International Commission for Alpine Rescue

Minutes of the Presentations

In the Joint Meeting of all Commissions on Saturday

Location: Montreux, Schweiz

Date: 15. Oktober 2022

Time: 08:00

Present: Delegates of all 5 Commissions

Head: Gebhard Barbisch and other Commission Presidents

Minutes: Fabienne Jelk

Volunteer Versus Full-Time DRK Bergwacht / Klemens Reindl (TERCOM)

Organized rescue has its beginnings in the 20th century. The main task was first aid and rescue of injured persons and body recovery. Mountain rescue was voluntary and an adventure.

More and more rescue became more technical and faster, helicopters were added, emergency medicine and doctors were called in for rescues. Professional rescue standards are expected even in very difficult areas and dangerous circumstances.

Mountain rescue developed differently in different countries. In some countries the rescue is voluntary (volunteer system), in other countries the rescuers are employees, in some the rescue is organized privately or semi-privately (Red Cross, alpine clubs). In some countries the rescue is organized by the state. All of them do the same work and face the same difficulties.

Volunteer System:

Advantages: Many rescuers available in a short time, rescue stations are close to areas where many accidents happen (short deployment time to the accident site), rescuers are locally integrated and enjoy great recognition, rescue is not just a job but a service to the community, greater potential for disasters, low costs.

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Disadvantages: The cost and time needed to keep rescuers up to date is high, higher cost of personal equipment, availability during working hours is limited, many changes in teams (changes in rescuers' personal circumstances, training, family), funding must be negotiated regularly.

State Rescue/Employees:

Advantages: Rescuers are employed and available, education and training is part of the job, high professionalism can be expected, bad rescuers can be terminated, chain of command is clear and not debatable.

Disadvantages: rescue stations are farther apart (longer deployment time to the scene), capacity in parallel operations is limited, capacity in longer operations is limited, increasing capacity is limited, what happens to rescuers who are unsuitable, more expensive, higher personnel costs.

Which system is better also depends on regional and national culture and circumstances. It also depends on the expected response time, funding and legal framework.

In volunteer systems, rescuers need to be able to focus on rescues and not have to deal with administration, documentation and sponsorship. Good training and instruction is needed, good equipment and infrastructure, sufficient funding, employers who let them go when an alarm is received.

How can this be achieved: There is a need for professional, salaried supporters even in a volunteer system, it must not be a disadvantage for employers to have salvage team members on staff, excessive regulation must be avoided, sufficient funding and good training opportunities are needed.

Voluntary does not mean less professional, unlimited availability and without compensation.

Questions/Remarks:

Alistair Read:	We have volunteer systems as well. How can these be sustained over time with a large number of rescuers?
Answer:	the problem is funding, etc.. It takes professional supporters.

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Search Path - Avalanche Transceivers ICAR / Felix Meier (TERCOM/AVACOM)

Felix Meier has developed a program that can be used to calculate and display the field lines of LVS.

The first avalanche transceiver was developed in 1971. From 1995 came the digital devices. From 2003, 3-antenna avalanche transceivers were introduced. Today, the avalanche transceivers show the distance and the direction of the buried device.

Then the program is presented, which can be used to display the search lines/field lines.

The program can be used for personal investigations/studies, to create challenging training situations, to make graphics for documentations and manuals and to develop new (better?) avalanche beacons.

The program, manual and technical information can be downloaded for free at the following link:

https://felmeier.com/en/software/SearchPath.

Questions/Comments: None.

MountainSafety.info Update MSi / Presenter TBD (AVACOM MountainSafety.info Update MSi / Presenter TBD (AVACOM)

Knowledge is collected in MountainSafety.info. The individual organizations obtain the information from MountainSafety and develop their own online platforms and guidelines.

Anjan Truffer:

What are the main advantages of MountainSafety.com?

MountianSafety.com is a collection of practical knowledge in mountain rescue. This includes accident prevention, rescue and all related aspects. This can make activities safer and improve practices in the mountains.

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Peter Paal:

MountainSafety.com also contains medical knowledge such as algorithms for avalanche accidents, for organized rescue, but also for companion rescue (AvaLife Modules).

Tobias Huber:

Cards with algorithms that can be taken away have also been developed.

Anton Berg Carrasco:

Talks about an online collaboration platform. Current knowledge is collected in it. The platform includes illustrations and videos.Ian

Spare:

Ian Spare is the president of UIMLA (Union of International Mountain Leader Associations). Members meet in various countries. UIMLA has 21 members. 7 other organizations have applied to join. The USA also wants to be integrated, which is difficult because of the size of the country. Ukraine also want to be included. UIMLA works with UIAA, IVBV, ICAR and also with MountainSafety.info.

Peter Zimmer, LandSAR NZ

In New Zealand, rescuers are volunteers. Presents the New Zealand Avalanche Search and Rescue, Readiness Guidelines.

Charley Shimanski, Mountain Rescue Association.

MRA is a rescue organization and is also involved in training. An online event (training) that lasted 2 hours was conducted in January 2021. 88 people participated.

Anjan Truffer

In MountainSafety.info the knowledge of the different countries is collected. The goal is cooperation. Rescue is teamwork and no place for egoists.

Questions/Comments: None.

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Common Operational Picture: CRIMSON Collaborative Software to Help Mountain Rescue Coordination GSM / Colonel Philippe Meresse, Captain Medhi Doukari

Present a system according to which operations can be carried out.

Coordination is difficult, especially in large-scale operations such as the Germanwings crash. Many different organizations work together (fire department, police, military, different rescue teams, volunteers, local authorities, health personnel...). The cooperation has to be coordinated. It must be decided who will lead the operation and coordinate the operations. It must be clarified if everyone knows what happened and if everyone is talking about the same thing. The actors have different interests at different times (the minister wants to know how many casualties there are before the aid has even started). Each organization speaks a different language and uses different terms. Different perspectives prevail (the focus can be a person, a house, a bridge, a city, a region...). Coordination of major events is always a challenge, but in the mountains the difficulties are even greater. Many different actors, different communication systems, problems of visibility, access, bad weather, integration of 3D vectors like helicopters and the weather have to be taken into account.

Because of this, COP (Common Operational Tables, pictures) are being introduced. These systems, which originate from the military sector, must enable all actors in an operation to share and record a comprehensible situation in real time. Just like the military, emergency response actors need to diagram and map what is currently happening. This is what is known as SITAC (SItuation TACtique). COP is a representation of relevant information that allows the best decisions to be made for the situation at hand, for those in command and those in the field. All participants have the same information, which facilitates joint planning and execution of decisions.

CRIMSON was co-developed and produced by the company CS in 10 years. The product should meet those requirements that are needed in mountain rescue / major events and differs from military products, because it must be used by many different actors.

The product is illustrated by an example: Avalanche of February 10, 1999, 30 victims, near Chamonix. In action were 35 emergency vehicles from different organizations, 6 helicopters, 120 rescuers. The access road had to be closed. So

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it was difficult to bring the rescuers on the spot. A map can be used to plot the various incidents, such as an avalanche, fire, etc.

Questions/Comments: None.

The Past, Present, and Future of Mountain Rescue Air Zermatt / Gerold Biner (AIRCOM)

First shown is a film of the Air Zermatt.

The rescues started in 1940. The big development was in 1950, when air rescue started with Hermann Geiger. He founded together with Bruno Bagnoud the organized mountain rescue in Valais. In 1980, the Lama was in operation. With the Lama the technical part of the rescue was done, with another helicopter the patient was brought to the hospital. Today, more powerful helicopters are needed. But in some countries, lighter helicopters are still needed. New technologies have been developed, such as cell phone tracking. But there are legal problems here. There were other technologies, like RECCO, FLIR, IMSI catcher (Lifeseeker).

As an example, a case of a missing mountain biker is shown. The problem was that initially the local rescue was not informed, but the military. They could not find the mountain biker despite the technologies. The important thing is that despite all the advanced technologies, the head is needed. It takes people from the region who know the area. Rescue is teamwork. The leader of an organization must be a rescuer.

REGA is the organization that can also advance the rescue service from a financial point of view. A film about REGA will then be shown. The flight simulator is shown there. REGA developed a low-flying network, which is useful, for example, in high fog. REGA's vision was to be able to fly in any weather at any time of day in any area. So the Icebird project was started, which is on hold at the moment due to regulations. A vision for the future is also the increased use of drones and a device with which people can "fly". This could be used, for example, to bring a doctor to a patient quickly.

RECCO would be one of the best means to search, but the problem is that not everyone wears RECCO detectors.

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For the future, we need doctors, rescuers, young people who are well trained. Rescue is teamwork.

Questions/Comments:

Martin Gurdet:	Does anyone have experience with jetset (flying human)?
Answer:	No one.

The OXY PACK: Working Towards New Mountain Rescue Strategies PGHM / GSM - Fréderic Auvet, Océane Vibert (TERCOM)

PGHM was founded in 1958, is organized by the state and consists of 40 rescuers. PGHM carries out all rescues in the Mont Blanc massif.

La Chamoniarde is a non-profit organization for rescues and prevention, founded in 1948. La Chamoniarde brings together all organizations working in the field of rescue. La Chamoniarde collaborates with PGHM to develop new equipment and techniques.

The project presented here had its origin due to a rescue on Mont Blanc on July 22, 2020. The alarm arrived at 12:35. Two climbers were blocked on Mont Blanc de Courmayeur. One was suffering from altitude sickness and was unconscious. The conditions for the rescue were difficult because of the altitude, the victim was unconscious and could not walk, no stretcher could be used in the terrain, the team had just returned from a difficult operation and the weather was bad. The climber with altitude sickness was treated with oxygen and medication (corticosteroids).

After this action, the aim was to find a solution on how to use oxygen optimally in a terrestrial action where it is necessary to move out on foot. The idea was to make it possible for casualties to walk efficiently. If casualties do not walk but stay where they are, it can end up with their death. Oxygen should be used to stabilize the victims so that they can walk by themselves and bring them to a protected place from where they can be evacuated by helicopter.

At altitude, the oxygen content in the blood is reduced by up to 25 percent. Even if you are fit, you walk more slowly. Even rescuers can't have good acclimatization 365 days a year.

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In the rescue on Mont Blanc de Courmayeur, the weight of steel oxygen cylinders was a problem, significant loss and overconsumption of oxygen and the material was not resistant to cold (hoses that break). Masks were then tested and carbon oxygen cylinders. Lightweight cylinders were needed, they had to be suitable for medical oxygen, refilling had to be possible, safety for transport in helicopters had to be ensured. Carbon oxygen cylinders turned out to be suitable.

This "Oxy Pack" was then tested in various rescues. The system turned out to be efficient for both victims and rescuers.

Questions/Comments: None.

Innovations in Managing the Increase in SAR Operational Stress Responder Alliance / Laura McGladrey (AIRCOM)

Rescuers are constantly exposed to new situations, such as responding to individuals threatening suicide or in the context of criminal events. This causes stress.

The stress that rescuers and teams face cannot always be reduced or avoided, but skills can be improved to deal with the ever-changing stressors by making rescuers aware of the issues and using specific tools against them.

A model was developed to capture the level of existing stress:

There are four levels.

Green: The rescuer is healthy. Effective communication, socially and spiritually active, calm and trusting, strong environment and family, emotionally and physically healthy → Staying ready for missions (through good sleep, good appetite, staying relaxed).

Yellow: The rescuer reacts to certain situations, normal behavior changes, irritated and pessimistic, temporary stress, fatigue, loss of motivation, isolation from others,
→ recover and build resilience (good sleep, talk to someone you trust).

Orange: The rescuer is hurt, unresolved loss, trauma, inner conflict, nightmares, physical symptoms, exhaustion, isolation, self-medication, burnout → healing (talk to a spiritual director, counselor, or doctor.).

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Red: The rescuer is in a critical state, permanent stress, insomnia, broken relationships, depression, hopelessness, guilt, suicidal → thoughts get help (medical treatment).

The four factors to counteract stress:

Admitting you have a problem. Dealing with it as a team. Dealing with stress during actions. Preparing for serious events.

Responder Alliance wants to make rescuers and rescue teams aware that anyone can be hurt by stress. People should be aware of it and it should be talked about. Responder Alliance offers several courses that train organizations and rescuers on how to deal with stressors. The courses are for individuals (rescuers) and also rescue teams and offer different content.

Questions/Comments: none

Our new Homepage and its possibilities for Information Exchange Gebhard Barbisch (ICAR)

Gebhard Barbisch demonstrates the new homepage. Delegates need a user account for the internal part of the homepage. Please contact Gebhard Barbisch for this: terrestrial.rescue@alpine-rescue.org

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Using of Online Tools for a Successful Operating and Management of Mountain Search and Rescue Operations (ÖBRD / BWB) / Tobias Vogel (Bergwacht Bayern), Martin Gurdet (ÖBRD) (TERCOM)

Tobias Vogel and Martin Gurdet present the "Wissensbox". It is an online tool that contains knowledge for search and rescue operations. It is an online academy and encyclopedia for all mountain rescue services.

The mountain rescue service in Bavaria consists of about 4,500 rescuers and performs about 9000 missions per year. There is a common learning platform (online) and a common manual (online).

The Austrian mountain rescue service has about 13'000 members. The federal association is the umbrella organization.

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Development must go on and on. It is a misconception that the new things from today is now are the future of tomorrow. Sometimes it takes a revolutionary idea that is either abandoned again or that proves itself. Complexity is one of the biggest problems facing rescue organizations today and in the future. Everything is becoming more complex and more expensive. There are several models that show how change happens, e.g. Lewins 3-step management change model, Kotter's 8-step change model.

When you work together in a network, you achieve more. ICAR is such a network. ICAR is a worldwide open platform where knowledge in mountain rescue is exchanged..

The exchange of knowledge takes place via platforms, e.g. WissensBox (online academy and encyclopedia for all mountain rescues). RECCO is integrated in this platform. The advantages of such a knowledge base are that there is only one source, the information is always up to date, improvements, changes and developments are brought to those who need them without delay, there is an Analog Log Book and a Competence Check Book. When an organization develops an online tool for knowledge in rescue, it should be ensured that the platform can be used together. The online platform also includes video tutorials. Analog and digital resources are combined.

To achieve the following:

- Delivery of the best and safest material for rescuers and patients.

- Financial aspects must be considered.

- Time constraints must be considered.

- The expectations and needs of rescuers, partners and the environment will continue to increase.

We need to be ready for the future.

Questions/Comments: None.

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Medical Management of Avalanche Victims - Updated MedCom guidelines
Mathieu Pasquier & Hermann Brugger (MEDCOM)

Introduce the new Guidelines/Recommendations in the treatment of avalanche victims. A revision was necessary because of advances in medicine. The project lasted from October 2021 to October 2022 and did not cover prevention, rescue and multi-victim.

120 studies were looked at. After 10 minutes of burial in the avalanche, one can already die from suffocation, the longest burial time with survival and CA is 7 hours. The cut off is at a burial time of 60 minutes. Before that you are more likely to die of suffocation, after that of hypothermia.

Clarification of Terms: It is recommended that the terms used to describe the treatment of avalanche victims are the following:

Critical buriel: In victims with obstructed airways where there is a risk of asphyxia (suffocation).

An obstructed or blocked airway is when the mouth and nose are obstructed by compact snow or other material (soil, mud). If there is no information whether the victim had obstructed airways or not, one should assume that they were clear and treat accordingly

The different algorithms are then shown. Two algorithms are developed: 1. initial management of the critically buried avalanche victim and 2. decision making algorithm for advanced management of the critically buried avalanche victim in cardiac arrest. (Decision Making Algorithm for advanced management of the critically buried avalanche victim in cardiac arrest).

Alexander Kottman:

The algorithms are transcribed into checklists (AVRC, Avalanche Victim Resuscitation Checklist). In stressful situations, the checklist can be followed. The checklist should be used for every critical avalanche victim with cardiac arrest. The checklists should make everything easier, they can be used for BLS and ALS. Patients with severe hypothermia should be better recognized and patients with asphyxia should be better treated..

The next generation of checklists will also have two parts, initial management of the critically buried avalanche victim and decision making algorithm for

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advanced management of the critically buried avalanche victim in cardiac arrest.

The goal is to put all of this together and be able to present the final version of the Recommendations in early 2023.

Questions/Comments: None.

Presentation of the incredible abilities of the dog in the search for missing persons Dog Handler Subcommission

The dogs have incredible skills in searching for missing people. There are avalanche dogs, tracking dogs, mantrailing dogs and terrain search dogs.

Avalanche dog, Marcel Meier, ARS Switzerland:

An avalanche dog follows the individual scent of a person. Its nose is practically always on the snow surface. To be a good team, the handler and the dog must be ready to perform exceptionally, they must be stress resistant, they must not be distracted and the handler must be able to search with the avalanche transceiver at the same time as his dog. The most important thing is that the handler trusts his dog and knows and can "read" the dog. The wind helps the dog to succeed quickly. Afterwards an example is shown. A person was buried in an avalanche in Jaun 5 meters deep, the dog found the person 38 minutes after receiving the alarm. The person could be rescued hypothermic but without injuries.

Fährtenhund (tracking dog), Knut Skår, Norwegian Search and rescue dogs:

The dog follows the scent left by a person's footprints. Footprints of other people are not a problem. A concentrated, calm dog has more chance of success. The dog has this ability from birth because he always has to find his mother, but he does not need the ability when he has a "home". He needs to be reminded of it. It is important that the handler sets the dog on the correct footprints at the starting point. The starting point can be, for example, the vehicle from which the person left, or a house, a bench

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Mantrailing (trailing dog), David Benson, Lake Distrikt Mountain Rescue Search Dogs Association

The dog follows the individual scent of a person. The dog is presented with an object with the individual smell of the person (e.g. a piece of clothing). The dog finds the scent in the environment and follows it. For the search to be successful, you must have an object that carries the person's scent, you must know a place where the person was last, time and the conditions in the environment must be right (heavy rain is not good). In case of rivers, the dog can search the shore and find a new starting point for the search. The dog follows the scent and not the footprints. The scent can be transported over water.

Terrain Search Dog (Free Ranging Air Scenting Search Dog), Chris Francis, Lake Distrikt Mountain Rescue Search Dogs

The dog often works far from the handler, sometimes over 100 meters. The dogs are trained to follow any human scent. The dogs are trained to detect human scents in the air and track them to their source, then indicate them to the handler. Searches can be made to follow a trail or in an area. The dogs can still search efficiently in darkness and in bad weather conditions where human search is greatly hampered. A case is then shown, which occurred in November 2021. A couple wanted to climb Helvellyn. The weather was bad. The two separated and at 5:30 p.m. one person had not yet returned, whereupon the rescue was alerted. Visibility was less than 10 meters. At 20.30 the person was found by the dog Morag.

Questions/Comments: None

Closing of the meeting: 3.00 p.m.

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