



Ascending through the forests just below the Hörndl in Embach, Austria.

COURSES FOR CROATIA

CROATIAN MOUNTAIN RESCUE SERVICE TURNS TO THE U.S. FOR CONTINUING AVALANCHE EDUCATION

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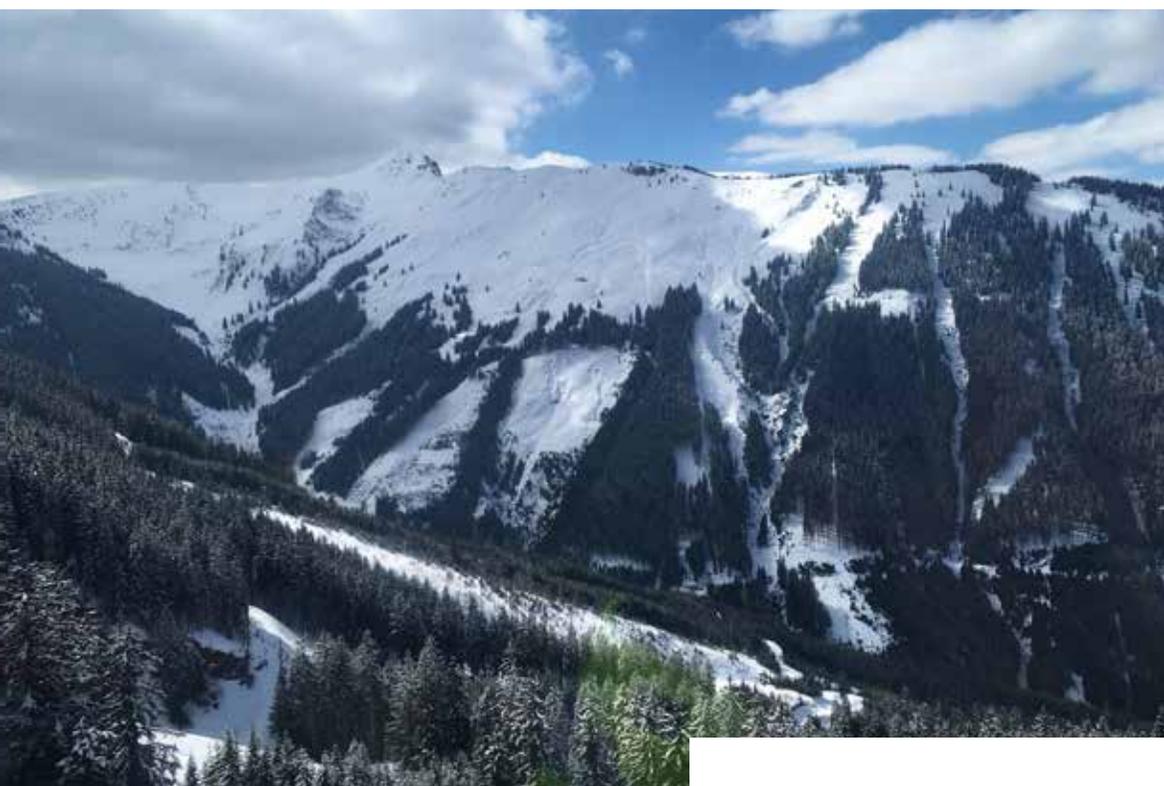
IN FEBRUARY OF 2013, A SMALL TRAINING CONTINGENT OF SERVICEMEN FROM THE CROATIAN MOUNTAIN RESCUE SERVICE (HGSS) WERE CAUGHT IN A WET SLAB AVALANCHE ON THE REMOTE FLANKS OF KAMEŠNICA ALONG THE BORDER BETWEEN CROATIA AND BOSNIA AND HERZEGOVINA. ONE MEMBER WAS BURIED AND KILLED IN THE SIZE THREE AVALANCHE THAT RAN MORE THAN 1500 VERTICAL FEET AND CASCADED OVER A 200-FOOT CLIFF. THE REMAINING THREE MEN WERE ABLE TO EITHER SELF-ARREST OR WERE CAUGHT, CARRIED, AND INJURED. DUE TO THE ISOLATED LOCATION OF THE ACCIDENT, HELICOPTER OPERATIONS WERE LAUNCHED FROM THE HGSS BASE IN THE VILLAGE OF SPLIT. AFTER A SHORT DELAY FOLLOWING DEPLOYMENT, AN INTERNATIONAL AGREEMENT BETWEEN THE TWO COUNTRIES ALLOWED THE RESCUE TO TAKE CONTINUE WITH JOINT OPERATIONS. THE INITIAL RESCUE TEAM INTERCEPTED THE INJURED PARTIES AND BEGIN SEARCHING THE MASSIVE DEBRIS FIELD FOR THE MISSING TEAM MEMBER, WHO WAS NOT WEARING A BEACON.

Evacuation of the two seriously injured climbers took place before the mission was suspended due to inclement weather and darkness. The afternoon of the following day, a search party of over 200 people and an avalanche dog eventually located the victim's body. This represented the first organized deployment of the HGSS to an avalanche rescue. Additional investigation of the event followed, and it became a case study to draw from during the International Commission for Alpine Rescue (ICAR) congress held in Croatia later that year. Needless to say, the presentation caught the attention of many in the audience, including rescuers from the Snowbird Ski Patrol and Wasatch Backcountry Rescue. Many conversations and a few beers later, out of this tragedy a relationship was born that remains intact to this day.

The HGSS Ski and Avalanche Commission took the momentum generated from ICAR and worked to secure funding to continue training their members to a high standard of avalanche education. This allowed for a group of three senior HGSS members to travel to Utah in 2014 and participate in a week of training with the Snowbird Ski Patrol. Focusing primarily on snowpack and avalanche hazard analysis, the team learned the methods employed by forecasters working in Little Cottonwood Canyon. The success of this initial training garnered further support for the HGSS to build a greater knowledge base among its membership. Over the next several winters the HGSS performed its own trainings in the mountains of Croatia and portions of the eastern European Alps.

In spring of 2018, two more senior members of the HGSS traveled to Utah to participate in an AIARE PRO 1 course hosted at Snowbird. They were interested in seeing the new A3 training paradigm and to continue adding to their own skill-sets. Beyond the subject matter of the course, the weather featured a notable rain event that fell on a deeply buried persistent weak layer. An ensuing avalanche cycle impressed upon the participants a lesson similar to that recounted during ICAR in 2013; wet avalanches are difficult to manage and can be incredibly destructive. Coming out of the training with newly gained perspective sparked

The definitive avalanche paths adjacent to the Maurerkogel in Zell am See, Austria.



The HGSS Crew at Schmittenhöhe Ski Resort, Austria.

further interest in avalanche study for the members of the HGSS. Plans were soon set in motion to send a U.S. instructor back across the pond to deliver training to a greater audience of the HGSS Ski and Avalanche Commission. After diligent discussion and careful logistical legwork, the stage was set for the next chapter of the relationship between Croatia and Snowbird.

Walking off the plane in Zagreb to 60-degree weather and flowering trees is a relief after a long journey. Having my baggage show up would be a greater relief. Learning my gear is sitting on a tarmac in Paris and that I am about to catch a ride across two countries is like getting off the tram on a powder day without skis. Fortunately, my Croatian colleagues greet me with a cold one and we load the vans for Austria. The gear will catch up eventually, I hope.

Meeting up with my hosts from HGSS Stanica Zagreb, I am in good hands and adventure bound. The next four hours consist of driving across the Croatian and Slovenian countryside as the sun sets over the Alps while acoustic guitar riffs calm my nerves. Traveling through immense mountains always seems to make other problems seem in-

significant and I focus my attention toward learning the native tongue through folk songs and the occasional Guns and Roses cover. By midnight we are in the small village of Taxenbach, Austria, where we will base for the next week. After a traditional mountaineer's meal cooked in the Peka, a giant bell-shaped BBQ apparatus, it is off to bed. I have almost forgotten I don't have any ski gear.

Waking up to the clear skies and mild temps of mid-March, we combine my minimal kit with a hodgepodge of extra gear from the HGSS lockers in the basement of our lodge. Fortunately, these folks are well-equipped and eager to help out a fellow snow traveler. The first field session on this training is at the nearby ski resort of Rauris where we will engage in an Avalanche Rescue Course. Riding up the gondolas to 2,000 meters we can clearly see the most recent rain event has wrought havoc on the snowpack. A widespread wet slab cycle has torn through the Hohe Tauern and left devastation below 1,800 meters. Cornice fall has ripped out deep slabs and there is also evidence of glide avalanches across the range. The underlying grassy slopes in this area make glides a real threat like I have never experienced. We discuss this latest cycle and then find a clear patch of cold-ish snow to run through rescue scenarios.

It is clear that rescue is something in which this crew is extremely well-versed. They make light work of the single and multiple burial drills and interact seamlessly. We discuss how to deal with signal overlap and focus on some of the latest techniques in excavation. The fine weather makes life easy and I try to throw in some close proximity deep burials to keep them on their tips. By late afternoon everyone is soaked through and it's down to the base for après. The lower elevations have suffered even more greatly, and we praise the man-made strip that allows us to make it to the parking lot. The rookies fetch the van and we are quickly heading back for lectures on incident command systems employed around the world and avalanche scene management. Dinner arrives just as my ski gear shows up under the care of Nikola Brebric, Head of the HGSS Ski and Avalanche Commission. We lift our glasses in cheers to him and retire fully exhausted and delighted by the storm clouds rolling over the mountains.

The next several days are punctuated by snowfall in the high country and minor accumulations at the lodge. Our focus turns to operational risk man-

agement, snowpack analysis, and hazard assessment. The all-volunteer HGSS is comprised of a wide array of professionals with a passion for the outdoors. Sitting around the room are mechanical, electrical, and civil engineers, business executives, craftsmen, dive masters, speleologists, and former special forces members. They draw from their collective experiences and disciplines to contribute to the organization; some have been with the HGSS for over 40 years. Listening to their backgrounds and their desires to pursue a life in the mountains further inspires confidence that this group is dedicated to providing great support to their country.

Beyond creating trained observers, one of the overt goals of this training is to provide a framework for the HGSS to start delivering public avalanche safety bulletins in those areas where avalanches are a threat. Developing avalanche awareness programs and educating their citizens about the dangers present in mountain travel will be another facet of their future plans. As Brebric puts it, “We do have avalanches in Croatia, but they’re happening in remote mountain areas where there aren’t many people, yet. With more of our citizens traveling to the

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nearby Alps, we have the potential to be a future exporter of avalanche victims in Europe.”

With these goals in mind, we carry on from theory to practice and head into the countryside for a ski tour above Embach. Taking off from the end of the town’s highest road, we travel up logging cuts and old service routes to a small peak called Hörndl, just above 1600 meters. The low elevation gives us the opportunity to see just how saturated the snowpack was prior to the 30 centimeters overnight. Gathering snowpack observations and practicing group management skills becomes our main task, and we find decent spongy skiing along the way. By sunset we are pulling up to the old cathedral at the end of the road.

Over the next two days we run through operational meetings and the finer points of ISO 31000. For our field venue we visit Schmittenhöhe Ski Resort above the town of Zell am See. Our local resource and Croatian ex-pat, Marek, leads us from the upper mountain and into the shadow of the Maurekogel, just above 2000 meters. We spend time gathering avalanche observations from the still visible wet cycle and how the latest snow is bonding at higher elevations. This transition from near treeline to alpine provides a great opportunity to see firsthand how the snowpack varies quickly across terrain and how to make the most out of fieldwork with small groups. The teams quickly determine the structure from aspect to aspect and move through the landscape working on their team dynamics. Including navigating us to a nearby refuge called the Pinzgauer Hütte for some regional craft delicacies. It’s not all work you know.

On our second-to-last night we decide to visit a former ski hill that has been turned into a Randonnée specific venue for the working-class crowd who just wants some exercise. Traveling up the frozen piste towards the low elevation summit, we use headlamps until the full moon rises over the main spine of the Alps in the distance. Arriving at the Enzian Hütte by 9 pm, we shed our skis and stop in for dinner. This remote hut only serves the intrepid crowd willing to walk for their meal.



A wet slab avalanche as result of cornice fall in Rauris, Austria.

Branko Šeparovic, carves perfect tele turns down to our position. His 70 years of mountain experience shine through as he performs better than teammates half his age. The smile on his face reminds us just how important this kind of training is. We all

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It becomes an excellent venue to take in the true Austrian culture and mix it with some Croatian flavor. The weary legs disappear with each pint and we are happy it’s a nice cruiser back to the vans. By midnight we are back in the lodge, ready to rest up and meet the final day of the training.

The infrastructure of the Alps supports quick access to the highest peaks of the area. Gondolas and tram ways transect the landscape, connecting entire valleys to one another and providing opportunity to reach incredible terrain in the blink of an eye. This leads to a more pronounced “Freedom of the Hills” cultural thread, which undoubtedly contributes to the staggering number of avalanche fatalities compared to the meticulously controlled environment of North America. From our lodge, we are on top of the glacier at Kitzsteinhorn Ski Resort in about 30 minutes. The team identifies the wind slab and wet loose problems, with an objective to cover all aspects today and verify the present hazard. We also discuss the importance of understanding snow surface transformation and how it relates to ski quality variation across terrain. This is my favorite part.

The afternoon comes quickly, and our team sets up the perfect alpine picnic overlooking the Alps. Austria’s highest peak, the Grossglockner, stands glistening on the southern horizon. Out comes the charcuterie and all that’s missing is a bottle of wine. Sometimes it is work you know.

Following a brief discussion on the finer points of Bavarian dried meats, it’s skis on for a lovely descent on a glacial ramp. Team management and setting appropriate safety margins for a group this large requires some thoughtful discussion. One of the more senior members sets a boundary track and we all follow suit, blissfully skiing recrystallized powder for a few hundred meters. The former Head of the Ski and Avalanche Commission,

want to be that old man in the mountains.

This experience comes to an end with one last barbeque and a thoughtful course close from the group leaders. Brebric conveys the immediate goals of the team and how they will need to continue to refine the skills they have just learned. “The HGSS has an extra high quality of service and excellent perception in the public, and we will continue to educate all of our members in avalanche safety.”

Taking their knowledge and addressing public safety issues in Croatia will be the next step. The challenges are many, but the team is well prepared to address the situation and find creative solutions. Stay tuned and learn more about the work of this group at www.gss.hr. ●

Harvesting the cold dry at Kitzsteinhorn Ski Resort, Austria.

