

Mountain safety in snow surveys

Région Autonome
Vallée d'Aoste
Regione Autonoma
Valle d'Aosta



Last year

Fondazione

became the

referent institution

for the mountain

safety training

courses of the

Valle d'Aosta

Region



G.Burelli¹, M. Curtaz¹, A. De Checchi³, P.Dellavedova¹, E.Motta¹, J.P.Fosson¹

¹ Fondazione Montagna Sicura, Villa Cameron, Località Villard de la Palud 1, 11013 Courmayeur (AO), Italy; ³ Safety engeneer of Fondazione Montagna sicura

The first aim of Fondazione Montagna sicura (www.fondazionemontagnasicura.org) is the mountain safety improvement. Fondazione employs a pool of experts working on the western Italian Alps to collect data on snow cover and on glaciers in order to issue the avalanche Bulletin of the Valle d'Aosta Region, to update the glaciers and avalanche cadasters, but also to disseminate a safe approach to mountain activities



An equipped descent during a training course

In Italy health and safety at work are regulated by the Legislative Decree n.81 of April 9th 2008, which introduced several rules. The employer must provide particular rules to improve health and safety at work. First of all he has to assess risks for health and safety at work (providing the Risk Assessment Document), to eliminate them and, if it's not possible, to reduce them; he also has to provide the health monitoring of his employees etc.... Specific training for hazards at work had been introduced by the Lgs 81/08.



Risk Assessment Document

ai sensi degli artt. n. 28 e 29 del dlgs n. 81/2008 updated on 2014, April 7th

Il dirigente: dr Jean Pierre Fosson

| II diligente, di Jedii Fierre l'ossori | NIO | ACTIVITY | LIAZADDO | LIAZADDO |
|---|---------|--|--|--|
| | N° | ACTIVITY | HAZARDS | HAZARDS |
| RLS e Preposto- Ufficio Neve e vala | | | | REDUCTION |
| | | | | |
| RLS e Preposto – Ufficio Ghiacciai e p | C9 | Snowpack observations: | - Avalanche hazard; | Training courses: |
| | | information on the structure and | - accidental fall; | Loads handling; |
| Preposto - Ufficio Neve e valanghe: F | | stability of the snowpack to assess | - fall of tools from the | ski-touring; |
| | | current and future avalanche | top of the snow-pit | Progressione su |
| Medico competente: dr.sa Marina Giuli | | conditions. | 15 mg | ghiacciaio; |
| | | Snow profiles, snowpack | - slip on steep slopes; | trekking; |
| RSPP: ing. Alessandro De Checchi | | properties and snow stability tests. | - trauma, shock, | ARTVA use. |
| | | | impact, abrasion; | |
| | | Tools: ski-touring equipment, | - injuries caused by | PPE (Personal Protective |
| | | ARTVA, gps, probe, shovel, pipe | the use of tools; | equipment): |
| | | corer. Snowpack observation kit: | - hazards due to | Use of appropriate |
| | | thermometer, lens, plate, snow | extreme weather | equipment depending on the site and on weather |
| | | board tube, dynamometer, probe, | conditions eg. | |
| | | lanyard, snow saw, camera | frostbite; | expected. Medical package, radio |
| | | | - fatigue/ difficulty | and/or mobile phone, |
| I. ORGANIZATION II. AVALANCHE WARNING OF V. DISSEMINATION OF FIELD VII. HAZARDS ON AND GLACIERS IX. DEFINITION OF AII. RISK FACTORS AII. RISK FACTORS AII. RISK FACTORS AII. RISK PROBLEM AII. RISK FACTORS | | SGeneral index ACTIVITIES | and dehydration; | whistle, sunglasses, sun |
| II. AVALANCHE WA OF FIELD AV. SURVEYS ON AND GLACIES VI. HAZARDS EVALUATION OF ALL AND GLACIES XI. RISK FACTORS. A) COMMON ARD EVALUATION. A) IRANSERS ACTORS. A) COMMON ARD EVALUATION. A) IRANSERS ACTORS. A) I | | | - eye injuries and | cream; |
| V. SUPLINAFON OF | | | burns from UV | NAMES PRODUCTION P |
| VI DISSETS OST ARNING TELD | 1 | | 20040000000000000000000000000000000000 | ARTVA, shovel and probe |
| VII. RISARDINATIC SNOW GLASCEN | CTIVITY | | exposure; | |
| V. DISSEMINATION SNOW GLACIENS VII. RISK PERCENTUATION ACTIVITIES XI. RISK FACTONS SAFETY ROS SKS SINGLES XII. RISK FACTONS RISKS SINGLES A) COMMON ROS SAFETY RISKS SINGLES A) COMMON ROS SAFETY RISKS SINGLES A) COMMON ROS SIFICE SINGLES RISK SAMMON ROS SIFICE SINGLES RISK SI | ERFIE | S., Gen | - loads handling | Depending on the |
| * DEFINITION TO ACT OLACI | OFFICE | ACT (eral in | (movimentazione | snowpack conditions: |
| AI RISK FACTONS SAFETY RISKS IN FIELD ALTINITIES A) COMMON RO EVALUATION SITES IN FIELD ALTINITIES A) TRANSFERS ACTIVATION SITES IN FIELD ALTINITIES AIII RISK FACTONS SAFETY RISKS IN FIELD ALTINITIES A) COMMON RO EVALUATION SITES IN FIELD ALTINITIES STATES IN FIELD ALTINITIES SITES SITES IN FIELD ALTINITIES SITES | RSTEA | ELD TITLES "Mex | manuale dei carichi). | helmet, Avalung or ABS |
| A) Co HA QUATORS ETY RIC | ···`^% | ACTURACTORIO | | air-bag; |
| B) TRAINMONIARD THE COUNTY TO THE COUNTY THE | · | TES | | on a glacier: glacier rope, |
| ATT FIELD SEED ACT DEVALUE ON THE DELLE | ••••• | The same of the sa | | piolet/ice axe, crampons, |
| ATV INFORCED TITES ATTON | CIIVI | | | harness, daisy chain, |
| VII. RISK PERCENTUATION. AII. RISK FACTONS. B) TRANSPARON ARD EVALUATION. C) FIELD ACTIVATION. AII. INFORMATION. | TES | Service and the service and th | | carabiners, slings, belay |
| V_T , V_{AA} | · · · · | | | device, ice screws. |
| TUTE STRUME A PROPERTY OF THE STRUMENT OF THE | | The transfer of the state of th | ·. | |

ExtractS from the Risk Document Assessment (related to the C9 activity: Snowpack observation) which screens the different outdoor working activities, the related hazards, the preventive measures that have to be taken to reduce possible injuries

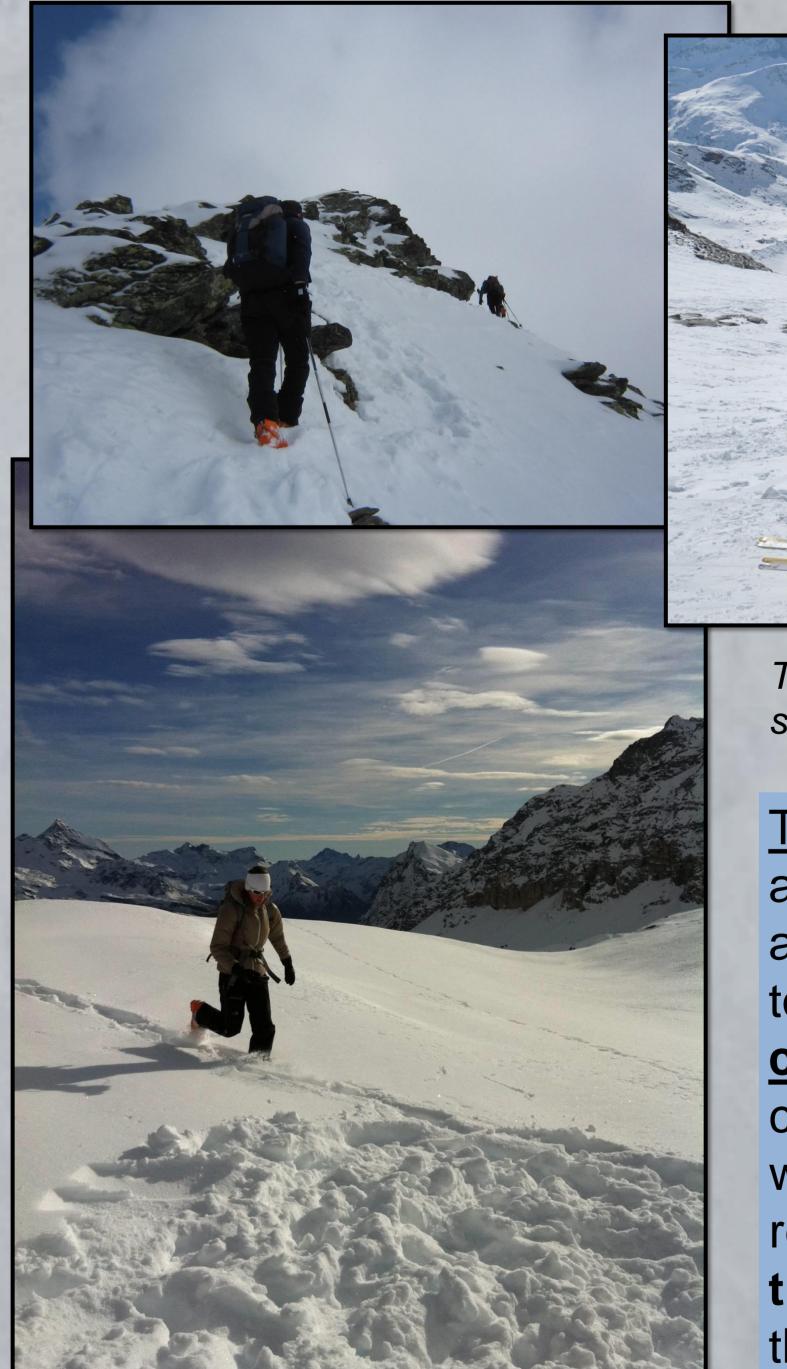


The alpine guide shows some technical aspect of skimountaineering during a training course.

Fondazione provides training courses on:

- ✓ safety and general risks at work,
- √ fire-prevention,
- ✓ first-aid,
- ✓ avalanche safety,
- √ ski-mountaineering,
- ✓ ARTVA,
- √ glacier hiking,
- ✓ off-road driving.

Medical examinations for all the employees and mountain medicine examinations for the team that works at high altitude and also the personal protective equipment (PPE) for the field team are provided



Test on ARTVA skills



The Avalanche Warning Service team during ski-mountaineering courses

Test on ARTVA and ski skills are also done to assess individual abilities and improvements thanks to the training sessions. Periodic controls on the equipment are carried on to ensure its perfect working. Moreover a protocol reporting important guide lines for the snow surveys will be issued for the beginning of winter 2014/15

CONCLUSIONS

In case of avalanche

danger 4 or 5: only heli

surveys with a mountain

Much has been done in the last years to assess and improve safety at work.

The scientific progress, the improvement of the PPE, the continuous training and medical examinations will help Fondazione to improve safety and health in all its activities. The next winter season will add new elements and data to improve furtherly the procedures during snow surveys, and will help to find other sites properly, in term of safety, for the observation of snowpack and the and study of slopes. The Risk Assessment Document will continuously be updated to assess a better management of all Fondazione's activities