Prossimi convegni internazionali:

17° Meeting dei Servizi Valanghe europei (EAWS), Spagna

International Snow Science Workshop 2013, Francia

Dal 2 al 4 ottobre 2013 a Barcellona (Spagna) e dal 7 al 11 ottobre 2013 a Grenoble e Chamonix (Francia) si terranno rispettivamente il 17° meeting dei Servizi Valanghe Europei (EAWS) e l'International Snow Science Workshop (ISSW) 2013. Gli eventi sono stati organizzati dall'Istituto Geologico di Catalonia (IGC) e da ANENA, IRSTEA e Météo-France.

I lavori dell'EAWS Meeting si concentreranno, come al solito, su diversi argomenti: utilizzo e possibili implementazioni della scala del pericolo valanghe e alla matrice bavarese; scenari di pericolo; scala magnitudo valanghe; metodologie di raccolta dati per la previsione valanghe; comunicazioni con il pubblico e strategie di prevenzione; utilizzo dello standard CAAML; strumenti e metodologie innovative per i previsori valanghe; collaborazione tra servizi valanghe, istituzioni, agenzie e utenti pubblici.
Sarà anche l'occasione per celebrare i 30 anni dalla fondazione dell'EAWS ed i 20 anni di adozione della scala unificata europea del pericolo valanghe.
Attualmente fanno parte dell'EAWS 16 nazioni del continente europeo e due nazioni nord americane (U.S.A. e Canada – dal 2007) consacrando l'ente come il punto di riferimento internazionale per la comunità tecnico-scientifica del settore.
In occasione del meeting verranno anche rinnovate le cariche e deci-

se le strategie che il gruppo di lavoro ristretto seguirà per il prossimo quadriennio.

L'International Snow Science Workshop, il principale convegno internazionale per i professionisti del settore dal 1976, ritorna in Europa dopo Davos 2009.
Quest'anno si svolgerà in Francia a Grenoble e Chamonix.
L'agenda per i cinque giorni del convegno è, come al solito, fittissima e fornirà un approfondita panoramica su varie tematiche attraverso sessioni orali e poster: Previsione rischio valanghe; Gestione delle crisi, incidenti da valanga e soccorso; Gestione innevamento; Opere paravalanghe, distacchi artificiali e riduzione del rischio; Dinamica valanghiva e cartografia del rischio; Proprietà generali del manto nevoso e fenomeni di trasporto eolico; Strumenti, misure e telerilevamento; Idrologia ed ecologia delle zone innevate; Impatto dei cambiamenti climatici; Forum sulle nuove tecnologie; Progressione su terreno valanghivo e valutazione della stabilità del manto nevoso; Formazione dei praticanti e dei professionisti; Valanghe e nuovi mezzi di comunicazione; Escursioni; Workshop sui siti sperimentali.
La peculiarità di questo convegno è di permettere un confronto tra scienziati e ricercatori, tecnici (previsori valanghe, nivologi) e professionisti (guide alpine, impiantisti, progettisti, formatori) mescolando teoria e pratica con risultati sorprendenti e altamente stimolanti che favoriscono lo scambio di idee, spunti di ricerca, tecniche ed esperienza in maniera assolutamente trasversale.
Una opportunità da non perdere!

Igor Chiambretti
responsabile tecnico di AINEVA

PERCEPTION OF RISK IN AVALANCHE TERRAIN
K. Kristensen, M. Genswein and W. Munter
Although avalanche training and risk minimization strategies have greatly evolved and are being widely taught to recreational and professional users, too many serious accidents continue to happen within the educated user groups.
Whereas misinterpretation of the hazards as well as the complexity and uncertainty of hazard assessment are potential causes for such accidents, a faulty perception of the probabilities of accidents and their implications might be a more important factor, in particular with trained user groups.

MONITORING OF SNOWCOVER IN PIEDMON THROUGH THE USE OF webGIS SYSTEMS
R. Cremonini, M.C. Prola, E. Bonansea, M. Alibrando, M. Carrino, S. Terzago, E. Solero, S. Barbero
In the last few years, snowcover monitoring in the Alpine area has been paid more and more attention due to the need for managed planning of water resources in the mountain areas and in densely populated valleys, such as Pianura Padana, and for avalanche risk prevention.
The meteorological network of Regione Piemonte, run by the Regional agency for environmental protection (ARPA), today includes over 400 stations, of which some 135 provide snowcover depth and fresh snow depth figures.
The present article introduces the new web service carried out and managed by ARPA Piemonte, which provides real-time access to hydrological-snow-weather data from the regional network.
Snowcover depth and fresh snow depth values are made available through a webGIS application, integrating information with the data provided by the Piedmont weather radar system along with temperature, precipitation and wind measurements from the regional network.

The application allows users to contextualize snow measurements in the territory, offering a tool for effective consultation and correct interpretation of measurements.

AVALANCHE DANGER MAPPING
Possibilities, difficulties and limits of analysis of avalanche sites of Costa della Madonna and Livinadac
P. Capellari, G. Bertoldi, V. D'Agostino, F. Sommavilla, A.Tomaselli
In this work we analyze two avalanche basins in the Belluno province, Veneto, in order to analyze on-site mitigation structures and check their effectiveness in terms of risk reduction.
The two sites are Costa della Madonna, in the municipality of Voltago Agordino, and Livinadac, in the municipality of Livinallongo del Col di Lana.
The basic tool that has enabled this work is the two-dimensional dynamic model, physically based, RAMMS, developed by the Swiss authorities SLF of Davos (Institut für Schnee-und Lawinenforschung) and WSL (Eidg Forschungsanstalt für Wald, Schnee und Landschaft). The performed analyses have shown the effectiveness of mitigation structures in reducing the risk of Voltago Agordino and Livinadac avalanche sites.
Some issues have been found during the analysis and simulations, particularly in the model input data. The lack of sufficient and comprehensive information about historical events made difficult to calibrate some parameters.
Especially as regards the size of release areas and the choice of rheological coefficients μ and ξ.
Another problem encountered concerns the quality of the used DTM that, not reflecting in a reliable manner some characteristics of the basins, has partially affected simulations results.
However, it has been shown that the model is able to simulate avalanches with sufficient detail and pre-

cision, giving results comparable to those expected and to historic data. The model acts as a useful tool to support decisions in the field of avalanche danger, but the entry of input data and the analysis of results however require a careful approach and evaluation of errors and unreliable sources.

ARTIFICIAL AVALANCHE RELEASE AS A PROTECTION MEASURE FOR MAJOR ROADS: the case study of road S.S. 21 "Colle della Maddalena" (CN, Western Italian Alps)

M. Vagliasindi, A. Theodule, E. Levera, M. Maggioni

Artificial release is one of the methods used for avalanche risk prevention.

This method was originally developed in ski resorts, where safety measures are usually quite simple to implement, i.e. ski runs and lifts closure.

Artificial release operations are usually applied according to a specific plan (in Italy it is called PIDAV), in which triggering methods and locations, snowpack thickness thresholds, operation sequence and safety measures are detailed.

The application of artificial release plans to roads safety management is a very promising prospect. Compared to structural measures, this method usually implies lower costs and is more flexible, in particular where long sections of roads need to be protected.

On the other hand, the need to manage road traffic – e.g. closing roads in advance in order to avoid traffic jam and problems – implies a very deep knowledge of local avalanche sites and snow conditions, a careful definition of procedures and a skilled application.

This work describes the different activities performed to produce the PIDAV for the road S.S. 21 "Colle della Maddalena" in the Western Italian Alps, as well as the encountered problems and possible solutions.

The road S.S. 21 "Colle della Maddalena" is a major road in the Cuneo Province (Italy), mainly used for road haulage between Italy and France.

A large section of the road (above 30 km) is exposed to avalanche risk, and the road is therefore frequently closed to traffic for long periods in winter time, thus involving problems for carriage and traffic.

An artificial avalanche release plan (PIDAV) has been designed in order to prevent this problem, funded by the Cuneo Province in the frame of the Alcotra RiskNat project within the O.P. 'Italy - France (Alps - ALCOTRA)'. The plan has been designed coupling a detailed analysis of avalanches sites, release conditions and avalanche effects, also involving numerical modeling, and a careful analysis of possible release methods, traffic managements and safety procedures, thus achieving a functional and easy-to-apply solution. The method could be usefully applied in other cases where road protection against avalanches is needed.

THE EFFECTS OF AVALANCHES ON BUILDINGS: the case of the DISASTROUS AVALANCHE OF Les Thoules - Valsavarenche

V. De Biagi, B. Frigo, H. Fusinaz, B.Chiaia

The paper relates to an indirect procedure for the evaluation of the impact pressure due to the interaction between snow avalanche and buildings: a structural back-analysis. The case study is represented by a real event occurred in December, 2008 in Valsavarenche (northwestern Italian Alps, in Aosta Valley) that caused the collapse of several buildings and the disruption of the main infrastructures (roads, power lines, …); the local community was segregated for many days.

The implemented procedure, which gives an evaluation of the impact pressures range, is divided in two steps: first, the damaged structures are surveyed and information on the original configuration is collected, then the structural modeling and the evaluation of the collapse mechanisms are performed.

The present paper focuses on four buildings, two of which were partially damaged, and the remaining totally collapsed.

The extreme avalanche event is described and the preliminary investigations are carried out by reviewing the original drawings of the buildings, observing the damaged structures and estimating the damages by filling in a specific form. Then, the damages are described in detail and the collapse mechanisms are supposed.

Dynamic impact pressure, avalanche flow speed and impact direction are also evaluated.

The results of the analysis can be a hint for the implementation of new design strategies for infrastructures to be built in hazardous area.