



Connecting the search and rescue sector

Link is a quarterly publication of  
New Zealand Search and Rescue

# Farewell to the Orion



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For feedback, contributions and subscription requests please contact [info@nzsar.govt.nz](mailto:info@nzsar.govt.nz)

## Websites

### [nzsar.govt.nz](http://nzsar.govt.nz)

Search and rescue sector resources and information, including a PDF of this publication.

### [adventuresmart.nz](http://adventuresmart.nz)

Safety information and tips for people planning outdoor activities

### [beacons.org.nz](http://beacons.org.nz)

Information about 406 beacons, including where to purchase, rent and register a distress beacon

### [nzsar.govt.nz/nzs-sar/nzs-sar-guidelines-overview/](http://nzsar.govt.nz/nzs-sar/nzs-sar-guidelines-overview/)

New Zealand's Search and Rescue Guidelines

### [landsar.org.nz](http://landsar.org.nz)

Land Search & Rescue

### [mountainsafety.org.nz](http://mountainsafety.org.nz)

New Zealand Mountain Safety Council

### [coastguard.nz](http://coastguard.nz)

Coastguard New Zealand

### [surflifesaving.org.nz](http://surflifesaving.org.nz)

Surf Life Saving New Zealand

### [arec.nz](http://arec.nz)

Amateur Radio Emergency Communications

### [maritimenz.govt.nz](http://maritimenz.govt.nz)

Maritime New Zealand

### [watersafety.org.nz](http://watersafety.org.nz)

Water Safety New Zealand

### [saferwalking.nz](http://saferwalking.nz)

Safer Walking NZ

#### COVER IMAGE

P-3K2 Orion aircraft taking part in a three-ship formation flight over the North Island, before the fleet retired at the end of January. Courtesy NZDF

# Nine decades of service

## The history of AREC 1932 to 2022

**Amateur Radio Emergency Communications' purpose is "the provision of skilled volunteers and communication infrastructure enabling essential communications to support search and rescue, natural disaster relief, and our community"**

**NZSAR congratulates AREC on their 90<sup>th</sup> Anniversary, which they celebrated last year. Here is a brief timeline of some of the major milestones and achievements over that time.**

**1931** – Napier Earthquake highlights the need for civil emergency communications. Police Sergeant Norm Laugesen proposed a national organisation and began setting it up. This initial group was first called out for a SAROP at Bealey Spur near Arthur's Pass.



**1932** – In January, the NZ Association of Radio Transmitters (NZART) approved the formation of the "Radio Emergency Corps" (REC). By February, there were nine sections around New Zealand. The first national 'Field Day' exercise was held. Also the first official call out: assisting a search for a crashed aircraft at Tawa Flat, near Wellington.



**1935** – A national SAR organisation was proposed by the Federated Mountain Clubs. REC involved in support.

**1937** – First national REC conference in Dunedin. The precursor to LandSAR was fully established under police control.

**1939-45** – Official activity suspended during the Second World War.

**1948** – First REC exercise in support of another agency, providing comms to a motorcycle event near Rangiora. REC continues to support events for training and community support purposes.

**1949** – "Amateur" prefix added, to become Amateur Radio Emergency Corps. Volunteers constructed their own radio equipment for AREC use, plus they received 60 ex-Army ZC1 radios, each weighing 27kg.

**1953** – AREC involved in supporting the response to the Tangiwai rail disaster.

**1960** – AREC installed 60 radios in main Civil Defence sector posts, and operated them during training and emergencies.

**1968** – Support to the rescue operation for the Wahine passenger ferry.

**1970** – First dedicated AREC communications vehicle completed by Southland section.

**1988** – A total of 75 sections provided coverage across the whole of New Zealand.

**1996** – Changing from 'corps' to 'communications', AREC becomes Amateur Radio Emergency Communications.

**2002** – AREC the first recipient of the 'National SAR Award' for their commitment to search and rescue in New Zealand. They were nominated by LandSAR.

**2009** – The NZART AREC Emergency Funds Trust obtained charitable status, and received funding from NZSAR Council and Police to purchase radio equipment.

**2010** – First Christchurch earthquake, AREC volunteers provided comms for the first 12 days until networks re-established.

**2011** – Second Christchurch earthquake. Nine days of continuous operations, with up to 150 radios deployed in the region.

**2020** – NZART signs a Service Level Agreement with NZSAR, Police and Maritime NZ. Significant investment by NZSAR to help modernise and sustain the organisation. Funds provided for professional staff, IT systems, governance, equipment, training and more.

**2022** – Work continues on development of a national-wide Digital Mobile Network for comprehensive emergency communication capability.

This article was derived from a more detailed history created by Craig Crawford, New Zealand Association of Radio Transmitters Historian. This history can be viewed online: [www.bit.ly/AREC90](http://www.bit.ly/AREC90)

### TOP LEFT

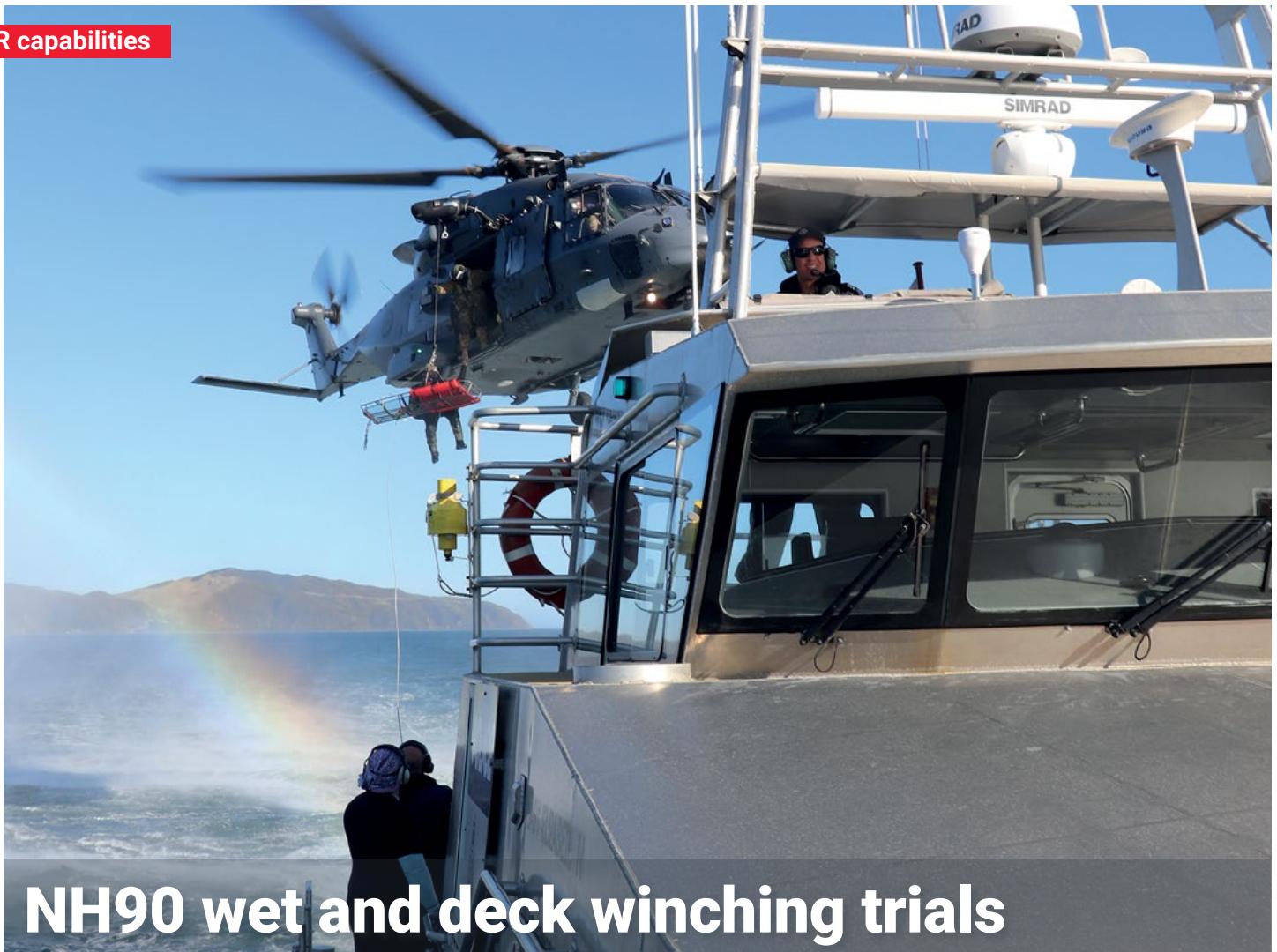
Christchurch REC, 1932. Courtesy NZART

### TOP RIGHT

AREC providing civil defence support. Courtesy Dunedin Public Library

### BELOW

AREC at work, Dip Flat National SAREX 2021. Courtesy NZDF



## NH90 wet and deck winching trials

Last year, 3 Squadron, Royal New Zealand Air Force (RNZAF), conducted NH90 helicopter wet and deck winching trials with support from the Wellington Police Maritime Unit and the Police National Dive Squad.

The trials in May were the first steps in developing an NH90 maritime rescue capability and included training aircrew in winching personnel and equipment to and from the water and a vessel.

Officer in charge of the Wellington Police Maritime Unit, Senior Sergeant Craig Pickering says: "It was great to be winching with RNZAF and the Police Dive Squad after a five-year break".

"There were some challenges with weather and the small area for deck winching in the first trials, but with some adjustments we were able to carry out all of the planned exercises."

This included winching patients on straps and stretchers and working at night in some challenging weather conditions.

"The NH90 is much bigger than the rescue helicopters we work with, even longer than Lady Liz, and the crew preferred to work in windy conditions because they got wetter from the helicopter rotor wash when it was calm," says Craig.

"Due to the huge cabin space of the NH90 the gear could be left assembled and grabbed when needed and yet also provided plenty of space for patients and crew. Several recovery techniques were employed along with harnesses for our staff and for the obliging 'patients'."

Subsequent training occurred in August and September focusing on the qualification of NH90 crews, while using divers from the Police National Dive Squad to facilitate the rescue of 'survivors' from the water.

3 Squadron Capability Development Officer, Squadron Leader Austin Smith, says: "This is the first time 3 Squadron have conducted wet and deck winching with the NH90."

"The professionalism, skill and flexibility demonstrated by the Wellington Police Maritime Unit and Police National Dive Squad were key to the success of the trials and the subsequent crew training. We greatly appreciate the support thus far and look forward to working with police maritime units in the future."

The colloquially known 'wet and deck' exercises will continue in the future to train new personnel and keep qualified personnel current in maritime rescue operations.

This article was originally published in Police Ten One magazine, and is reproduced with permission.

TOP

Deck winching with the RNZAF NH90 and the Wellington Police Maritime Unit.  
Courtesy Police



## Farewell to the P-3K2 Orion fleet

**After more than 55 years of service, the P-3K2 Orion fleet retired at the end of January.**

The Royal New Zealand Air Force (RNZAF) farewelled the fleet in style, with formation flights over New Zealand. A three-aircraft formation flight over much of the North Island took place on the 25th of January, while a two-aircraft formation flew over the South Island on the 31st of January.

"This is a bittersweet moment for us, where we have to farewell a faithful old friend who has looked after not just our crews for nearly 60 years, but all of New Zealand and our friends and neighbours in the Pacific," said RNZAF No. 5 Squadron Commanding Officer, Wing Commander Glen Donaldson.

As well as performing a range of other roles, the fleet of six Orions were a key part of New Zealand's maritime search and rescue

capability. Often flying for hours just to get to the search area, finding those lost in the vast Pacific Ocean was no easy feat, but one that the Orion and her crews excelled at.

NZSAR gratefully acknowledges the huge contribution to search and rescue made by the Orion, plus all those who crewed, maintained and supported the fleet over the decades. We look forward to publishing a longer tribute to the Orion in our next Annual Report.

Four P-8A Poseidon aircraft are replacing the Orion fleet. The first Poseidon arrived in December 2022, with the remaining three due in 2023.

**The last search and rescue mission performed by the Orion was on the 17th of January, finding two Kiribati fishermen, who'd been lost at sea in their dinghy for six days.**

## SAR sector responds to devastating climate events

**The Auckland flooding in January and Cyclone Gabrielle in February showed the adaptability and resilience of our SAR people, many of whom dropped everything to assist.**

**There was widespread** damage across the Northland, Auckland, Tairāwhiti, Bay of Plenty, Hawke's Bay and Waikato regions, and the Tararua District. Sadly 11 people lost their lives, including two volunteer firefighters from Fire and Emergency NZ. Two Surf Life Saving NZ clubs and one Coastguard base were destroyed.

Police, the New Zealand Defence Force and Fire and Emergency NZ deployed hundreds of staff to affected areas. The Maritime NZ Rescue Coordination Centre took over aviation tasking for the cyclone response and did three months' worth of taskings in three days.

Volunteers from AREC, Surf Life Saving NZ, Coastguard and LandSAR deployed from across the country and assisted with radio communications, supporting Incident Management Teams, and conducting searches on land and on the water.

We will have more stories from the Auckland floods and Cyclone Gabrielle in an upcoming issue of *Link*.



TOP

P-3K2 Orion aircraft preparing to depart RNZAF Base Auckland, at Whenuapai, for a three-ship formation flight before the fleet retired at the end of January. Courtesy NZDF

ABOVE

An aerial view of the devastation caused by Cyclone Gabrielle. Courtesy Surf Life Saving NZ

# Honours and awards for SAR personnel

## Royal Humane Society of New Zealand silver medal for bravery

Congratulations to those recognised for their role rescuing two climbers from Mt Rolleston in 2021.

Anna Brooke and Michael Smith of Christchurch Alpine Cliff Rescue, and GCH Aviation helicopter crew Henry Deans, Angus Taylor, and Jeffrey Davies were recently presented the medal by Her Excellency, The Rt Hon Dame Cindy Kiro, GNZM, QSO, Governor-General of New Zealand.

Those involved were also recognised with a Certificate of Achievement for Operational Activity at the 2021 NZ Search and Rescue Awards.



## New Years Honours 2023

### Senior Sergeant Clifford Gordon Metcalfe, of Whangārei, Member of the New Zealand Order of Merit. (MNZM)

Cliff has been Officer in Charge of Northland Police SAR Squad for much of his time in Police, which began in 1996. He has developed the Northland SAR Squad into a highly trained and motivated SAR unit ready for deployment at any time, also improving equipment standards over the years. Particular events highlighting his leadership and dedication include the search for and recovery of a light plane that crashed in November 2005 and the rescue of children who had been swept out to sea at Paihia in 2011.



### Mr Maurice James Cowie, of Omarama, Queens Service Medal. (QSM)

Maurice has been a member of Omarama Search and Rescue since 1998 and played a key role in revitalising the organisation from a membership of two, recruiting new members, organising sponsorship and regular training.



He was recognised as part of the Omarama SAR group that received the LandSAR Supreme Award in 2012 for a significant operation in Ahuriri Valley that located a missing tramer after 14 days. He contributed his time and donated materials to the renovation of the Omarama SAR base. He also constructed a stretcher trailer for towing behind an ATV to allow for rescue of injured persons from the Alps 2 Ocean cycle trail.

Abridged citations for New Years Honours sourced from the Department of the Prime Minister and Cabinet website, under Creative Commons Attribution 4.0 International licence.  
[www.dmpc.govt.nz](http://www.dmpc.govt.nz)

TOP

From left – Anna Brooke, Jeffrey Davies, with Governor-General Dame Cindy Kiro, Michael Smith, and Henry Deans.  
Courtesy Stuff Limited

BELOW

Senior Sergeant Cliff Metcalfe. Courtesy Northern Advocate

# Beacons attitudes and usage research

## When they are carried and reasons why they aren't.

**As part of** our ongoing beacons behaviour change campaign, we conducted baseline research into who carries beacons – or if they don't, why not.

Nearly 4000 New Zealanders were surveyed, and the results weighted based on Stats NZ population estimates. About half had done a relevant outdoor activity in the last 12 months.

The research found that day tramping was the most popular activity, selected by a quarter of all respondents. This was followed by recreational boating, mountain biking, kayaking and land-based fishing.

As a proportion of people doing the activity, rates of beacon carriage were lowest among day hikers and land-based fishers (18 percent for each activity). Beacon carriage was highest among packrafters, backcountry skiers, climbers, hunters and canyoneers, with 40-60 percent regularly taking a beacon.

When considering group sizes, those who did solo adventures were most likely to carry a beacon (46 percent).

Overall, 43 percent of those who participated in an activity have taken a beacon out at least once in the last 12 months. However, only 31 percent took them out more than half the time, and only 10 percent took them on every trip.

Lack of awareness of beacons and lack of perceived need to take one were the main barriers to taking a beacon. Other barriers included the purchase price (around \$500) and the hassle of renting a beacon.



The main reasons to take a beacon included reassurance for family, awareness of the risks, lack of cellphone coverage and desire to be rescued quickly.

The results of the research will be used to further develop our beacons behaviour change campaign for the 2023-24 summer, with an increased focus on those groups with the lowest beacon carriage rates.

**The full research report can be viewed on the NZSAR website:**  
<https://nzsar.govt.nz/sar-system-support/sar-research/under-2022-locator-beacon-behaviour-change-campaign-report>.

## SAR technology

# Combining AI & drones for SAR

**The New Zealand Defence Force has conducted proof of concept trials using artificial intelligence (AI) to analyse video footage for missing people.**

**The scenario used** was several 'lost' people in a river corridor, partially hidden within river debris such as logs. A Defence drone flew the search area, providing a stream of footage for analysis.

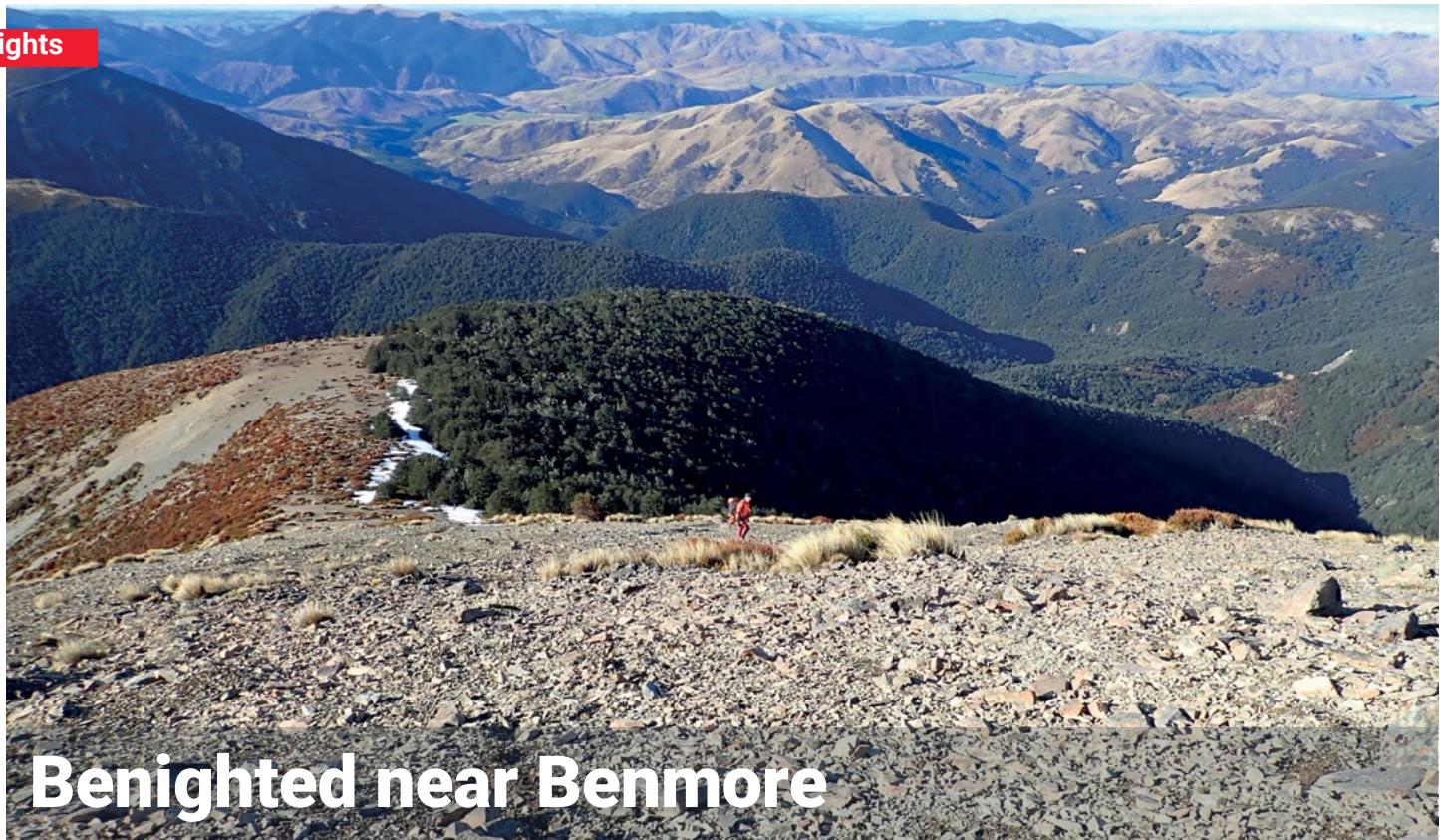
"Since we were proving the concept for SAR purposes, our requirement was no false negatives. The AI software had to be tuned finely enough that we could be highly confident there were no people missed during the sweep," says Deane Kennedy, Assistant Director, Air Force Capability Development. "The AI was able to find people partially obscured in the cluttered areas, which were not immediately noticeable to the eye. Also, it was able to spot people that were partially submerged."

The test was also to prove that the hardware to run the AI could be deployed remotely. "We partnered with Microsoft and Aware Group

[based in Hamilton] to deploy the Azure Stack Edge, a meter-long computer that can process the video stream in real time or faster."

"You don't need an especially complex drone; running the AI software is the more challenging aspect," says Deane. "In a hasty response context, a drone and AI system could quickly pinpoint areas of interest for initial taskings. Then, a more deliberate and methodical search could be used to complement traditional search capabilities."

**This article has been adapted from Air Force News Issue 235, with permission. See [https://nzdf.mil.nz/assets/Uploads/DocumentLibrary/AirForceNews\\_Issue235.pdf](https://nzdf.mil.nz/assets/Uploads/DocumentLibrary/AirForceNews_Issue235.pdf) for the full story.**



## Benighted near Benmore

**A successful operation for a young man lost in the Canterbury foothills highlights examples of sound incident management and search procedure, plus several lessons learned.**

**Early afternoon on** Monday, 22<sup>nd</sup> August 2022, Police were notified that a 23-year-old man had failed to rejoin his tramping group after a side trip from Benmore Hut near Porters Pass in Canterbury.

The group had walked into Benmore Hut on the Saturday for a weekend trip. On the Sunday, they left most of their gear in the hut, and climbed to the tops near spot height .1444 for the view. After reaching the high point, clouds began to impede visibility, so they began to head back to the hut with the intention of returning home that day. As they descended the spur, the young man went ahead of the rest of the group, but wasn't at the hut when his friends arrived. His friends attempted to find him, backtracking up the ridge and searching the vicinity of the hut. They decided to stay an extra night at the hut in case their friend returned. They shouted his name and lit the hut fire in the hope that it would help him locate the hut. Finally, on Monday, they walked out to their car, and raised the alarm when they got into phone reception.

Because the person had been missing for more than 24 hours, the initial search urgency was high, and planning immediately began to get hasty search teams deployed. "We got the call from Police comms in the early afternoon, so we thought we had daylight on our side to deploy a search dog and an Oxford LandSAR team," says Senior Constable Dennis Arthur, who was incident controller for most of the operation. However, low cloud ruled out a helicopter for initial search or team deployment, and the nearest available search dog team was in Rakaia, an hour's drive from the forward SAR Base. "That was our



first lesson: everything takes longer than you think. In hindsight we needed to anticipate more and contingency plan for the likely delays."

Initial taskings were to clear the track from the car park to the hut, and to the last known point, the .1444 spot height. The dog team was deployed ahead, with following teams using sound and light lines. Considering the possibility that the missing party had walked out via the wrong valley, another team was tasked to provide containment.

TOP

Canyon teams searching from the tops into the gullies. Courtesy Nola Collie

ABOVE

Overview of the search area. Contains data sourced from the LINZ Data Service licensed for reuse under CC BY 4.0

They covered the likely exit routes from Selwyn River North Branch, using 4WD vehicles on the farm tracks of High Peak Station. But by the time the teams were assembled, briefed and deployed, it was getting dark.

Although the incident management team knew that the lost person had been missing for over 24 hours, they had to balance the search urgency against the conditions, reduced night search effectiveness and searcher safety. "It was late when they reached Benmore Hut. Murray Bowden [the LandSAR dog handler], got in touch to check whether we wanted them to continue that night," says Dennis. It was challenging for some searchers who very keen to keep going, but after careful thought, the IMT decided to have them get some rest at the hut, so they could continue early and fresh the next morning. "We had concluded that this was likely to be a longer search and had shifted our planning focus that way. Murray was clearly thinking of the same considerations: it was a great example of trust, open communication and having safety at the front of our minds."

Meanwhile, additional SAR assets were activated for an early Tuesday start. These included Amateur Radio Emergency Communications, LandSAR teams from Christchurch, Methven and Rakaia, a CanyonSAR team and GCH Aviation. Fog delayed the helicopter's departure, but the remainder of the mid-winters' day had perfect conditions, clear and calm.

From the last known point and the intentions of the lost person, the search area was broken into segments, with each given weightings for likelihood of success. The areas were prioritised and appropriate teams matched with clear taskings. "We had contacted Alpine Cliff Rescue about searching the steep terrain in the gullies, but they suggested the Canyon SAR teams, which were better suited to that environment," says Dennis. "It was great to see the time spent networking and exercising meant people were quick to offer good advice to aid our decision making."

In the end, the missing person was located by the helicopter pilot, during a flight to redeploy a search team. Although uninjured, after two very cold nights in the open, he was extremely relieved to have been found.

"I had worked through to 2am getting organised with plans and taskings for first thing that morning, and returned by 6am as our overnight teams were hitting the tracks again" says Dennis. "By the time I'd handed over to the incoming incident controller and headed home to sleep, I was revisiting our decisions in my mind. I had just got to bed when the phone rang around 11am; the news that he'd been found took a huge weight off. I guess that's the biggest lesson in this whole operation. All the training we do, the relationships we form and procedures we follow provide the very best chance of a successful outcome. Have faith in the system, because it works."



### Insight summaries

- **Everything takes longer than you think. Anticipate and contingency plan for likely delays.**
- **Trust and open communication between searchers and incident managers is essential for a safe and effective operation.**
- **Match the nature of the terrain and tasking to the capability of the teams. Consider specialist capability when appropriate: see [nzsar-resources.org.nz](http://nzsar-resources.org.nz)**
- **Have faith in the established procedures, which are tried and tested.**

#### ABOVE

Searching at first light on the Ben More Range.  
Courtesy Maddi Keurntjes Oxford LandSAR

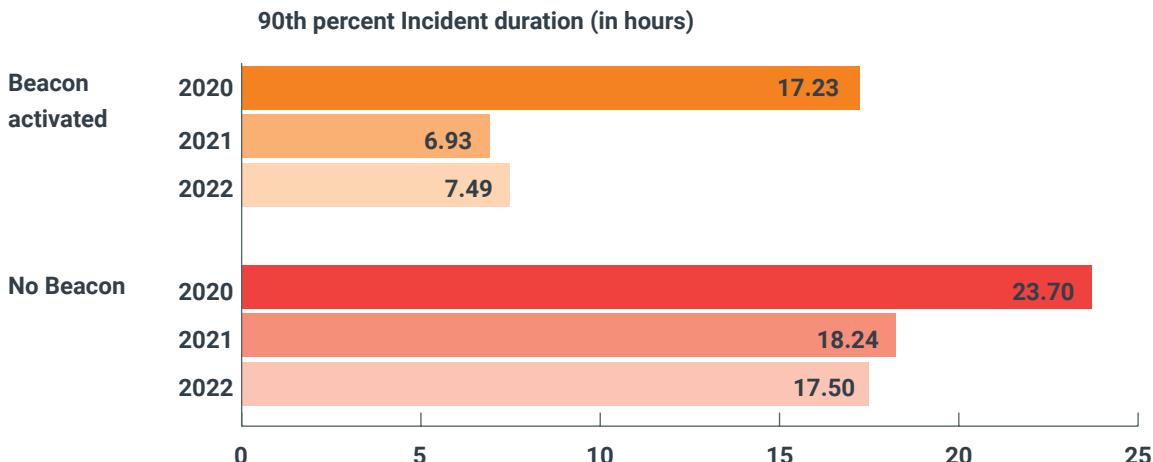
# How long to rescue a trumper with a beacon?

We all know that activating a beacon or SEND makes for a faster SAR response, but how much faster?

**Factors outside anyone's control** such as weather and daylight can extend the duration of a response, so we analyzed the time it took to complete 90 percent of all operations. The data is based on the year ending 30 June 2022, for land-based responses (trampers/day walkers/hunters/climbers).

90 percent of rescues when a PLB/SEND was activated were completed within eight hours.

Without a PLB/SEND, 90 percent of rescues were completed within 18 hours.



## SAREX

# Exercise Whakarauora Tangata

A **Nationally Significant** SAR incident would be typically coordinated by New Zealand's search and rescue authorities, but due unusual features of scale, nature, intensity, or possible consequences may require a response that is beyond the capacity or capability of our SAR system.

Such incidents are likely to require a coordinated government response by New Zealand's National Security System (NSS). They are typically low-probability, high-consequence events, such as the 1979 Erebus crash or the 1986 sinking of the *MS Mikhail Lermontov*. The recent *MV Kaitaki* incident verged on being nationally significant and certainly would have been if it had run aground on Wellington's South Coast.

The NZSAR Council directed the NZSAR Secretariat to scope options for a national exercise, and a series of phased exercises were approved in principle for the financial years 2022/23 and 2023/24.

We are currently planning and consulting across the SAR sector, with the first series of activities scheduled for winter 2023. More detailed outlines of the scope, purpose, objectives and conduct of the exercise series can be found on our website. The site will be kept up to date with resources, news articles and updates as the exercise progresses.



## Nationally Significant SAR Exercise

### The name and logo

The exercise's name is the amalgamation of three words – whaka, rauora and tangata. Whaka gives mana to the word it is combined with, rauora means rescue and tangata means people. Together the name Whakarauora Tangata means 'the rescue of people'.

The logo shows the mountains and oceans of Ranginui (sky father) and Papatūānuku (earth mother). In between them is Te Kore – the nothingness – where there is potential for anything to happen.

For more information, visit [www.nzsar.govt.nz/natsigsarex](http://www.nzsar.govt.nz/natsigsarex) or contact Lead Planner John Dyer, [j.dyer@nzsar.govt.nz](mailto:j.dyer@nzsar.govt.nz)

# Consumer magazine reviews emergency equipment

Together with Maritime NZ and as part of NZSAR's ongoing SAR prevention work around beacons, the Secretariat commissioned a Consumer magazine review of locally available beacons and SENDs.

**Established in 1959**, Consumer NZ is an independent non-profit organisation, which is well respected as a source of information and reviews for New Zealand buyers.

The review begins with basic background information on the types of devices, pros and cons of each type, general buying considerations and preparation advice.

A similar review was commissioned for lifejackets and PFDs, as one of the universal pieces of safety equipment for anyone venturing on the water.

Our investment means that the reviews are freely available to the public, unlike most detailed Consumer content which is subscriber-only.



**The reviews are available online:**

[www.consumer.org.nz/articles/emergency-alerting-devices/](http://www.consumer.org.nz/articles/emergency-alerting-devices/)  
[www.consumer.org.nz/articles/lifejackets-and-pfds/](http://www.consumer.org.nz/articles/lifejackets-and-pfds/)

## New guideline published

### Multi-agency readiness plans for marine animal encounters.

**Who advises the** public if a marine animal poses a clear and present danger to beach users? What actions can be taken in such an event?

These were the questions first raised by Surf Life Saving NZ (SLSNZ) seeking to find a way to keep people safe when a marine animal, such as a shark, is at a beach.

The "Guidelines to create multi-agency readiness plans for marine animal encounters" provide guidance to create a local area readiness plan to deal with a marine animal threat – in advance of such an event happening. The guideline advises how key stakeholders such as SLSNZ, iwi/hapu, Police, Department of Conservation and local council can create a response plan. Guidance is given on plan creation, with plan templates, public messaging templates and supporting references.

Considering the effects of climate change on water temperatures we are likely to see different marine animal species coming into areas where people are recreating. While not all pose a danger, knowing how to deal with those that do will help to keep our beach users safe.

"We are using these guidelines now to support our clubs," says Allan Mundy, National Search and Rescue Manager for Surf Life Saving NZ, "and I would encourage any other groups near a non-patrolled beach to consider using them too."



### GUIDELINES TO CREATE MULTI-AGENCY READINESS PLANS FOR MARINE ANIMAL ENCOUNTERS

2022

*Ma whero ma pango ka oti ai te mahi  
With red and black the work will be complete*



This refers to co-operation where if everyone does their part, the work will be complete.  
The colours refer to the traditional kowhaiwhai patterns on the inside of the meeting houses.

November 2022

The guidelines, published in November 2022, are available for download by searching 'marine animal' on [nzsar.govt.nz](https://nzsar.govt.nz), or directly from <https://nzsar.govt.nz/sar-operational-support/operational-sar-information/response-guidelines/>



## ICE-SAR Rescue 22

New Zealand delegates attended the 2022 Iceland Search and Rescue Conference to network with international partners and keep up with cutting-edge developments in SAR capability.

The recent edition of the biennial conference was held in Reykjavik, Iceland's capital. Four days of lectures, expos and networking was followed by a field trip to demonstrate the capability of Super Jeep vehicles and visit the scene of the 2021 extended volcanic SAR operation at Geldingadalir.

"The breadth of lecture topics was impressive," says Matthew Wheble, Senior Advisor at NZSAR. "But there were a number of key themes that were of particular interest and relevance to us in New Zealand."

Searcher resilience and mental wellbeing was one example and our SAR sector has done a lot of work in this space in recent years. "It was validating to see that we have quickly reached a good position to support our people, but keeping tabs on the latest research, tools and strategies is vital to keep that momentum up," says Matthew.

Dr Laura McGladrey presented on operational use of early recognition of stress injuries. A key point was the cumulative effects of all stressors on a person, which can combine to push a person over the edge to a stress injury. These stressors could include personal or work issues, to sleep and fatigue, through to a difficult SAROP or a critical incident such as recovering a deceased person. Dr McGladrey's research suggested effective leadership at all levels in the organisation was the key defence. Understanding the factors affecting the people and using resilience tools and frameworks will allow leaders to identify issues early and address them quickly.

There are a variety of incident management computer systems in use around the world, with several cutting-edge tools on display at the conference. "At present, NZSAR is engaging with the SAR non-governmental organisations on their current tools and requirements," says Matthew. "The aim is to see if there are opportunities to transition to a national system, to enable better coordination during multi-agency operations."

Around the world, organisations are rapidly developing novel artificial intelligence and drone capabilities for SAR use. Presenters from the United States, Norway and Iceland explained the advances in technology that allow large search areas to be rapidly imaged and analysed. Particularly in open terrain, these technologies can rapidly find missing people, or narrow down large search areas and help prioritise the deployment of human SAR assets.

As well as delivering intelligence, drones can deliver supplies. In Spain, surf lifeguards have access to drones which can drop flotation aids to swimmers in distress to buy more time whilst human lifeguards deploy to the scene.

Another new drone and AI integration is Lifeseeker, a mobile phone interrogating system that is used extensively in Norway. When the airborne system is in range, Lifeseeker can remotely activate a missing person's phone to transmit GPS coordinates. Also able to be fitted to a helicopter, Lifeseeker can then transmit the location to incident management teams or effect a rescue directly. Obviously,

### TOP

Delegates on the ground at the Fagradalsfjall operational area, close to a volcano which erupted in 2022. Courtesy Matthew Wheble



there are privacy issues which need to be considered. Privacy is an ongoing matter for NZSAR's Innovations in Technology Forum as it investigates use of these types of technologies in New Zealand.

Lessons learned from international mass rescue SAREXs focused on the importance of realism in training. "Experts emphasised the importance of placing stress on all players, at all levels during the training," says Matthew. "From deployed field team members, to incident management teams, right up through local government to central government."

The author of the seminal reference "Lost Person Behaviour" presented his new work. Dr Robert J. Koester has been able to robustly separate the data on despondent and cognitively impaired subjects to allow SAR managers to make more informed decisions. This new work will be incorporated into an update of his book due out in 2023.

Carl McOnie, CEO LandSAR also attended Rescue 22. "The conference provided opportunities to benchmark against the best performing SAR organisations in the world, and we're glad to say that we're doing very well by international standards."

Re-engaging with international partners has resulted more collaborations plans with kiwi counterparts. "After a few years of travel challenges due to COVID-19, it was important to reconnect," says Carl. "We are looking forward to working again with Dr Koester on a project to improve probability of detection models using New Zealand data and expertise. Several other experts are travelling to New Zealand to contribute their knowledge to our people in the coming year."

Altogether, Rescue22 was an excellent opportunity for the New Zealand SAR sector to engage with international partners, to help keep our sector operating at the highest levels of capability.



#### **Aly Curd from New Zealand presents at ICESAR on behalf of Civil Defence**

Aly is Team Leader Resilience at Southland Civil Defence, and a LandSAR volunteer. She discussed Emergency Response planning, with a focus on putting communities at the front of mind during the development of action plans, to ensure they are at the heart of the response.

#### **International Commission for Alpine Rescue**

Peter Zimmer from LandSAR attended the ICAR Convention for 2022, held in Montreaux, Switzerland. The aim was strengthening relationships with international partners and bringing the latest insights and techniques for technical mountain rescue operations home to Aotearoa.

TOP

ICESAR Incident Management Operations Room, with the Fagradalsfjall eruption response demonstration in full swing. Courtesy Matthew Wheble

ABOVE

ICE SAR 'Super Jeeps' during a field trip to the Fagradalsfjall operational area. Courtesy Matthew Wheble

# Investment in water safety research

**In 2022, NZSAR investment has enabled the second wave of the National Coastal and Water Safety Survey to be conducted.**

**This survey was** first run in Aotearoa New Zealand in 2021, and NZSAR investment will help future iterations of the survey. Across the Tasman, a similar survey has been running for over 10 years, which provides robust insights for Surf Life Saving Australia into Australian behaviours and attitudes in and around the water.

Building on the experience of the Australian survey, this survey has been tailored to suit our situation. Our survey covers topics such as participation, self-assessed swimming ability, perceptions of risk and attitudes towards them. The survey will take place in April and May each year, until at least 2025.

"The ongoing sector investment in the survey shows the importance of evidence-based strategies," says Evan Hughes, Senior Advisor NZSAR. "The information will enable and inform prevention messaging campaigns as well as our national approach to coastal and water safety. Over time, we will be able to measure changes in awareness and behaviours."



This survey also feeds into the National Beach and Coastal Safety Report which is an annual report produced by Surf Life Saving NZ.

## National Coastal and Water Safety Survey

The 2022 survey interviewed 1027 people aged over 16, and is available online at [watersafety.org.nz/WSNZ%20Reports](https://watersafety.org.nz/WSNZ%20Reports)

## National Beach and Coastal Safety Report

Available at [www.surflifesaving.org.nz/stay-safe/beach-coastal-safety-report](https://www.surflifesaving.org.nz/stay-safe/beach-coastal-safety-report)

# Tiaki – Care for New Zealand

Leaders from the tourism industry and government collaborated on five key messages to help tourists have a safe and enjoyable visit. These formed the five pou (pillars) of Tiaki – Care for New Zealand.

**One of the** pou of Tiaki is "be prepared." NZSAR took the opportunity to fund, and produce in collaboration, a safety video aligned with the Tiaki pou. The video follows a returning Kiwi and her European partner as she shows him some of New Zealand's great outdoors. Along the way, she provides him with fundamental safety advice for enjoying both land and water activities.

Rob Hewitt worked with the Tiaki team to weave Te Ao Māori and tikanga throughout the video, making it a truly special watch. Working very closely with the Department of Conservation, and members of the Land Safety Forum and Safer Boating Forum, the messaging was refined and scenes made authentic.

The breadth of organisations behind Tiaki means the messages will be getting in front of a significant proportion of visitors to the country; from Air New Zealand inflight entertainment to business waiting room screens to the THL Roadtrip app.

We in the SAR sector can do our bit to reduce the number of visitors we meet on an operation by sharing the Tiaki messages. There's a range of digital assets for websites and social media available from [www.adventuresmart.nz/tiaki](https://www.adventuresmart.nz/tiaki) and we encourage you to use them widely.



Thanks to everyone who supported the creation of the video and resources: NZSAR, Tiaki Governance Group (Tourism NZ, Air New Zealand, Tourism Industry Aotearoa, Department of Conservation, NZ Māori Tourism, Local Government New Zealand, Tourism Holdings Limited), Land Safety Forum members and Boating Safety Forum members.

Plus thanks to our cast; Rob Hewitt (Ngati Kahungunu), Whaea Mate (Ngā Tūhoe), Edvin Qvist-Weghagen from Sweden and Lucy Williams (Waikato-Tainui) from Queenstown, hapu from the areas we filmed and the filmmakers from Vision8.

### TOP

Lifeguards at the Whitiganga Marine SAREX Whitianga. Courtesy Police

### ABOVE

An example of the Tiaki – be prepared digital assets

# 10 questions with ...

## Laura Beanland-Stephens

Tairua Surf Life Saving Club

Laura has spent years keeping beachgoers safe on the Coromandel Peninsula, including stints as a paid lifeguard and a member of the Tairua-Pauanui SAR Squad. Here she tells us a little more about her involvement in search and rescue.

### How did you get involved in search and rescue?

I've been involved in Surf Life Saving NZ my whole life – the usual pathway through Nippers, to qualifying at 14, a paid lifeguard at 16 and then working my way up to a supervision role within the Paid Lifeguard Service and into the Tairua SAR Squad. As well as volunteering, I also work as Eastern Region's Lifesaving Operations Supervisor for Surf Life Saving NZ. Over the past year have successfully rolled out a Duty Officer programme which directly supports SAR and lifesaving operations, and have been supporting the launch of the iLine Construction Western Bay of Plenty SAR Squad.

### What differences have you noticed between your paid and voluntary SAR involvement?

As a volunteer you're very involved at a local level. Your focus is on things happening on the ground. It's a different perspective as a paid staff member – you get a lot more insight into the SAR system, the management structures that are in place, and just how interconnected the sector is.

### What are some of the challenges associated with SAR in the Coromandel?

We have a lot of remote surfing and swimming spots on the Coromandel, where the beach isn't patrolled, and an instant response isn't possible. As soon as the call comes through, you're thinking about logistics – where's your forward point, how can you get boats and people to the right place, who will be in command? There's lots of resources to coordinate and lots of layers which add complexity.

### Can you tell us about a memorable SAR operation?

We had one recently at Opoutere, on the coast between Whangamata and Pauanui. A group of seven people had gone out swimming and gotten into difficulty. The remote nature of the incident provided some challenges with logistics and communication as there was very limited service and infrastructure. The first day we had 33 SLSNZ responders on scene, in scorching heat and dangerous surf conditions. Responder welfare was a priority so we were rotating search teams every 45 minutes because of the challenging conditions. Sadly, two people lost their lives that day but we were able to bring both back to their family.

### What was one of the key learnings from that operation?

Every operation provides an opportunity to learn and this particular incident highlighted the challenges we face with limited infrastructure. We also had a large group of relatively young responders, and for many of them this was their first extended water search. This incident provided them with experience to help realise where their boundaries are, for example, they might prefer not to be out in the boat on a body recovery operation, but that they're okay with being on the beach coordinating people or resources. Everyone has different



skills and different boundaries and it's important that they are realised and respected when in the field. This operation also highlighted the incredible support that is provided to and amongst our teams. It was amazing to see everyone looking out for each other.

### You took a different direction after school; can you tell us about that?

I actually trained as a contemporary dancer at the New Zealand School of Dance. We spent a lot of time working through creative processes, collaborating with others to build and create a piece. There was a lot of problem solving, communicating and thinking outside the square – all which have hugely influenced how I work now! All of those experiences have gone into my kete [basket] and have helped me navigate all sorts of situations, and working environments including a stint working on Mt Ruapehu.

### Turoa skifield is quite different to the beaches of the Coromandel; how did you end up there?

When I finished my Psychology Degree and was still working seasonally for SLSNZ, I had a gap so ended up working in the Safety Services team at Turoa. The lifesaving skills I had from the beach translated well into keeping people safe on the mountain – even though it's a different environment, we use a similar skill set. It also opened my eyes to other SAR-related organisations like RARO (Ruapehu Alpine Rescue Organisation). This was an amazing opportunity to continue my learning and also get back into the field.

### What would you say to someone wanting to get involved in SAR?

The best way to start is to get involved in an agency (in an environment you enjoy) and just start meeting people and learning. You'll quickly decide which aspects you love and what you don't. I suspect there might be a few people wanting to get involved in SAR after seeing what's involved from recent events like the North Island flooding and Cyclone Gabrielle. It's been incredible to watch people rally to help, SAR agencies are the perfect place to be able to do so. If people are unsure what they can offer, don't worry, skills are very transferable and they are bound to have something in their kete they can bring to the table – Plus it's all good learning!

### What's one of the best things about SAR?

Seeing people come together to help others in their time of need. The whole community rallies to help respond to serious operations and it creates a very special atmosphere. It is very humbling work.

### Outside the Surf world, how else do you keep busy?

Ironman! I'm dabbling in long-distance triathlons at the moment so the training and preparation for that takes up what free time I have.



## Duncan's desk

### Kia ora koutou

**It has been** a summer like no other for the SAR sector, with so many parts of the country affected by flooding, Cyclone Gabrielle, and tornadoes. Add in the breakdown of the Interislander ferry MV Kaitaki and the mass rescue of ultramarathon participants from a flooded river, and you would be forgiven for wondering if the locusts were on their way. Each of these events has highlighted the considerable capacity and adaptability of SAR people.

SAR people have been easily spotted in amongst the news coverage of each of these events. I would especially like to mention the team at Maritime NZ's Rescue Coordination Centre and volunteers from Surf Life Saving NZ, AREC, LandSAR and Coastguard, who gave so much to the cyclone response. Our small contribution included several of the NZSAR Secretariat team working in the National Coordination Centre that was stood up inside the Beehive. We are now working with each of the SAR agencies to document their various experiences and identify lessons learned that can be drawn up for future events.

I also want to acknowledge the loss of Fire and Emergency NZ volunteer firefighters Dave van Zwanenberg and Craig Stevens, who died while responding to a cyclone-related callout in Muriwai. Dave and Craig left their homes and families to help other people, as did countless other emergency services and SAR personnel in those chaotic weeks. My thoughts are with their families, friends, and firefighter colleagues.

Behind the scenes, work continues on the funding agreements that underpin the sector's frontline capability. We are currently updating the 10 Service Level Agreements and

Memoranda of Understanding which expire in June this year. The updated versions will take the sector through to June 2025.

We are full steam ahead with planning Exercise Whakarauora Tangata, which aims to get the sector ready for a nationally significant SAR operation. The breakdown of the MV Kaitaki in the Cook Strait in January, while bringing back memories of the Wahine sinking, was in some ways a dry run for the sort of exercises planned as part of Exercise Whakarauora Tangata – see page 10 for details.

Some of you will know that following a robust procurement process, LandSAR now have responsibility for delivering the sector's multi agency training. I'd like to thank the previous provider Tai Poutini Polytechnic for their work over the years ensuring that SAR people had the skills they needed to respond to operations in their area.

Our beacons campaign, now in its third year, is proving to be engaging with over 25,000 visits to the beacons.org.nz website so far. For the first time we worked with outdoor retailers Macpac and Bivouac to build a picture of what a beginner outdoor user might look like, so we could specifically target them. It turns out freeze-dried food is the gateway to that user group, and we've targeted our advertising towards them with some promising results.

With the borders once again open, we finalised our Tiaki Promise-themed video 'Beautiful, Wild, Unpredictable: Be AdventureSmart in Aotearoa'. The video has a strong Te Ao Māori focus and is now available on the Air New Zealand in-flight entertainment menu for inbound international flights, as well as many

DOC visitor centres and information centres. You can see it on our YouTube channel – youtube.com/@nzsar

Stay safe,  
Duncan Ferner  
NZSAR Secretariat Director

### Whiteout on the Old Woman Range; our apologies and corrections

In issue 60 of Link (September 2022) we published a SAR in Action story that detailed the search efforts for a missing plane in Central Otago. We have since been made aware of some inaccuracies in the story.

The plane's departure time from Cromwell Airfield was 5.09pm, not 4.30pm. The plane's ELT (a type of distress beacon) was activated at 5.23pm, not 5.15pm.

The story also included a footnote reminding distress beacon owners to keep their registration details up to date. This was an editorial decision to provide a general reminder relevant to the theme of the article and was not intended to infer that the aircraft's ELT of the aircraft was unregistered, or that the aircraft had been recently sold.

We regret and apologise for the distress that these inaccuracies have caused the family of the deceased person, and we offer our sincere condolences for the loss of a much-loved father, son, brother, and husband.

**NEW ZEALAND  
SEARCH  
...  
AND  
RESCUE**  
*Rapu Whakarauora Aotearoa*

TOP

LandSAR volunteers en route to assist with the Cyclone Gabrielle response. Image courtesy Kristin Edge, NZ Police