recovery for the wet or fire seasons.

Over the past ten years, a number of these communities were forced to evacuate due to flooding and tropical cyclones and requests for assistance to resupply essential food and fuel supplies were common. The absence of an appropriate emergency risk management assessment was brought to the attention of FESA and other government services. The lack of awareness the people had on how they should manage and prepare for these events became an issue for a whole-of-government approach to emergency management. Evacuations and resupply caused an enormous amount of stress to the people and was extremely costly to the state government. FESA was contacted annually by the same communities requesting assistance for the transport of essential food and fuel supplies to those communities. As the housing and infrastructure were substandard and not built to appropriate building standards, it was too risky to allow people to remain in the community especially if there were Category 5 tropical cyclones or heavy flooding in the area.

During the wet season of 2000/2001, heavy flooding and a number of, Category 5 tropical cyclones threatened the communities along the Pilbara/Kimberley coast. Several Communities were evacuated and requests for assistance came to FESA to resupply communities with essential food and fuel commodities. The cost to the state government was extremely high and FESA embarked on a proactive approach to address the recurring problems.

In August 2000, FESA submitted an application for funding to Emergency Management Australia to undertake a natural hazard risk management assessment of remote Indigenous communities. The purpose of completing an assessment in the communities was to assist in the capacity building of community members so major risks to the community were identified and that the necessary treatment options for prevention of, preparedness for, response to and recovery from major natural hazard/risks could be put in place for the safety of the people and environment.

The proposal was funded and it was anticipated that the process would be done in twelve communities in the Pilbara and Kimberley regions. However, many obstacles and barriers were to arise during that period with extensive operational duties taking up a major portion of the project management team's time and FESA was forced to review the project to address delivery outcomes and propose a new timeframe. After reviewing the project timeframe FESA applied to Emergency Management Australia to decrease the number of communities. Once EMA endorsed the application FESA commenced the process in the Bidadanga Community.



*The Pilbara/Kimberley region in Western Australia is subjected to tropical weather conditions and is a high-risk area for natural disasters such as tropical cyclones*

A community that was located in a high-risk area for tropical cyclones and had been evacuated on at least five occasions over a period of wet seasons.

The FESA Community Liaison Officers from the Pilbara and Kimberley regions worked with the Bidadanga Community Council to commence the Emergency Risk Management process. Although they were able to go through the process they found that the training materials were too wordy, highly academic, not visual enough and the language was not consistent with that spoken by members of the community. During the workshop the project team spent a large amount of time interpreting the language to more commonly used words used by the people. After the workshop the project team again reviewed the project and process and realized that much of the time was spent interpreting the material and that it was not culturally appropriate for an indigenous audience. FESA identified a need to address this problem prior to commencing the process with another community so it was more user-friendly and easier to deliver.

An application was made to Emergency Management Australia to re-scope the project so that FESA could integrate and adapt the existing material and resources. This enabled the project team to modify the existing materials, including presentation, language and delivery strategies—this was developed and reviewed by an Indigenous reference group, with two people assisting as members of the writing team. The reference group is made up of Indigenous peoples throughout the state of Western Australia, who have either lived or worked, in remote communities.

## The FESA Framework

The Framework consists of four key elements including strategic overview, roles and responsibilities, action plan outlining key outcomes, and broad evaluation strategies. A number of key documents were referenced to during the development of the Framework including:

- the current FESA Strategic Plan,
- the *Statement of Commitment to a New and Just Relationship between the Government of Western Australia and Aboriginal Western Australians*, and
- Emergency Risk Management Manuals published by Emergency Management Australia, and other relevant emergency management documents.

Part of the project strategy included a brief literature review of other training support materials used in the delivery of community development and capacity building type programs to indigenous communities. The Framework has encouraged a whole-of-organisation approach to the integration of emergency risk management to Indigenous communities—it is anticipated that it will also provide the means through which best practice models can be identified and promoted through all government agencies.

## Strategic Overview

The overall aim of the Framework is to identify projects and opportunities which increase the capacity of West Australian Indigenous communities to integrate the emergency risk management process into their community management structure.

The Framework seeks to establish a unified FESA approach for the integration of emergency risk management into West Australian Indigenous Communities through the Community Safety, Fire Services, State Emergency Service and Emergency Management Services divisions. The Framework consists of two key projects that require input from all FESA divisions as well as other government agencies. The key outcomes of the Framework include:

- Development of a culturally appropriate training program and support material to facilitate the introduction of the emergency risk management process into Indigenous communities.
- Development of a planning strategy for the integration of community-centred emergency risk management projects into existing management structures and processes.
- Development of key indicators that measure indigenous communities' acceptance of the emergency risk management process.



*As the only access to some communities is via road or air, the wet season can isolate people from the major towns for extended periods of time.*

- Strategies to enhance the Framework by capturing best practice and lessons learned from community based projects support by FESA.

### Roles and Responsibilities

The Framework incorporates the existing (including statutory) roles and responsibilities of a number of organisations. The following list is not exhaustive and has been developed acknowledging that flexibility is required in order to achieve the specific outcomes identified in the Framework.

- The Australian Government specifically Emergency Management Australia (funding for Project 1, establishing the Indigenous Communities Committee, undertaking research on emergency management issues and Indigenous communities) and ATSIC (providing a direct link to regional and community governance structures and identification of sources of funding to continue the work involved in the Framework)
- FESA Divisions including Community Safety (Project Manager and community liaison), Emergency Management Services (project administration and coordination, emergency management issues) State Emergency Service and Volunteer Marine Rescue Services (community liaison and consultation, ongoing monitoring and review of the process within indigenous communities), and Fire Services (community liaison and consultation, on-going monitoring and review of the process within Indigenous communities.)
- Other state government agencies who are members of the State Mitigation Committee—Senior Officer's Working Group.
- Associations and Community Groups who are members of the Project Reference Group and represent organisations including the vocational education and training sector (TAFE), Jigalong Community, Kimberley Language Resource Centre, Pilbara Women's Action Committee and Wilerguthar Training and Development Group.

### Outcomes

The outcomes of the project have been identified over the period commencing July 2002 and concluding in June 2007. The outcomes for 2002-2003 included:

- Development of a FESA Framework which included consultation with FESA senior management, endorsement
- Complete Project Fund (funded by EMA)
- Development and implementation of Project 1

### Evaluation

The Framework is continually evaluated to ensure it remains relevant, effective and culturally sensitive. Through informal and formal consultations the Project Managers collect feedback on the effectiveness of the Framework and its associated projects.

### Project 1

During May 2003, the Project Reference Group met with the Project Team in Perth to workshop the key concepts identified in the Framework. The workshop aim was to extend partnerships with indigenous representatives to identify messages and develop materials for the integration of the emergency risk management process into Indigenous communities. During the workshop, the facilitators called upon the ideas and suggestions of the representatives to inform the outputs of the project, and to ensure it meets the needs and the end user—WA's Indigenous communities.

The objectives of the workshop included:

- Providing an overview of Project 1 and presenting any work completed to date by the Project Writing Team to the Project Reference Group to review.
- Identifying key messages and concepts for inclusion in the emergency risk management workshop delivery strategy:
- Identifying culturally appropriate contemporary images and messages to increase interest in emergency risk management communities.
- Identifying and debate text-based and multi-media learning strategies for the delivery of emergency risk management messages into indigenous communities and:
- Reviewing the current project plan for Project 1 and determine the next stage of the project.

The participants at the May workshop identified a number of principles that must be considered when working with Indigenous peoples on projects within their communities. In summary, Indigenous peoples:

- Should be given the freedom to take care of the land and have access to the land, as this is what they had done prior to settlement.
- Need to be prepared within their communities, so that they know what to do during a natural disaster.
- May not be living on their traditional land therefore the degree of perception of risk from within a community's traditional practice or 'Western ways' may be difficult to determine.
- Experience problems understanding what non-Aboriginal people are saying, (this also includes educated Aboriginal people).
- Need to understand that there are consequences associated with not engaging in emergency risk management.

- Have a governance system that will impact on the way in which the emergency risk management project is implemented within individual communities.
- Would be more likely to move away from an area, including their homeland, when there is an impending natural disaster.

That there is an assumption that Indigenous people do not understand what is meant by risk and what should be done in terms of treating the sources of risk.

Indigenous peoples have undertaken community based risk management practices for hundreds of years using 'aboriginal science'. The participants at the workshop identified the importance of combining aboriginal science with new approaches to community-based risk management in order to create a safety culture within the communities. People who propose to work with Indigenous peoples in the area of emergency risk management must be prepared to be flexible with the traditional business of the communities.

Indigenous people are known to be multi-sensory learners that is they relate to, and are stimulated by pictures, videos and diagrams relating to the subject matter. The participants at the workshop supported the concept of using multimedia where possible and appropriate to deliver the emergency risk management messages. Community Elders are seen as the keepers of knowledge and the people within a community. Any project working with a community must first identify the Elders and who has the authority to speak on behalf of the community. This will enable a facilitator to speak to the people as a collective group and source their opinions on matters relating to the community.

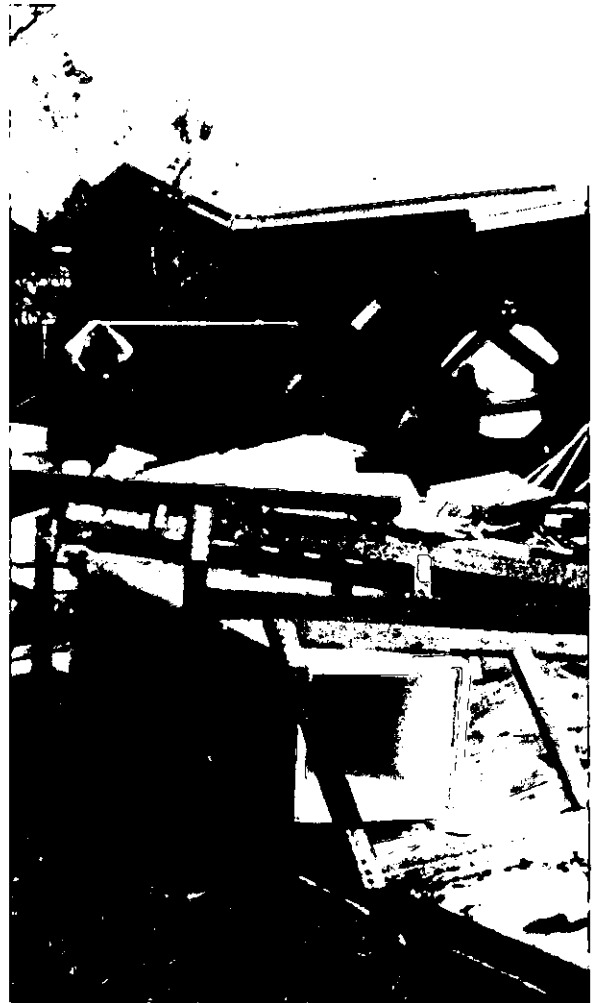
The key messages of the community-centred emergency risk management process must relate to practical living situations and identify with the protocols of the community. Examples of some of the changes to the text of the conventional approach includes:

#### **Establishing the Context**

- What are the strengths of the Community?
- What is the daily business of the people in the Community?
- Who are the leaders of the Community? What are their shared roles and responsibilities.
- Who would be the best person to be the communicator of the messages to the people of the community?

#### **Identify the Risk**

- What are the dangers?
- How much danger is there to the community?
- Is there a danger of something happening in the community?



*Risk management processes must relate to practical living situations*

#### **Analyse Risk**

- What is the worst thing that could happen to the community? (Consequence)
- Has it happened before (likelihood)?
- How many times has it happened before? (Likelihood)
- Will it happen again (Likelihood)?

#### **Evaluate Risk**

- Are there any dangers, which are acceptable to the Community?
- How dangerous are the dangers to the Community?
- What problems can the danger cause to the Community?
- What dangers are we going to fix or prevent first?



## Treat Risk

- Which is the best way to solve the dangers to the community?
- What are the options for solving the danger?
- What can we do about the danger?
- Are there any negatives and/or positives for the way we look after the danger?
- How much is it going to cost to fix the danger?
- Does the way create any danger/problems for any neighboring communities?

## Field Trials

The first visit was conducted in August 2003 in the Bardi-One Arm Point, Lombadina and Djarindjin communities. The purpose of the field trial was to pilot the community-centred emergency risk management process that has been redeveloped using a consultative process. The two objectives of the visit were to trial the redeveloped materials with the communities and the development of a risk register and risk treatment schedule. The approach adopted for the visit included using the concepts and words that were developed during the first workshop in May, to deliver the emergency risk management message to the communities. Secondly, flexibly integrate emergency risk

management processes within the community's existing hazard management structure. Most importantly was to follow the community's lead on the implementation of the key concepts by undertaking a risk assessment of the community using a 'walking tour/story telling approach.'

## Next Steps

The first project within the Framework is scheduled to conclude at the end of September 2003 with the output informing future projects and developments for the integration of emergency risk management into indigenous communities.

## References

- Emergency Management Australia (2000) *Emergency Risk Management Applications Guide*
- Emergency Management Australia (2002) *Guidelines for Emergency Managers working with Culturally and Linguistically Diverse Communities*
- Statement of Commitment to a New and Just Relationship between the Government of Western Australia and Aboriginal Western Australians*

## New Member of Australian Emergency Management Volunteer Forum

In the November 2003 edition of the Australian Journal of Emergency Management (AJEM) there was an article entitled: *Volunteerism in emergency management in Australia: directions and developments since the National Volunteer Summit of 2001*. On page 32 of that article, the membership of the Australian Emergency Management Volunteer Forum (AEMVF) was listed. Unfortunately, the names of two agencies were missing from that list – the Salvation Army and St Vincent de Paul. Both of these organisations have an important role in Australia's emergency management arrangements and make a significant contribution to the AEMVF. AJEM apologises for this omission.

Since the last edition of AJEM, another organisation has also been added to the AEMVF—the Australian Institute of Emergency Services (AIES). The AIES operates nationally, providing a common forum to both professional and volunteer emergency service members. Membership is open to bona fide members of emergency services and associated support services; after completing a qualifying period. The Institute provides its members with an open forum for discussion, debate and the exchange of ideas. It provides regular dinner meetings with informative guest speakers, conferences, newsletters and the quarterly magazine, "National Emergency Response", which features articles on current trends, policy, training issues and new products. The aim of the institute is to maintain the highest level of service to the community through its emergency services and supporting services. The AIES representative on the AEMVF will be Mr Allan Holley.

# The Societal and Environmental Impacts of Cyclone Zoe and the Effectiveness of the Tropical Cyclone Warning Systems in Tikopia and Anuta Solomon Islands

## December 26-29, 2002

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### Summary

When the full fury of Severe Category 5 Tropical Cyclone Zoe was unleashed on Tikopia and Anuta, two of the world's smallest and most remote islands, between December 27 and 29, 2002 there was a world-wide up-welling of concern for the combined populations of less than 1800 village dwellers. Communities on the islands had been without two-way radio communication since early November and their ability to receive short-wave radio transmissions, particularly those from national and international weather services delivering tropical cyclone warning messages, was unknown. There was a very real possibility that the people had been un-warmed and unprepared for Tropical Cyclone Zoe and it was feared that loss of life and property in its wake must have been significant. However, with no viable communications and limited capacity within the Solomon Islands to mount a reconnaissance mission, there was no easy way to immediately find out. When news of the fate of the islanders began to trickle out, more than a week later, it emerged that both islands had been devastated but, miraculously, everyone had survived. This paper provides a brief overview of the environmental and societal impacts of Tropical Cyclone Zoe, the efficiency of the national and international response and relief efforts, the resilience of the Tikopians and Anutans and finally, their capacity to rebuild and restore their devastated communities.

**Tikopia and Anuta**  
 Tikopia and Anuta are in the Solomon Islands eastern province of Temou. They are 1025 kilometres SSE and 1110 kilometres SE of Honiara respectively, and are 75 kilometres apart. Tikopia is an almost circular 4.5 square kilometre volcanic island with steep hilly terrain surrounding an essentially fresh water crater lake and a small flat coastal plain that supports almost half of its 1446 residents. Anuta is much smaller with an area of just 1.2 square kilometres and a population of 232. Both are surrounded by coral reefs. The people are Polynesian and their primary languages are Tikopian, Anutan and Solomon Island Fijian. There are four principal kinship groups on Tikopia and two on Anuta. Each is headed by an hereditary chief. The islanders practice Christianity and all belong to various parishes of the Church of Melanesia. However, they also continue to acknowledge the authority of their chiefs and adhere strongly to many customary practices and beliefs. They have an enduring sense of cultural identity and even those who have lived away from the region for many years continue to feel strong attachment to their island and their society. Villagers follow a traditional subsistence life style, typically harvesting food from gardens, rearing chickens and catching and collecting seafood. There is virtually no cash economy. Some cash income is generated with the sale of marine products such as trochus shells, beche-de-mer and shark fin and a small, but significant, amount of money is sent from wonoks (relatives) working in other parts of the Solomon Islands or overseas. Most of this money passes through the economy as it is spent on educating a small number of students who have been fortunate enough



*Tikopia is a volcanic island with steep hilly terrain surrounding a fresh water crater lake*

to win places in secondary schools in Honiara. The traditional currency, which is used primarily for payment of bride-price and compensation, is a rope made of feathers collected from the near-by island of Fatutaka.

### **Tropical Cyclone Zoë**

The storm that was to become Tropical Cyclone Zoë was first detected on December 22 between Tuvalu and Tokelau as a slowly westward-moving tropical low-pressure system. It drifted towards the Solomon Islands and intensified to a Category 2 Tropical Cyclone and on December 25 was named Zoë by the Nadi Tropical Cyclone Warning Centre. The Queensland Tropical Cyclone Warning Centre sent the first Tropical Cyclone Advisory to the Solomon Island Broadcasting Commission (SIBC) via the Australian High Commission in Honiara on December 26. Receipt of the warning was confirmed and three hourly warnings commenced and continued throughout the life of the storm. The SIBC then broadcast the warnings through its network—however receipt of the re-transmitted warning messages was never confirmed from settlements within the threat area. On December 27 news presenters at Radio Australia were contacted and arrangements were made for them to also receive and transmit the warnings. By then Zoë was a Category 4 storm and destructive

hurricane force winds had begun to lash Tikopia and Anuta. By December 28 Zoë was a Category 5 Tropical Cyclone with average winds in excess of 213 kilometres per hour and satellite imagery showed Tikopia to be under the eye wall cloud where the strongest winds are expected and Anuta just on the edge of the eye wall. Village communities were relentlessly pounded with cyclonic winds, storm surge and wind-driven waves for almost three days. When the storm finally subsided and villagers emerged from their flimsy shelters they discovered that destruction to the physical environment was almost total, but amazingly there had been no loss of life or serious injury. The 'shattered' populations were totally on their own, without any contact with the world beyond their own islands. International political protocols and failing national infrastructure delayed any early emergency response and outside assistance resulting in the medical relief assessment team not arriving on Tikopia until Sunday January 5, 2003—nine days after the storm began. The combined NDO<sup>1</sup>/OCHA<sup>2</sup> assessment team, along with emergency food and shelter relief supplies arrived the next day. Assistance finally reached Anuta on Tuesday January 7.

1. Solomon Islands National Disaster Office

2. United Nations Office for the Coordination of Humanitarian Affairs

## Preparations and response to warnings

Field assessment teams restored communications with and between the islands and Honiara. It was discovered that some of the warning messages transmitted via SIBC and Radio Australia had, in fact, been received when short-wave reception was available in the early mornings and evenings until Friday December 27, when severe weather caused radio reception to be finally lost. Those who had not heard the messages directly, or had not understood Radio Australia's (delivered in English only) were generally advised by runners that went hut-to-hut and to churches where people were gathering and preparing feasts for New Year celebrations. People generally began preparations immediately, cutting palm fronds and banana trunks and laying them on roofs to support and strengthen roofs and walls and confining chickens to their coups. Celebrations were cancelled, or moved into communal huts and people sheltered indoors. There was no attempt to pick ripe fruit and store food in huts and nobody tried to evacuate to higher ground or areas of safety until the storm had become so intense that dwellings were threatened with imminent inundation or had begun to break up. Many villagers had some experience of intense cyclones – but never one of this duration – and most felt well protected in their traditional style huts with low walls and sloping thatched roofs, even though many were located on the near-shore beach areas and were exposed and unprotected from both wind and surge effects. In Anuta a 3 metre sea-wall along the eastern edge of the beach constructed from unmortared coral provided an effective barrier that protected dwellings from the force of the powerful storm surge. The waves that over-topped the wall however, spread sand and salt water through the villages and gardens.

## Environmental impact

Cyclone Zoë had a devastating impact on the landscape and physical environment of both Tikopia and Anuta with the eastern side of both islands being the most severely affected. While Tikopia was more severely impacted, high winds stripped vegetation and salt and sand spray-dried and 'burned' all vegetation not directly affected by storm surge and waves, on both islands. Damage to flora was almost total. Many of the larger trees, including coconut palms were twisted, snapped or uprooted. In some places the ground was scoured down to bare rock by the rain and storm surge, and several medium sized landslips were clearly visible on the steeper slopes. With the humus layer, topsoil and shade cover removed, and the delicate ecological balance of the islands' flora and fauna disrupted by the loss of many of the local seed-dispersing flying foxes and birds, it seems unlikely that vegetation will fully recover, except in the very long term.



Figure 1. Hillslopes are stripped of vegetation and topsoil; landslides are evident; sand ridge in front of the lake has been completely removed

In Tikopia the storm surge, in what people described as a series of three giant waves, removed a 2.5–4 metre high sand ridge that had extended along the coast between the shoreline and the lake on the eastern side of the island. The swamp area behind the ridge was also washed away and the area left covered with sand and coral debris. The 70 village huts that were built along the ridge were also swept away. A 'new' shoreline was created approximately 50 metres inland of its previous position. Sand, swamp mud, coral debris and seawater washed into the central lake that had previously contained only very slightly brackish water supporting freshwater fish populations, raising the salinity and substantially filling it in (up to 30 metres into the lake on the seaward side). Additionally, erosion of the sand spit that separated the lake from the sea created a permanently open channel that allowed fresh water to flow out of the lake and tidal seawater to flow in.

## Societal Impact

The ferocity and duration of Cyclone Zoë were such that it is a 'miracle' that there were no casualties and only very few injuries. Tikopian villagers on the eastern/south-eastern side of their island gave detailed accounts of scurrying up the hillslopes and sheltering in craggy rocky overhangs (not caves), as the surrounding vegetation was being torn and washed away by the storm, and staying there exposed to the elements, for up to three days. Overall it was estimated that in Tikopia 70% of the total village housing was severely damaged or destroyed with the remaining 30% being somewhat damaged. In addition most community buildings, constructed with both traditional materials and sawn timber with corrugated iron roofs were also damaged or destroyed. Three of the islands seven churches were washed away, one was destroyed and three sustained moderate damage. Both of the primary schools were destroyed with all educational materials lost. The clinic building was damaged but was still able to be used by the medical assessment team. In Anuta, where the sea-wall mitigated severe damage from storm surge, only five dwellings were destroyed, 24 were badly damaged,

and several more were somewhat damaged. The primary school was undamaged. The vast majority of all buildings are traditional structures constructed with local materials. The normal life span of sago palm roof thatch is just two years, therefore all surviving structures on the islands will need new roofs within the next 12–18 months. Almost all traditional housing materials on the islands were lost. It will take 6–12 years for sago palms to regenerate and even longer for structural timber. Tikopia and Anuta will therefore not be able to approach self-sufficiency in building materials for at least 12 years.

The isolation of these islands and lack of infrastructure is hard for 'westerners' to comprehend. There are no jetties or airstrips. Canoes and outriggers launch from the beach and the inter-island ships anchor offshore with cargo and passengers being transferred to shore in canoes or dinghys. There is a small area on Tikopia suitable for landing a long-range helicopter at low tide. There are no roads, just well-defined walking tracks, the only available power source is battery or (when working) generators, there are no phones and radio reception is intermittent and unreliable. Travel by canoe between the islands, through 75 kilometres of ocean, is often treacherous. Ships to the islands are irregular, averaging one every five months.

A reliable supply of fresh water is available on both islands via gravity fed water systems with tanks being continuously replenished from natural springs. During the cyclone, tanks and piping were badly damaged and the intakes blocked. Spring water was still available and could be collected at its source and carried to the villages. There is no sanitation the only toilet is the inter-tidal zone. After the cyclone there was a noticeable increase in flies, mosquitoes and possibly other vectors, making this practice a possible threat to health, especially for children. Tikopia has a (barely) functioning clinic, but there has been no clinic on Anuta since 1995. The chiefs refused to support its existence and demanded its removal, arguing that modern medicine brought illness and that customary healing practices promoted health. In the wake of the cyclone there was an increase in diarrhoea and various skin diseases, particularly among children and a (cyclone unrelated) epidemic of Chicken Pox in Anuta.

Arguably the most serious impact of Cyclone Zoë was the devastation to gardens and food supply. Agricultural productivity on both islands was almost totally wiped out and with much of the ground left stripped of vegetation, humus and topsoil, it was dry, hard, exposed and unsuitable for planting—even if any seedling stock were locally available. All gardens on the hill slopes were destroyed by high winds, sand and salt spray. Those on lower ground were affected by wind and/or storm surge. Large fruit trees such as local avocado and breadfruit were stripped and broken—any that survived will not

produce fruit for 2–3 years. Some chickens survived the cyclone but stocks will take some time to rebuild. Ocean fish and seafood remain plentiful however the ability of Tikopians to catch fish was seriously limited with the loss of most of their canoes and other fishing equipment. New canoes can be built in 2–4 weeks depending on the availability of manpower and tools such as axes and adzes. Some large logs are locally available from uprooted trees however, given the large number required many will have to be imported from other parts of the Solomon Islands

## Response, Recovery and Resilience

Official response to the Cyclone Zoë disaster was delayed and relatively disorganised—despite the best efforts of the National Disaster Management Office and its Central Control Group to co-ordinate and facilitate an effective response. The near-total collapse of the national infrastructure meant that national disaster managers were trying to operate without adequate resources and without reliable communication networks. Support from over-seas, notably Australia, was available but 'on-hold' until all political protocols of 'waiting for an official request for assistance' had been satisfied and until the resources (including the human resources) necessary to launch the response, had been paid for. At a local level Solomon Islanders and NGO's rallied to provide what-ever supplies they could for a relief effort. Thirty Tikopian and Anutan members of the Solomon Islands Police Force formed a volunteer task force go to their islands and help rebuild huts and replant gardens. When the international media began to focus world attention on the plight of the people of Tikopia and Anuta donations began to flood in. However, these were often inappropriate (such as black plastic sheeting for shelter) and some were given with conditions attached, making organising the distribution of resupply goods to match needs a near impossible task. In the months following Zoë several boatloads of supplies have bypassed the central organizing groups in Honiara and have taken goods directly to the islands. While these donors are well-intentioned and are merely concerned about corruption in the national capital and the possibility of goods and money being siphoned off before they reach the cyclone victims, they run the risk of introducing plant disease and insect pests in seedling stock and used tools.

Despite overwhelming difficulties, the on-going recovery effort is enjoying some success. Many of the people are slowly beginning to rebuild their lives and although the emergency food supplies may be nutritionally unbalanced (mainly rice) no-one is hungry. Life however, will necessarily change for these people. Long-term existence on the islands will be difficult. It will be many years before there will be any guaranteed food security and it is just not within the capacity of the Solomon

Islands government to provide on-going support for the Tikopian and Anutan communities.

Tikopians and Anutans are often described locally in the Solomon's as "having strong kastom (culture)". They typically enjoy strong cohesive family and societal networks that are based on a long history of adherence to customary practices and belief systems, and acceptance of a common worldview that has incorporated Christian values and practices. This has probably been maintained in part because of the relative isolation of the communities. It certainly supported the initial resilience that was demonstrated by the affected population during, and in the wake of, Cyclone Zoë. However, as the months have passed many seem to be finding life increasingly difficult. There are reports of debilitating depression among older people and there has been an alarming increase in the death rate—four elderly villagers died in the six weeks after the cyclone, the expect death rate is about one per year. It is possible that many are suffering from some form of post-trauma distress. A dance troupe from the province of Makira was sent to perform and entertain the villagers. This reportedly 'lifted the peoples spirits' for a short time. There is increased movement between the islands and Honiara with ships going to the area every couple of months, many people appear to be travelling but few have actually moved away from the area.

How the Tikopians and Anutans will fare in the medium and long term will depend very much on their desire and ability to recover and on the availability of long-term support. Currently the Solomon Islands is in a state of political chaos and economic collapse. The tensions and civil unrest that are affecting Guadalcanal, Malaita and the Western Province only spill over into the Temotu region very minimally, nevertheless they undermine the national capacity to respond to, and recover from, this, and any other natural disaster that affects the people of the Solomon Islands.

## Acknowledgements

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Any opinions and views expressed do not necessarily reflect those of all informants.

# Sustainability and Disaster Management

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## Summary

Sustainability is a recent, integrative policy agenda often treated as unrelated to disaster management. This paper argues that not only are the two domains related, but are closely connected in terms of substantive issues and of underlying research and policy challenges. The paper examines shared attributes of problems in sustainability and disaster management, and identifies common challenges including: uncertainty; community engagement; integration of social, environmental and economic policy; inter-governmental and—inter-agency coordination; coping with public sector change; broader and deeper spatial and temporal scales; separation of public-private costs and benefits; and enhancing interdisciplinary R&D. The paper recommends closer substantive, R&D and policy linkages between the two fields, informed by an appreciation of where each has engaged in policy experiments that may yield lessons for the other.

## Sustainability: a primer

The idea of long-run sustainability of human societies has diverse and deep intellectual and practical roots going back centuries.<sup>1</sup> However, the idea was only placed formally on political agendas in 1987, accepted as a widespread international policy agenda in 1992, and reinforced again, in terms of its importance and our failure to make much progress, at the World Summit on Sustainable Development in 2002 (WCED 1987; UN 1992; and see [www.johannesburgsummit.org](http://www.johannesburgsummit.org)). In summary, core elements of the policy agenda are:

- The balancing of inter- and intra-generational equity, providing for human needs now while conserving resources and opportunities for future generations;

- The elevation of protecting biodiversity and key ecological processes from marginal to high priority policy goals;
- Recognition of global dimensions and interdependences in environment and development issues;
- The integration of environmental, social and economic issues and policy, recognizing that issues of environment and development are indivisible (the 'integration principle');
- Adopting precautionary approaches in the absence of scientific certainty when serious or irreversible environmental degradation may occur (the 'precautionary principle');
- Addressing underlying (indirect) rather than only immediate (direct) causes of environmental and human degradation;
- The need to involve the broader community in policy debate and formulation and environmental management; and
- The need for new, innovative policy and management approaches, including incentive mechanisms, institutional change, and community-based approaches.

These goals and principles are now stated in key international agreements and thousands of national policies and statutes. The UN has established a range of structures and processes, over seventy countries have established National Councils for Sustainable Development, and many sub-national governments have adopted sustainable development as an integrative policy goal and are putting in place structures and framework policies. At the national scale, Australia was an early leader in translating sustainability (albeit vaguely) into policy and law, but more recently the Commonwealth has backed away from the larger sustainability agenda, while state/territory, regional and local bodies are pursuing it more actively (Dovers 2002).

1. Sustainability can be thought of either as a fundamental system property, or as a long term, probably unattainable social goal, and sustainable development as the immediate policy agenda attending that goal. In Australia, the term ecologically sustainable development (ESD) is used in policy and law.

As a recently expressed, higher order social goal, sustainable development is contestable and evolving, but is beginning to be expressed more firmly and pervasively in policy and institutional systems (Connor and Dovers is now published—2003). It is likely that, over time, sustainability concerns will impose further limits or conditions on other policy sectors. Largely, this would involve more emphasis on issues already familiar, such as biodiversity protection, sustainable use of land and water resources, greenhouse gas emissions (including land use aspects), pollution, and so on. Disaster and emergency management will be expected to take greater account of these concerns in their policies and activities, just as other policy sectors will be.

On a more positive note, whether we consider the whole sustainable development agenda or subsidiary issues within it, there are commonalities with disaster and emergency management. Consider Salter's (1998) summary of the shifting emphasis in emergency management:

<b>From:</b>	<b>To:</b>
Focus on hazards	Focus on vulnerability
Reactive	Proactive
Single agencies	Partnerships
Science-driven	Multi-disciplinary
Response management	Risk management
Planning for communities	Planning with communities
Communicating to communities	Communicating with communities.

Change a few words and this would pass as a summary of recent shifts in resource and environmental management and is consistent with the emerging agenda of sustainable development (see Dovers and Wild River 2003). Moreover, it is clearly the case that disasters are threats to the sustainability of communities, and often to the environmental resources that those communities depend on. Also, as emphasis has shifted from 'natural' disasters (as Divinely ordained) to risks enhanced by human production, consumption, settlement and policy choices, the interaction with sustainability and human development issues has become more obvious. The following, brief discussion identifies interconnections between sustainability and disasters as research and policy and management problems—firstly the more obvious, substantive connections, and then some deeper similarities exposed by a consideration of shared problem attributes. The case of bushfire will be used to illustrate some of the points (see Cary et al now published—2003).

### Substantive interconnections

Most resource and emergency managers can identify areas of substantive interaction, where they meet 'in the field' or in management and policy conflicts, and we can simply note some major ones here. Many key hazard or disaster types have clear resource and environmental dimensions, and vice versa. Planning for and responding to floods brings emergency managers into close proximity with water resource managers and those concerned with conservation of aquatic and riparian ecosystems. Chemical and oil spills and other sharp pollution events involve both emergency managers and environmental protection agencies. Changes in cyclone and storm surge frequency interest both emergency managers and environmental scientists, and responses to these threats are common ground with coastal zone managers. Bushfire sees emergency and conservation area managers fight fires together, and sometimes with each other before and after events. With fire, there is demonstrably insufficient integration of policy and management arrangements for community safety, event preparedness, land use planning, primary production, biodiversity conservation and water catchment management. In such interactions, the questions arises of whether on-ground management coordination is adequate, and whether there is sufficient pre-event integration and reconciliation of the (sometimes different, sometimes not) interests and objectives of the two policy and research communities. That is a more familiar question, not pursued further here.

### Deeper interconnections

Beneath day-to-day encounters and how well we deal with them lie deeper connections around the nature of the challenges faced in disaster management and sustainability. At this level are exposed strategic collaborations in research and policy development. The following deals with three, related aspects: understanding phenomena in natural and human systems; attributes of policy problems; and responses to public sector change.

On the first aspect, that there are similarities should not be surprising—both sustainability and disaster management are about managing interactions between complex human and natural systems, and thus often will be concerned with understanding the same phenomena. This indicates some obvious common research interests such as climate change and fire behaviour and fuel dynamics, and some less obvious ones, such as individual and group perception of risk and uncertainty, community vulnerability and resilience in the face of environmental change, or the role of informal social institutions in shaping community capacity.



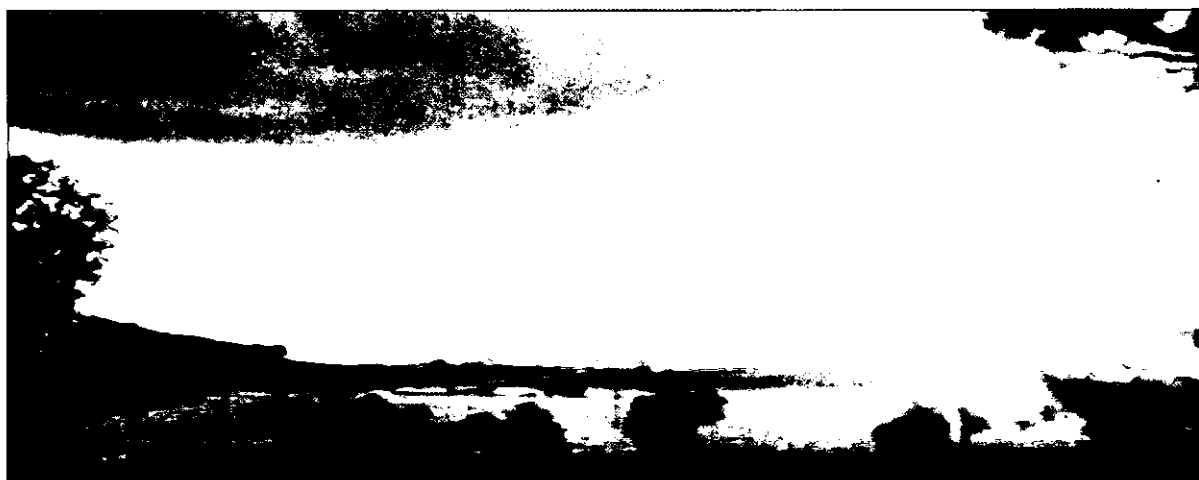
On the second, we can delve beneath a list of shared issues (fire, water management, biodiversity conservation, flood, etc), and explore the attributes of these policy and management problems that determine their character and tractability. The following are the *attributes of policy problems* that are encountered more commonly – and more often in combination – with significant sustainability issues than in many other policy sectors (Dovers 1997):

- broadened, deepened and highly variable spatial and temporal scales;
- possible absolute ecological limits to human activity;
- irreversible impacts, and related policy urgency;
- complexity within and connectivity between problems;
- poor information, and pervasive risk and uncertainty;
- cumulative rather than discrete impacts;
- important assets not traded in formal markets and thus rarely given economic value;
- new moral dimensions (other species, future generations);
- ‘systemic’ problem causes, embedded deeply in patterns of production, consumption, settlement and governance;
- difficulty in separating public and private costs and benefits;
- contested research methods, policy instruments and management approaches;
- lack of defined policy, management and property rights, roles and responsibilities;
- strong demands and justification for increased community participation in both policy formulation and actual management; and
- unfamiliarity and novelty as a suite of problems.

While these attributes often serve to make policy problems in sustainability different in kind – if not degree – to many other problems, that is not so with disaster and emergency management. Many of these

attributes would be familiar to emergency managers, and serve to define some similar research and policy challenges. The temporal scale and pervasive uncertainty associated with both sustainability and disasters begs long term policy processes constructed on the basis of often grossly insufficient data. The unclear mix of private and public costs and benefits is familiar in both fields, as is the need for inter-agency and inter-governmental structures and processes in the face of broad spatial scales and connectivity between problems. The imperatives and difficulties of community engagement, if not empowerment, are similar also. The deep-rooted (‘systemic’) causes of environmental degradation mirror the firmly embedded causes of unsafe behaviours and settlement patterns, and beg innovative policy programs. Research and policy approaches for integrating environmental, social and economic concerns are needed but lacking in both fields. And so on, with most of the problem attributes listed. Indeed, the main difference between sustainability and disasters is that between quick-onset and slow-onset environmental change. That difference explains what I perceive as a greater capacity for purposeful policy learning in emergency rather than natural resource management: with the former, the costs of policy failure, if lessons are not learned, are encountered more quickly and with sharper political and community backlash. There is clearly scope for collaboration in research and policy learning between fields with such similarities.

The third aspect of deeper connections is an added dimension to these commonly-faced problem attributes: how these two fields are coping with the political environment of the late-modern age. Over the past two decades, public policy, public institutions and the public sector have undergone (and continue to undergo) profound changes. ‘Economic rationalism’ is the common and often derogatory term, but is vague and often inaccurately applied. Better the awkward but more precise term ‘marketisation’, including specific and familiar manifestations such as privatization,



*The main difference between sustainability and disasters is that between quick-onset and slow-onset environmental change*



*Disaster management and sustainability issues are sometimes inextricably linked*

corporatisation, out-sourcing, contracting out, different modes of accountability, and public sector downsizing. Related is 'new managerialism', where generic (often neo-classical economic) principles gain dominance over sector-specific knowledge and skills. These trends have produced a number of as yet poorly addressed tensions in environmental and resource management, including long term public good versus short term financial considerations, the fate of residual environmental protection functions, cross-catchment and landscape integration in the face of new agency mandates, and the public as citizens or consumers (Dovers and Gullett 1999). Similar policy changes have occurred in emergency management (Kouzmin and Korac-Kakabadse 1999), and there would be scope for exploration of the impacts of these changes, and responses to them, across the two fields.

A second political trend has impacted on both—advocacy of and moves to more participatory (or discursive, inclusive, deliberative) modes of political debate, policy formulation and implementation of policy programs. Australia is famous for both its volunteer-based emergency management arrangements (and is experimenting with new community-based approaches to risk management), and for its community-based environmental programs (particularly, but not only, Landcare). Cross-sectoral learning should be possible, exploring these kinds of programs across the two fields. Moreover, the challenges to such approaches mounted by, on one hand, recent apparent declines in political trust associated with a rise in populist politics and, on the other, emerging suspicions that reductions in public sector capacity in both fields equal derogation of government duty rather than devolution of power, might be fruitfully explored.

(A note: these similarities are evident across disasters and sustainability, but also in other policy sectors, providing scope for a wider exploration of collaborative

research and policy learning potential across the 'cognate policy sectors' of resource and environmental management, emergency management, public health and community and regional development. That represents a larger task not addressed here.)

### **Policy and research implications**

Considering policy and research implications of the above, not all will unfold collaboratively—constraints will be imposed on disaster management by concern over impacts of the sustainability of ecosystems and resource systems, as they have in the past. Constraints will also quite rightly be placed on resource and environmental management by concerns of human safety and property protection. The recent, acrimonious and poorly informed debates over fuel reduction burning and fire trail maintenance in conservation reserves after the 2002–03 fire season is a case in point. It is difficult to predict which imperative – human safety or ecological integrity – will have political dominance, and the balance will surely vary case-by-case and over time. There is plentiful scope for R&D and policy development processes that would inform both domains, and at least would ensure that debates in future are better informed than in the past.

More positively, we can consider some bases for developing shared interests. To spark further discussion, I will propose three areas and some illustrative examples: R&D topics and policy initiatives; areas of active policy and management learning; and structures and processes to enable such learning.

First, what kinds of R&D topics, and policy measures, can achieve synergistic benefits for both fields, or at least avoid inconsistencies or duplication between them, or at the very least allow more informed debates and trade offs? Some obvious candidates emerge, such as the currently missing coherent, national register and mapping of fire events. Other areas include climate change impacts in the coastal zone, exotic pests and pathogens, management applications of spatial data; and human perceptions of environmental risk and variability.

Second, it would be useful to identify, through some kind of broad discussion and subsequent analysis, more specific policy and management 'experiments' in the two domains where useful experiences could be shared. This may be where one domain is further advanced than the other in some regard, or where the application is sufficiently different to allow comparative analysis. One example is the different patterns of translation of the Risk Management Standard (AS/NZS 4360 1999) into operational form, an area where emergency management has proceeded further. Others include: the many experiments in whole-of-government and cross-portfolio measures in environmental management; that field's more extensive (but still experimental) use of deliberative methods such as consensus conferences and

citizen's juries; the variable experiences with major community-based approaches such as Landcare and volunteer fire brigades; intergovernmental structures and processes in the two fields in a federal system; and emergency management's experiences in communication and coordination through Emergency Management Australia (EMA) and its Institute.

Third is the issue of the structures and processes to enhance linkages, that are currently missing or fragmentary. Consideration of sustainability issues at this disaster conference is one measure. The Bushfire CRC is another point of interaction, as is the Centre for Risk and Community Safety (EMA, RMIT University, Australian National University). In general terms, there needs to be effort to maintain whole-of-field links between the two fields, as well as collaboration and comparison on specific issues—the similarities between flood, fire and storms in the emergency sector match the similarities across water, coastal zone, forest and fisheries management in the sustainability domain. While EMA represents a recognizable whole-field contact point in emergency management, the environmental and resource management field is less coordinated. The best single entry point in an R&D sense is Land & Water Australia, the sustainability-oriented R&D corporation amongst those established under the *Primary Industries and Energy Research and Development Act 1989*, but, some ministerial councils notwithstanding, a peak policy and management contact point is missing. However, it is certainly the case that the R&D infrastructure and quantity of human resources is significantly larger in natural resource than emergency management. On the issue of human resources for policy-oriented R&D, the increasingly common mature-age PhD researcher with relevant work experience often represents the only available means of undertaking rigorous, time and labour intensive analysis to meet strategic knowledge needs.

Having made, or perhaps belaboured, the point about similarities and potential lessons, a qualification is necessary. Unthinking transfer of policy or management interventions from one context to another will always be unwise, and possibly downright dangerous. Learning across policy and management sectors demands careful analysis of cases, and equally careful transfer of any lessons gained, whether those are positive or negative (we can learn from both policy success and failure, and in fact a mixture of success and failure is normally evident).

## Concluding comment

The argument of this paper can be reiterated: disaster and emergency management have much in common with sustainability, and with the environmental and resource management sectors that combine beneath that general idea. At present, those common interests are not very often pursued, and certainly not in a coordinated and sustained manner. Given the latent character of those connections, it would be unlikely that structures and processes to enhance linkages will be resourced without better evidence of the potential for joint R&D programs or policy processes, a small range of strategic, targeted collaborations between existing groups over the next few years would be a sound way forward.

Defining those few strategic collaborations is the next step, taking into account more possibilities than the illustrative examples given here. Once that is done, we can take advantage of one of the core realities of modern politics (and research funding)—coalitions of interest and advocacy will always achieve more than uncoordinated, separate efforts, even where the latter are already pursuing common goals.

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# Legal issues in Emergency Management: Lessons from the last decade

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## **Introduction**

This paper was delivered at the Safer Sustainable Communities Australian Disaster Conference in September 2003. It addresses the significant changes and understanding about the law that applies to emergency management during the last ten years. A decade ago emergency service organisations ("ESOs") were rarely sued, rarely questioned and rarely thought to be affected by legislation such as Occupational Health and Safety Acts. Today the situation is infinitely more complicated. On the one hand there is a move to codify and simplify the law of negligence, which will probably reduce the potential liability for ESOs attending emergencies. However, as discussed below, changes in both the law and in community expectations have increased the legal responsibilities, liabilities and the legal scrutiny of ESOs.

These changes reflect the themes of the Safer Communities conference. First it can be said that community safety is everybody's business: even the lawyers and the courts. Secondly these changes can be said to affect or even threaten the sustainability of ESOs, particularly those that are reliant on volunteers.

## **Scope of this paper**

This paper will examine some of the changes in the law as it applies to ESOs. It will also look at how changes in community expectations have influenced the degree of judicial and quasi-judicial scrutiny of ESOs. Finally it will examine the steps that ESOs and government bodies involved in emergency management can take to address these changes and to prepare themselves for litigation and legal inquiries.

It is not the intention of this paper to address counter-terrorism responses or incidents.

## **A comparison**

During the Ash Wednesday bushfires of February 1983, thirteen volunteer CFA firefighters lost their lives in a single incident, whilst fighting a fire in Upper Beaconsfield in Victoria's urban-rural fringe. The inquest into their deaths was held nine months later. The volunteer firefighter who was responsible for the initial deployment of the firefighters, was the primary witness called at the inquest. He commenced giving his evidence at 11.43 am on the 4th of November, 1983, and concluded at 4 pm. on the same day. Only four other witnesses were called to give evidence about the circumstances leading up to the entrapment.

These firefighters lost their lives whilst on the eastern flank of the fire when the wind changed direction. Serious questions were raised regarding how much information they had been told about the wind change and whether they received crucial radio messages. There were two trucks involved in the entrapment and the theory was that the first vehicle stopped or stalled leaving the inhabitants of the second vehicle helpless.

In contrast in December 1998, again in Victoria, five volunteer CFA firefighters lost their lives fighting a fire at Linton, near the city of Ballarat. In many ways the circumstances of the two tragedies were similar. These fire-fighters were on the eastern flank of a fire and were travelling in a tanker which was following another tanker. The first tanker stopped and shortly afterwards the wind changed. The firefighters in the first tanker survived and had sufficient water to use a fog spray. All the firefighters in the second tanker perished. Similar questions to those raised at the Ash Wednesday inquest arose. Of particular concern was whether important wind change radio messages were received.

The inquest into the Linton deaths commenced 20 months later in July 2000. It was concluded a year later, after 98 sitting days. During this time the court received evidence from 175 witnesses, 94 of whom gave their evidence orally to the Court. 15 major witnesses gave evidence in relation to the entrapment, each witness taking between 3 and 8 days to complete their evidence.



*Changes in the law and community expectations have increased the legal responsibilities and liabilities of ESOs*

In a similar vein we can compare the legal inquiries into the 1939 bushfires and the 2003 bushfires in Victoria. After the fires on 13 January 1939 the Stretton Royal Commission was appointed. The Commission sat between 31 January 1939 and 17 April 1939 and produced a 36 page report by mid May 1939.

The 2003 Victorian fires burned for 57 days in much the same area. The Victorian Government appointed an inquiry team headed by the Emergency Services Commissioner in March 2003. That inquiry team has received 270 submissions and reported in October 2003. Members of the affected communities also asked the Victorian Coroner to conduct an inquest into the fires. The Federal Parliamentary Inquiry looked into the Victorian fires and has received over 470 submissions.

This comparison demonstrates both the increased scrutiny and the increased complexity that come with the modern inquiry into a disaster. This complexity arises in part because of the ever increasing complexity of the law as it applies to ESOs.

## Sources of legal obligations

There are numerous potential sources of legal obligations for ESOs and some of these are examined briefly below.

### Negligence

There have been significant developments in the law of negligence over the past decade and these have particular implications for ESOs protecting vulnerable communities. The law of negligence with which you are likely to be most familiar with creates a duty of

care to prevent possible harm arising from one's acts or omissions.

In the case of statutory authorities and government bodies the law of negligence can also apply in relation to the exercise of statutory powers and functions. Most ESOs have broad powers and functions which enable them to carry out prevention work and to protect the community. Increasingly courts have held that the failure to exercise such powers and duties, where such powers exist, can amount to negligence.

This particular area of the law of negligence has been said by Justice Kirby on the High Court of Australia 'to be amongst the most difficult [both for] judges and scholars' and is 'conceptually unsettled'.<sup>1</sup> Kirby J has also said that the Court needs to establish a universal principle or approach to give guidance to the community on this matter.<sup>2</sup> It is not the intention of this paper to attempt to summarise the law in this area. About the most that can be said is that an authority may have a responsibility to use the powers conferred on it by government if it knows, or should know, that the exercise of these powers may address a risk for vulnerable persons who may not or cannot take action to protect themselves. The High Court has often identified fire control as one issue likely to attract such a responsibility.<sup>3</sup>

The courts will consider the following factors when determining whether a body owes a duty to use such a power:

- Whether or not the exercise of the power could have prevented the damage or injury complained of;

1. *Pyrenees Shire Council v Day* (1998) 192 CLR 330.

2. *Graham Barclay Oysters v Ryan* (2002) 194 ALR 337, 392.

3. *Sutherland Shire Council v Heyman* (1985) 157 CLR 424, 464 and *Pyrenees Shire Council v Day* (1998) 192 CLR 330, 342, 348, 371, & 423.



*The High Court has often identified fire control as one issue where the law of negligence can apply in relation to the exercise of statutory powers and functions*

- The extent of the control exercised by the relevant body;
- Whether the power is held exclusively by one body or whether it is shared with other bodies;
- Whether the body concerned has acted to create or increase the relevant risk;
- The 'nature' of the power;
- The degree of risk involved;
- The relevant body's knowledge of the risk of damage or injury;
- Whether the persons concerned are involved knowingly in risky activities;
- Whether it is 'fair, just and reasonable' to require the body to exercise the power in question;
- Whether the power can be said to have been granted to address a specific risk, such as fire;
- The extent to which the individuals or classes of people at risk understand or recognise the relevant danger and whether or not they can act to reduce that danger;
- Whether a decision about the use of a power was made for administrative or technical reasons or whether it was a policy decision. The latter is less likely to attract liability;
- Whether the exercise of the power will benefit particular individuals or classes of people or the public as a whole. The latter is less likely to attract liability;
- Whether the body has exercised the powers in the past. An authority is more likely to be liable if it uses the powers from time to time rather than if it makes a policy decision never to use the powers;
- The size, resources and the competing demands of the body.

In essence this means that if you are a government body, with powers to inspect or fine in order to ensure compliance with the law and you fail to use those powers you could, potentially, be found negligent. In the context of disasters this may mean that you are found negligent for failing to act to prevent an incident at a major hazard facility or a failing to conduct a flood analysis.

### **Occupational Health and Safety (OH&S) legislation**

The OH&S legislation that applies to various ESOs and government bodies differs across states but in general it imposes duties on employers to prevent risks to both employees and others to the extent that this is practicable. For some time it was thought by some in the emergency management community that such legislation did not apply to ESOs. It is fair to say that this assumption was a fallacy. OH&S legislation will generally apply to ESOs and imposes duties in relation to employees, volunteers, other ESO personnel and anyone else who may be at an emergency, including members of the public. The extent of the duty is the crucial question and it is not always clear in hindsight what was "reasonably practicable" in an emergency.

Further it can be said that the traditional hierarchy of controls that apply to reduce OH&S risk is not necessarily suitable for managing OH&S risks at emergencies. The traditional hierarchy of hazard management is:

1. Elimination—controlling the hazard at its source.
2. Substitution—replacing a substance or activity with a less hazardous one.

3. Engineering—the installation of a protective device such as guards on machinery.
4. Administrative—policies and procedures for safe work practices.
5. Personal Protective Equipment— clothing, eye protection, helmets, respirators, ear plugs, etc

In many disasters personnel cannot eliminate a hazard at its source and must rely on PPE and safe working practices as their primary safety controls. The Victorian State Coroner recognised this during the Linton Inquiry and recommended a rethinking of the hierarchy of controls for emergencies. It will be some time before any such changes makes it way down to the OH&S investigators and inspectors across Australia and ESOs can expect that there may be some confusion and misunderstanding when dealing with these personnel when investigating incidents.

### Proposed Industrial Manslaughter legislation

There has been a move in some states to introduce Industrial or Corporate Manslaughter legislation. This has been met with some resistance and fear by ESOs. Currently this crime is governed by the common law. A body corporate will only be guilty of manslaughter if the individual guilty of manslaughter can be “identified as the embodiment of the company itself”.

Victoria was the first state in Australia to attempt to introduce specific legislation in relation to Industrial Manslaughter, the *Crimes (Industrial Manslaughter) Bill*. The proposed Victorian legislation would have created the offences of corporate manslaughter and negligently causing serious injury by a body corporate. It would have also imposed criminal liability on directors and senior managers of a body corporate (“officers”). The penalties for officers included imprisonment for up to 5 years or a fine of \$1.8 million. This bill failed to pass the Upper House. It is not clear whether there will be another attempt to introduce the legislation.

### Contracts and outsourcing of functions

The increased outsourcing of key government functions in the emergency services field such as call taking and dispatch imposes a new set of contract management and audit functions on ESOs who may still maintain the statutory responsibility for the function. As demonstrated during the Victorian Metropolitan Ambulance Service Royal Commission, a failure to properly execute those powers can have serious consequences.

### Corporate Governance

It should be remembered that many of the board members of ESOs who are statutory authorities have corporate governance responsibilities. The Chairman of ASIC, David Knott has described these corporate governance responsibilities as the “mechanisms by which corporations are directed and controlled and the mechanisms by which those who direct and control a corporation are supervised”. They are duties of the highest order and breach of them is taken to be a very serious matter.

The most important duty to focus on in the context of disasters are the requirements for board members to act in the interests of the organisation and hence the public, rather than on behalf of any other constituency.<sup>4</sup> In the case of a representative board this is often not understood, with board members advocating the agenda of their stakeholders in the board room. It is conceivable that the actions of board members may be subject to scrutiny following a disaster and it is important that this important fiduciary duty has not been breached.

### Judicial and Quasi-Judicial Hearings and Investigations

There are a number of different bodies that have jurisdiction to investigate the actions of ESOs after disasters, including the police, OH&S investigators, Coroners and Royal Commissioners.

In particular Australian coroners also have broad powers to investigate and hold inquests into deaths. Further, all states, bar the Northern Territory and Western Australia, allow for the Coroner to hold inquests into fire<sup>5</sup>, even where no death has occurred. It has not been determined whether the Coroner's power is to investigate the circumstances of a fire generally, or whether a Coroner can look specifically at all aspects of the fire suppression.<sup>6</sup>

The role of ESO personnel at inquests has traditionally been to assist the Coroner in finding out how a disaster unfolded, why people died and in making recommendations for the future. This role has changed over time and ESO personnel are now increasingly required to justify their actions against real or possible criticisms. Further, in a number of states the Coroner has the power, and often the obligation, to report to either the Director of Public Prosecutions or the Attorney General if he or she believes an indictable offence has been committed.<sup>7</sup> This means that coroners have the power to refer matters to the DPP if they

4. *Bennetts v Board of Fire Commissioners of New South Wales and others* (1967) 87 WN (Pt 1) (NSW) 307.

5. *Coroner's Act* 1985 (Vic) s.31, *Coroner's Act* 1997 (ACT) s.18, *Coroner's Act* 1980 (NSW) s.15, *Coroner's Act* 1958 (Qld) s.8, *Coroner's Act* 1975 (SA) s.12, *Coroner's Act* 1995 (Tas) s.40.

6. *Queensland Fire and Rescue Authority v Hall Coroner @ Gatton & Anor* [1998] 2 Qd R 162.

7. Section 58 *Coroner's Act* 1997 (ACT), section 19 *Coroner's Act* 1980 (NSW), Section 35(3) *Coroner's Act* 1997 (NT), section 47(4) *Coroner's Act* 1995 (Tas), section 27(5) *Coroner's Act* 1996 (WA), section 21 and 38 *Coroner's Act* 1985 (Vic).

believe there has been a breach of any criminal legislation. In Queensland, the coroner's power goes further under section 41 of the *Coroner's Act 1958*. If the coroner believes that there is sufficient evidence he or she may commit persons for trial on particular crimes. This dual role of the Coroner at inquests means that ESO personnel should be advised of the Coroner's powers. Whilst it may seem unlikely to an ESO that their personnel could be criminally liable, it is important that they understand the potential for action against them if they are required as a witness.

### Changes in Society

There have also been significant changes in society's attitudes over the past decade which have affected the legal position of ESOs. Firstly it is probably fair to say that there has been increased media interest in disasters. They are no longer accepted as a fact of life and the media plays an important role in keeping ESOs and government accountable. Secondly, community expectations are higher. The community want to be kept safe and want or demand to be given timely and accurate information, especially in the midst of a disaster.

Further, the increased focus on the PPRR ("prevention, preparation, response and recovery") spectrum by ESOs has, in turn, led to an increased focus on the legal responsibilities of ESOs across that spectrum. ESOs are now considered more accountable for prevention and preparedness than at any stage in the past.

Finally, there has been an increase in the concern amongst ESO personnel about their statutory immunities and whether or not they might lose the family home following some emergency. As one volunteer firefighter told the Federal Inquiry recently:

"I agree wholeheartedly that the Linton inquiry has definitely put the wind into everybody. Unfortunately, the way the law operates today, if you do something and it goes wrong, you know you are going to cop it—you so you don't do it. People have got the wind up."<sup>8</sup>

All of these changes have led to perceived and actual fear about the extent of legal liability that may rest with an ESO or its people after an incident.

### Applying a risk management approach to legal issues

One approach to identifying legal issues that may affect your ESO is to adopt a risk management approach. In short this involves:

1. Characterising the hazards—this means knowing and understanding the relevant law. This may be a matter of you receiving legal advice.
2. Establishing the community profile—this may involve asking what your people, your stakeholders, your community and your regulators expect from you. What standard are you required to comply with?
3. Determining your vulnerability—this means knowing in what areas you are unable to comply with the law or meet the relevant standards.
4. Analysing risks.
5. Evaluating and ranking risks.
6. Identifying and evaluating treatments.

You should be aware that any documents created during such a risk management audit might become publicly available through a Freedom of Information request. If you are concerned about this risk you should discuss this with your lawyers.

### Applying a PPRR framework to legal issues

An alternative means to avoiding legal liability is to use the PPRR framework to develop an action plan to address legal risks. The advantage of this model is that it will be familiar to many in your ESO and encourages them to think about legal risk as just another risk or event rather than as a special and bewildering area of concern.

### Prevention

There is much that your organisation can do to prevent findings of legal liability. The most important thing is to ensure that prevention measures are understood and 'owned' across your organisation and don't just sit with legal officers or corporate secretaries. An organisation-wide approach is likely to pick up on a number of areas of non-compliance and will likely make the introduction of change much easier. Among the most practical preventative measures you can adopt are:

- Conduct an audit of your legal responsibilities under all relevant legislation and compare these to your operational policies, standard operating procedures and training documents.
- When making decisions about when you will use statutory powers to address risks make these decisions at a policy rather than operational level. Have your governing body sign off on your approach to these matters.

8. House Of Representatives Select Committee On The Recent Australian Bushfires Thursday, 24 July 2003, page 63.





*A detailed crisis management plan to deal with a legal investigation into an emergency is essential for all ESOs*

- Educate the community about your responsibilities and capabilities—ensure that they do not have unrealistic expectations about what you can do to protect them.
- In a similar vein do not use ‘motherhood’ statements to describe your programs or operational response—you can be criticised to failing to meet the high standards you purported to have.
- Keep a library of findings from inquiries into similar ESOs and learn from the outcomes and recommendations of those findings.

### **Preparedness**

For most ESOs legal scrutiny should be taken as a ‘given’, that is you can expect it at some time or another. As such you should institute measures now to ensure that you are ready to respond if and when your organisation faces such a challenge. As part of these preparations you should:

- Develop a relationship with and educate relevant bodies and personnel about your organisation. Coroners, Police, Politicians and the Media may not understand how your ESO works and this may hamper any investigation into your ESO. You may need to explain:
  - The emergency service culture and (if relevant) your volunteer culture
  - The challenges and changes faced by your ESO.

You should consider how you communicate this. Do you invite them to participate in a special training course or do you include them in a mailing list for your annual reports and magazines?

In a similar vein you should consider whether your lawyers understand your ESO. They may have to advocate on your behalf and they should be able to do so effortlessly, that is as if they themselves turn out on the trucks or in the ambulances.

- You should have a detailed crisis management plan to deal with a legal investigation into an emergency. Such a plan is most important and should identify trigger points for the activation for your investigation/crisis management team (including your lawyers and your media team).
- Have a policy on legal representation for your personnel stating what support you will provide them with and what you will do when there is a legal conflict of interest that prevents your lawyers from representing them.
- Conduct training for your personnel in legal issues such as the identification and preservation of evidence and the rules concerning dealing with witnesses.
- Know the powers of the Coroner/Police and the limits on their powers so that in an emergency you are not compromised in your operational activities by these regulators.



*Training for ESO personnel in legal issues such as the identification and presentation of evidence and the rules concerning dealing with witnesses could be advantageous*

- Have a written policy setting out what debriefs are meant to achieve. As a lawyer acting for ESOs, I have frequently had to explain that debrief minutes are not an “official record” of an incident and may contain inaccuracies. It can be difficult to explain that the rules of a debrief may prevent someone challenging an inaccurate statement or comment.

## Response

In the immediate aftermath of an emergency, particularly one where there has been loss of personnel or devastation of a public facility, it may seem odd that you would call in media consultants and lawyers immediately. There is often great resistance to doing so as many in management want to actively manage the situation themselves.

However, it is often the case that your ESO may have little practical control over such a situation, particularly if external regulatory or investigative bodies are called in. The fact that you might normally have a friendly and collaborative relationship with these bodies can make the situation more complicated. It is never too early to call in your lawyers and media consultants. Their role is help you understand what matters might be outside your control and to help you manage the situation as you want to.

Any legal crisis response should be developed with your ESOs specific needs in mind. However it is possible to set out a few general guidelines.

### Your investigation

- Ensure that you can conduct your own investigation and debriefs. If you plan to hold your own investigation, say so publicly and get the terms of reference cleared by your lawyers.
- Consider very carefully whether you will participate in multi-agency debriefs and investigations. In serious situations many ESO personnel and managers will be scared about their own reputations and careers.

As such you may end up with a compromised investigation report that reflects the fears and concerns of those involved rather than one which is accurate and has integrity.

- If you are getting legal advice then many of your documents will be protected from disclosure by the doctrine of legal professional privilege. Ensure that you understand what this means and that you don't inadvertently lose that protection through your actions.
- Consider having your lawyers engage external consultants as this may have tactical advantages in subsequent litigation.
- If you have set up an investigation team, you should ask your lawyers to train team members in:
  - legal professional privilege;
  - dealing with witnesses;
  - note taking and use of log books;
  - admissions;
  - natural justice;
  - OH&S;
  - contempt of court; and
  - the Coroner's jurisdiction.
- You should give careful consideration to whether potential witnesses to any hearing should be on the investigation team. Think about:
  - Which members of management may be called as witnesses?
  - Are you compromising them through a perceived conflict of interest?
  - Can they be objective?
- Provide timely and accurate information about legal issues and investigations to relevant stakeholders:
  - Organise meetings with all witnesses to explain the investigative/inquest process—have your lawyers present to ensure that the legal issues are explained appropriately.
  - Enlist the support of any relevant stakeholders/volunteer leaders who may be outside the process.
  - Establish links with the legal representatives of any family of a deceased person.

## Information Management

- Preserve evidence including all notes/paperwork from all relevant witnesses.
- Inform your insurers about any possible claims.
- Control statements to the media and ensure that all media enquiries are fed through one source. Get legal clearance on all media releases.
- Avoid speculating to the media about possibilities as this may colour subsequent reporting and any external investigation of events. Also consider the effect of media statements on potential witnesses. Ensure that your media comments do not void your insurance policy or place your ESO in contempt of court.

- Log all conversations with police/coronial investigators and remember that there is no such thing as an "off the record" conversation.
- Dedicate one person to collecting all press and media reports about the event.

### People management

- Consider whether or not any staff/volunteers/witnesses should be warned about self-incrimination and whether there are any actual or potential conflicts of interest between your ESOs and your staff/volunteers/witnesses.
- Talk to CIS about their role and the potential (unlikely as it is) that they might have to give evidence about what witnesses to the event tell them about it.
- Remember log book notes of conversations with witnesses could be evidence so record all conversations accurately.

### Response Management

- Co-ordinate all aspects of preparation in one body (such as a Steering Committee) and keep your lawyers, media personnel and HR personnel involved/across all areas.
- Work out what you want to achieve through your investigation and participation in any legal hearing and then work out what you can realistically achieve.
  - Clearly enunciate your position to government so that it is reflected in any 'whole of government' position.
  - Consider strategy—should you 'fess up' to mistakes early or defend yourself against allegations until they are proven/explained.
  - Consider how your strategy will affect your ESOs credibility?
  - Consider what your position says to your staff, volunteers and stakeholders?
  - Consider and implement any necessary changes to policy/procedure immediately.

It is important to recognise that your ESO may face heavy scrutiny and that Senior Management may have their credibility challenged. Many staff and volunteers may find themselves in a position where their version of the events is not believed. The human toll on those involved can be immense and you should be prepared to support these members of your organisation. However you must avoid giving the impression that you can control the outcome. Many staff and/or volunteers often expect that the ESO can manage the process and therefore they direct any anger they feel at their ESO. Make sure that your communications strategy always distinguishes between matters within and outside your control.

### Recovery

In the aftermath of some sort of legal scrutiny you should have a recovery plan. This plan should include provision for the following:

- An audit of the recommendations and issues arising from legal investigations and findings.
- Communications strategies for the community, for stakeholders and for staff and volunteers. Remember that in the aftermath of a legal hearing secrecy can breed paranoia.
- Ongoing support for affected personnel. This may continue for many months or years.
- A strategy to work with relevant stakeholders and government to address issues arising from the hearing or investigation.

### What to expect in the next 10 years?

It is difficult to engage in crystal ball-gazing in this area because there are so many political, social and legal issues involved. ESOs should expect that there is not likely to be any reduction in legal scrutiny directed at their performance in the near future. Indeed public scrutiny of ESOs is likely to become more sophisticated with an increased focus on systems, accountability and audits. There will also be an increasing presumption that inter-agency compatibility issues are a thing of the past and have been resolved. It is likely that there will be increased expectations of volunteer organisations and that an OH&S doctrine applicable to emergencies will be developed further.

Hopefully Australia's ESOs will also become more sophisticated in addressing legal risks and ensuring that they are adequately prepared to deal with and prosper from such increased legal scrutiny.

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# CONFERENCE REPORT

## Reflections on the Safer and Sustainable Communities 2003 Disaster Conference

*Jonathan Abrahams*—Conference Program Chair, Emergency Management Australia

### Introduction

The Safer Sustainable Communities 2003 Australian Disaster Conference provided an opportunity to take stock of the current state of emergency management in Australia and to consider issues facing the emergency management sector into the future. This article sets out to bring together the threads of speakers' presentations and participants' comments with some personal reflections and sketch where Australian emergency management stands at present and what some of the issues will be in the future. References can be found at the Conference website ([www.ema.gov.au/disasterconference](http://www.ema.gov.au/disasterconference)).

An analysis of this type is naturally skewed by the Conference Steering Committee's selection of speakers for the Conference. Our plan was to invite speakers who would present on contemporary and futuristic issues and who also reflected the diverse nature of the sector. Even the choice of the title of the Conference with a focus on Safer, Sustainable Communities and naming of the various streams gave some indication of our pre-conference appreciation of the current state and future direction of the sector. Judging by the response to the Conference which resulted in some 700 delegates, an unprecedented number for an Australian disaster conference, and their subsequent feedback, participants were very satisfied with the quality and range of presentations from over 150 speakers. The Conference closing session also gave participants the opportunity to reflect on their experience at the Conference and to express their views on those issues which had not been addressed as fully as they would have liked.



*Mr Jonathan Abrahams*

### From 1999 to 2003 and beyond

The phrase as "may you live in interesting times" is apt for people working in emergency management. Just as the last Conference held in 1999 was set in interesting times, the 2003 Disaster Conference was conducted at an interesting time for the emergency management sector. Times might always appear interesting for the sector, in part because we are uncertain of the future and don't know what disaster awaits us around the corner (will it be a flu pandemic many times worse than SARS, a heatwave of unprecedented proportions, a host of other more predictable flood and fire events, or what?), and also because there is so much more to know and achieve in our fertile field. This is why forums such as the 2003 Disaster Conference is important—to meet our national and international colleagues, share knowledge, build partnerships, and re-energise to face the challenges in community safety and sustainability.

The Conference demonstrated that between 1999 and 2003 the field of community safety has continued to



*Participants at the Safer Sustainable Communities 2003 Australian Disaster Conference taking the opportunity to take stock of the current state of emergency management in Australia*

evolve. Efforts to understand the issues of today and how they have changed since 1999 will assist the sector to deal with the future. We should seek to describe what is truly new (for example, coming together of crisis and consequence management arrangements for counter-terrorism, articulation of a knowledge management philosophy, and appreciation of climate change as an emergency management issue), what is a continuation of an existing trend (which applies to most issues discussed at the Conference, including the strengthening of partnerships across the sector and developments in the application of information management), and what has been lost, for better or for worse (eg. aspects of volunteerism and risk reduction opportunities not taken before disasters occur).

### **The influence of worldviews on the emergency management sector**

To understand the fundamental nature of change in the sector we need to look beyond the specific subject area of emergency management to the worldviews which prevail in Australia at this time, such as the emphasis on economic prosperity and individualism. (Eckersley) The focus on economic growth is evident in the Australian Government's priority for building a strong economy controlling expenditure and reducing the national debt, and, it has been argued, the decision not to sign the Kyoto protocols on greenhouse gas emissions, ostensibly on economic or related grounds.

The effects of individualism can be significant for traditionally community-oriented activities, such as emergency management. Volunteering which might have been seen primarily as a community service and a shared responsibility might now and in the future be increasingly populated by individuals who expect to gain valuable skill sets for their paid careers. The issues of individualism, economic growth and community safety interact when decisions are made, on the one hand, to enhance a community's economic development and the right to trade of business and land developers, while increasing the risk to the safety of householders and the community, for example building new houses in fire- or flood-prone land. What is the trade-off here?

Combined with the influences of demographic and cultural change in Australian society, these worldviews define the way Australians perceive our world, society and ourselves, thus driving government policy and community attitudes and behaviours. (Salt, Eckersley) These in turn shape the risk profile of communities and the capability of the emergency management system to manage risks, for example, the allocation of resources, the value placed on knowledge and the preparedness of communities to help themselves.

Worldviews are heavily influenced by current or emerging threats and recent disasters which come to dominate our political and social consciousness. These have served to change the community



Mr John Murray APM, ACT Chief Police Officer, Australian Federal Police

expectations of government including the emergency services. For example, it is understandable that security matters have become a prominent part of the Australian worldview, given the increased threat of terrorism in the region (requiring our intelligence community to analyse and understand this expression of the terrorists' worldview), realisation of this threat in the tragedies of the World Trade Center attack and the Bali Bombings, and preparations for Australia-centred international events such as the 2000 Sydney Olympics and Commonwealth Heads of Government Meeting in Queensland in 2002.

Other disasters in Australia and overseas have also influenced priorities for the sector, such as SARS coming from Asia, Foot and Mouth Disease in the United Kingdom, and the summer 2002/03 drought and bushfires in Australia. The ensuing reviews and inquiries provide opportunities for improving our knowledge of bushfires and building capability for managing the risk of bushfires. However, we also know that a focus on recent events is not a rational basis for managing Australia's future risks. Who and what will be next?

### Key Conference Themes

A multitude of factors affect the nature of risk in Australia and our capability to manage that risk. How well do we understand these factors and the implications for emergency management? The following themes emerged during the Conference.

#### Demographic and cultural change in Australia

At a fundamental level, demographic and cultural influences are changing Australian society. (Salt) Information and technology is also changing the way Australians lead their lives. (Spender) Is the emergency management sector keeping pace with change and

moreover developing strategies to anticipate and address probable futures?

So what will our communities look like in the future and where will people live and work? What impact will these changes have on community safety, in terms of community risk profiles and our capacity to manage the risk? Key demographic changes include people moving from the country into the cities, to the north and along the coast. (Salt) The movement is dominated by young people seeking opportunities in the cities and by economically mobile retired people moving to the coast and to boutique communities or golf estates. If we add the growth in population in the rural-urban interface, it could be said that Australia's population growth and migration is generally taking place in higher risk areas. This migration also severely impacts on services and population in rural communities, where it is felt strongly among volunteers who provide emergency services for these communities, particularly where there are no paid staff. There may not be enough people where they are most needed. Conversely, retired people with skills and resources in other parts of the country are expected to be prepared to volunteer as they see giving back to the community as a critical part of their portfolio of retirement activities (Salt). What type of volunteering will they be interested in? Will the dirty, dangerous and energetic work associated with aspects of volunteering be done? (Emergency Management in 2023 workshop)

A more recent trend in Australian society is the establishment of large numbers of city apartments, favoured by young professionals influenced and reflected by television programs such as *The Secret Life of Us* and *Sex in the City*, contrasted with the suburbia of *Neighbours* and *Home and Away*. (Salt) What are the community safety risks associated with high density high-rise living and how do they compare with 1970s-style housing estates? Unlike men whose marrying age has remained more or less constant, women are marrying much later in life than their mothers (by 8 years) at the average age of 29, as they are looking for more life and career experiences and economic independence before "settling down". (Salt) Would they consider emergency management as a choice of career? Could they be recruited as volunteers?

Ethnic diversity is a force in Australian communities. How does that impact on community safety, for example, with respect to house fires, counter-terrorism, marine safety? As far as community education is concerned, it means that safety messages need to use multi-media resources in appropriate languages together with demonstrations and training. (Watt) While core recovery needs are similar between and within communities, different cultural hues can seriously affect the success or failure of our programs. (Gordon, Sullivan) The demographic profiles of Australia's emergency management organisations do not reflect the

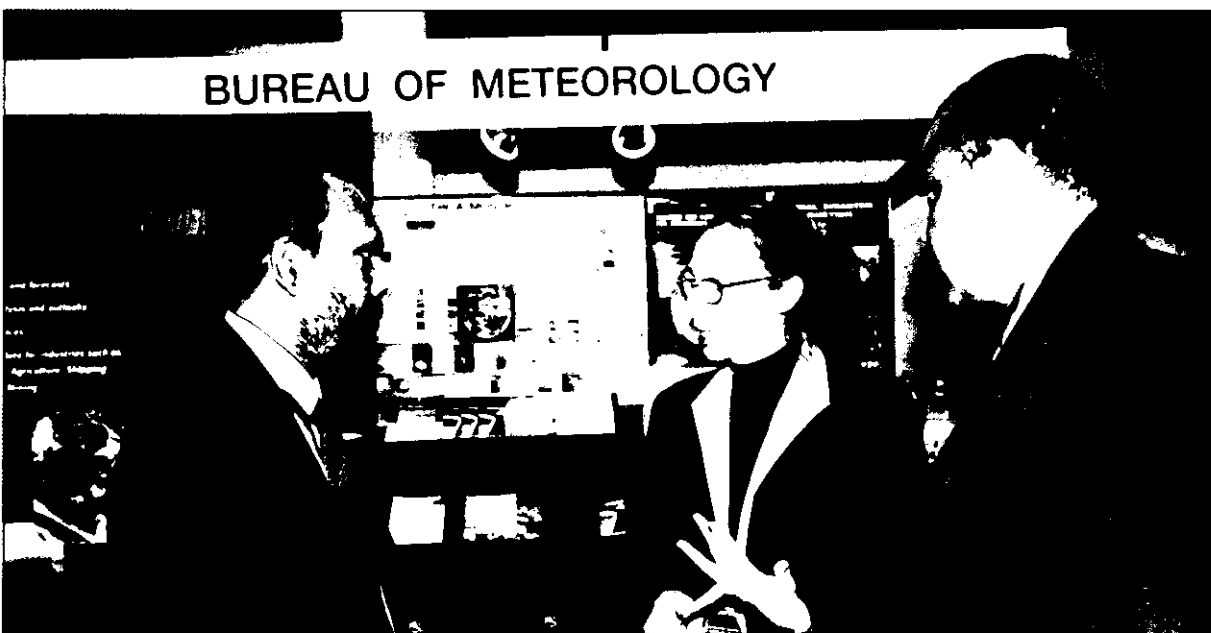
cultural and linguistic diversity in Australia. How does this affect our ability to engage with communities, conduct community education programs, issue alerts and warning, manage evacuations and address recovery needs?

### Security and counter-terrorism

The focus on improving Australia's arrangements to manage threats to national security has led to greater collaboration between the elements that manage the crisis (intelligence and specialist counter-terrorist groups) and consequence management (emergency management system). (Hon D. Williams, Templeman, Tyrie) Before the World Trade Center attack on 11 September 2001, crisis and consequence management were organised and governed by different arrangements, with exercises conducted separately. Now there is no distinction between emergency management and counter-terrorism. (Murray) The integration of crisis and consequence arrangements is consistent with an "all hazards approach" which enables procedures and capabilities for addressing one hazard or risk to be applied to address other risks. While keeping one eye on the issue of security, the sector must also consider the bigger picture of the wide range of risks which we face. A case in point was the call for greater commitment to building Australia's Urban Search and Rescue capability to respond to a building collapse which might be caused by a bomb, but could have numerous credible causes. (Mullins) A similar argument can be mounted for the continuing enhancement of Australia's chemical, biological and radiological capabilities which has strengthened Australia's capability for managing hazardous incidents and our overall capability for managing risks. (Patterson)

Conference speakers approached the issue of critical infrastructure protection from a government, industry and technological perspective, emphasising the importance of partnerships to address issues effectively. The protection of critical infrastructure has become an increasingly important issue in the context of counter-terrorism. (Thompson, Rothery) The reality is that infrastructure systems failure or disruption has always been a critical issue for the emergency management sector as the consequences for modern societies are significant, witness the Longford gas shortage, numerous examples of power blackouts around the world, and contamination of water supplies in developed and developing countries. From a social and emergency management perspective, critical infrastructure protection is essentially about maintaining services and acting on the social impact of disruption (Handmer).

The issue of critical infrastructure protection provides a useful focal point for building partnerships between business, utilities, crisis management and the emergency management sector. It requires much more cross-sector planning and partnerships at all levels of government and with industry because up to 90 per cent of critical infrastructure is now privately owned. (Yates) Integration of risk management, asset management and emergency management to protect critical infrastructure will provide protection against acts of terrorism, and will also make our infrastructure more resilient to other sources of risk. In Australia, utilities have undertaken significant steps to improve their risk management, emergency management and business continuity planning. (Parsons, Love, B. Davey) New Zealand have taken a few steps further, including the recent passage of the *Civil Defence and Emergency Management Act*, which



Dr Don Gunasekera, Dr Linda Anderson-Berry and Mr Loti Yates

gives New Zealand utilities statutory responsibilities to prepare for emergencies and obligations to participate in cross-sector planning. (P. Davey, Brounts)

### **Working with communities**

Many speakers continued to emphasise a community-centred approach to emergency management, which was also a strong theme at the 1999 Conference. From civil war in Sierra Leone to recovery from the Bali bombings to the Canberra bushfires, community participation and strategies which encourage local empowerment are critical. (Marsh, King) A community-centred approach provides the most direct link to effective community safety outcomes. While there were some very good examples of progress being made, broad-based results across Australian communities have proven to be more elusive. Key factors in successful projects included well-resourced and skilled facilitators; support and commitment from local government, particularly at the executive level; well-informed and educated stakeholders; and dedication to follow through on extensive and often demanding consultative processes. (Dutton, McKeachnie, Free)

The key would appear to be to improve the sector's understanding of communities and in particular the factors which determine resilience and vulnerability. Are these factors and lessons transferable to other communities? (Pooley)

### **Knowledge management**

Emergency management is differentiated from other sectors by the knowledge required to perform effectively in the sector. In future, the role of emergency services will be primarily to share their specialist knowledge with others, as they will be knowledge workers. (Spender) This is an interesting proposition for the sector as one of the major challenges in emergency management identified by speakers at the Conference is the inadequate, albeit growing, knowledge necessary for effective community safety. These include factors affecting community vulnerability and resilience such as community attitudes and behaviours, and the fledgling application of tools to assist the management of risks, such as application of GIS, satellite imagery, loss assessment methodologies and a range of required, but as yet, incomplete datasets.

Emergency management agencies are yet to capitalise on knowledge management. (Lee) Knowledge will be a key driver for the future of a better informed and analytical emergency management sector. Experts need to be engaged in the dialogue with community and government to assist decision making in relation to the management of risk. (Bouly) Other sectors may be able to provide some pointers for the emergency management sector, such as health and environmental management, which like emergency management, is a relatively young discipline. In the past twenty years or so, the development and sharing of knowledge has been the key factor in the development of environmental



*Mr Mike Castle formerly of ACT Emergency Services Bureau*



management. (Thom) Is the emergency management sector on the same journey?

Speakers pointed to a number of actions which could be taken to improve knowledge in the sector. There is a need to develop a culture of valuing research in emergency management and allied agencies, and to build networks and broker outcomes-focused relationships between universities and functional agencies. (Research workshop) Another message was that the sector needs to take evaluation far more seriously than in the past so that we can build our knowledge base of what works and what doesn't. (Community education workshop) Innovative projects such as Safe Communities, which is supported by New South Wales Fire Brigades and many other partners in Australia and overseas, should be encouraged, evaluated and monitored, to see whether this type of initiative could be adopted by more communities around Australia. (Donnelly)

On a general level, there has been an explosion in the availability of information, necessitating changes in our systems to manage them. (Spender) The Conference reinforced that information and knowledge in emergency management across Australia and around the world is growing. Conference participants and speakers called for further development to enable them to do their jobs more effectively. As knowledge expands in the emergency management sector, it is essential that opportunities for people to build networks, aided by technological mechanisms as appropriate, are provided for the exchange, sharing and further development of this knowledge. The 2003 Disaster Conference provided one such opportunity as does the embryonic Australian Disaster Information Network (AusDIN). Recently Western Australia and Victoria have conducted conferences and we might see other states holding forums of this nature in the future. (Brunner)

The translation of knowledge into practice through appropriate training is vital. (Webster) This requires partnerships between educators and the emergency management industry. Educators must focus on the needs of learners (Smith), which provides another example of the importance of knowing your audience. Educators also need to establish their credibility which can be enhanced by gaining relevant industry experience. (Chambers)

### **Emergency management volunteers**

As indicated above, emergency management volunteerism has become an increasingly important issue for the sector. In addition to the demographic and cultural trends in Australian society, the volunteer sector has been impacted by changes to the taxation system, increased focus on occupational health and safety, application of the national training and competency frameworks, and significant changes in the legal context

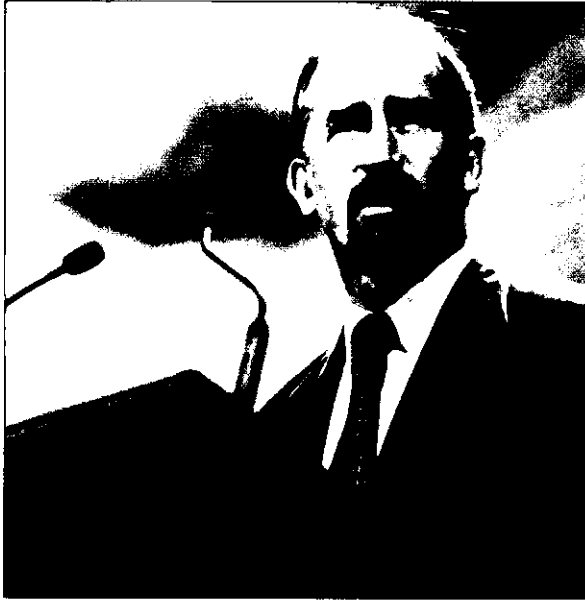


*Dr Dale Spender AM, Principal Director, Digital Style*

in which emergency management organisations operate. (Howard, Dunlop, Fahey) These factors are changing the nature, face and numbers of volunteers in the sector and the effects are being felt by agencies in different ways across the country. In parts of northern Western Australia the various volunteer emergency services have amalgamated into one volunteer unit. (Harrison-Ward) Demographic and cultural change in Australia presents both opportunities and challenges for the sector to maintain and regenerate volunteer units, for example among young people, culturally and linguistic diverse groups and retired "baby-boomers". (Salt) We cannot assume that the motivation for volunteering for the next generation will be the same as the historical tradition of volunteering, characterised in part by long-term service to the community. If the future young volunteer is likely to want short-term opportunities to develop their personal skill sets, how will the emergency management sector position itself to attract and meet the needs of this type of person?

### **Community education**

Community education is an essential element of emergency management and everybody in the emergency services should regard it as an essential element of their responsibilities (Howard). Community education and the building of self-reliance will require most attention if a safe community is to be achieved. Community education is not however as well appreciated nor well-funded as other measures, such as equipment purchases and structural measures. (Howard) One explanation is the relatively poor understanding of the effectiveness of various community education programs. There have been some successful initiatives in community education, but they are rarely evaluated and there is a need for an overall strategy. (Community education workshop)



*Mr Alan March, Assistant Director General, Australian Agency for International Development (AusAID)*

Several key points emerged in the presentations about community education. There is a need for a deeper understanding of how people understand risk (Tarrant), including the influence of cultural changes on perceptions and attitudes of Australians towards their safety. This is a pre-requisite for development of effective community education programs which need to draw upon this understanding to move people to the point of clear intention to prepare in order for them to translate awareness into action. (Paton)

In acknowledging the diversity of our communities, multi-faceted communication techniques are required (O'Neill), and we need to understand the pros and cons of the media and technology being used. For example, graphics generated by Geographic Information Systems (GIS) offer new tools for representing risk for communities to assist in their awareness. (Free, Buckleton) In the Blue Mountains, the humble home videos of fire experiences were found to more effective for community education than other more sophisticated forms of media. (Harper)

Speakers also reflected that people charged with the responsibility for community education programs across different types of hazards faced common problems. They could all benefit from collaboration on social research and the evaluation of the effectiveness of different approaches to community education. (Rhodes, O'Neill, Paton)

Young people should become the focus on the sector's community education programs, as it is predicted that in the future information in our community will be channelled through the younger generation, ie. from children to their parents and people around them. (Spender) Young people are becoming increasingly

empowered in today's society as they are in position to adapt to the pace of change more rapidly, particularly with respect to their embracing of technology which provides the highway for communication of information. This has significant implications for community education in the emergency management sector. How well do we understand the culture of young people such that messages are conveyed using their preferred media, such as gaming and animation, and their idiom rather than traditional methods which bear limited relevance? (Cameron)

Given the sector's focus on the importance of working with communities and community education, it behoves the emergency management sector "to tune in" with our communities, rather than expecting or demanding that they will willingly sing our tune.

### **International engagement**

Speakers and the welcome presence of international participants reinforced the global dimensions of community safety and the importance of Australia's role as a regional and global partner in community safety, security and sustainable development. Australia is well-positioned to offer our understanding and knowledge of disasters to advancement of these fields and to learn from developments taking place in other parts of the world to assist us with our development. An example is the Community Hazard and Risk Management program facilitated by SOPAC in the Pacific based on the risk management work developed in Australia. (Mearns)

The 2003 Disaster Conference enabled participants to learn from each other's international experiences and appreciate that many of the issues which we face are common to people working in community safety all over the world. A large contingent from New Zealand gave cause to consider the value of knowledge sharing across the Tasman. In some areas such as critical infrastructure protection, New Zealand has made significant progress, based on earlier work on Lifelines, from which Australia could learn, and vice versa. At the same time techniques and lessons learnt from other countries need to put into the Australian context as risks and factors affecting the vulnerability and resilience of our communities are likely to differ from those in other countries.

Disaster vulnerability and the development and availability of resources in communities and countries are related. Sixty percent of countries which are the recipients of aid are vulnerable to disasters. (March) The basic resources for disaster management, such as power and telephones, are not always available for national disaster management offices in some Pacific Island Countries. (Yates) While physical resources are poor, Australian participants commented that these offices are often powered by very capable and resourceful disaster management officers. (Anderson-Berry, Miller) This is

a particularly important issue for Australia as many countries in our region receive Australian aid and are exposed to disasters, where Australian physical and financial assistance is usually provided. This underscores the importance of Australia's partnerships with national governments in developing regional and national disaster management capabilities. Australia has developed a range of mechanisms involving government and non-government resources for Australia to deliver aid in an appropriate and timely manner when requested by countries in the region. (March)

Recent events such as Cyclone Zoë demonstrated not only the partnership between Australia and the Solomon Islands, but also the resilience of the people affected by the event. Given the destructive winds, there were grave fears for significant loss of life. These fears were unfounded as the people of Tikopia and Anuta adopted their traditional means of taking shelter for protection which has enabled these communities to survive similar events in the past. There are nevertheless significant long term effects for these communities, particularly with housing and agriculture, from which it will take many years to recover. (Yates, Anderson-Berry) Against the background of this example, disaster managers in the region are seeing lifestyle and technology changes reducing the effectiveness of traditional approaches to emergency management in Pacific Island Countries which should not be lost. (Mearns)

### **Environmental issues**

The relationship between disaster management, environmental management and sustainable development is becoming clearer. It is evident at the international level where disaster management has been recognised in the plan of implementation arising from the World Summit on Sustainable Development.



*Ms Jo Harrison-Ward, Fire and Emergency Services Authority of Western Australia (FESA)*



*Ms Fiona McKersie, Executive Director, Strategic and Executive Services, Queensland Department of Emergency Services*

(Hyman) At the national and state level, there is a need to improve institutional arrangements which integrate emergency management and environmental priorities, such as we are seeing in debates over bushfire risk management. (Dovers) A strengthening of emergency management—environmental management partnership could prove fruitful for the exchange of knowledge and experience between the sectors, as short- and long-term issues such as risk assessment, protection of valuable assets, community education, impact assessment, response and recovery, land use planning, and climate change are shared by the sectors.

Climate change is another area where both the environmental scientists and the emergency management sector are beginning to recognise the value of their partnership. Climate change models predict a general increase in bushfires and droughts in south-eastern and south-western Australia, and increased numbers and severity of rainfall and cyclone events in northern Australia. (Hennessy) Small changes in climate can dramatically increase damage from weather-related disasters. (Woods) This places a greater emphasis on communities' need to adapt to these potential effects and reduce community risk, which is where the emergency management sector has a lot of knowledge and experience to offer the global community. (Briceño)

### **Risk reduction**

Progress is being made on risk reduction in Australia and around the world, yet many challenges remain in shifting from a culture of reaction to a culture of prevention (Briceño). There is a need for better understanding of the complexities of risk and risk reduction relationships, which results in many interests influencing decisions affecting community safety.

(Witherby) Global partnerships, such as the International Strategy for Disaster Reduction, provide a forum for developing and sharing knowledge and experiences in risk reduction. This is critical to more effective disaster reduction and Australia is well-placed to contribute our knowledge to these international efforts.

Harking back to the importance of the economy as a major influence on the emergency sector, the increasing cost of disasters has caused governments to examine the causes of disaster and consider the level of investment in disaster reduction measures to address these causes. (McKersie) To assist this process, loss assessment methodology has been developed to assist with costing disasters and cost-benefit analysis of proposals for disaster mitigation projects. (Handmer) It is important to consider not only the direct costs, but also the significant ongoing human and emotional costs associated with disasters. (ACT Bushfires Case Study)

Queensland's focus on mitigation has resulted in the establishment of a State Disaster Mitigation Committee, consideration of disaster risk implications in major State infrastructure development decisions, and the development of a State Planning Policy to support councils and increase consistency of practices in Queensland. (McKersie, Corner)

### **Leadership**

There were many presentations which identified leadership as an important commodity in the emergency management sector, and it needs to be encouraged at all levels within an organisation. Technical skills and knowledge are necessary, but leadership is a key factor when facing adversity, as is often the case in emergency management. (Cosgrove) The fundamental qualities of leaders are integrity, courage (physical and moral), humility and compassion, motivation and communication skills. Temperament is also an important attribute—the more difficult the circumstances, the calmer a leader must become, and above all when something goes wrong, the leader must be present with the team. (Cosgrove) Leadership is also about looking after our people. This has proven critical in leading and managing change, such as the formation of the Fire and Emergency Services Authority in Western Australia. (Harrison-Ward) It is also evident in the greater emphasis now being placed on occupational health and safety in the emergency management sector. (Dunlop, Watt)

Communities look to the emergency management sector to provide leadership at all times, but particularly in times of emergency. This emphasises the importance of the role of leaders in working with the media who carry community safety messages to the community. Leaders and media advisors need to be on the front-foot to initiate and sustain positive relationships with the media

to build trust and credibility. This is particularly important because journalists are always looking for conflict to sell their stories. (Green) Disasters are newsworthy because of the tragedy arising from terrorism or humanity in conflict with nature or technology. The news stories often describe the tragedies or the triumph of people over adversity. During the event and in the aftermath, journalists will also seek out conflict between people, between organisations and between Governments. Regular and proactive interaction with the media will enable emergency service organisations to convey community safety messages to the public and to manage the relationship with the media effectively. (Media workshop)

### **Information management**

In all aspects of emergency management, accurate, timely information is critical to achieving effective outcomes. It is regularly cited as a key issue in reviews and debriefings. (Gates) Practitioners maintain that they still don't have complete data to do their jobs effectively and those who need it are not well-linked to the data. It is the business of the emergency management sector in partnership with the spatial information industry to achieve this. (N. Williams, Blanks, Biddington). The partnership between the Australian Emergency Management Committee and the Australian and New Zealand Land Information Council is a positive step toward the development of unified approach to national emergency management information capability. (Bradley)

Web technology is unlocking the potential utilisation of data by the emergency management sector and industry is capitalising on these advances. Further uptake and exploitation of spatial data in the emergency management sector is required to improve risk assessment, disaster prevention, response and recovery. (N. Williams) A major challenge is to incorporate vulnerability data so that risk can be better modelled with Geographic Information Systems (GIS) and other applications. (Schneider)

GIS technologies, often accompanied by remote sensing imagery from satellites and other sources, have been applied effectively in numerous aspects of community safety, such as risk assessment and scenario-planning for counter-terrorism and critical infrastructure protection (Scott), animal health planning (Cooper), flood response (Worsley), bushfire risk management and response (Held), and in planning, modelling and deploying resources for the management of oil spills (Mason). It has also proven useful to illustrate risk as part of community education programs. The visual representation has enabled communities to better understand risks, consequences and recommended action, such as safe evacuation routes. (Buckleton, Free)



*Former Attorney-General Hon Daryl Williams AM QC MP responding to the national media attention generated by the Conference*

The collaborative and multi-jurisdictional nature of emergency management necessitates a focus on interoperability and systems integration for progressing the development of national applications and systems for the sector. There was a common call for a national approach to provide the necessary architecture to achieve compatibility across jurisdictions (Gates). Recent initiatives include AusDIN aimed at providing a forum for knowledge networking and a vehicle for improving access to data and knowledge for disaster management, and the Trusted Information Sharing Network for critical infrastructure protection. (Bradley, Rothery)

### **Partnerships**

Many "co" words describe the business of emergency management—coordination, cooperation, collaboration and community. (Norton) Primarily emergency management is about working with other people and together we make a difference. The Bali bombings, bushfires and the SARS epidemic have demonstrated that wide-ranging and significant socio-economic and environmental effects require a whole-of-government response. This is also evident in the development of arrangements for Foot and Mouth Disease and communicable disease outbreaks, which involve a wide range of policy areas such as legal indemnity, quarantine, passport control, logistics and transportation, communication, media, trade, and command and control of operations. (Cooper, Mathews)

The importance of partnerships was evident at the Conference as there were many people from different parts of Australia, other countries and a wide range of

sectors and disciplines who came together to discuss community safety. A broad base of participation was achieved, and it was gratifying that all participants saw themselves as a part of this community.

Participants stated that further broadening of the Conference attendance would be a step forward as some sectors were underrepresented at the Conference. In keeping with a key theme mentioned above, the limited participation of young people, who are the future of community safety and emergency management organisations, was noted. There were comments also to the effect that the emergency management sector needed to continue to improve the quality and reach of partnerships, particularly with business, local government, non-government organisations and professional bodies, such as engineers and planners. Often partners can provide the most effective advocacy. The insurance industry can add value through their environmental, crime and safety research and then influence governments and industry to contribute to risk reduction. (Hawker)

The Conference reinforced the role of Local Government as leaders of communities and leaders in emergency management. It was evident in a number of case studies, that the commitment and support of Local Government was a critical factor in achieving effective community outcomes. (McKechnie, Dutton, Free) Taking this lead, more assistance for local government could be considered, such as training for elected officials and council staff, and specialist equipment for mass emergencies. (Montgomery)



*Mr Mike Castle, Mr David Templeman and General Peter Cosgrove AC MC*

## **Conclusion**

I would like to express my sincere gratitude to the numerous speakers, poster presenters, exhibitors and helpers who made the Conference a great success. Participants seemed to enjoy the spirit and strong sense of camaraderie at the Conference, and were informed and challenged by speakers in all the forums. Given the diverse range of speakers and participants, the Conference theme that "community safety is everyone's business" was reinforced time and again

Conference papers and presentations are now available on the Conference website.

As EMA will be giving consideration to conducting another Conference in three or four years time feedback on this or on the 2003 Conference is welcome at any time (please send to: [ema@ema.gov.au](mailto:ema@ema.gov.au)). Also, we invite you to provide any suggestions and ideas for any future event organised by EMA.

To all of you who attended the Conference thank you for participating. I trust you will have good memories of the Conference and that you have picked up some information and contacts which will help you in building safer, more sustainable communities

# The Safer Sustainable Communities 2003 Australian Disaster Conference Highlights



TOP: General Peter Cosgrove AC MC

LEFT: Mr Rod Quantock, Conference Dinner Speaker

BOTTOM RIGHT: Mr Neil Head, Director Development,  
Emergency Management Australia

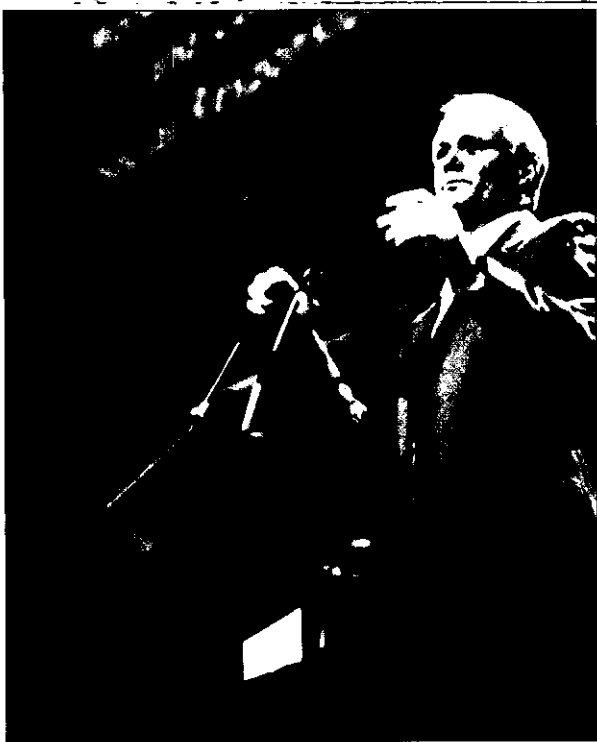




*TOP: Dr Geoff Love, Director, Bureau of Meteorology*

*RIGHT: Mr Simon Corbell MLA, Australian Capital Territory Minister for Health and Planning.*

*BOTTOM LEFT: Mr Michael Hawker, Chief Executive Officer, Insurance Australia Group*







*TOP: Mr Dudley McArdle, Director Education and Training, Emergency Management Australia*

*RIGHT: Mr David Templeman, Director General, Emergency Management Australia*

*BOTTOM: Dr Neil Williams, Chief Executive Officer, Geoscience Australia*



# Australian Emergency Manuals

The first Australian Emergency Manual was published by EMA in 1989. Since then the series has grown to 42 manuals organised into 5 parts. Parts 1 to 3 comprise the fundamentals, manuals and guidelines on both general and specific emergency management areas. Parts 1 to 3 contain the fundamentals and guidelines for both general and specific emergency management issues. Parts 4 and 5 are the skills set manuals and have been developed for use by emergency management practitioners. They are distributed through State and Territory agencies.

## **PART 1 – THE FUNDAMENTALS**

- Manual 1: Emergency Management Concepts and Principles
- Manual 2: Australian Emergency Management Arrangements
- Manual 3: Australian Emergency Management Glossary
- Manual 4: Australian Emergency Management Terms Thesaurus

## **PART II – APPROACHES TO EMERGENCY MANAGEMENT**

### *Volume 1 – Risk Management*

- Manual 1: Emergency Risk Management – Applications Guide
- Manual 2: Implementing Emergency Risk Management – *A facilitator's guide to working with Committees and Communities*

### *Volume 2 – Mitigation Planning*

- Manual 1: Planning Safer Communities

## **PART III – EMERGENCY MANAGEMENT PRACTICE**

### *Volume 1 – Service Provision*

- Manual 1: Emergency Catering
- Manual 2: Disaster Medicine
- Manual 3: Disaster Recovery

### *Volume 2 – Specific Issues*

- Manual 1: Evacuation Planning
- Manual 2: Safe and Healthy Mass Gatherings
- Manual 3: Health Aspects of Chemical, Biological and Radiological Hazards

- Manual 4: Post Disaster Survey and Assessment

- Manual 5: Community Emergency Planning

- Manual 6: Urban Search and Rescue Concepts and Principles

- Manual : Civil Defence

- Manual: Lifelines

- Manual: Land Use Planning

### **Volume 3 – Guidelines**

- Guide 1: Multi-Agency Incident Management

- Guide 2: Community and Personal Support Services

- Guide 3: Managing the Floodplain

- Guide 4: Flood Preparedness

- Guide 5: Flood Warning

- Guide 6: Flood Response

- Guide 7: Emergency Management Planning for Floods Affected by Dams

- Guide 8: Reducing the Community Impact of Landslides

- Guide 9: Psychological Services: Emergency Managers' Guide

- Guide 10: Psychological Services: Mental Health Practitioners' Guide

- Guide 11: Disaster Loss Assessment Guidelines

- Guide 12: Economic and Financial Aspects of Disaster Recovery

- Guide: Community Development

- Guide: Gathering Community Information



## Get Ready Get Involved

Will you be in the running for Australia's most prestigious awards that recognise people and organisations for best practice and innovation in emergency management?

Nomination forms for the 2004 Australian Safer Communities Awards in your State or Territory will be available from your SES Coordinator.

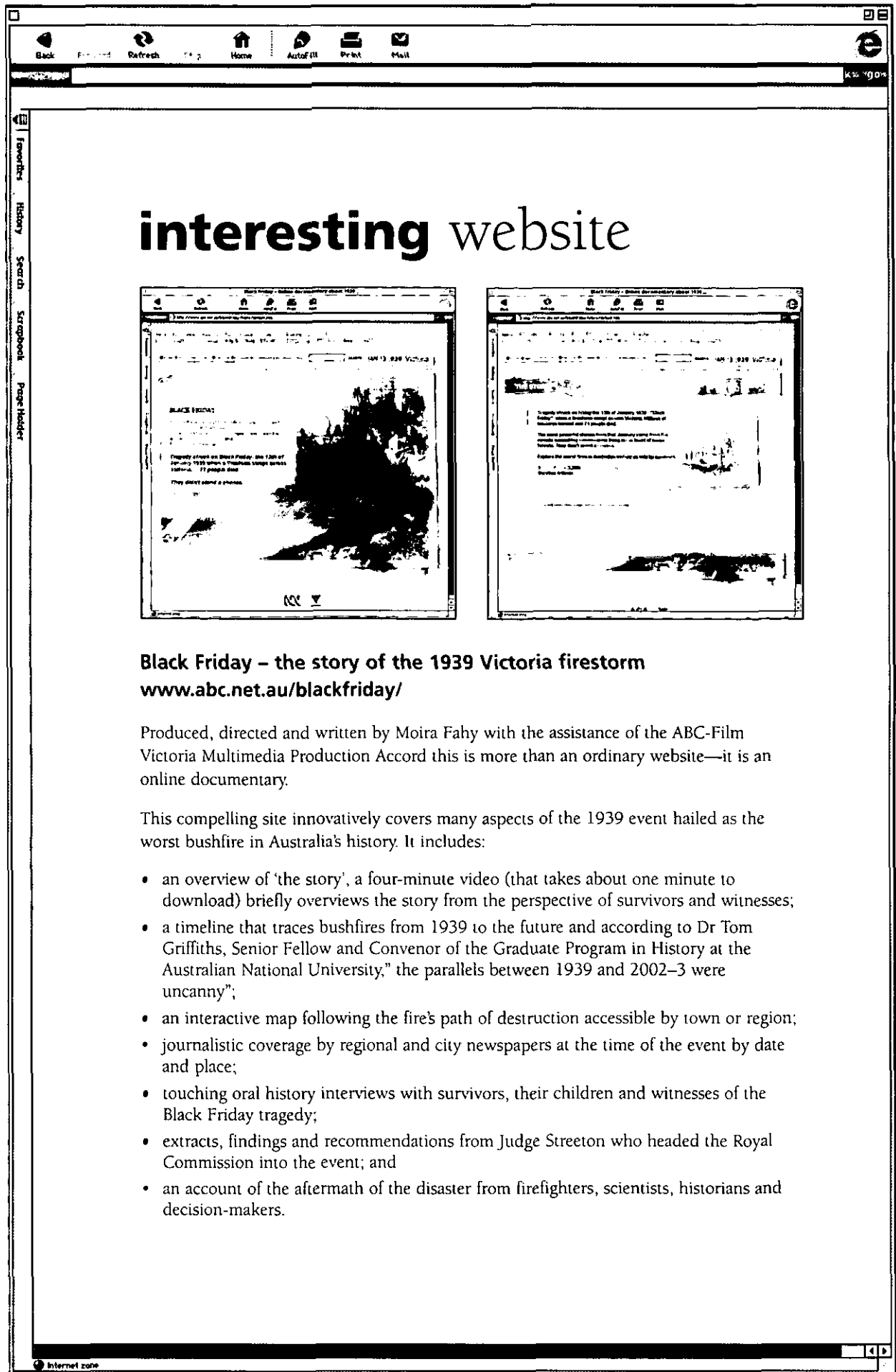
You can download an entry form and local contact details from [www.ema.gov.au](http://www.ema.gov.au) that also has a link to last year's winners on the site.

Enquiries to Emergency Management Australia

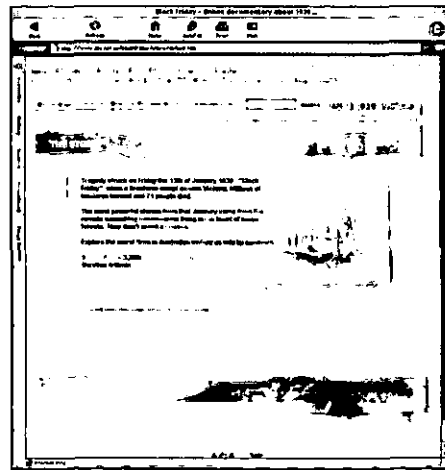
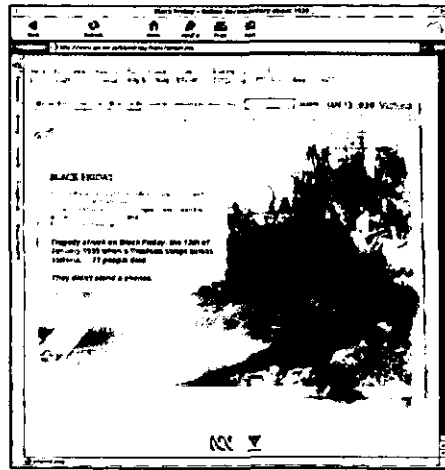
Li Peng Monroe 02 6266 5408

Alastair Wilson 02 6266 5223





## interesting website



### **Black Friday – the story of the 1939 Victoria firestorm** **[www.abc.net.au/blackfriday/](http://www.abc.net.au/blackfriday/)**

Produced, directed and written by Moira Fahy with the assistance of the ABC-Film Victoria Multimedia Production Accord this is more than an ordinary website—it is an online documentary.

This compelling site innovatively covers many aspects of the 1939 event hailed as the worst bushfire in Australia's history. It includes:

- an overview of 'the story', a four-minute video (that takes about one minute to download) briefly overviews the story from the perspective of survivors and witnesses;
- a timeline that traces bushfires from 1939 to the future and according to Dr Tom Griffiths, Senior Fellow and Convenor of the Graduate Program in History at the Australian National University, "the parallels between 1939 and 2002–3 were uncanny";
- an interactive map following the fire's path of destruction accessible by town or region;
- journalistic coverage by regional and city newspapers at the time of the event by date and place;
- touching oral history interviews with survivors, their children and witnesses of the Black Friday tragedy;
- extracts, findings and recommendations from Judge Streeton who headed the Royal Commission into the event; and
- an account of the aftermath of the disaster from firefighters, scientists, historians and decision-makers.

# EMA Update

Emergency Management Australia provides national leadership in the development of measures to reduce risk to communities and manage the consequences of disasters. EMA Update keeps AJEM readers abreast of the courses and activities that assist in this aim.

## KNOWLEDGE MANAGEMENT & BUSINESS

### Community Awareness Activities

EMA is undertaking a review of its Severe Storms brochure in response to stakeholder feedback. Assisting EMA in this review is the Bureau of Meteorology who has provided valuable information relating to storm development and the Bureau of Meteorology's warning service. Apart from general information on the atmospheric phenomena of storms the revised brochure will also contain advice on safety procedures before, during and after a storm. The new brochure will be available through State and Territory agencies by end April 2004.

*For further information contact Cate Moore  
Phone 03 54 21 5296; Email cate.moore@ema.gov.au*

### Australian Disaster Information Network (AusDIN)

The first meeting of the AusDIN Steering Committee took place in Canberra in October 2003. Most states and Territories were represented along with Geoscience Australia, ANZLIC and the Information & Knowledge Services Group of the Attorney-General's Department with the meeting being chaired by the Director General EMA.

The meeting was a scene setter as it was the first exposure for many to the new AusDIN concept. The meeting outlined the governance structure and the relationships between AusDIN and other committees/organisations. Members adopted the draft terms of reference for the committee, confirming the need for a broad-based approach to meet the information and knowledge requirements of emergency managers across Australia. To more closely reflect this broad-based approach, suggested names have been sought for a new name for AusDIN and this is currently being considered out of session. Suggestions are being sought for a number of activities to demonstrate the outcomes that AusDIN can facilitate. A strategic context document is being developed that will be used to develop an AusDIN business plan.

The Australasian Libraries In Emergency Services (ALIES) were invited to attend the meeting. State/Territory representatives were requested to raise the issue of recognition of the ALIES network within their State or Territory and seek their jurisdiction's position on committing resources for the on-going support of ALIES.

The subordinate development of an AusDIN internet portal is being progressed by the AusDIN Portal Group which is chaired by the Assistant Secretary— Information Services from the Attorney-General's Information & Knowledge Services Group. The Portal group, made up of representatives from the States and Territories, ANZLIC, Bureau of Meteorology, ALIES and EMA recently convened for the first time in Canberra. Procedures and tools are being developed to facilitate the on-going development of the portal.

*For further information contact: John Laurie  
Phone: 03 5421 5280 Email: john.laurie@ema.gov.au*

### EMA Knowledge Networks

Over the past quarter, Stage 2 of the EMA Disasters Database has been completed and includes a multi-selection reporting function. Further development work will concentrate on enhancing the quality of, and adding to, the existing data and developing cost and loss assessment standards in partnership with other disasters database owners. EMA has endorsed the concept of a national disasters database network in line with recommendations in the COAG Review of Natural Disaster Relief and Mitigation Arrangements which has proposed the development of national data standards.

The EMA websites continue to grow and increase their audience with the addition of a USAR section and several Surveys. The recent new government branding requirements gave us the opportunity to freshen up the website design with a range of new templates.

The Christmas period was a quiet one for EMA website traffic as there were no major natural disasters and most people quietly enjoyed their holidays. January's stats reveal 248,000 hits for the month with 15,000 visits. This is a good result for the quietest month of the year.

*For further information contact: John Laurie  
Phone: 03 5421 5280 Email: john.laurie@ema.gov.au*

## KNOWLEDGE MANAGEMENT & BUSINESS (CONTINUED)

### Library

EMA Library continues to enjoy an increase in the number of Australian researchers utilising the collection. In recognition of the changing world environment the library collection has recently been enhanced with new materials in the subject areas of CBR, disaster medicine, terrorism mitigation and response.

The annual ALIES (Australasian Libraries in Emergency Services) workshop will be held at EMA Mt Macedon from 5-8 April 2004. This group of emergency sector libraries provide a valuable resource as a key information network. The workshop will provide the opportunity for members to discuss and review the future strategic direction of ALIES.

*For further information contact: Linda Hansen  
Phone: 03 5421 5224, Email: linda.hansen@ema.gov.au*

## DISASTER RECOVERY & TRAINING

### Community Services Minister's Advisory Council

#### Disaster Recovery Sub-committee

#### Review of community support and recovery arrangements following disasters

Australia's renowned Principles of Disaster Recovery Management originated in the late 1980's. Conceived with the aim of supporting individuals and communities in the management of their own recovery following natural disasters, they are now applied to an increasingly wide variety of both natural and non-natural events.

Their local application is flexible, in recognition of the different social support systems and structures in each State and Territory. However, recent local and global events have led to heightened levels of interest and involvement from a wide variety of Government and non-government organisations at both Commonwealth and State/Territory levels.

The principle of individual States/Territories retaining the primary role in recovery coordination, supported by the Commonwealth, has not changed. However, to ensure that coordination arrangements are effective and well understood by all organisations the Disaster Recovery Sub-committee of the Community Services Ministerial Advisory Council (CSMAC) proposed that a national review be undertaken. The review began in late November 2003 and will report in April this year. The Committee is considering a broad range of issues in the Review.

The Committee has adopted a multi-faceted consultative approach to the Review to ensure adequate opportunity for broad stakeholder input. To date, the process has included:

- distribution of a discussion paper

- a workshop considering issues identified in the discussion paper
- a series of discussions, forums and meetings

The Committee has also considered other reviews and reports currently being undertaken into a range of facets of emergency management, both nationally and within specific jurisdictions.

*For further information or input contact:  
Andrew Coghlan  
Project Manager  
CSMAC Community Support and Recovery Review  
(andrew.coghlan@ema.gov.au)*

### Advanced Diploma of Public Safety (Emergency Management)—Your Feedback

During the period October to December 2003, EMA sponsored a survey devised by the Emergency Management Sector Working Group, to determine the likely demand for the Advanced Diploma of Public Safety (Emergency Management). The survey was distributed to on-campus participants in EMA programs aligned to the units of competency for emergency management and was also placed on the EMA web site.

#### The results

173 replies were received from across Australia (plus five from overseas). 114 stated that they were likely or very likely to enrol in the Advanced Diploma and 30 indicated that they would possibly enrol, most expressed cost, mode of delivery and time as factors they would need to consider. Only 16 responded that they were unlikely to commit and 18 considered that they were very unlikely to enrol in the Advanced Diploma.

Respondents preferred mode of delivery is consistent with current research into flexible learning generally (Peters and Lloyd, 2003:NCVER 2002). While 62 respondents expressed a preference for distance

## EDUCATION & TRAINING CONTINUED

education, 83 preferred a combination of face to face and off-campus study. Only 3 respondents opted for total on-line delivery.

The motivation for people wishing to access the Advanced Diploma was professional development/increasing knowledge and skills (180) and career progression and job requirement (37).

In an occupation developed through on-the-job training it is not surprising that formal skills recognition through RPL was cited as a requirement for many experienced workers. A number of people on the verge of retirement stated that they were unlikely to enrol in the course but commended it for others working in the field of emergency management.

It appears that there is an unmet demand from emergency managers to achieve this qualification through formal study or skills recognition.

### **Where to from here?**

The Emergency Management Sector Working Group is currently analysing the results of this survey and will make recommendations on the way forward. Further updates will be posted to the EMA website.

### **Graduate Certificate in Emergency Management**

The process to select students for the first intake of the EMA Graduate Certificate in Emergency Management was completed and all applicants notified by November 14 2003. EMA is currently evaluating the selection process to identify improvement opportunities. Information about the program can be

found in the Institute Handbook located on the EMA web site [www.ema.gov.au](http://www.ema.gov.au)

The Institute has negotiated pathways from the EMA Graduate Certificate into Masters programs at both RMIT and Charles Sturt Universities.

Negotiations are taking place with a number of other tertiary institutions.

### **Emergency Management Competency Standards**

During 2003 EMA worked with the Emergency Management Sector Working Group to review the national industry competency standards for emergency management. The new and revised competency standards and qualification will be presented to the March meeting of the National Training Quality Council of ANTA for endorsement. The extensive consultation and validation process with the emergency management sector produced quality standards for emergency management which can be used to inform education and training programs and assist with workforce planning.

EMA is currently working with stakeholders to design programs to support achievement of two new units of competency Undertake emergency planning and Contribute to an emergency risk management process. It is anticipated that these programs will be piloted in mid 2004. For further information consult the EMA website [www.ema.gov.au](http://www.ema.gov.au)

## DEVELOPMENT

### Volunteers

The Federal Treasurer recently announced that the government will amend the *Income Taxation Assessment Act 1997* to ensure that coordinating bodies of emergency management volunteers in States and Territories will benefit from being able to receive tax deductible gifts.

The Council of Australian Governments (COAG) has agreed in principle to the Report *Natural Disasters in Australia – Reforming Mitigation, Relief and Recovery Arrangements*. The report can be viewed on the DOTARS website at [www.dotars.gov.au](http://www.dotars.gov.au). There is a section in the Report on Volunteers in the Emergency Management Sector and Recommendation 58 specifically addresses volunteer issues.

The Australian Emergency Management Volunteer Forum (AEMVF) met in Sydney on 22 January 2004. Agenda items included the Charities Legislation, tax incentives for volunteers, the COAG Review, research into the cost of being a volunteer, the Bushfire Inquiries and AEMVF involvement in National Volunteers Week and World Volunteer Day. The Forum website address is [www.emergencyvolunteersforum.org](http://www.emergencyvolunteersforum.org)

Planning has commenced for the *Emergency Management Volunteers Summit 2005* to be held 6 to 7 April 2005 at the National Convention Centre in Canberra. The first meeting of the Steering Committee established to assist with planning for the Summit was held in Canberra on 19 February 2004.

EMA is planning to conduct a photographic competition to recognise emergency management volunteers in action with awards being presented to winners at an Awards Ceremony to be held during the *Emergency Management Volunteers Summit 2005*. Further details will be included in the next edition of AJEM.

For further information contact David Winterburn  
Phone: 02 6266 5009  
Email: [david.winterburn@ema.gov.au](mailto:david.winterburn@ema.gov.au)

### 2004 Safer Communities Awards

Planning has commenced for the 2004 Safer Communities Awards. In early February 2004, a meeting was organised to bring together State and Territory coordinators and EMA organisers to review the 2003 and plan the 2004 Awards.

The annual Awards recognise best practice and innovation that help to build safer communities. They cover organisations and individuals working in risk assessment, research, education and training, information and knowledge management, prevention, preparedness, response and recovery.

Production of information booklets and registration forms for the 2004 Awards is currently in progress. These will be available from State and Territories coordinators by the end of April 2004.

For more information, please contact Li Peng Monroe or Alastair Wilson

Phone: 02 6266 5408 or 6266 5223

Email: [lipeng.monroe@ema.gov.au](mailto:lipeng.monroe@ema.gov.au) or [alastair.wilson@ema.gov.au](mailto:alastair.wilson@ema.gov.au)

Or visit the website: [www.ema.gov.au](http://www.ema.gov.au)

### EMA Projects Program 2003

The EMA Projects Program is aimed at fostering projects that help improve Australia's capabilities for preventing or dealing with natural or technological hazards and disasters. 10 applications for financial year 2003–04 were approved and are due for completion in July 2004. A list of the approved projects is available on the EMA website and the completed projects will be disseminated and available from the EMA Library at Mt Macedon in early August 2004.

The EMA Projects Program will not be running in 2004 but we have an exciting new program called the EMA Research and Innovation Program.

For information on either of these programs please go to the EMA website [www.ema.gov.au](http://www.ema.gov.au) or call Rheannon Nicholson, Coordinator Development Projects, (02) 6266 5497 or [rheannon.nicholson@ema.gov.au](mailto:rheannon.nicholson@ema.gov.au)



## PLANNING & OPERATIONS GROUP

### **Emergency Services/Emergency Management Infrastructure Assurance Advisory Group (IAAG)**

EMA conducted a critical infrastructure protection workshop in Canberra on 19–20 November 2003 involving Australian Government, State and Territory and Industry representatives. The workshop was aimed at sharing information in relation to risk management and risk assessment tools and methodologies for use in the context of protection of critical infrastructure and also to scope the requirement for the development of an emergency services/emergency management focussed Infrastructure Assurance Advisory Group (IAAG) as part of the national Trusted Information Sharing Network (TISN). The workshop agreed to the establishment of such a group and the first meeting was scheduled for 10 March 2004.

The purpose of the emergency services/emergency management IAAG is to facilitate the sharing of generic security threat and vulnerability information between elements of the emergency management sector and those entities upon which it relies. The group will report to the Critical Infrastructure Advisory Council and will be chaired by the Director General of Emergency Management Australia who is a member of the Council.

*For further information contact:*

*David Morton*

*Assistant Director Civil Defence and National Support*

*Phone: 02 6266 5328*

*Email: david.morton@ema.gov.au*

### **Urban Search and Rescue (USAR) Exercise in the Philippines**

In late January 2004, the Philippines Government hosted an Urban Search and Rescue exercise in Manila for Asia-Pacific countries. Australia was one of 10 participating countries with a three person delegation representing a skeletal USAR team. Five local teams from the Manila region also participated which allowed for a greater integration and understanding of local coordination activities. The exercise was very successful and has engendered a greater understanding of cooperation between participating countries. The outcomes of the exercise will benefit Australia's ongoing development of USAR capabilities and ensure the further development of a standardised approach to international response in the region.

*For further information contact:*

*Trevor Haines*

*Acting Assistant Director Capability Development*

*Phone: 02 6266 5169*

*Email: trevor.haines@ema.gov.au*

*Radioactive Space Debris Trial*

EMA sponsored a trial during 25–28 November 2003 to test arrangements to be used by the Australian Space Debris Emergency Search Team (ASDEST) that would be deployed in support of the Australian Contingency Plan for Radioactive Space Debris Re-entry—AUSCONPLAN SPRED. The trial took place at the Military Operations In Urban Terrain training facility in the High Range Training Area, Townsville, Queensland. Agencies that participated in the trial included, the Defence Science and Technology Organisation (DSTO); Australian Radiation Protection and Nuclear Safety Agency (ARPANSA); Australian Nuclear Science and Technology Organisation (ANSTO); 5 Aviation Regiment; and the Incident Response Regiment from the Australian Defence Force.

The trial focused on drills and operating procedures that would be used in the search for and recovery of radioactive materials using aerial and ground search techniques in urban areas and bush terrain.

The outcomes of the trial will go to development of Standing Operating Procedures (SOPs) that would be employed by the ASDEST. An initial draft of the SOPs should be completed by October 2004.

*For further information contact:*

*Don Patterson*

*Assistant Director Special Capabilities*

*Phone: 02 6266 5165*

*Email: don.patterson@ema.gov.au*

### **Chemical, Biological and Radiological Enhancement Program (CBREP)**

In December CBREP successfully negotiated contracts for the purchase of decontamination systems.

The contracts provide for the delivery of two hospital decontamination systems, two rapid response systems and two bulk, (mass casualty decontamination) systems for each State and Territory.

Procurement of equipment for casualty management, casualty extraction, and other CBR support equipment has progressed and will be distributed to the States and Territories between March and June.

*For further information contact:*

*Matthew Smith*

*Acting Assistant Director CBREP*

*Phone: 02 6266 5474*

*Email: matthew.smith@ema.gov.au*

# CONFERENCE DIARY

## March

### March 28–31

**Location:** Toronto, Canada  
**Title:** The GeoTec Event—Pathways to Integration.  
**Details:** With a theme of "Navigating Pathways to Integration," the conference will explore the adoption of geotechnology into mainstream information technology. Of special interest to natural hazards researchers is the emphasis on providing a broad overview of geospatial technology applications.  
**Enquiries:** Matt Ball, GeoTec Media, 6666 Gunpark Drive, Suite 102, Boulder, CO 80301; (303)544-0594; email: [EventInfo@GEOtecEvent.com](mailto:EventInfo@GEOtecEvent.com); <http://www.geoplace.com/gt/callforpapers/default.asp>.

### March 29–31

**Location:** Crete, Greece  
**Title:** SUSI (Structures Under Shock and Impact) 2004.  
**Details:** Conference topics include Air craft and missile crash against high-rise buildings, Seismic engineering applications, and Software for shock and impact.  
**Enquiries:** Contact the Conference Secretariat Rachel Green, Conference Secretaria SUSI 2004, Wessex Institute of Technology, Ashurst Lodge, Ashurst, Southampton SO40 7AA, UK; tel: +44 (0) 238 029 3223; fax +44 (0) 238 029 2853; email: [rgreen@wessex.ac.uk](mailto:rgreen@wessex.ac.uk); <http://www.wessex.ac.uk>.

### March 30–April 1

**Location:** Melbourne, Victoria, Australia  
**Title:** Safety in Action 2004.  
**Details:** Streams include OHS Professionals and Engineers, Human Error in Occupational Safety, Chemical Management, the Next Step, and Rail Safety.  
**Enquiries:** Contact Safety in Action 2004 Organiser, Australian Exhibitions & Conferences Pty Ltd, PO Box 82, Flinders Lane, Melbourne VIC 8009; tel: +61 3 9654 7773; fax: +61 3 9654 5596; email: [safety@aec.net.au](mailto:safety@aec.net.au); <http://www.safetyinaction.net.au>.

### March 31–April 1

**Location:** Washington, DC.  
**Title:** The 2004 Homeland and Global Security Summit.  
**Details:** This summit will provide the latest information on spending and programs, including sessions on funding and agency priorities, new grants for emergency management, public safety, disaster response, and more.  
**Enquiries:** Center for Homeland and Global Security, a division of Equity International, Inc., 1101 Pennsylvania Avenue, NW, 6th Floor, Washington, DC 20004; (202) 756-2244; <http://www.globalsecurity.bz>.

### March 31–April 2

**Location:** Crete, Greece  
**Title:** Damage and Fracture Mechanics 2004.  
**Details:** The purpose of this meeting is to promote further international cooperation amongst researchers and engineers from different disciplines involved in the study and assessment of damage and fracture mechanics, with special emphasis on computer aided assessment and control. Conference topics include Failure analysis, Environmental effects, Advanced analysis methods, and Behaviour at high temperature.  
**Enquiries:** Conference Secretariat Rachel Green, Conference Secretaria Damage & Fracture 2004, Wessex Institute of Technology, Ashurst Lodge, Ashurst, Southampton SO40 7AA, UK; tel: +44 (0) 238 029 3223; fax +44 (0) 238 029 2853; email: [rgreen@wessex.ac.uk](mailto:rgreen@wessex.ac.uk); <http://www.wessex.ac.uk>.

## April

### April 13–17

**Location:** New York, New York  
**Title:** Fifth International Conference on Case Histories on Geotechnical Engineering.  
**Details:** This meeting will provide a forum for geotechnical professionals from around the world to present their research findings.  
**Enquiries:** <http://web.umn.edu/~eqconf/5thCHConf/>.

## April

### April 15-18

**Location:** Kansas City, Missouri  
**Title:** Midwest Sociological Society Annual Meeting.  
**Details:** The theme for this meeting is "the discipline of sociology in a post-disciplinary age: developing strategies for dialogue with fields near and far." There will be a special session on the sociology of disasters at this conference.  
**Enquiries:** Department of Sociology, Drake University, 2507 University, Des Moines, IA 50311; (515) 271-4108; email: mss@drake.edu; <http://www.themss.org/>.

### April 17-21

**Location:** Dallas, Texas  
**Title:** Disaster Response Conference 2004.  
**Details:** The conference will promote interaction between local, state, and federal public health practitioners and policy makers. Practitioners from a variety of agencies as well as volunteer and academic entities will present on key topics such as counter-terrorism, weapons of mass destruction, clinical medicine, mental health, response teams, and international coordination.  
**Enquiries:** CHEP/NDMS Headquarters, 11E Building 82H, Perry Point, MD 21902; (410) 642-1857; <http://www.ndms.chepinc.org/>.

### April 21-24

**Location:** Casper, Wyoming  
**Title:** Symposium on Rural Crisis Intervention.  
**Details:** The purpose of this national-level symposium is to advance understanding of the context of rural America and provide a forum for presentation of research results in crisis intervention, critical incident stress management and debriefing, disaster mental health services, advances in service delivery, discussion and sharing of information, ideas and plans, development of research and service delivery networks, and presentation of continuing education training in these areas with special consideration of rural American communities. Enquires: George Doherty, Rocky Mountain Region Disaster Mental Health Institute, Box 786, Laramie, WY 82073.

### April 23-25

**Location:** Colorado Springs, Colorado  
**Title:** Colorado Mitigation and Wildfire Conference (CMWC).  
**Details:** This conference focuses on managing and preparing for fire-related issues in the wildland-urban interface. Firefighters, planners, policy makers, public groups, and private industry discuss and develop ideas to help reduce the loss of life, property, and natural resources in these areas.  
**Enquiries:** CMWC, 100 Jefferson County Parkway, Suite 4550, Golden, CO 80419; (303) 271-8217; <http://www.wildfirecolorado.org>.

### April 28-30

**Location:** Alicante, Spain  
**Title:** Oil Spill 2004 Fourth International Conference on Hydrocarbon Spills, Modelling, Analysis & Control.  
**Details:** The conference will gather researchers, engineers and managers from all over the world to discuss state-of-the-art techniques to model, prevent and control oil spills on land and in water bodies.  
**Enquiries:** Rachel Green, Senior Conference Co-ordinator, OIL SPILL 2004, WESSEX INSTITUTE OF TECHNOLOGY, Ashurst Lodge, Ashurst, Southampton, SO40 7AA  
 Tel: 44 (0) 238 029 3223;  
 Fax: 44 (0) 238 029 2853;  
 Email: [rgreen@wessex.ac.uk](mailto:rgreen@wessex.ac.uk).

## May

### May 3-4

**Location:** Brussels, Belgium  
**Title:** International Workshop on Information Systems for Crisis Response and Management (ISCRAM2004).  
**Details:** This workshop is designed for information systems researchers who are working in the areas of crisis planning, response, and management, along with emergency response personnel and national and international policy makers in emergency response.  
**Enquiries:** Tilburg University, Warandelaan 2, PO Box 90153, 5000 LE Tilburg, The Netherlands, tel: +31 (0) 13 466 91 11; <http://www.tilburguniversity.nl/isgram2004>.

**May 16-19**

**Location:** Reno, Nevada  
**Title:** Basin and Range Province Seismic Hazards Summit II: Evaluating Approaches, Techniques, and Policies for Seismic Hazard Characterization in Extensional Regions.  
**Details:** The summit will be a sequence of summary talks given on specific topics relevant to seismic hazards in the Basin and Range Province.  
**Enquiries:** Terri Garside, Nevada Bureau of Mines and Geology, University of Nevada, Reno, Nevada, 89557; email: [tgarside@unr.edu](mailto:tgarside@unr.edu); <http://www.unr.edu/content/>.

**May 16-21**

**Location:** Biloxi, Mississippi  
**Title:** Lighting the Way to Floodplain Management.  
**Details:** This conference will showcase the state-of-the-art techniques, programs, resources, materials, equipment, accessories, and services to accomplish flood mitigation and other community goals. Non-profit, government, business and academic sectors will share how they successfully integrate engineering, planning, open space, and environmental protection. Enquiries: ASFM, 2809 Fish Hatchery Road Madison, WI 53713; (608) 274-0123; email: [asfpm@floods.org](mailto:asfpm@floods.org); <http://www.floods.org>.

**June**

**June 20-23**

**Location:** Toronto, Canada  
**Title:** 14th World Conference on Disaster Management.  
**Details:** The conference will address issues common to all aspects of disasters and emergency management.  
**Enquiries:** CCEP, 1005 Skyview Drive, Suite 323, Burlington, Ontario L7P 5B1 Canada; (905) 331 2552; <http://www.wcdm.org>.

**June 24-25**

**Location:** Newcastle upon Tyne, United Kingdom  
**Title:** 2nd Annual Conference: Risk Management (ETR2A).  
**Details:** This conference brings together business, the public sector, and academia to address issues surrounding business, telecommunications, and public life in preparing for and responding to emergencies.  
**Enquiries:** ETR2A Conference Office, Benchmark Communications, 63 Westgate Road, Newcastle upon Tyne, NE1 1SG, UK; tel: 0191 241 4523; <http://www.etr2a.org/>.

**June 24-July 4**

**Location:** Rio de Janeiro, Brazil  
**Title:** IX International Symposium on Landslides.  
**Details:** Practicing and consulting engineers, geologists, researchers, construction managers, government officials, product suppliers, and others are invited to attend and present their recent experiences and developments in the field of landslide hazards.  
**Enquiries:** Secretariat 9 ISL-Rio 2004, Programa de Engenharia Civil COPPE-UFRJ, P.O. Box 68506, CEP 21.945-970, Rio de Janeiro RJ Brazil; tel: 55 21 562-7200; email: [9isl@geotec.coppe.ufrj.br](mailto:9isl@geotec.coppe.ufrj.br); <http://www.quattri.com.br/isl/interior.html>.

**July**

**July 6-9**

**Location:** Osaka, Japan  
**Title:** Smart Structures Technology and Earthquake Engineering.  
**Details:** Earthquake engineering has undergone a transformation from discipline-oriented investigations to center and network-based efforts that rely on cross-cutting solutions. This symposium is dedicated to facilitating that shift.  
**Enquiries:** Ma Hua, Osaka University, Osaka Japan; email: [mahua@arch.eng.osaka-u.ac.jp](mailto:mahua@arch.eng.osaka-u.ac.jp); <http://www.nees.org/info/SE041119.pdf>.

**July 12-13**

**Location:** Hawkes Bay, New Zealand  
**Title:** New Zealand Recovery Symposium  
**Details:** See advert on the inside back cover of this issue  
**Enquiries:** Sarah Norman  
 email: [sarah.norman@dia.govt.nz](mailto:sarah.norman@dia.govt.nz)

**July 27-31**

**Location:** Los Angeles, California  
**Title:** Geo-Trans 2004.  
**Details:** This conference will focus on geotechnical engineering for transportation projects such as bridges, tunnels, underground structures, rail and highway corridors, and systems engineering. Seismic design, risk assessment, geographic information systems, and retaining structures are among the topics to be presented.  
**Enquiries:** ASCE, 1801 Alexander Bell Drive, Reston, VA 20191; (703) 295-6350; email: [conf@asce.org](mailto:conf@asce.org); <http://www.asce.org/conferences/geotrans04/>.

## August

### August 1-6

**Location:** Vancouver, British Columbia, Canada  
**Title:** 13th World Conference on Earthquake Engineering (13WCEE).  
**Enquiries:** <http://www.13wcee.com/>, or <http://venuewest.com/13wcee>; or contact: 13th WCEE Secretariat, c/o Venue West Conference Services Ltd., #645-375 Water Street, Vancouver, British Columbia V6B 5C6, Canada; (604) 681-5226; fax: (604) 681-2503; email: [congress@venuewest.com](mailto:congress@venuewest.com).

### 10-11 August 2004

**Location:** Tauranga, New Zealand  
**Title:** 6th New Zealand Natural Hazards Management Conference  
**Details:** The conference will provide a forum to discuss the integration of hazard information into effective risk management, including:

- Applying hazard information to best practice planning
- Exploring new technologies—advances in science application
- Natural hazard mitigation for industry
- Creating resilient communities through integrating science and practice

**Enquiries:** [www.gns.cri.nz/news/conferences/hazmanconf04.html](http://www.gns.cri.nz/news/conferences/hazmanconf04.html) or email: [d.tilyard@gns.cri.nz](mailto:d.tilyard@gns.cri.nz)

### August 15-22

**Location:** Florence, Italy  
**Title:** 32nd International Geological Congress (IGC).  
**Enquiries:** <http://www.bghrc.com/Geolhaz/Syposium/info.htm>, or contact Ioannis Papanikolaou, email: [i.papanikolaou@ucl.ac.uk](mailto:i.papanikolaou@ucl.ac.uk).

### 17-18 August 2004

**Location:** Melbourne Convention Centre, Melbourne, Australia  
**Title:** Vulnerable Communities and Emergencies Emergency Management Conference 2004 Presented by The Emergency Services Foundation  
**Details:** The Emergency Management Conference (EMC), now in its 4th year, has become one of Australia's pre-eminent annual emergency services forums. It brings together emergency management professionals from ESOs, local, state and federal governments, community groups and industry.  
 Papers will be presented by Australian and international emergency management professionals, local, state and federal governments and authorities, academics and research organisations, community and special interest groups, aviation and transport industry, heavy and hazardous materials industries and other interested parties.  
**Enquiries:** The Secretariat, c/o High Profile Exhibitions Pty Ltd, Ph: (03) 9633 1000; Fax: (03) 9533 1035; email: [info@hpe.com.au](mailto:info@hpe.com.au)

### August 20-28

**Location:** Florence, Italy  
**Title:** The 32nd Session of the International Geological Congress.  
**Details:** The conference has been designed as a forum for a broad debate of the most significant advances in the geological sciences, as well as to promote discussion of the congress theme: "from the Mediterranean area toward a global geological renaissance -- geology, natural hazards and cultural heritage."  
**Enquiries:** Chiara Manetti, Borgo Albizi, 28, 50121 Firenze, Italy; tel: +39 055 2382146; email: [casaitalia@geo.unifi.it](mailto:casaitalia@geo.unifi.it); <http://www.32igc.org/default1.htm>.

## September

### September 13-15

**Location:** Malaga, Spain  
**Title:** Fourth International Conference on Management Information Systems incorporating GIS and Remote Sensing.  
**Details:** The conference aims to bring together researchers in academia and industry as well as land use planners and technology network managers, who are concerned with the study of MIS problems and its applications.  
**Enquiries:** Amy D'Arcy-Burt, Conference Secretariat, Wessex Institute of Technology, Ashurst Lodge, Ashurst, Southampton, SO40 7AA, UK. tel: 44 (0) 238 029 3223; fax: 44 (0) 238 029 2853; email: [adarcy-burt@wessex.ac.uk](mailto:adarcy-burt@wessex.ac.uk).

### September 19-24

**Location:** Jackson Hole, Wyoming  
**Title:** International Snow Science Workshop 2004.  
**Details:** Snow scientist and avalanche practitioners from many nations will meet to present papers and exchange information. The meeting will continue the theme of past workshops on merging theory and practice.  
**Enquiries:** International Snow Science Workshop, American Avalanche Institute, P.O. Box 308, Wilson, WY 83014; (307) 733-3315; email: [Issw@aol.com](mailto:Issw@aol.com); <http://www.issw.net>.

## Call for Papers

### 11-15 October 2004

**Location:** Perth, Australia  
**Title:** inFIRE CONFERENCE: international network for Fire Information and Reference Exchange Conference.  
**Details:** A safe community: the information network  
This annual international workshop will present the most recent innovations relating to information in the fire and emergency community. Papers are invited from, but not limited to, the following areas:

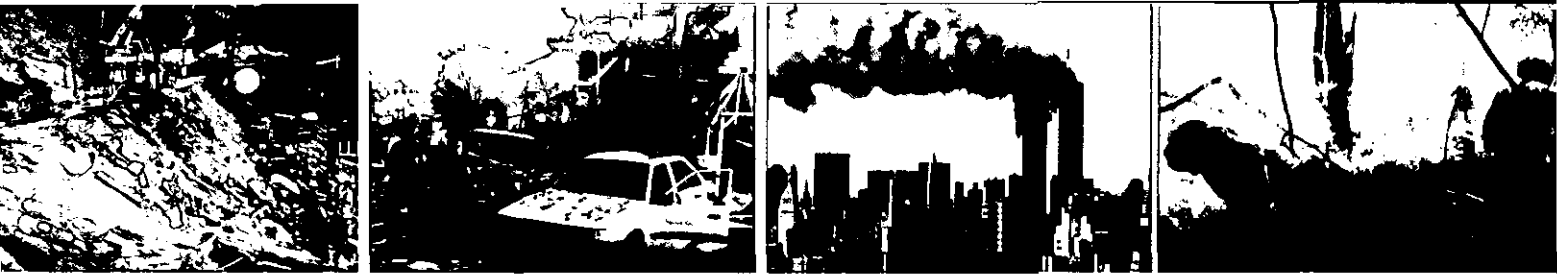
- Accountability systems, monitoring, tracking and telemetry systems
- Data, statistics
- Fire fighter education and training
- Fire occurrence and prediction
- GIS, imaging, satellite and aerial data
- Information sharing by librarians, building partnerships, mentor programs
- Intellectual property
- Learning outcomes from incidents
- Local government, community and educational initiatives
- Preservation of information, including anecdotal information
- Web publishing implications for the fire and emergency community

**Enquiries:** Jill Don, Department of Emergency Services, GPO Box 1245, Brisbane, Queensland, 4001 email: [jdon@emergency.qld.gov.au](mailto:jdon@emergency.qld.gov.au) or fax (07) 3247 8668. Abstracts required by 16 April 2004.  
<http://www.infire.org/index.html>

## April 2005

### April 6-7

**Location:** Canberra, Australia  
**Title:** Emergency Management Volunteers Summit 2005  
**Details:** See advert on back cover of this issue  
**Enquiries:** Justine Rixon, Emergency Management Australia, Ph: (02) 6266 5616



# Recovery Symposium

12–13 July 2004

As part of its commitment to developing concepts, processes, plans and capability for recovery, the New Zealand Ministry of Civil Defence & Emergency Management will be hosting the New Zealand Recovery Symposium in 2004. The Symposium will be held at the Napier War Memorial Conference Centre in Hawkes Bay, New Zealand on 12–13 July.

The symposium will focus on five key aspects of recovery:

- Economic
- Environmental
- Community
- Reconstruction
- Psychosocial

A session will also be provided on the professional development aspects of recovery. The symposium is aimed at senior central government managers, Civil Defence Emergency Management Groups and emergency managers, recovery coordinators and practitioners, and academics. It is also open to members from agencies such as insurance, construction, lifeline utilities, and non-governmental agencies who will be involved in recovery following a disaster.

Early Bird registration – Received before 1st May 2004	NZ\$250.00
Full Registration – Received after 1st May 2004	NZ\$350.00
Late Registration – Received after 1st July 2004	NZ\$500.00

Further details on the symposium will be made available on the Ministry website: [www.civildefence.govt.nz](http://www.civildefence.govt.nz)

For further information, contact [sarah.norman@dia.govt.nz](mailto:sarah.norman@dia.govt.nz)

## AJEM Recovery Edition

November 2004

Recent events both in Australia and internationally highlighted the importance of effective recovery from emergencies and disasters.

Consequently, a special edition of the AJEM, featuring a range of articles focusing on all aspects of recovery, is to be produced in November 2004.

A number of the articles will be drawn from papers presented at the Recovery Symposium, to be held in New Zealand in July 2004. However, it is also hoped to include a wide variety of other articles on recovery. If you are interested in submitting an article for this special edition or would like more information, please contact the guest editor for this edition, Andrew Coghlan.

Andrew can be contacted on 03 5421 5240 or [andrew.coghlan@ema.gov.au](mailto:andrew.coghlan@ema.gov.au)

# INITIAL ANNOUNCEMENT

## Emergency Management Volunteers Summit 2005

Following the success of the "Value Your Volunteers or Lose Them—National Summit for Volunteer Leaders and Managers of Volunteers", Emergency Management Australia is planning a Second Summit.

DATE: 6-7 April 2005

VENUE: National Convention Centre, Canberra

### DRAFT OBJECTIVES:

- To evaluate progress made towards implementing the recommendations that arose during the First Summit.
- To identify and discuss current issues related to volunteers from within the emergency management sector.
- To develop recommendations and strategies to address the major issues identified.

As with the First Summit, it is likely that registrants will be nominated by their organisation and that no registration fee will be charged.

A Steering Committee based on a recommendation of the Australian Emergency Management Volunteer Forum, has been established to guide the Summit planning process.

Updates and further details will be provided in future editions of the Australian Journal of Emergency Management and the EMA website at: [www.ema.gov.au](http://www.ema.gov.au)