

# PROGRAMME SUMMER-SCHOOL 2002

Lectures and Excursions  
Presented in Dornbirn and Vorarlberg (W-Austria)  
7 - 14 July 2002

## *Organisation:*

RESEARCH FOUNDATION FOR ALPINE AND SUBALPINE ENVIRONMENTS

VORARLBERGER NATURSCHAU      *i n a t u r a*

## *INTRODUCTION*

The one-week, geoscientific Summer-School programme - followed by fieldwork for a limited number of participants - takes place in Vorarlberg (W-Austria) from 7-14 July 2002.

- This project is organized on the initiative of the '**Research Foundation for Alpine and Subalpine Environments**' - RFASE, founded March 2001 by staff members from the former 'Alpine Geomorphology Research Group', University of Amsterdam - with the full scientific, logistic and financial support of the '**Vorarlberger Naturschau**' (*i n a t u r a* - Dornbirn).
- The Summer-School project was also made feasible through a substantial financial donation by the firm **Doppelmayr A.G** (Wolfurt, Vorarlberg).
- The manifestation runs under the sponsorship of the Division of Earth Sciences of **UNESCO** and is supported by the **IAG** (International Association of Geomorphologists).
- Within the framework of the '**International Year of Mountains**' (IYM-2002) the Summer-School will be followed by the **IAG-Symposium** on Sunday 14 July 2002, thus linking up the Summer-School programme with the 'Intensive Course' of **CERG** (Centre Européen sur les Risques Geomorphologiques, Council of Europe, Strasbourg) being scheduled from 15-21 July 2002, also organized by RFASE and *i n a t u r a* (Vorarlberger Naturschau).

## *JUSTIFICATION*

The organisation and presentation of a Summer-School programme in Vorarlberg by RFASE and *i n a t u r a* during the IYM 2002 has been undertaken to distribute unique knowledge and field experience obtained during decades of student training, research and contract work in this part of the northern Alps. Some past achievements and recent activities are:

- Geomorphological mapping (at scale 1 : 10,000) has been carried out over extensive areas in and around Vorarlberg. Mapping proved to be a powerful tool in landscape and project-site analysis. Two series of 12 map sheets (A-2) with

natural hazard and geotechnical overlays have been published, providing an important data base for further research, other derivative maps, GIS, contract work and EU-funded projects (e.g. Cartesian, 2000).

- Knowledge of the glaciation history of the Rhine Glacier system in and around Vorarlberg has substantially increased. Climate reconstructions of the Upper Würm are in progress.
- Much experience has been gained with slope stability problems (fossil and active mass movements) and with related hazard and risk analysis.
- The existing 'Geotopeninventar' of Vorarlberg - an inventory of unique geo-sites, prepared in 1987 - recently attracted renewed attention by the government. This inventory will be upgraded and has to be completed for all the communities of Vorarlberg during the coming years.
- Since the early eighties, a number of detailed case studies (partly contract work for engineering and forestry departments) were carried out in Austria, Liechtenstein and Switzerland, now offering splendid sites for demonstration and instruction.

There are several other reasons to select Vorarlberg as an international centre for scientific and educational projects like the Summer-School:

- Vorarlberg is considered to be most suitable for earth-scientific and landscape-ecological training and research. The alpine and subalpine environments in this northern section of the Alps are highly dynamic and show much variation. Its geology and geomorphology is rich and complex. Moreover, the different landscape types are very well preserved: Fields are only slightly modified by agriculture, as traditional land-use is cattle farming and forestry.
- Additional advantages can be mentioned. Most of the valleys and research areas in and around Vorarlberg are well accessible. Aerial photographs are available. Private accommodation during fieldwork is not too expensive and can easily be arranged. *inatura* (the 'Vorarlberger Naturschau') and other cooperating institutions are offering modern facilities and support for training and research.

In general: A good knowledge of materials, processes and landforms is fundamental to understand the evolution of dynamic and vulnerable environments. Integrated geological, geomorphological and environmental (landscape-ecological) field training is nowadays rarely part of the university curricula in geosciences, but should be considered as a 'must'. Integrated training also is of great value to bridge gaps with related disciplines.

Therefore, the **aim of this course** is to demonstrate how detailed knowledge on alpine and subalpine environments can be obtained, as well as to increase field experience in geosciences:

**Course participants will be learned 'to read landscapes' in complex settings and to evaluate field conditions in the context of various scientific and practical demands.**

## ***TARGET GROUP***

The Summer-School is intended for geoscientists with a general interest in alpine and subalpine environments and for advanced students, as well as for persons who are professionally involved in mountainous areas, e.g. employees of geological, forestry, engineering and planning departments.

The one-week programme in Vorarlberg will accommodate about 35 participants. The programme will be extended by 1-2 weeks of fieldwork for a limited number of the Summer-School participants (max. 12). Fieldwork will be arranged in the southern Walgau. Guidance and field training is by RFASE staff and/or by own staff members.

## ***INFORMATION***

For any further information (fieldwork!) please contact Dr. A. C. Seijmonsbergen, b/a IBED-Fysische Geografie (University of Amsterdam), Nieuwe Achtergracht 166, NL-1018 WV AMSTERDAM. Tel. 0031-(0)20-5257427. E-mail: [A.C.Seijmonsbergen@science.uva.nl](mailto:A.C.Seijmonsbergen@science.uva.nl)

## ***ACCOMMODATION and COSTS***

The Summer-School programme will end on Saturday-evening, but will be followed by the IAG Symposium on Sunday, 14 July. For this reason accommodation for student participants is offered in the Kolpinghaus in Dornbirn (double bed rooms; breakfast included), from Sunday-evening the 7th of July, up to Monday-morning the 15th of July. Further details:

- **Professional** participants (e.g. staff members of geological, forestry and/or engineering departments) have to pay a (reduced!) **course fee of € 250.-**, which includes the same facilities as indicated for students (for additional information see scholarships and programme).
- **Students** attending the one-week summer-course have to pay a **contribution of € 100.-** (fees must be paid cash at the registration desk on Monday 8 July), which includes materials, excursions, accommodation from 7-15 July, and participation in the IAG-Symposium. Some lunches/buffets/dinners are provided as well (see programme).
- **Travel** to/from Vorarlberg and **fieldwork** expenses are not paid for (see scholarships).
- **Fieldwork guidance** by RFASE staff members is offered free of charge.

## ***CERTIFICATES***

Certificates for attending the UNESCO Summer-school will be provided by the end of the course and will be valued for 2 ECTS credits ('study points' provided within the framework of the European Credit Transfer System).

## **PROGRAMME**

The Summer-School starts at Sunday-evening 7 July and ends on Sunday-morning 14 July, but accommodation is up to Monday-morning 15 July, in order to take part (without further payment of fees) in the IAG-Symposium on Sunday 14 July 2002.

Introductory lectures and special guest lectures are concentrated on Monday. An evening lecture is on Wednesday. The excursions and other evening programmes are on Tuesday to Saturday.

### **Daily programme and time-table:**

#### **Sunday 7-7:**

**16.00-22.00** Arrivals, accommodation and informal meeting of staff and participants.

#### **Monday 8-7:**

**08.30-09.15** Registration of participants at the Vorarlberger Naturschau.  
A **poster session** will be presented during the day, from 08.30 onwards.

**09.15-09.45** **Opening ceremony** with representatives of the Government of Vorarlberg, 'Stadt Dornbirn', Division of Earth Sciences of UNESCO, sponsoring Firma Doppelmayr (Wolfurt, Vorarlberg), IAG and organizing institutions ('Vorarlberger Naturschau' and 'RFASE').

**09.45-10.00** Coffee-break, posters.

**10.00-10.10** Short introduction into the course-programme (president RFASE).

**10.10-12.30** **Introductory lectures** (25 min.+ 10 min. discussion each):

10.10- FRIEBE, G. (Vorarlberger Naturschau, Dornbirn):  
- *Vorarlberg - where Africa and Europe meet. - Regional geology.*

10.45- DE JONG, M. (RFASE, Amsterdam):  
- *Overview of the glaciation history of the Upper Würm; sediment types.*

11.20- DE GRAAFF, L. (RFASE, Amsterdam):  
- *Pleistocene sedimentation patterns and valley glaciation models.*

11.55- VAN WESTEN, K. (ITC, Enschede):  
- *Geomorphological inventory methods using remote sensing and GIS.*

**12.30-13.30** Buffet 'in the house' offered by the Vorarlberger Naturschau, posters.

**13.30-17.15** **Introductory and special guest lectures** (25 min.+ 10 min. each):

13.30- SEIJMONSBERGEN, H. & L. DORREN (IBED, Univ. of Amsterdam):  
- *New approaches towards natural hazard assessment in mountain geoecosystems.*

14.05- SCHMIDT, R. (Wildbach- und Lawinenverbauung, Bregenz):  
- *Georisks in Vorarlberg.*

14.40- MAIER, B. (Forestry department 'Stand Montafon', SE-Vorarlberg):  
- *Sustainable management of protection forests.*

**15.15-15.30** Coffee/tea-break. Poster session.

15.30- CAMMERAAT, E. (IBED, Amsterdam):  
- *Mountain hydrology and carbonate/sulphate karst.*

16.05- DRAMIS, F. (Third University of Rome):  
- *Travertine deposition in mountainous environments in relation to climate*

**16.40-17.30** Information on the excursion/fieldwork-programme. Posters.

**19.00-** Evening dinner for staff members and participants, offered by the Vorarlberger Naturschau in Dornbirn with visit to the site of the new *inatura*.

## **Tuesday 9-7**

**08.15-17.30** Excursion: **Northern Bregenzerwald.** Presentation Leo de Graaff & Mat De Jong, with contributions of Georg Friebe, Harry Seijmonsbergen and/or others.

Topics: Tilted and folded Molasse; glaciation history (Pleistocene sediment sequences and landforms); deposition of travertine, hazard and risk analysis: active mass movements and prehistoric landslides.

Lunch: Self-service in Egg (at own costs).

Dinner: Evening dinner in the Kolpinghaus (drinks at own costs).

## **Wednesday 10-7**

**08.15-17.30** Excursion: **Rhine Valley** (Plattenwald, Göfis/Feldkirch). Presentation Leo de Graaff & Mat De Jong, with contributions of Georg Friebe, Harry Seijmonsbergen and/or others.

Topics: Helvetic rocks, glaciation history, climate reconstruction, slope instability, landscape preservation (a. o. ice-marginal terraces and dry valley systems; the Late-Glacial record of Gasserplatz).

Lunch: Self-service in Rankweil (at own costs).

Dinner: Evening dinner in the Kolpinghaus (drinks at own costs).

**Evening lectures in the Vorarlberger Naturschau:**  
The first is German spoken and open to public. This lecture will start at 20.15 p.m.. The second is English spoken and starts at 21.15 p.m.. Both are on: *The selection, documentation and preservation of geo-sites and unique landscapes in Europe.* Presentation Dr. Marie-Luise Frey, director of the Geopark Gerolstein, Vulkaneifel.

**19.15-21.15**

## **Thursday 11-7**

**08.15-17.30** Excursion: **Northern Walgau, Brandner Valley, Gamperdona Valley.** Presentation Leo de Graaff & Mat De Jong, with contributions of Georg Friebe and/or others.

Topics: Flysch, deep-seated rock creep, glaciation history (Pleistocene interactions between rivers and glaciers: related sedimentation patterns and the Walgau glaciation model: origin of the valley fills of Gamperdona, the 'Bürser Konglomerat' etc.).

Lunch: Packed lunches will be provided by the Kolpinghaus.

**19.15-21.30** Reception/buffet (Landhaus, Bregenz) offered by the Government of Vbg.

## **Friday 12-7**

**Montafon (Upper Ill Valley).** Presentation:

**08.15-17.30** Excursion:

1. Friday morning, Bernard Maier (forestry dept. 'Stand Montafon'), (IBED-Amsterdam);
2. Friday afternoon, Harry Seijmonsbergen, Luuk Dorren and Bernard Maier.

Topics: Slope stability and mass movements (functioning of alpine forests, in general and in relation to slope stability problems and avalanches;

effects of skiing).

Lunch: A lunch will be offered by 'Stand Montafon'.

Dinner: Evening dinner at own costs.

**19.30-22.00** Evening meeting, evaluation and wrap-up. Certificates of attending the UNESCO Summer-school will be provided to the course participants.

### Saturday 13-7

**07.45-18.30** Excursion: **Ries crater (Nördlinger Ries: meteorite impact crater: field excursion and museum visit)**. Presentation: Dr. Michael Schieber, director of the Rieskrater Museum in Nördlingen.

Topics: Impact effects and morphological development since the Miocene (impact ~15 MY ago, destroyed crystalline rocks, formation of suevit, algae limestone and other Ries lake deposits, etc.).

Lunch: Packed lunches will be provided by the Kolpinghaus.

### Sunday 14-7

**IAG-Symposium**, organized within the framework of the "International Year of Mountains", as the year 2002 is officially declared by the UN. The programme is under the responsibility of the IAG and will be forwarded later to the course participants.

Preparations for fieldwork will start from Monday 17 July onwards (see below).

N.B. !: Some of the excursion routes and fieldwork activities may bring us in rough or wet mountainous terrain. Moreover, weather conditions in the Alps may change rapidly. Therefore, next to a professional field-geological outfit, an umbrella, weather-resistant clothes and mountain-proof shoes are strongly advised.

## ***FIELDWORK***

Fieldwork will be organized for a limited number of persons attending the Summer-School (max. 10). Fieldwork preparations will start on Monday 15 July, immediately after the course and the IAG-Symposium on Sunday 14 July. Topographical maps and other materials will be provided by RFASE.

*Costs of living (accommodation, food, etc.) and local transport for the group of persons taking part in fieldwork is not paid for.*

For practical reasons, participants in the Summer-School programme taking part in fieldwork will work together in groups of two persons. Guidance is by various staff members. The programme will focus on geomorphological mapping and other field inventories. Attention also will be paid to aspects of Quaternary geology, engineering geology, landscape ecology, etc..

Geomorphological mapping at large and very large scales is an essential element in field research in Vorarlberg. Though the fieldwork activities will focus on this topic, the programme will be flexible and can be arranged according to further wishes and intentions.

For questions on fieldwork and further arrangements please contact Dr. A. C. Seijmonsbergen, b/a IBED-Fysische Geografie (University of Amsterdam), Nieuwe Achtergracht 166, NL-1018 WV AMSTERDAM. Tel. 0031-(0)20-5257427. E-mail: [A.C.Seijmonsbergen@science.uva.nl](mailto:A.C.Seijmonsbergen@science.uva.nl)

*Amsterdam - Dornbirn, June 2002.*

---

© 2002 International Association of Geomorphologists  
All rights reserved