AREC

.info

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AREC.info is the newsletter of Amateur Radio Emergency Communications, the public service arm of the New Zealand Association of Radio Transmitters. AREC.info is published monthly (except January).

Contents:

Cover:
Steve Jepsen ZL2KG / ZL2SJ installing the antenna at the Te Kopahou repeater site on Wellington's south coast. Note the ladder is tied off to the pole as per the safety plan for working at height and that Steve is wearing full PPE including full body safety harness and climbing helmet.   *Photo: John Yaldwyn ZL4JY*

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Another month down, another month closer to Christmas!

I would like to start by acknowledging Stuart Watchman who is stepping down as a Trustee on the AREC Trust.

Stuart inherited the NZART Trustee representative role as the NZART President. He lead the NZSART/AREC working group to re-establish the Trust charitable status. This required many meetings with both NZSAR and work with the Charities Commission. He then continued on as a Trustee after he left the NZART Presidents office.

On behalf of the NZART, AREC Trustees and AREC, I would like to pass on our thanks to Stuart for your service to the Trust. We certainly appreciated you support and service especially through difficult times of regaining the Charity status and the negotiations with NZSAR and the updates to the Trust deed. He was also very helpful to me as I took on the role of AREC National Director and subsequently AREC CEO role.

COVID-19 Vaccinations

I have had a number of questions lately about AREC's approach to mandating vaccination for members. At this stage we don't have a position however we are keeping a watching brief on what our partner agencies are doing. We may get to a point where agencies may require vaccination or provision of a negative test before going onto their sites or providing services. In the meantime, keep up with Government's COVID-19 advice and continue to follow the guidance to keep you and your family safe.

District Meetings

We are slowly getting around the districts with the Lower North Island Combined Districts Training held in Palmerston North on the 20th and 21st of November (more on this in the next newsletter). I have personally enjoyed these sessions and thank you to those who have been able to attend. These will continue into 2022 as we work our way around the country.

AREC Facebook Page

Many will know our administrator Annalise who manages our Facebook page. This is a great platform for keeping our members and followers up to date with what's going on in AREC in your area.

If you have photos or information you would like to include on the page, please send to her at admin@arec.nz

And remember to like the page if you haven't already!

Don's Shack! Like many of you, I don't get as much time to "play radios" as I would like. However, a recent storm event in Wellington which saw the ends of my trap dipole HF antenna coming away from their mountings. It crossed my mind that I didn't really check this antenna very often, and maybe a regular inspection would have alerted me that things were coming loose and maybe I could have averted this?

I thought I would include it as emergencies aren't generally something that you get time to prepare for. Remember to take the time to check your gear, periodically charge your batteries and know where you can find what you might need in a hurry.
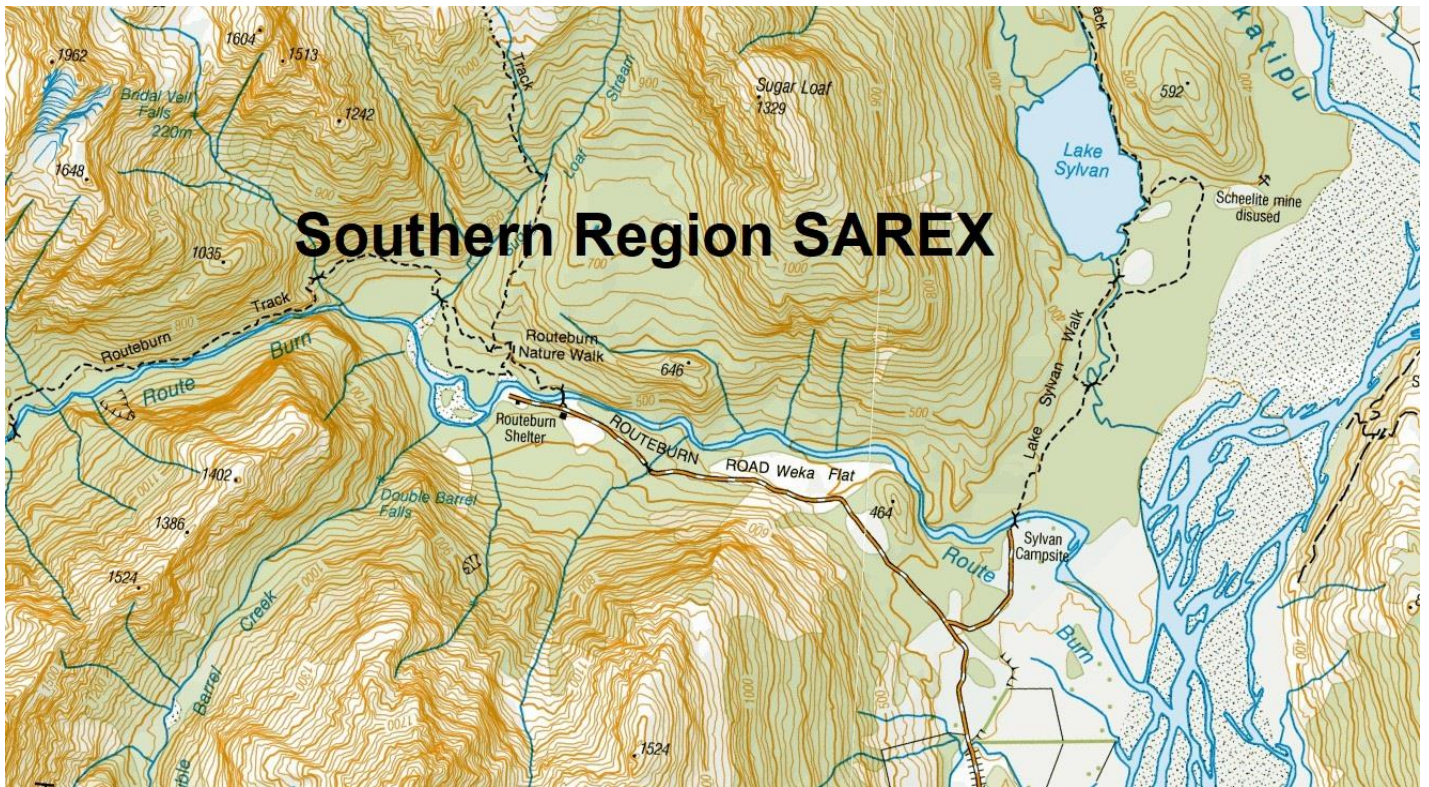
Until next month, stay safe!

Don, ZL2TYR

Chief Executive Officer, AREC

Southern Region SAREX — *Lindsey Ross ZL4KS*

The 2021 Southern Region SAREX took place on Saturday 13th November and was hosted by Wakatipu LSAR at the Routeburn Track Shelter approximately 90min drive north of Queenstown.

This was an opportunity for AREC to increase its presence in Central Otago and I was pleased when BR61 Group Leader Terry ZL4TAE took the bull by the horns and enlisted Russ ZL4JW, Bill ZL2BGX and Jim ZL4JI to help with the radio communications for the weekend. Southland Group Leader Brendon ZL4BDS also came through on the Saturday.

We arrived on Friday afternoon and one of the first tasks was to install the ESB57 and ESB58 portable repeaters on Sugar Loaf while everyone else setup up the base in the shelter.

Above: Russ ZL4JW and Safety Officer, LSAR GSO Paul Rogers returning to the Helicopter after ESB57 and ESB58 Repeaters were installed on Sugar Loaf.

LSAR Equipment and Technology Officer Matt Ellingham came down and spoke to everyone in attendance about the Long-Range Digital Radio Project "LRDR". He had a Codan man pack and once the portable mast and antenna was setup was able establish communications with the Greymouth base using Automatic Link Establishment "ALE" on a frequency of around 6mhz.

During the SAREX AREC members took turns to operate the base and work with the management team to co-ordinate the exercise.

This was the first time that Jim and Bill had been involved with SAR, so was a perfect opportunity for them and I was pleased to see them slot in seamlessly.

Above: Matt Ellingham LSAR Equipment and Technology Officer and volunteers setting up the portable mast and broad band dipole as a part of the LRDR demonstration.

On Saturday evening I attended the debrief and was on hand to hear the feedback from many of the teams complementing the radio operators at base and how the coverage from the repeaters was the best comms they had experienced, so thanks to Terry ZL4TAE for a job well done!

Left: Terry ZL4TAE Central Otago AREC Group Leader operating the base radio with Gail Benn looking on.

NZART IARU (R3) Emergency Coordinator Appointed

Don Robertson, AREC CEO, would like to announce the appointment of Steve Davis ZL2UCX to the NZART IARU (R3) Emergency Coordinator role.

"The Role of the IARU Emergency Communications Coordinator within NZART is to improve the effectiveness of EC services between IARU Region 3 member societies – it is great that Steve stepped up to fill this role, his work both with AREC and Red Cross makes him the ideal person for this position" said Don.

"I would also like to thank David Karrasch ZL1DK for the work he did as the previous office-holder. We are fortunate to have volunteers such as Dave and Steve to fill these important positions."

Steve Davis, ZL2UCX

AREC ZL-TRBO DMR gets to Marlborough on VHF!
By AREC Technical Advisor John Yaldwyn ZL4JY

Marlborough is a difficult area to cover on the VHF/UHF bands. With dramatic topography, ranging from the wide valleys of the Wairau River to the jagged Inland Kaikouras, the region is home to some 40,000 New Zealanders. With exceptional recreational opportunities, the AREC sections in the area see plenty of action over the busy tourist season.

The investigation of a suitable site for the AREC ZL TRBO DMR network coverage has been made difficult by terrain dominated by two major faults, the roughly parallel Wairau and Awatere faults run north-east and south-west directions and form the Marlborough Fault System.

The area has resonance with long time VHF Groups members, including the late David Andrews, who operated for many years during the December contest weekend from the old Carter Observatory on the Black Birch Range near the summit of Altimarloch at 1,693m. This range divides the Awatere and Wairau Valleys.

There is no one site in the region that covers the main population centre of Blenheim and the many surrounding areas. To address 2m FM coverage, the area branches have cooperated in installing an extensive network of linked 2m repeaters in Golden Bay, Nelson, Picton, Blenheim, and Ward with another repeater at Kaikoura. Providing DMR coverage of the same area on the UHF 70cm band would be a challenging exercise involving at least as many repeaters.

Those familiar with Wellington's rugged south coast on a good day know that views south to the Marlborough region are spectacular, and the thought has slowly grown that perhaps the region could be covered from a suitable location above the rugged south coast. Using repeaters on the other side of Cook Strait for coastal coverage is not a new idea. Many years ago, a major SAR exercise along the Wellington south coast used DOC repeaters located in the South Island to cover the shoreline which is completely isolated RF-wise from Wellington.

With site access kindly arranged by Ian ZL1HUT, Peter ZL3TC, and Ray ZL2RAY the time came to put the long-held idea to the test. A 2m DMR STSP has been temporarily installed at Te Kopahou (*folded feather*) to trial the concept with AREC members in Marlborough cooperating with coverage checks. While all AREC ZL TRBO network DMR repeaters are UHF, the goal of covering Marlborough made the 2m band a logical choice. To date, the AREC DMR repeaters have been installed close to city areas to maximise coverage for UHF handhelds. The idea of a DX repeater operating at VHF on 2m is relatively novel.

While 2m DMR equipment is not particularly common its use is growing with most amateur DMR radios now being dual band and of course the AREC TP9300 radios also cover 2m.

To see if this hairbrained idea would work, a pair of ex-TradeMe DM4400 25W mobiles were sent to AREC Tasman Manager Paul Rennie ZL2RE who at the time of writing is doing an extensive range of mobile coverage checks in the area with deputy Don Harris ZL2BDD. Testing from home with a Yagi antenna, Paul was received at a very strong -87.5 dBm at the repeater and early mobile tests showed good coverage from Blenheim north to Tuamarina, picking up again at Waikawa Bay.

To complement Paul's mobile coverage tests Peter Cobb ZL3TC happened to have a trip to Christchurch scheduled Wednesday 10 November, two days after the STSP was installed. Peter, with a 5W Motorola DP4400 handheld fitted with a 15cm helical antenna, was able to access the STSP DMR repeater from Springs Junction through to Blenheim across then down through Ward and finishing up at Point Kean Lookout, Kaikoura.

Peter's signal from Kaikoura was solid copy, ranging from -111 to -113 dBm. There were a few errors during overs as expected due to the extreme range (approximately 150 km) and probably some multipath.

The STSP is operating with a power of 30W from a Motorola into a modified Wacom WP-629B duplexer provided by John ZL4JY. A circulator protects the transmitter from mismatch and antenna system faults.

The antenna is a three element RFI YH03 Yagi-Uda type with a manufacturer's claimed gain of gain of 8 dBi. Feeder is LD4-50 Heliax. My thanks to Gavin ZL2ACT, the duplexer tuning expert at 4RF, for setting up the duplexer. Connection to the rest of the ZL TRBO network is provided by an LTE Rural Broadband Initiative (RBI) modem provided by Steve ZL2SJ / ZL2KG KG operating at 700 MHz to a Vodafone site located some 250m away.

Thanks to Ian ZL2HUT, Steve ZL2SJ / ZL2KG, Peter ZL3TC have made the job of antenna rigging and feeder wrangling look easy. Ray ZL2RAY 'found' the RFI antennas. Doug ZL2TAR has provided invaluable antenna design advice as options for a possible permanent installation have been proposed.

Thanks also to Paul ZL2RE, Paul ZL1BEZ, and Jeff ZL2JG for their assistance.

This sort of capability is what the AREC and the AREC DMR network is all about. Enabling a high level of connectedness between amateurs while providing a dedicated system of communication for organising the AREC response to emergency communications requirements.

Image credits: Steve ZL2SJ / ZL2KG, Andre ZL2ATL, and John ZL4JY.

Wairarapa SAREX   *John Murphy ZL2XJ*

The Wairarapa SARex was held in the Tararua Ranges over the weekend 13th/14th Nov with the IMT and comms based at Hood Aerodrome Masterton.

The scenario called for the local Wairarapa SAR (Police / LandSar / AREC) groups called out to respond to two simultaneous missing persons. Then for the Wellington SAR (Police / LandSar / AREC) groups to come over to the Hood Aerodrome Masterton to relieve the Wairarapa SAR and take over the SAR. Both Wairarapa LandSAR and Wellington LandSAR had teams operating in the Tararua Ranges.

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The event took place over the weekend with base teams setting-up on the Friday evening ahead of field team deployments first thing Saturday. A number of COVID-19 protocols were in place which requires separation between teams – IMT passed radio messages via a SARTrack operator in the main room which were handled by the AREC Team in the radio room next door.

While all had been through a number of training sessions and activities in the past eight-months for a number of members from the Wellington AREC Group this was their first involvement in a SAR operation even if it was an exercise. Quickly putting their SARtrack, radio comms, and IMT training to good use and gaining valuable experience ready for the real thing. All reported that they thoroughly enjoyed the involvement

New National Officer Role

AREC CEO Don Robertson, ZL2TYR has announced a new AREC National Officer Role.

We are looking to expand the capacity the AREC technical and technology advisory and leadership capacity. As part of the updated joint service level agreement (SLA) put in place last year with LandSAR, it has become apparent that we need to expand our voluntary leadership capacity in this area. With this in mind, we have split the current Technical Advisor role into two separate roles. These are: Licencing & Technical Advisor and Innovation in Technology Leader.

John Yaldwyn ZL4JY currently holding the Technical Advisor role with take up the position as the Licensing & Technical Advisor. We are now calling for applications to fill the newly establish Innovation in Technology Leader. The following are the broad duties of each role:

AREC Innovation in Technology Leader (Vacant)
- Be the AREC representative on the NZSAR Innovation Forum and coordinate AREC activities under the NZSAR Innovation in Technology Strategy.
- Provide or make available technical advice, expertise and recommendations relating be of current to radio communications to AREC's executive leadership team (ELT) and technical project groups.
- Plan, certify and oversee the development and maintenance of AREC's communications network and infrastructure within an annually allocated budget.
- Manage repeater site planning and acquisition, engineering, licensing
- Define, develop and review applications for network equipment allocations between AREC districts.
- Provide thought leadership for AREC's strategic plans for technical and network development.
- Define the AREC Innovation & Technology annual business plan and budgets for approval by the CEO
- Recommend the procurement and allocation of hand-held equipment that is fit for purpose, homogeneous and interoperable with AREC's partners
- Plan and coordinate technical activities necessary to integrate AREC's equipment and frequency assets
- Provide or make available technical assistance for AREC's Groups on request
- Receive and process requests for equipment purchases to be funded partially or wholly by AREC and determine feasibility and if appropriate provide recommendations to AREC Executive
- Attend the AREC National Management meetings and other meetings as required.
- Liaise with the AREC Licensing & Technical Advisor as necessary.
- Provide a monthly report to the CEO on the Innovation & Technology and TWG activities.
- Convene and chair an AREC Technical Working Group (TWG) that will provide:
  - Research and advise on new and innovative technologies that may be of future benefit to AREC or any of the AREC partners in SAR and civil emergencies.
  - Advice, guidance, standards
  - Work on/in AREC Technical Projects
  - Liaise with AREC Technical Project owners/managers and with the Licensing and technical Advisor

AREC Licensing & Technical Advisor (John Yaldwyn ZL4JY)
- Act as AREC ARX
- Plan and manage AREC frequency licensing
- Maintain a register of frequencies and repeater licenses allocated to AREC
- Ensure AREC frequencies and repeater licensing annual fees are paid
- Represent AREC's interests in discussions with regulatory bodies such as the Radio Spectrum Management Group within the Ministry of Business, Innovation and Enterprise.
- Liaise with and provide cross sector advice and guidance to the AREC partners for SAR sector, Civil Defence, Police, RCCNZ and other bodies as applicable
- Provide specialist advice and guidance on licensing and regulations
- Advise on radio channel planning
- Provide training to AREC members regarding licensing and regulations as required
- Investigate and resolve any misuse of AREC frequencies
- Participate as a member of the AREC Technical Working Group
- In conjunction with the Innovation in Technology Leader:
  - Provide technical advice, expertise and recommendations relating to radio communications to, AREC management and technical project groups as required.
  - Provide thought leadership for AREC's strategic plans for technology and network development.
  - Provide technical assistance for AREC Groups on request
  - Research and advise on new and innovative technologies that may be of current or future benefit to AREC or any of the AREC partners in SAR and civil emergencies.
  - Advise on repeater site planning and acquisition, engineering, licensing

If you are interested in applying for the role of Innovation in Technology Leader please send you application accompanied by your CV and other supporting documentation to admin@arec.nz.

If you have any questions on the role please contact the AREC CEO Don Robertson ceo@arec.nz.

Sometimes it's the mundane things that can be harmful!

We are heading into Spring and hopefully will be leaving the short days and the cold behind us. That means increasing sun hours and warmer days. That will allow us to take off the rain gear and start to rebuild our Vitamin D levels by exposing our skin to sunlight.

Whilst a small amount of sun exposure is good it can accelerate the otherwise slow and inexorable effect of aging on the skin.

As I'm from the boomer generation I can remember the lack of sun sense we had. Long days in the sun without much in the way of protection leading to some dramatic cases of sun burn with peeling sheets of skin. We almost seemed to be lizards in the summer shedding our skins as we grew older.

Now we are much smarter so we tend to use sun screen and follow the "slip, slop, slap" sun protection model. Even during the winter and as we get older we need to maintain those good behaviours. Two particularly vulnerable areas are our face and neck and the forearms and backs of our hands. We need to ensure those areas are protected, not only to avoid the danger of developing skin cancer, but also to minimise the breakdown of the skin tissue as a result of excessive exposure to UV light.

If you are getting older just compare the state of the skin on the back of your hand compared the skin that remains hidden (upper leg, abdominal or bum areas). That skin is in good condition but in comparison you can start to see the effects of sunlight degrading the underlying connective tissue on the areas most exposed to sunlight. The net effect is that the exposed skin become thinner and prone to tearing injury. Sometimes the skin can almost look transparent and you can see the tendons and other sub-surface structures. The problem can also occur on the forearms and lower legs for those who work outside and wear shorts.

So, as summer approaches work out how best to protect those vulnerable areas of skin. Wear long sleeved shirts and gloves if ever outside for prolonged periods.

Think about wearing long trousers if you are going to be outside in the sun for longer periods. Use sun screen on the face and neck. Wide brim hats can help as caps still leave the ears exposed.

Don't continue to make the mistakes of the boomer generation, be sun-smart, keep protected and ensure the younger generations learn from the errors of the past.

David Wilkins ZL1MR
AREC Health &Safety Advisor
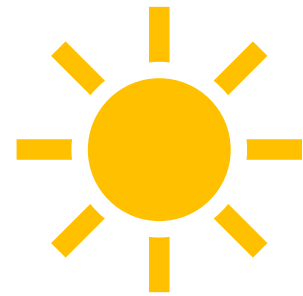
Health and Safety is the responsibility of us all

Remember to:

STOP – In your mind you need to be constantly pausing and evaluating no matter the task or the location.

THINK – You need to think about what you see. Identify Hazards and associated Risk (the chance of it going wrong)

PLAN – Talk to others, compare notes, make a plan

COMMUNICATE – Brief the plan and plan to brief others as they arrive.

ACT – Execute the plan, monitor and review progress.