AVALANCHE COMMISSION REPORT

International Commission for Alpine Rescue

October 17-20, 2018 Chamonix, France

Oyvind Henningsen
Everett Mountain Rescue Unit
telemarkski@comcast.net

Michael Finger
Salt Lake County SAR
mfinger@gmail.com

Mountain Rescue Association (MRA-USA)

The International Commission for Alpine Rescue (ICAR) annual meeting was held in Chamonix, France, the week of October 17-20, 2018. The theme of this year's congress was "Influence on Climate Change to Mountain Rescue Operations." The Conference was organized by ENSM – the National School for Mountain Sports, ANENA – National Association for the Study of Snow and Avalanches, L Chamoniarde – Non profit mountain rescue and risk prevention organization, PGHM – Gendarmerie mountain rescue team, CRS – Police mountain rescue team, GMSP – Fire service mountain rescue team, Gendarmerie National Air Command, Securite Civil Helicopter Group, ANMSM – National Association of Mountain Doctors and Rescuers, and the Association of Volunteer Mountain Rescue Teams in Haute Savoie. All the mountain rescue services in France were well represented, worked hard, and the result was a very professional Congress.

Chamonix, a mecca of alpinism and a playground for the climber, skier, paraglider, speedskier, hiker, downhill biker, and other mountain enthusiasts for decades, provided a wonderful backdrop to the Conference. It was a sincere privilege to be present at one of the birthplaces of historical and current mountain rescue techniques and best practices.

Unlike the USA, mountain rescue services in France is for the most part a public service conducted by Government agencies with full and part time employed personnel in the fire and police mountain rescue groups. The government pays for these services, they are free to the public, except for rescues conducted in ski areas which are conducted by ski patrol and must be paid for by the user of the service. The country is divided into 22 regions and the mountain rescue units take turns on a weekly basis or the region is divided into different zones that are covered by mixed service teams. Most rescue groups are accompanied by an emergency doctor who have been trained in mountain rescue techniques.

THE OPENING DAY SOCIAL HOUR

Charley Shimanski, MRA delegate to the Air Rescue Commission and now it's President, arranged a meet and greet originally intended for the various North American representatives to get better acquainted. However, word spread like wildfire, and pretty soon this gathering was attended by a large amount of people. Charley deserves a lot of credit for planning and organizing this successful event that brought rescuers together on an informal basis

THE WORKSHOP DAY

The Avalanche Commission arranged the practical session day on Friday high up on the flanks of Mont Blanc on the Italian, Courmayeur side. A complete report on the practical day is provided separately. The avalanche specific component consisted of multiple stations demonstrating position probing, group beacon check, beacon interference, and shoveling. Participants were guided through demonstrations of some of the draft recommendations that the avalanche commission is working on. Feedback on the techniques and methods were solicited from the participants. Below picture is a demonstration of the technique of position probing which is helpful in uncovering the head of a buried victim as quickly as possible.

THE EXHIBITORS

ICAR was again supported by a wide range of exhibitors; Blue Ice, Sno Plak, Singing Rock, Paramo, Resero, RECCO, Patagonia, Vakuform, Arva, Kong, BCA, CMC, Breeze Eastern, Lifeseeker, TSL Rescue, Kohlbrat Bunz, Peakze, PMI, Elan, UTC Aerospace, Mammut, TAS, Tyromont, Victorinox, A&H, Arc'Teryx, Ortovox, and Petzl.

A couple of avalanche related notes from visiting the exhibitors are included below.

RECCO – the Swedish provider of search systems has been developing their new helicopter detector and it is now ready to launch in the USA https://www.recco.technology. Since the conference, Two Bear Air in Montana has become the first rescue operation in the USA to acquire this device.

https://flatheadbeacon.com/2018/12/10/two-bear-air-deploys-new-backcountry-rescue-tool/

Lifeseeker – this company out of Spain provides a portable cell phone tower that you can mount in a helicopter and locate cell phones in areas with and without cell phone signal. Teton County SAR is the first in the nation to deploy this system and Snohomish County Sheriff's Office has also tested the system successfully.
http://www.centum-rt.com/en/lifeseeker/
Lifeseeker enables the detection of people under foliage and rubble. It has also been used to locate cell phones under snow in certain conditions.

HAS457-2 - https://www.girsberger-elektronik.ch/has457-helicopter-antenna-en Girsberger has released their newest version of this external antenna avalanche transceiver search device.

They are currently working on a drone version of this system.

AVALANCHE COMMISSION PRESENTATIONS

President of the commission **Dominique Letang**.
Dominique is an IFMGA guide and has been the president of the avalanche commission since 2011. He is the Director of the French Avalanche Association (ANENA) since 2009 and as such was one of the organizers of this years ICAR. The vice presidency of the commission is vacant.
Dominique opened the commission with a short discussion of how the mountain is changing due to climate change and how we must adapt and change our practices accordingly. He illustrated this need by talking about how a couple of local fatalities were related to rockfall induced by the changing mountain climate.

NEW MEMBERS INTRODUCED

Macedonia Mountain Rescue was introduced as a new member of the commission

1 minute of silence was observed in memory of the people that have passed away in the mountains.

There are **no new recommendations** from the ICAR Avalanche Commission this year. However, the commission is hard at work on recommendations for next year.

AVALANCHE ACCIDENT REPORTS

ITALY

There were 84 registered accidents reported in Italy in 2017-18 with 21 fatalities. 74% of the accidents were during considerable danger level conditions. One accident claimed the lives of 2 SAR members that were travelling in a couloir during low danger level. One accident happened when the danger level was extreme and the natural triggered avalanche travelled to the valley floor and destroyed a small bed and breakfast. The 2 occupants were uninjured as they had been on the ground floor.

56% of the accidents involved ski tourers (50% uphill, 50% downhill), 24% off piste skiers, 10% alpinists, and 6% snowshoers/hikers. Of note they had one fatal snowmobile accident this year which is unusual because snowmobiling has so far been very restricted. Other issues they face in Italy is overcrowding, people travelling alone, and not being properly equipped with beacon/shovel/probe. They registered 6 accidents with people caught that deployed their airbag, in 4 of the accidents the people were found on the surface, in 2 accidents the people were totally buried.

Happy ending # 1
A dog buried, found alive after 25 days!
A ski mountaineer and his dog are caught by an avalanche. The man is saved by clinging to the branches of a tree, the dog is completely buried. Every search is in vain, but the owner returns to the area every day looking for traces of his companion.
One day he discovers that the foxes have dug a hole and he keeps digging in the hole and suddenly his dog climbs out, alive!

Happy ending # 2
One accident involved a ski tourer travelling alone (with avalanche transceiver), in the early afternoon his wife becomes worried and calls the rescue service. A SAR helicopter locates some avalanches in the area, spot some equipment on the surface of one and insert rescuers that locate (by transceiver) the man alive, but hypothermic, after being buried for 4 hours under 80-100cm of snow.

Another accident involved 21 people from the Italian Alpine Club ski touring course. An advanced level, mixed group of skiers and snowboarders travelling on snowshoes. 6 people were caught. 2 people were partially buried, one with and one without and airbag. 2 people were totally buried, one without an airbag and one with an airbag. The one totally buried with an airbag travelled the furthest in the avalanche and was buried in a lake in the run out. This was a major rescue operation involving 4 helicopters, dogs, volunteers, and ski patrol from the local area. Divers had to be brought in from the fire department of a town about 60 miles away (pictured above).

UNITED STATES

The 2017-18 avalanche season in the United States was very long, the first fatality was October 7, 2017 and the last was May 2, 2018. The last missing were located on September 29, 2018 (ruled not an avalanche accident, but searched for as avalanche victims in November of 2017). There were 25 fatalities in the season which was a more than doubling of the fatalities of the previous season. 25 fatalities is the moving 30 year average, slightly down from the 10 years average, but above the 5 year average.

Snowmobilers accounted for 11 fatalities, backcountry tourers for 5, sidecountry riders 4, hikers 2, residents 2 and 1 snowbiker (human power). The state with the most fatalities was Washington 7, followed by Montana 4, Wyoming, Colorado, Idaho, and Alaska 3 each, and California 2.

Of note in Washington there were 7 fatalities in a 3 week period attributed to the same buried weak layer. The 7th fatality was a snowmobiler jumping a cornice, triggering a 60m wide x 1.2-1.5cm slab running 300m vertical. Victim was an expert rider, carrying beacon, shovel, probe, deployed airbag, was buried about 20 minutes. Cause of death was trauma. The accident investigation revealed the weak layer to be 3cm of 2mm facets on top of a melt freeze crust. Below picture of the avalanche that the snowmobiler triggered.

CANADA

The season in Canada (to May 1, 2018) ended up with 7 fatalities. Studies show that they have about 10 serious injury for every fatality. The 10 year moving fatality average is 12. Last year was one of the lowest fatality seasons in a 30 year record, but over the last 30 years it's been a slightly increasing trend in avalanche fatalities. Of note is that last year had no multiple fatality events which has only happened in 3 other years in the previous 30.

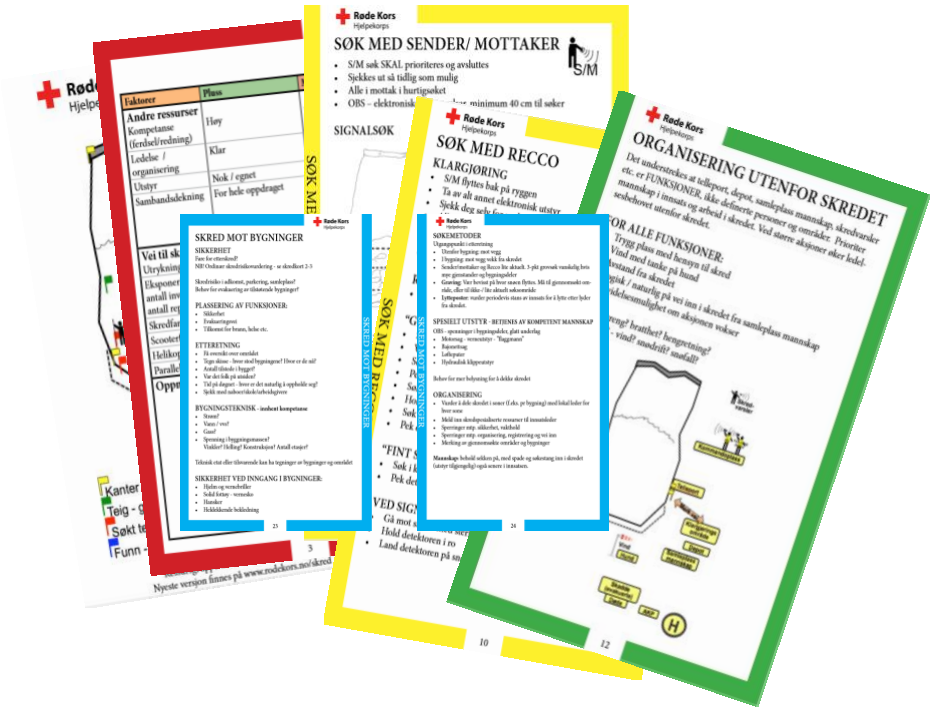
British Columbia is by far the province with the highest number of fatalities and last year was no exception as the province accounted for 6 out of 7 (1 in Quebec). Snowmobiling accounted for 4 fatalities, backcountry skiing for 2 and heliskiing for 1 which was also fairly representative of the user group distribution of the last 10 years.

Remote triggering. Group of 4 snowmobilers re-grouped to discuss the High Hazard and moving out of the area. One of the party rode uphill, triggered the avalanche from relatively gentle terrain (<=30 degrees), possibly remotely triggered because they heared a whumpf. Three caught, 2 partially buried, one buried approx. 2 m, recovered quickly. All riders had airbags; **none had handles out, none deployed.**

Cornice failure. Group of 7 snowmobilers with some awareness of the cornice situation. Spent 30 to 45 minutes hanging out on the ridge, approx. 10m back from the edge. When the 6th rider departed (away from cornice) the cornice collapsed taking the last remaining person over the cliff.

NORWAY

In Norway, 3 people died in avalanches last year, there were 445 recorded incidents / people involved in avalanches. No definition of what involvement meant, whether they were carried or whether they simply saw a previous avalanche……. The incident database was started in 2014/2015 season and now people are starting to use it. 2 skiers died and one snowmobiler. Since 2016 a lot of avalanche research and development work has been completed in Norway on SAR work when avalanches involve buildings. The Norwegian Red Cross have developed 2 new rescue cards on what to do by SAR personnel in these situations. Another card is in the works for response to avalanches involving roads and cars. All these cards are collected in a binder issued to rescue personnel by the Red Cross.



GERMANY / BAVARIA

In 2017/18 season the mountain rescue service Bavaria was alerted in 13 avalanche accidents. In 5 accidents nobody was buried, in 5 accidents people were buried or partially buried, in 3 separate accidents 1 person was killed.

Of note was a successful rescue on a day when 4 separate avalanche accidents occurred on January 21, 2018. The accidents happened during a time of heavy wind and snowfall lasting several days. The conditions during the rescue was very poor weather with low visibility and a lot of new snow. Danger level was 3 – significant - with special warnings of slabs of critical size, easily triggered with low additional load, above tree line in near-ridge, steep areas. A party of 3 (2 men, 1 woman) started a ski tour together, due to poor weather the woman turned back half way up the mountain, but the two men continued. Skiing back down again they triggered a wind slab that carried one of them for approximate 700' down a defined avalanche path. Slope angle about 40 degrees.

The emergency call was placed at 13:47, but due to poor weather only 2 helicopter flights could be completed and additional ground personnel were mobilized.

The approach to the accident scene was made difficult by deep snow and fallen trees. The subject was buried 1.3m and was successfully unburied by his ski partner, alive. The rescue was carried out by ground through steep forest and with the help of an Akia sled and the use of a quad when the terrain allowed it. The operation took almost 5 hours. 53 rescuers, 8 alpine police, 3 helicopters, 3 quads, 2 dog teams were involved. The environmental conditions required the sending of this amount of resources.

FRANCE

In France they experienced one of the 10 most dramatic years since 1971, 136 people were caught and 37 people died in 27 separate accidents. 25 were ski tourers, 10 off piste skiers, 1 climber and 1 inbound skier. The season began in the end of November with many snow storms in December and January resulting in a close to record snowpack. This was followed by a cold February, especially the last week, followed by a normal March winter. Following the cold snap and high pressure in February that created a persistent weak layer of facets, 20 cm of snow fell and buried this layer. The first weekend in March was beautiful and there were 23 accidents with 12 fatalities in between March 1-5, 2018 attributed to this weak layer.

.

Of note is that there were 14 fatalities without witnesses that created many prolonged rescue operations from 2 days to up to 3 months. In 9 fatalities terrain traps were given as a cause of trauma death. In 8 fatalities difficulty in companion rescue was attributed to the fatality. 4 people that died did not have a transceiver.

Of note was an accident in the Pyrenees that claimed 3 lives (2 humans and a dog) where one of the victims was buried 5 meters deep (picture).

Of note was a fatality at a resort in France. There was a small unobserved slide that covered a cat track. A dog was brought in and alerted but there were no probe strikes. The team kept working the debris and recovered a deceased young male below where the dog was alerting. A Canadian delegate added that they probe up and down the fall line from where a dog alerts and the scent seems to rise up thru the debris sometime.

Other learnings from this avalanche:

- a small wind slab can form very quickly, even without recent snowfall
- never underestimate an emergency call reporting an avalanche, even though there seems to be nobody missing
- always trust dog marking, even without a probe hit
- it can be difficult to understand and analyze the way smell travels under the snow

MOUNTAINSAFETY.INFO

Martin Gurdet – the head of Mountain Rescue Austria – provided an update of the work on mountain safety info and showed a video illustrating the cooperate working relationship. A sample of the work can be seen here www.mountainsafety.info Fred Jarry presented the MSI web site front and back end. He illustrated how it was a cooperative effort and how several people can work on it at the same time and publish update information. Customers of MSI will receive an update email any time there is an update to what they have purchased. Web site has responsive design to adapt screen properties of used devices. IFMGA and UIAA working now towards summer topics and the ICAR Medcom is talking about engaging with their topics. The avalanche MSI is just one topic. The working group has developed a cooperation model and a framework for collaboration. This is really the sum of the work of about 70 people that are attached to working with this. Miles Smart asked if a preview of what is available on the web site will be shown – yes low resolution with watermark. Videos will have a 10 second teaser.

WORKING GROUPS

Dominique Letang advised that the working group "Best Practices in Avalanche Rescue" has now been closed. A solicitation for new working group topics was made. It has been difficult for the avalanche commission to work together throughout the year and the last few years it seems as the Best Practice working group that has morphed into the MountainSafety.info has taken up most of the commissions time. There was a lot of discussion on the direction of the commission both during the meeting time and after hours. It was strongly supported that Stephanie Thomas from Teton County Sar be assigned a role in the commission in order to facilitate direction and revitalization in the commission.

AVALANCHE COMMISSION RECOMMENDATIONS

Review/revision of existing avalanche recommendations. Current recommendations of the avalanche commission can be found here. http://www.alpine-rescue.org/xCMS5/WebObjects/nexus5.woa/wa/icar?menuid=1066

Small working groups should be established with the priority of creating a solid set of recommendations for ICAR. A statement was made that it is not good for ICAR and a poor reflection of the commission to have very old or outdated recommendations on the published web site. A discussion was had as to how the Best Practice working group's work can be converted to recommendation suggestions for ICAR. Discussions covered if the recommendations should illustrate best practices in detail or be more generic "larger" picture / conceptual and whether or not to use illustrations. There were a mix of ideas and opinions, but most agree it was easier to agree on concepts rather than details. Opinion was divided on whether illustrations should be included. Below is some of the work on recommendations. Please note that these are only in draft form.

Update for AVA-REC0003 "Regarding the Marking of Locations on an Avalanche"

New Title: "Marking of Locations on an Avalanche"

Purpose: General cleanup, add modern types of geo tagging and protocolling, add avalanche debris extending below the visible boarder of the debris. (content provided by MS.i)

Geo Referencing Facts of the Accident and Rescue

- marking the DZ area
- marking access from heli landing to the equipment zone
- marking access from the equipment zone to the avalanche
- marking the border of the avalanche
- marking dog indications
- marking transceivers/ Recco first signal
- marking visual clues
- marking escape route (s)
- marking victims that have been evacuated
- marking probed areas

Flagging on the avalanche

- Border of the debris: yellow (include visible and invisible parts)

  Search areas: red

  - generic for probed areas
  - if used for other search means, it must be visible on the flag

  Clues, points of interest: blue

  - entrance tracks
  - last seen spot (two crossed flags)
  - objects on surface
  - Suspected find by a search mean, clue to be investigated (i.e. dog indication, indication by prober in probe line, etc.)
  - location of previously excavated buried subject
  - Other purposes: Use any color except of yellow, blue, red

  GPS tracks and waypoint of:

  - rescuers
  - dogs
  - aircrafts, vehicles, drones
  - border of the debris, avalanche
  - clues, points of interest

  Photos, aerial pictures (i.e. geo referenced)

  Videos

Update for AVA REC 0006 "Testperiod for new search systems in the field"

outdated and not applicable any more– should be deleted in entirety

Replacement for AVA-REC0002 "Avalanche Beacons"

New Title "Personal Avalanche Rescue Equipment"

Purpose: Replace a very outdated recommendation with the modern key message concerning personal avalanche rescue equipment with up-to-date minimal requirements.

Sample illustration with potential key message.

Update for AVA-REC0011 "Probing Strategies"

Purpose: Update/define minimum requirement for probe penetration in second passage of coarse probing and in fine probing.

Current AVA REC0011:

2) Coarse probe the likely burial areas:
   a. On first passage limit the probing depth to 1,5m.
   b. On second passage, probe with lateral offset and maximum probing depth.

Proposed modification:

2) Coarse probe the likely burial areas:
   a. On first passage, probe to 1.5m
   b. On second passage, probe with lateral and forward offset and a probing depth of 2.5m

New Excavation Strategies Recommendation

Rationale: Excavation is by far the most time consuming aspect of avalanche rescue. In particular within the first 35min of burial time, every minute saved by a swift excavation, considerably reduces mortality.
Apply a conveyor belt based snow transport method and move the snow in an ergonomic manner to avoid early fatigue. Follow the probe which has established a probe hit as a reference and remove the snow only from one side of the probe to reduce the probably of standing on the buried subject.
Burial depth as well as terrain inclination should be considered for the physical dimension of the conveyor belt and the resources adapted accordingly.
Once visual contact with the buried subject is established, focus on head and chest access and initiate first aid as soon as possible. Training is essential to ensure swift excavation in case of emergency.

New Group Check Recommendation

Rationale: Every year several skiers, mountaineers, snowshoers and snowmobilers die as they cannot be found in an efficient manner due to a missing or malfunctioning transceiver.
A proper group check allows a simple, yet reliable verification if:

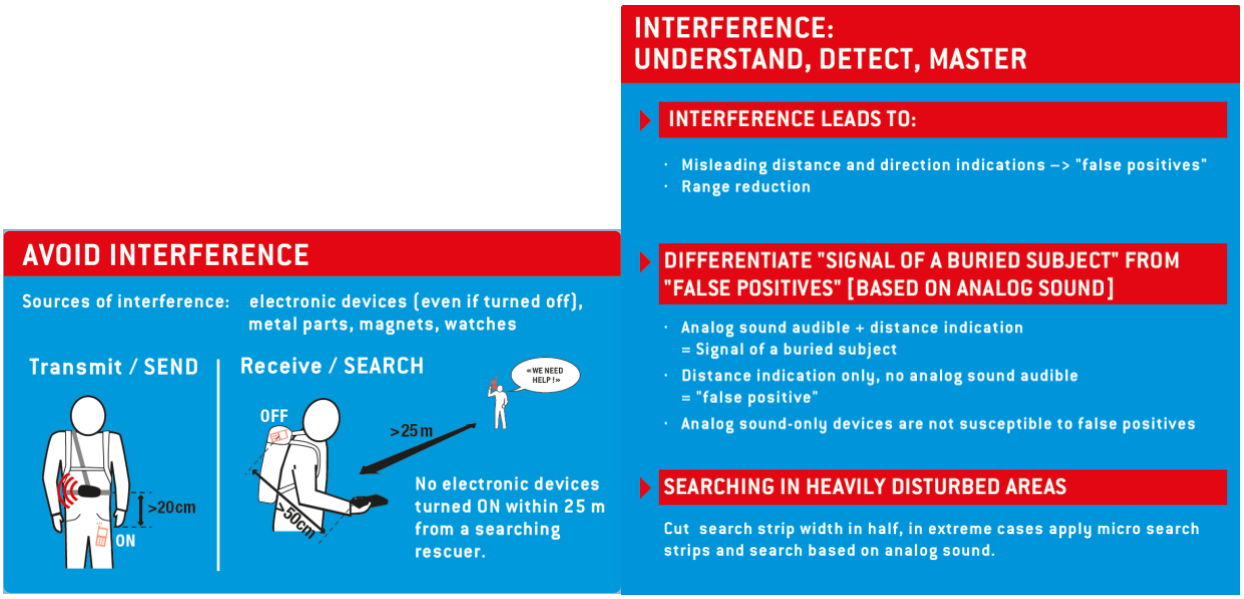
- Every member of the party is equipped with a transceiver.
- The transceiver is set to send and the send and search functions are working properly.

The group check should be performed in addition to the self and battery test of the device and provides a verification by another person and device.
The single group check is testing the send function of the participant and the search function of the leader. It should be performed every time the members of the party have to turn their device on or after they have performed a search.
The double group check is testing the send and search functions of every participant as well as the leader. For individual users, the double group check should be performed when a new group forms or at least once a week. The interaction with the device required by the double group check increases the familiarity of the users with their device. Institutional users should adapt the frequency of double group check to their operational setting and transceiver maintenance programs.

New Position Probing Recommendation

Rationale: Position Probing allows to quickly gain information about the approximate orientation of the buried subject in order to define an optimal excavation strategy and gain head access more rapidly.
The application of position probing is recommended in cases where more information about the position of the buried subject has the potential to minimize head access time.
While position probing is performed, the remaining rescuers already start excavation with a certain distance to the expected burial area.
Apply a spiral probing technique, each probe hit immediately becomes the center of the next probing spiral. Leave every probe with a probe strike in place and use an additional probe to proceed. Continue until the outline of the buried subject is evident and adapt the further excavation effort accordingly.

New Interference Recommendation



There was also talk of having a recommendation for checking for buries subjects beyond the visual end of the avalanche. It has been found that it is important to add adequate tolerance for buries subjects who have been pushed below the undisturbed snow surface at the lower end of the debris by leaving some covereade exceeding the visual end of the debris. One the end of the debris it is suggested to use a probe to determine if consistency indicates a natural snowpack or underlying debris. Use yellow flags to mark this "true" boundary of the avalanche.

Further discussion will happen during the year and as soon as possible draft recommendations will be sent out to ICAR members so they can provide their opinions to delegates as soon as possible before the finalization of the recommendation at the next meeting.

"HEADING OUT OF THE GATE" - STEPHANIE THOMAS Executive Director of the Teton County SAR Foundation TCSAR -www.tetoncountysar.org presented on learnings from 3 years of surveys on "sidecountry" use in Jackson Hole Wy. This is a partnership with the Jackson Hole ski area and TCSAR. She started by saying that she don't like the term sidecountry as it implies you don't need preparation or equipment. In the year 2015/16 – 3 people died in side country and in 2017/18 there were 2 deaths in the sidecountry. In 15/16 – they adopted new messaging centered around "don't know don't go".
They have posted volunteers at sidecountry access points/gates and they have collected a lot of data with 1 minute surveys that is still being crunched to examine learnings. They ask questions about peoples preparations, planning, what type of equipment they are carrying, and at what skill level they think they are at. A preliminary observation they have made is that 1/3rd of the people that had been planning to ski in the sidecountry decided to ski inbounds after they participated in the survey and a had a face to face interaction with a volunteer. Another finding was that a lot of the people turned around because they were uneducated on where they were going – just didn't know they were leaving the resort and it was also more likely that people participated in a survey if the volunteers wore TCSAR jackets vs Jackson Hole resort jackets.
There is good cooperation with the ski resort and they are trying to increase funding for increased survey work. Montana State University is conducting similar studies at Bridger Bowl. The ski resort is equipped with some signage, they provide maps, and have a guide service. However, most of the avalanche safety prevention work is done by TCSAR for the "sidecountry".

The following two presentations were summarized by Tom Wood and Dale Wang in the Terrestrial Commission Report and are included here as they are avalanche commission relevant.

EFFECT OF HANDHELD RADIOS ON AVALANCHE TRANSCEIVERS - ILLARI DAMMERT (MAMMUT)
Although many US mountain rescue teams still primarily use analog VHF radios, there is an increasing shift to digital radio use This study tested continuous transmission radios versus the newer TDMA (time division multiple access) radios, which are mostly the TETRA standard in Europe. In the US the TDMA standard is often referred to as "phase 2."

The bottom line is that TDMA digital radios such as the TETRA standard in Europe cause significantly more interference at longer distances than conventional VHF or radios with FDMA signals.

User Stein Moller from Norway noted that they found last winter that headlamps caused a lot of interference problems. Interestingly the issue was seen less at high power settings, likely because more energy is going into light production and less into creating an electromagnetic signal that could interfere.

AVALANCHE SITUATION SWITZERLAND IN 2018 - BRUNO JELK (KWRO)

In describing 2018 as an unusually heavy snow season near the Matterhorn in Zermatt, Jelk highlighted many of the strengths and weaknesses of municipalities that were put to the test when avalanche danger made travel in and out of cities impossible for days on end.

In early 2018, two massive snowfalls loaded up the 34 chutes above the main road in and out of Zermatt. Up to 10 of these channels meet at a single intersection above public transportation lanes, forcing city officials to close all roads for days.

Each canton in Switzerland has a municipal avalanche plan, with infrastructure in place to deal with the drastic weather changes initiated by global climate change. Avalanches were not the only danger to residents; mudslides, roof avalanches and power failures also happened as a result of the heavy snows and rains.

When orders to shelter in place limited resources in and out of each village, medical evacs took highest priority when air resources were able to fly. Businesses in avalanche paths had to close for as long as a month, and municipalities used heavy equipment to build snow dams to protect some businesses.

Adding to the frustration of disaster planners and rescuers, many people chose to ignore avalanche warnings, sparking the debate of unnecessary risks to rescuers.

75 YEARS OF DOG TRAINING IN SWITZERLAND – MARCEL MEIER – Alpine rescue Switzerland. It all started at a big avalanche in 1937/1938 – 17 people were found in an avalanche, but 1 was missing. A dog that had come along went far away from the rescue people and they followed the dog and found the person alive. This was then heard by a person that decided to start training dogs for rescue work. Then during second world war this had the opportunity to show an army general how they worked and from 1943 swiss army started training rescue dogs, after the second world war the mountain rescue association took over the training. Showed very interesting and historical movie of dog training in Switzerland which is now a world leader in avalanche dog training. https://www.swissinfo.ch/eng/on-the-trail-of-the-alps--four-legged-heroes/663240

SUMMARY

TOPOGRAPH MEDIA has documented highlights from this year's ICAR here:

The practical day: https://vimeo.com/303429488 / The presentations: https://vimeo.com/305177326

The conference days contained many valuable presentations for us as rescuers, the ones in the avalanche commission have been summarized above. Please contact either of your delegates for further information. The minutes of the different commission meetings and assembly of delegates can be found here:

http://www.alpine-rescue.org/xCMS5/WebObjects/nexus5.woa/wa/icar?menuid=1069

Additionally a complete report from the other commissions, on the exhibitors, and the practical day distributed by your MRA delegates.

UPCOMING ICAR CONGRESSES 2019 Zakopane, Poland / 2020 Thessaloniki, Greece

Respectfully Submitted,

Michael Finger
Salt Lake County SAR

Oyvind Henningsen
Everett Mountain Rescue Unit