
NZLSAR News

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CONTENTS

Geoff Logan - National SAR Coordinator
Computers in SAR
National Cave SAREX
Committee News

Geoff Logan, the new National Search and Rescue Coordinator

John Tristram asked me to pen a few words about my work background and myself. On the domestic front I am married with two children, an 11-year-old son and a nine-year-old daughter. We live in Lower Hutt. I enjoy running, cycling, hunting, fly fishing and rugby.



I have been in the Police now for 20 years, after graduating in 1984. In the 1980s I worked in Lower Hutt and became a member of the Wellington SAR Squad in March 1987, with the likes of Dan O'Connell, Rod Herd, Richard Smith and Tony Matheson. I remained with the squad through my General Duties Branch work in Lower Hutt, Wellington and Porirua. Whilst working in Porirua I met Gerry Prins who asked me some pointed questions about search and rescue. Shortly after, he applied

for a position on the Wellington SAR Squad and was appointed. Upon promotion to Sergeant in 1993, I transferred to Wellington and after a year was appointed as a Sergeant on the Diplomatic Protection Squad (DPS) which required me to leave my position on the Wellington SAR Squad.

After leaving DPS I rejoined the Wellington SAR Squad, spending the majority of my SAR time as Incident Controller for the varied incidents we get in the Wellington SAR District. I remained on the squad for a couple of years until I was promoted to Senior Sergeant as the officer in charge of a General Duties Branch group in Wellington. In December 2003 Gerry advised me that the position of National Coordinator: SAR was about to be vacated and I applied, relishing the chance to get back into SAR.

I have some great memories of SAR from some of the saddest, such as initiating the investigation for Carla Cardno and then searching for her for two weeks through out the Hutt Valley, to those moments of elation when you find a lost person in time to make a difference for them, some times after only a faint glimmer of hope remains.

Search and Rescue is, in my opinion, a great leveler for policing. It's one of the few jobs Police do where the person you seek wants to be found! I see all the partnerships that SAR organisations have as vital to enhancing the service that we, as a community, provide to those who require our services. The many skilled volunteers who give their time to attend searches and training show their dedication to ensuring a quality service is provided.

In my role as National SAR Coordinator I would like to see the relationship with NZLSAR strengthened and built on. I aim to ensure that when a search is mounted anywhere in the country it will proceed efficiently and effectively. To achieve this, a focus will be working with NZLSAR and Police SAR Coordinators to make sure the necessary policies and procedures are in place and up to date and that we maximise the synergy that is created with our joint efforts.

I look forward to meeting and working with you in the future.

Geoff Logan

National Coordinator, SAR/DVI

Computers and SAR

“A computer is a tool. Its usefulness is governed by the quality of the software, and the competence of the people using it.”

The future of computers in SAR may include digital mapping, the incorporation of Global Positioning Systems (Stoffel *et al*, 1998) and their use as a digital diary or log-book during a SAR operation. Indeed, most of the digital mapping software programmes available in NZ include features that allow these three functions to occur together (TopoMapPro, MapToaster, TUMONZ.

TopoMapPro has been replaced by a new version called MapToaster. It contains topographical maps for all of the country at multiple resolutions and scales. The use of digital mapping has the benefit of being able to modify these. There are problems of providing the same modified maps to searchers through printing and laminating requirements. The new, improved MyPlaces database is a welcome improvement for recording team information. It is disappointing to see the new version of MapToaster with a map database that has not been updated and contains information that is 15 years old and out-of-date in some instances. It is likely that manufacturers of software are waiting for the formal adoption of the NZDG 2000 Datum and the new maps that will result. Adoption is scheduled for 2005.

One company, Vision Software and their product TUMONZ has attempted to address the issue of mapping showing a multitude of useful information in a visual format. TUMONZ provides a sophisticated variety of geographic display options ranging from 3D images and aerial photos to multiple layered topographical and cadastral maps. But, their product contains the warning, “Not to be used for Navigation”. These maps are not scanned topographical maps but are less accurate but more

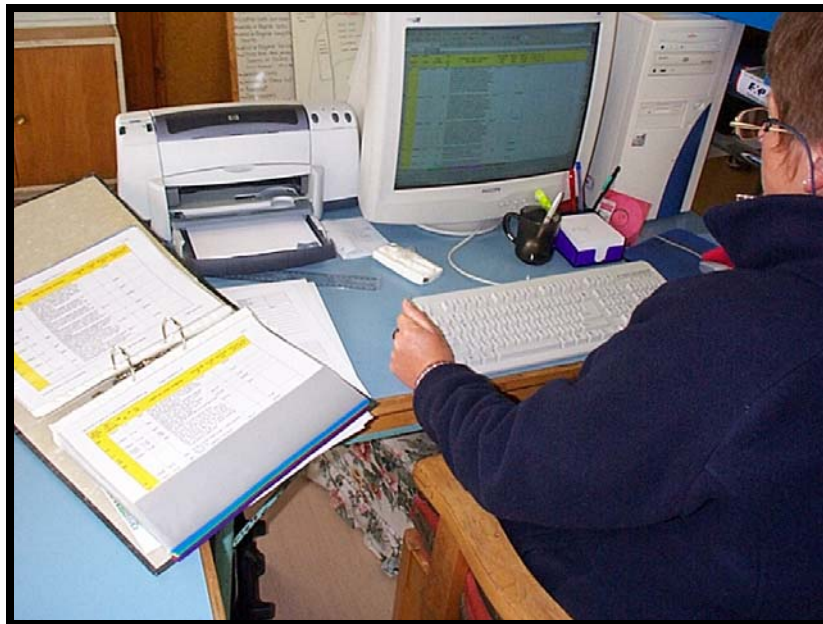
versatile vector maps. These maps are being slowly and significantly expanded through time with more information being made available.

Attempts at making software that is a "SAR log book" have centred on MS Excel/Access-type spreadsheets and the IMAN/GMAN software developed by Barry Were which is MS Access-based. These are basically aimed at linking team details with other information for easy reference. An important part of this has been recording accurate records of team tasking to aid the planning of on-going search operations.

There is other software also in use and/or available for NZLSAR. Sometimes it is cheaper or more feature laden. Due to the unique circumstances in NZ it is preferable to support locally made software that is being tailored to our unique needs.

From current experience it seems that keeping some of the functions described above separate is a key to accuracy. To avoid disturbance from other SAR personnel and to make SAR operations run smoothly, it is envisioned that there will three lap-tops/PCs with three Information operators at different locations.

Chronological Log Operator., Tasman SAREX, St. Arnaud May 2003. Using MS Excel. This log contains information about all the teams, messages sent and action and events during the SAREX



A Model for Multiple Computer Use in Multi-Day operations.

The three computer network should have :

1. Database-type software (eg. Microsoft EXCEL/IMAN/GMAN) to record a digital diary;
2. Digital mapping software (eg. TopoMapPro/MapToaster) to record team locations and activities including tasking; and
3. Advanced Mapping software (eg. TUMONZ/GeoMap) to aid search planning, clue recording and printing of maps and other SAR forms.

All three PCs/lap-tops should be networked yet have the ability to be stand-alone systems. Networking them allows data-sharing in real-time, accelerating the paper-work battle inherent in SAR operations. All computers should be located in separate areas.

Firstly, the digital mapping terminal should be located next to communications to overhear team reporting. Secondly, the database logger can be anywhere nearby that is secluded and quiet so they can concentrate on entering accurate information quickly. Lastly, the advanced mapping software

terminal can be next to the planning/operations team to provide them with the software support that they require.

It seems the accurate reporting of team positions, clues, and other SAR resources is central to the success of any digital mapping or geographic information system. At present, the author is trialing ways to demonstrate the stages, planning, locations and information required during a land search and rescue operation.

The following comments from questionnaire respondents demonstrate some of the ways computers can be used in land SAR.

“The major disadvantage is the computers ability to provide information in a user friendly format. It is much easier to pass around a piece of paper than a computer screen [!].”

“Anything that does way with the “paper war” is a big help. [The] biggest benefit is [that] log keeping [is] very easy to recheck etc.”

“I found they [computers] slow down [the] recording of information but speed up retrieval immensely.”

“We have been using computers for recording our logs for a number of years now and this works really well.”

Operational Use of Computers in land SAR

PC/Lap-Top	Function	Software	Location
Team Manager	Record all Team Locations, Reporting and Tasking.	TopoMapPro/MapToaster MS Word IMAN/GMAN	Next to Radio communications operator.
Search Manager	Print SAR Documents, Digital Maps. Display Maps include Search Area for Search Managers.	TUMONZ, MS Word	Near Search Controllers and Planning/Intelligence CIMS staff.
Chronological Log	Recording all event information into database chronological log.	IMAN/GMAN MS Excel MS Access	In a quiet location where data can be accurately recorded.

“We should be able to push the print button at the end of a SAR operation and print the entire operation for the Operation controller. This includes the log, maps, due locations, segmentation of search area, reconnaissance flight paths etc etc ... and the list goes on.”

This three computer system can be simplified to one if necessary. This both reflects many SAR Areas needs, resources and the scale of operations that they normally experience.

A single computer running Microsoft Word and TopoMap Pro/MapToaster can record all radio messages, team tasking and locations. This requires a trained operator and use of a simplified vocabulary in recording team activities and tasks. This work is currently developing an extensive database of SAR terminology to make computer recording faster and more accurately.

Conclusion (Part I)

The questionnaire respondents demonstrated a variety of experiences in the use of computers and the limitations of current techniques. What is clear is the potential for an organised computer information system to provide advances in the use of SAR data during a “live” operation. From aiding team briefing, to making a detailed coroners inquiry report and many things in between, computers have a

strong future in SAR in New Zealand. However, the hurdles of resourcing, training and methodology are significant and pose a significant barrier to many of the smaller SAR Areas in NZ.

Matthew Farrelly
Researcher

Operation Deep Rescue – National Cave SAREX 2004

Local Cave SAR groups around the country have run low key cave SAREX's annually in both the North and South Islands for many years. These, plus participation in relevant training courses help to ensure that sufficient skilled and experienced locally-based cavers are available to support Police in their responses to the relatively small cave SAR situations that occur two to three times per year. However, every few years there has been a major cave SAR operation, usually in the marble mountains of the North West Nelson region. Such operations require the availability of many skilled and experienced cavers from all over New Zealand, and are significantly more complex to manage. In order to ensure that Police, RNZAF and Cave SAR personnel gain experience and increase their skills in managing and participating in such operations, NZ Land SAR has, for over twelve years, sponsored a triennial National Cave SAREX on Mt Owen or Mt Arthur in Kahurangi National Park.

The 2004 National Deep Cave SAREX was hosted by Nelson Speleological Group during the last weekend of February. Local Police, RNZAF Iroquois Helicopter crew and over 80 cavers from all over New Zealand assembled at the end of the Owen River Valley Road in somewhat unsettled weather on the Friday morning. An alternative scenario had been set in case the Iroquois could not fly, but the Incident Management Team decided during the previous evening to continue with the Mt Owen scenario. At the briefing meeting, the Management Team explained the objectives of the SAREX and outlined to participants the information they had been provided with about the scenario.

The objectives of the SAREX included:

- To use the full NZ Coordinated Incident Management System (CIMS) structure in the management of a major caving search and rescue exercise
- To apply the new Rope Rescue Standard underground during a rescue scenario involving stretcher hauling up multiple pitches
- To carry out an extensive search in a big alpine cave
- To enhance the search and rescue skills of cavers throughout New Zealand (many of whom have had no formal SAR training)
- To further enhance the SAR management skills of selected cavers from around NZ
- To assess the SAR training needs of the cavers involved in the exercise
- To use the Iman and Gman software programmes to assist with exercise management

The scenario itself was set by one of the "victims", and more details emerged as clues were found. In summary, it was as follows:

1. Four experienced cavers from overseas had been exploring a rarely visited part of Bulmer Caverns (750m deep and over 50km in length) when one had fallen and broken her arm; two of this group had come out of the cave and called Police for assistance.
2. Meanwhile two other members of the same group were last seen headed up the Owen River Valley to join their friends.

Initially the operation was run from the end of the Owen River Valley Road using the Police Booze Bus and a couple of ex-army tents. However, when the rain started to fall in the evening of the first day, Search Base was moved to the local farmer's woolshed a short distance down the road. This proved to be much more suitable for the computers running Iman and Gman, and drier and more spacious for the Incident Management Team.

Cavers and equipment were ferried up to Mt Owen "Swamp Camp", which is near the entrances to Bulmer Caverns. The victims had previously been flown straight to one of these entrances earlier in the morning. Communications were established by installing a repeater on a prominent ridge. Whilst Swamp Camp was being set up, the initial Track and Clue Awareness teams were searching for clues in key areas. Very soon, these teams came across evidence of the missing party and informed the

Management Team over the radio. The clues found provided evidence of which entrance the missing party had entered by and of possible medical issues.

Meanwhile, several underground teams were getting ready for action. These included rescue teams, Michie phone teams (to install underground communications) and search teams. Surface communication teams were sent to the two main entrances so that messages could be relayed from the underground Michie phone system to surface radios, and also for confinement purposes. By the time the teams were ready to go, the weather had closed in and grounded the helicopter, so all team members had to walk from Swamp Camp to the cave carrying their equipment.

Two rescue teams and one Michie phone team were briefed and dispatched first, and these teams made their way to the known "injured party", who in the scenario was in an area of the cave known as "Beyond the Thunderdome". These teams were followed sometime later by another rescue team. The rescue teams re-rigged all pitches for rescue, and then slowly assisted the injured party out of the cave using techniques designed to comply with the new NZLSAR Rope Rescue Standard.

Whilst the above was going on, Planning and Intelligence had evaluated the evidence and concluded that the missing cavers had gone underground via Panorama Entrance, but were not likely to be below the Lion's Den (the main route to the bottom levels of the cave). They segmented the cave and reached a consensus on the most likely location of the missing party. Two search teams and two more Michie phone teams were briefed and dispatched. Several hours later, one of the search teams located the missing party in the predicted area. However, the older victim "Greg" was "not well" and, over the Michie phone, he staged an impressive "heart attack" (twice! – the result of mixing medicine to reduce blood pressure with Viagra!). The search team included a first-aider equipped with appropriate medicine, and very soon a doctor and a stretcher were on the scene.

As is normal for cave SAR, the operation continued throughout the night with relief teams being sent in to assist with carrying the stretcher. About 24 hours after the first teams had entered the cave, all available personnel had participated and several of those underground had had enough, so the decision was made to de-rig and exit the cave. All personnel were checked back into Swamp Camp by soon after nightfall on the second day. The operation on that day had had to be conducted without helicopter support because of low cloud, and some were a little anxious that they would have to walk out the next day!

Fortunately, as forecast, the weather improved overnight and all personnel and equipment were very efficiently transported by Iroquois back to the Owen River Valley on Sunday morning, in time for a lunch-time debrief.

Overall the SAREX was a great success and nearly all the objectives set were achieved. Attendees were very positive about their involvement, about the skills they had practiced and learnt, and about the way in which the event was organized. At the Management operational debriefing meeting a few days later, some things that could have been done better were identified and this learning will be built on in future operations, both in real situations and in SAREXs. All participants expressed their appreciation for the support provided by the Police, NZ Land SAR and RNZAF.

Martin Grinsted

Chairman, NZLSAR Underground Subcommittee

Committee News

May Committee meeting. On Saturday 14 May the Committee held its meeting at the Waitapu School Forest Camp situated on the outskirts of Rotorua. Most arrived Friday night and stayed until midday on Sunday. This gave plenty of time for the members to meet the 35 attendees at the four day North Island Bush Wilderness search dog course and who had been there since Wednesday night. In its nine years or so of existence this may be the first time the Committee as a group has done a "field trip" and met some of the people training for search and rescue. The Committee took a break from its deliberations to watch as a dog and handler was assessed to the operational Standard.



On Saturday after the meeting a social hour was held to which a number of the Region Two senior SAR participants were invited as well as the dog course attendees. This was followed with a barbecue meal and more time to meet and talk with people often only heard about or spoken to on the phone.

August Committee meeting. The next meeting of the Committee will be a two day event at the Police College on 28/29 August. Saturday will be the now annual combined meeting of NZLSAR Committee, Regional Chairmen and Secretaries. A letter has gone out with a draft agenda inviting comment and items that participants wish to have discussed. It has a suggested theme of Risk Management Assessment and topics such as Health and Safety in Employment Act , OSH and SAR – How do they interact? - What is the “Law”? - What lessons can we learn from the “Le Race” prosecution? - How does this affect SAR? - Police Requirements? and How do we protect our members? Regions have been asked to forward the names of those attending and their preferred travel so those needs can be met. On Sunday there will be a NZLSAR Committee meeting with a break probably about 1130 for the NZLSAR AGM. It promises to be a full and interesting weekend.

TUMONZ database. The Committee has directed that NZLSAR keep a database of information for those SAR participants or organisations that hold a TUMONZ programme. This is so TUMONZ can provide those on the database with current updates and it has been suggested so NZLSAR may provide finances for future upgrades. The material required for the “data collection form” is quite extensive and has been sent to the Regional Secretaries and others on my email list. See one of them or email me to be included in this arrangement.

Iman/Gman. The Committee in reviewing its budget in February felt it was able accommodate a request for an issue of one programme of Iman and Gman to each SAR Organisation that may be running an operation. Regional Secretaries have been asked to supply or confirm the names of such organisations within their Regions. Barry Were reports that *the IMan and GMan programs are best downloaded from the Web. Although they are 13MB each we will have, in the next few days, a combined install which will do both - it should be about the same size. If people are unable to download the program then we can send a CD to them. All users will automatically get a 60 day trial for Iman and 30 days for GMan but they can register the programme at any time during this period. It is for this*

registration process that the payment is required - we will not supply an unlock code until payment is assured - in this case by NZLSAR The registration is specific to each PC so they cannot shift the program to another PC or make copies without getting the unlock code for each one. We have a database which will record the details of each registration including the name/group etc. It is for issuing the unlock code and subsequent payment that NZLSAR needs the list of organisations which qualify for this distribution.

Toolman. NZLSAR has adopted the ToolMan product as the preferred means of distributing the standard set of SAR Operational forms. This is the package of forms originally brought together by Karen King in Marlborough for use in Region Five. It is intended that the programme be added to the NZLSAR web site as soon as the product is relabelled with the NZLSAR logo. The package, in Excel at the moment, is to be converted to a "Word" form document by 1st June 2004. It is intended that the forms be reviewed once per year based on submissions from the users.

40 Hour MLSO Courses. As in previous years there are two 40 hour MLSO courses being organised at the Police College Porirua during the weeks 09 to 14 and 26 to 20 August. Jointly attended by NZLSAR volunteers and Police these courses and the venue provide an excellent working environment for learning the techniques of SAR management and developing the partnership between Police and volunteers. NZLSAR pays for transport and accommodation so if you wish to find out more contact your Regional Secretary at the earliest.

Conference Report. The Conference and pre-Conference courses will be looking at some of the latest techniques, developments and thinking in the international SAR world. There is something for everyone at the Conference.! Overseas speakers who have confirmed their attendance include; Skip Stoffel, Bob Koester, Paul Green, Martin Cowell, Matt Chase.

Pre-Registrations

At this stage there are more than 60 pre-registrations on the organisers database.

All those who are on our pre-registration database will get the following benefits:

- 1 They will be the first to receive conference updates and the Registration Packs.
- 2 They will be in the draw for our pre-registration spot prizes valued at \$400
- 3 They will be in the draw for a free Conference T Shirt or Polo Shirt made of quick-dry material. This should be available in July.

There is another "flyer" (Conference Update No2) being circulated with more news on this event.

John P Tristram
National Field Officer

Editors Comments. A very big thank you to **Geoff, Matthew and Martin** for your articles and photos. The photo of the Committee members watching the assessment was taken by **Ray Sutton** and many thanks to him for that. Copy for the **August News** is most welcome and the close-off date is **Monday 26 July**. Articles on gear, SAR training or operations are most welcome. Please either mail as neatly hand-written, printed hard copy or on a disc to **NZLSAR, PO Box 12081, Thorndon, Wellington**. Alternatively email it to **tristram.nzlsar@xtra.co.nz** Even if you have some thoughts on an article but are diffident in putting pen to paper, feel free to give me a ring on **04-470-7247** and we can talk it through.

John P Tristram, National Field Officer