

GAIN SPECIFIC CANYONING TECHNIQUES AND EXPERIENCE

If you are inexperienced get some formal training first, go with experienced canyoners or join a trip with commercial operators. Start in accessible and easy canyons with low water and plenty of escape options

PLAN YOUR TRIP CAREFULLY

Gather as much information as possible:

- Topographical maps
- Canyon beta
- Weather
- Group
- Access
- Local knowledge
- Explain your emergency plan to all party members
- Appoint a suitable leader
- Use effective communication
- Leave your intentions

TAKE THE RIGHT EQUIPMENT

- Wetsuit
- Sturdy footwear
- Harness with personal gear
- Helmet
- Canyoning rope
- Anchor material
- Whistle
- First aid kit
- Throw bag
- Diving mask
- Canyoning pack
- Buoyancy Aid
- Communication
- High energy food

UNDERSTAND AND BE AWARE OF CANYON HAZARDS

- Walk carefully!
- Respect the force of water!
- Always check the pool before you jump or slide!
- Be aware of the changes in your surroundings
- Safety is a team effort
- Know where your escapes are
- Think and look a few steps ahead and anticipate the hazards
- Report incidents through the National Incident Database

USE CANYONING ROPE TECHNIQUES

- Be rope efficient
- Use single rope techniques with a releasable system

TAKE CARE OF THE ENVIRONMENT

CLEAN AND DRY YOUR EQUIPMENT AFTER YOUR TRIP (DIDYMO)

TRAINING

Canyoning can be dangerous. Escaping out the sides of a canyon is often impossible, and completion of the descent may be the only possibility. Due to the sometimes remoteness and inaccessibility of many canyons, rescues can take several hours to several days. Rain can cause the water level to rise incredibly fast; calm crystal-clear pools change into surging masses of white water where swimming is impossible, overhung walls become deadly undercuts. Hypothermia is a risk due to cold water in combination with limited sunshine and low air temperatures. Evacuation in case of an injury or emergency is often extremely difficult due to the geology of a canyon and its surroundings. Unfortunately there have been many tragic accidents with fatalities in canyons all over the world including New Zealand.

These risks do not stop people from going canyoning and they shouldn't. It would be a waste of these uniquely beautiful places to avoid them because of their hazards. Canyoners must be aware of the dangers in canyons and be prepared for them.

The technical nature of canyoning is frequently underestimated in by the inexperienced. Canyons require specific canyoning skill and knowledge to descend with safety and enjoyment. Take a course from a recognised canyoning training provider or contact your local canyoning operator. Courses are offered at different levels for recreational canyoners and for professional guides.

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KIWI CANYONS

Another good way to safely gain experience is to go with those who are already experienced themselves. **Experienced canyoners** can be found through the kiwi canyons [website](#). The purpose of this website is to enable people to share canyon information and to find others to go canyoning with. The website is being developed to share more information about canyons and canyoning, with publishing a NZ Canyoning Guide book as a final goal.

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COMMERCIAL OPERATORS

Throughout NZ there are currently 5 dedicated canyoning operators. These operators have over 50 years of experience canyoning in NZ and overseas. They can provide a great introduction and understanding of canyoning.

Websites: www.awoladventures.co.nz www.bigrockcanyoning.co.nz www.canyoning.co.nz www.canyon.co.nz www.deepcanyon.co.nz

There are other operators that offer canyoning experiences as one of multiple activities. They can be found through web searches.

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TOPOGRAPHICAL MAPS

Topographical maps are essential to safely navigate to and from the canyons. They can be downloaded from the Land Information New Zealand [website](#). Or you can buy them from outdoor shops, map shops and some information centres. It is recommended to take a copy with you for emergency situations which require external help.

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CANYON BETA

Canyon topos are written for a number of canyons in New Zealand. They contain information on location, access, characteristics of the canyon, rock type, catchment size, water flow, anchors, route description, estimated times, escapes and grade. In New Zealand the French grading system is used as it seems the most accurate, it can be found on the Kiwi Canyons [website](#). Usually a topo has a drawn cross section of the canyon showing the height of each drop and the type (abseil, jump, slide or down climb). If you are planning to do a canyon without a topo it pays to gather as much of this information as possible. This way you know where to go, what to expect and how much gear you should bring.

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WEATHER

Weather information can be found on the following websites:

www.metservice.co.nz

www.metvuw.co.nz/forecast/forecast.php?type=rain®ion=nzni&noofdays=7 (N. Island)

www.metvuw.co.nz/forecast/forecast.php?type=rain®ion=nzsi&noofdays=7 (S. Island)

www.sunrockice.com/weather.htm

Make sure you check the forecast for the area you are going to and the area you would go to as your backup plan. Also find out what the weather has been like the previous days, which could give you an indication of the water levels and potential soil saturation in that area. Also have a look at the freezing levels and orientation of the catchment area when you intend to go in a canyon which still has snow in the catchment area or is fed by a glacier.

Regional councils in some districts have websites containing rainfall and river flow data which are to be used in tandem with weather sites. To find these sites type 'rainfall + area (e.g. Otago)' into a search engine. Understanding the collected information requires practice and experience. More information on river flows for several areas in New Zealand can be found on: <http://rivers.org.nz/>

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GROUP

Know who you are going canyoning with. How many people? How much experience do they have? How fit are they? Are there any medical conditions? Fear of heights? Claustrophobia? Fear of water? Can they swim? What are their expectations? Who is trained in first aid? Do they have the right equipment? Most of these issues can be dealt with quite easily, but not when you find out when you are already in the canyon. Preparation and the selection of your canyon can make the difference between an enjoyable trip and a terrible one.

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ACCESS

Access is a very delicate issue in New Zealand. Make sure you find out who to contact for permission and actually contact that person. Even in National Parks and land managed by DOC there might be access, cultural and/or conservation issues. Unauthorised entry onto private property is unacceptable. It might cause the landowner or Iwi to deny access all together and it will give canyoners a bad reputation making it harder to gain access for canyons. Contact the commercial operator when you intend to do a canyon which is used for commercial guiding on public land. If this canyon is on private land there may be specific requirements to meet. Try to gain access well in advance; it might not work on the day.

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LOCAL KNOWLEDGE

Local information is valuable, for your safety but also with regards to local access issues. Think about contacting local canyoners, local operators, Iwi or Hapu, landowners and DOC. You might get information on water flows, state of the anchors, access requirements, landslides, fun jumps or slides, tricky parts in the canyon, escapes etc.

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EMERGENCY PLAN

Always communicate your emergency plan to everyone in your group. You might get hurt yourself and you will need the others to take action. This plan might include things like:

- Who is carrying the first aid kit?
- Who is trained in first aid?
- Where are the escapes?
- Where is the nearest phone?
- Who to call in an emergency?
- What information to give?
- Where are the car keys?

APPOINT A SUITABLE LEADER

As with any outdoor activity, decision making is critical in canyons. Often the most skilled and experienced canyoner takes the leader role without any discussion. However, consciously appointing a leader will avoid conflicts when things turn bad and critical decisions have to be made. It is important that everyone agrees on the selection of the leader.

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USE EFFECTIVE COMMUNICATION

Clear communication is essential in canyons. Learn the hand and whistle signals, as verbal communication is difficult due to the sound of rushing water. Make sure all party members know what the signals mean before heading out. Examples of visual and audible signals can be found on the American Canyoneering [website](#).

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LEAVE YOUR INTENTIONS

Leave detailed information with friends, family, landowner and/or DOC. This information should include:

- Time and date of departure and return
- Your contact details
- Your car registration and where you have parked
- Your intended trip plus access route
- Group details (names and experience levels)
- The equipment you are taking

Make sure you contact your contact person as soon as you are back. You can find more helpful information on this website: www.mountainsafety.org.nz

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WETSUIT

Cold water and limited sunshine require a good wetsuit any time of year. Many first time canyoners grossly underestimate how much cold water protection they will need. A full 4mm wetsuit is the minimum, preferably with a neoprene hood. You might get away with less in summer in the northern parts of the North Island. In spring or autumn or on cold days you can add thermal layers under your wetsuit or wear a spray jacket over the wetsuit.

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STURDY FOOTWEAR

Canyons are slippery and uneven. The walk in can include very demanding off trail tramping. For those reasons sturdy footwear (preferably with ankle protection) is very important. There are specialized canyoning shoes made by different brands. They typically have very soft rubber on the sole to provide good friction on wet rock. They should also have good drainage and be light weight to make swimming easier.

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HARNESS

A canyoning harness typically has a pvc bum pad to protect the wetsuit and harness when sliding and scrambling. What you carry on your harness is personal preference but these are the items you should consider:

- Safety lanyards
- Descender
- Ascender
- Karabiners
- Sling
- Some rescue gear to perform hoists
- Rescue knife

Just carrying these items on your harness does not make you well prepared. Make sure you know the applications and limitations of your equipment and practice regularly.

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HELMET

A wide range of helmets are used for canyoning. Climbing helmets are recommended as they are tested for rock fall which is a significant hazard. They also provide good protection for bumps like any other helmet. However white water helmets generally offer better protection for the back of the head. Holes in the helmet reduce the pressure on the chin buckle when landing big jumps and slides. A buckle with a maximum load (around 50kg) is preferred to avoid getting strangled when getting jammed.

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ROPE

Semi static rope is used for canyoning. Static ropes are also suitable but are heavier and not as nice to handle. Consider bright coloured ropes which make it easy to see the end when trying to set it at the right length. DO NOT USE DYNAMIC CLIMBING ROPES!! They have too much stretch which causes extreme bouncing when abseiling. This bouncing will easily cut the rope when it is running over sharp edges. The bouncing also causes the rope to twist and jump underneath the abseiler, increasing the risk of getting stuck. Make sure you manage sharp edges with some sort of protection or by resetting the rope after each abseil. In the worst case, sharp edges can sever your rope whilst descending.

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ANCHOR MATERIAL

Carry some anchor material on any canyon trip. Floods can rip anchors out or you might need extra anchors to evacuate an injured person. It can also be used to protect a climb out or up onto a higher ledge if the water comes up. Carrying adequate material is especially important in canyons with little traffic. The size of your anchor kit depends on the type of canyon you are doing. An anchor kit could include:

- Hand drill or hammer drill
- Bolts and hangers
- Hammer and spanner
- Slings
- Maillons
- Nuts (various sizes)
- Pitons (various sizes)

Placing bolts in a canyon has an impact so should only be done if natural anchors can't be found or if they are needed to avoid hazards. An adequate number should be placed with minimal visual impact. Bolting on private land should only occur with the approval of the landowners or their agents. Bolting on the conservation estate and other public land must be in accordance with the relevant management strategy and/or plan. [Technical guidelines](#) for bolting have been developed by the New Zealand Alpine Club.

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WHISTLE

Noise can distort verbal communication and sometimes visual contact cannot be established. For these situations whistles might be the solution. Agree on whistle commands before you start your trip.

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FIRST AID KIT

Your first aid kit for canyoning should include:

- 2 samsplints
- Duct tape
- Tea lights (2pp) + lighter/waterproof matches

- Notebook + pencil
- Rescue blankets (1pp)
- Wound dressing
- Painkiller (paracetamol/ibuprofen and aspirin)
- High energy food
- Headlamp + spare batteries
- Hose (700mm long, min 15mm diameter)

Additional first aid material should be taken for large groups and for specific needs (asthma, diabetes, allergies etc.). For more suggestions check this link: www.mountainsafety.org.nz/Safety-Tips/Outdoor-First-Aid-Essentials.asp

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THROWBAG

This is an essential item to have to rescue people from dangerous water features, especially in high flow canyons (remember that low flow canyons can turn into high flow canyons in a very short time). Training in the use of a throwbag is important.

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DIVING MASK

Take a diving mask to check those pools before you jump into them. It also comes in handy when you drop gear that does not float.

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CANYON PACK

Canyon packs should be big enough to carry all of your equipment. It should also be light, have a bright colour, have a mesh for drainage, have floatation and have panic release shoulder straps.

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BUOYANCY AID

Wearing a buoyancy aid or PDF (Personal Floatation Device) is subject to personal preference. There are pros and cons to the use of a PDF. A PDF provides floatation which generally means less down time in hydraulics. It provides some warmth as well as impact protection on falls. On the other hand it could potentially hold you in hydraulics longer and it restricts swimming movements. It reduces vision on your harness and feet.

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COMMUNICATION

In general, electronic communication from canyons in New Zealand is difficult or even impossible. It is likely that you have to escape the canyon to get a signal. Even then you might find yourself in thick bush. For this reason it is important to leave intentions and consider having multiple means of communication.

Means of communication could be:

- Cell phone
- Satellite phone
- Mountain Radio
- Nearby land line
- Whistle
- Personal Locator Beacon (more info on www.beacons.org.nz)

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WALK CAREFULLY

Canyons are slippery and uneven. Most injuries happen when walking through canyons. The most common injury is a sprained ankle. Stay low so you can't fall far. Use your hand on the walls and rocks to balance. Use your bum pad by sitting down and shuffling along slippery surfaces. When walking through fast flowing water, check slowly for foot entrapments and advise others in the party.

RESPECT THE FORCE OF WATER

REMEMBER: THE WATER'S ENERGY IS ENDLESS, YOURS IS NOT!!

The water related hazards in a canyon are often underestimated and therefore responsible for the majority of serious incidents and accidents. There is plenty to learn about hydraulics, siphons, undercuts, strainers etc. Some of these features are hard to identify. They require a careful approach and specific techniques which can only be learned in a safe and controlled environment. Make sure you know what you are looking at and how to deal with water hazards by training and/or following a suitable course. River rescue skills are extremely valuable to have as a canyoner. However these techniques are a last resort measure when things have gone wrong. In first instance avoidance should be the strategy. Avoid dangerous water features in a canyon by learning tricks like; guided rappels, floating anchors, deviations etc. Hydraulics in a canyon are often small compared to rivers but they can still be dangerous and should not be underestimated. A hydraulic only has to be man-long and man-deep to be extremely dangerous.

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ALWAYS CHECK THE POOL BEFORE YOU JUMP OR SLIDE!

LOOK BEFORE YOU LEAP!

The clearness of the water and the reflection of the light often play tricks with your judgement. Don't be fooled and think it is deep because it looks deep. Often the hazards are covered by white water. Canyons change all the time, especially after big floods. Logs can get jammed in pools. Rocks and gravel can fill up what used to be deep pools. Be aware of these changes. Make sure one person abseils down first to check the pools with a mask before jumping or sliding into it. Just because you jumped it last time that doesn't mean it will be fine this time. Communicate any changes to the community through the kiwi canyons website and your source of access.

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BE AWARE OF CHANGES IN YOUR SURROUNDINGS

Be observant, keep an eye on everything.

- Is the weather changing?
- Is the water level rising? Is the water changing colour? Remember, there might be blue skies overhead while it is raining in the catchment area.
- Can you see any signs of recent or imminent rock fall?
- Are your party members getting cold, scared, hungry, tired or mentally fatigued?
- Are you moving fast enough?
- How much daylight is left?

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SAFETY IS A TEAM EFFORT

Fatigue and routine can cause mistakes. Stay alert and check each other while setting abseils or attaching descenders.

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KNOW WHERE YOUR ESCAPES ARE

Whilst you are descending the canyon take note of where your escapes are. If you have a topo they might be marked. These escapes will be helpful in case of an emergency (injury, hypothermia or rising water levels).

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THINK AND LOOK A FEW STEPS AHEAD AND ANTICIPATE THE HAZARDS

Many canyons in New Zealand are very committing with few or no escape possibilities. Look ahead and ask yourself if you and your team are able to deal with everything between where you are and your next escape. Consider the option of leaving a rope to ascend to your last escape whilst someone checks the route to your next escape. Mitigate hazards by

heaving preventative measures in place (e.g. throw bag, guided rappel, hand lines, spotters etc.).

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REPORT INCIDENTS THROUGH THE NATIONAL INCIDENT DATABASE

The only mistake is the one from which we learn nothing. – John Powell

As this sport is taking new and growing interest in NZ, it is important we make an effort to learn from incidents through collective analyzing on a national level. This is free, anonymous and is done online: www.incidentreport.org.nz. The best part of this process is that it doesn't have to be you who learns from the experience. It will require you to reflect and be honest on how, why and what happened.

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BE ROPE EFFICIENT

Have your rope flaked in your pack and not coiled. Only feed out as much as you need to reach the water or the bottom belayer. This way everyone will just abseil off the end of the rope instead of having to swim out of the pool whilst still being on the rope. The excess rope will twirl around and can easily entangle the abseiler. This can be extremely dangerous, especially in turbulent pools. Rope efficiency also enables you to progress faster through a canyon which prevents people from getting cold and ensures more daylight hours left in case of an emergency.

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USE SINGLE ROPE TECHNIQUES WITH A RELEASABLE SYSTEM

There is always the chance of getting stuck on an abseil; something caught in the abseil device or a knot in the rope. While abseiling through a waterfall this is extremely dangerous. The abseiler could drown in the waterfall. Mitigate this risk by using single rope techniques on a releasable system so the abseiler can be lowered if needed. If you don't know these techniques make sure you learn them before you go canyoning.

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TAKE CARE OF THE ENVIRONMENT

Minimise your impact on the environment and keep our waterways clean by using common sense and adhering to these two codes:

- [New Zealand Environmental Care Code](#)
- [New Zealand Water Care Code](#)

Avoid walking on moss and other vegetation, some of these can be very slow growing. Rig your anchor in a suitable place which allows you to abseil through the water flow (if it is safe to do so) or down bare rock to avoid destroying pristine flora.

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CLEAN AND DRY YOUR EQUIPMENT AFTER YOUR TRIP (DIDYMO)

Keep that rocksnout out of our beautiful canyons and rivers!!

Canyoners can easily carry any invasive algae and plant species up from the rivers into the canyons. For more information on didymo and how to avoid spreading it check this website: www.biosecurity.govt.nz/didymo