

## Chapter 18



### GPS-GeoCaching Outdoor Workshop

**Yvonne Schleicher, Weingarten, Germany**

Brno-Krtiny, Czech Republic

#### **Introduction**

The geocaching-community is growing worldwide: The fascination to find the cache and a treasure brings students back to nature. The workshops aim was to get familiar with GPS-receivers and the idea of Geocaching to be further discussed, if it is useful to integrate Geocaching and GPS-receivers in geographic fieldwork.

Geographers and teachers for Geography often own Global Positioning System (GPS) devices but do not know how they can use this amazing technology to do so much more than simply calculate a location. Especially for Geographic Education and Fieldwork the use of a GPS is a motivating tool to enhance learning.

After getting familiar with the ideas of Global Positioning Systems a presentation showed ways of how to use a GPS-receiver: to measure your speed (while you are walking, driving or even flying in an aircraft), for mapping individual routes (find out, where your dog goes during the day) or places (mapping an old cemetery, land conservation), making latitude and longitude visible, and comparing magnetic and true north.

Beside these “geographic” exercises the workshop focussed on the fascination GEOCACHING. The workshop dealt around the following questions:

What is Geocaching?

What is a GPS device?

How do GPS devices work?

How do I use a GPS unit for Geocaching?

What are the rules in Geocaching?

How do I hide a cache?

What is usually in a cache?

Where are caches found?  
Are there any variations?

Selected examples showed how each single person can start with geocaching – at any location in the world: Open a website that presents caches (for example <http://www.geocaching.com>, <http://www.navicache.com> or <http://www.geocaching.de>) select a cache in the region you want to visit and print the instructions. The next steps are: Solve the exercises, find the cache, write in the logbook, take something from the cache and put something else back (in the box), hide the cache at the same place and as soon as you come home you can visit the website again and write a feedback about your treasure-hunt.

After getting familiar with the techniques and the idea of Geocaching the workshop participants were asked to find their own geocache that were hidden outside around the conference centre, which showed, that it is not that easy as it sounds: Start the GPS-receiver and find your coordinates! As a second step the workshop participants created in small groups their own “geographic” Geocache which meant, that the geocache should be combined with some geographic exercises. This step showed the great potential around geocaching and fieldwork. All groups managed to create a cache and they gave the instructions to a partner-group who was asked to try to find the cache. They all made it and hopefully felt the motivation and fascination around geocaching.

At the end of the workshop we visited Geocaching-Websites and looked for geocaches in the hometowns of all participants: Search for a cache in your city! The idea was born to create more typical geographic geocaches that combine for example fieldwork-methods (such as measure distances and altitude) or background knowledge about the formation of the landscape (glaciers, erosion, volcanoes). At the end of the workshop ideas were collected how to integrate Geocaching in a curriculum.

#### **References**

Cooke D (2005), Fun with GPS. ESRI Press, Redlands USA

#### **Weblinks** for Geocaching:

<http://www.geocaching.com>

<http://www.navicache.com>

<http://www.geocaching.de>

## Chapter 19



### Using e-Learning in Geography Workshop

**Karl Donert, Liverpool Hope University**

Brno-Krtiny, Czech Republic

#### Activities and Discussions HERODOT Brno Workshop

- **Use of *Learnwise* and *Groupwise*** - register online for the course and ensure you have access to the course
- **Explore *Learnwise***, the course section, the materials there and the functions there are (print, note-taking etc.)
- **Review *the Presentations* on *Learning Communities***. You don't have to print them out or see them all now. Try to use the note-taking tool to identify key points. Save any notes into *Learnwise*. Reflect on the issues concerned here and discuss with others online or F2F (face to face). 😊 😊
- **Participate in Discussion Number 1:** By the end of this session, you should have participated in the discussion forum (go to Collaboration – Forum).
- The main question asked: ***Is it possible to teach Geography online?*** You should aim to respond to at least two other discussion threads or start your own if you feel brave. **REMEMBER:** your points will be seen by others so construct them well, watch out for silly mistakes. **REMEMBER:** Discussions must be informed by **FACT, IDEAS** and **INFORMATION**. These can be your ideas and those of others **SO READING AND RESEARCH IS VITAL** for the discussion. **The assessment will ask you to summarise the discussion that has taken place and reflect on your contribution.**
- **Try the online tools** - including Chat, Pager and Forum to find others on the course (*Collaboration*). See the course noticeboard and Email options.

#### FINALLY

- **Contacting People: be careful how you do this ... and think twice before you do it!!**

The options are:

1. Email class ... not to be used except when you want ALL the class to get the message. If we all start using this we will drown in email .... Think about this

2. Email a person – find the profile of the person (and photo) and email an individual .... replies go to your *Groupwise* account
3. Email tutor ... goes direct to the email of the tutors – this should **ONLY** be used in emergency – we all get too much email
4. Forum ... asynchronous contact – not necessarily at the same time
5. Pager – communicate with others who are on-line – flash a message to them
6. Chat ... meet remotely, synchronously – at the same time
7. E-Minder ... a tool to remind yourself .....

**Review Netiquette and working online!!** This will help you avoid disasters and embarrassing moments!!

### **After the workshop**

- **Locate your folder.** Make sure you know how to store information into your folder (*My Folder – Files*).
- **Complete** your *Learnwise profile*, include your interests and activities **AND** upload a photograph of yourself.
- **Introduce yourself in Introduction Forum in *Learnwise*.** By the class next week, you should introduce yourself in the Introduction Forum. What subjects are you studying? What is your level of IT experience? What are your interests in Geography? Include any other information you might wish to share.
- **Complete** the ASSIST survey to be found in the Global folder on *Learnwise* (and in the Week 2 folder). Open the file, (or right click to) save it onto your hard disc, disc key or floppy. Then complete it, save it and upload it into your folder. If you are not sure how to do this there is help in the FAQs and Course Guidance. This is about your style of Learning. Week 4 has a what it means section.
- **Read** the review of independent learning. Consider how you learn and critically review whether you are an independent learner or not. Consider what skills you will need and forms of learning you need to develop. Write any ideas or discoveries in your diary.
- **Read and prepare** the next major discussion topic. *What advantages does online learning give you in your teaching of Geography?* Use chat and forum outside class time to clarify your ideas
- **Try out** the Evaluation on e-Learning. Discuss and compare you results with others (in class and/or online).
- **Identify** your 3 favourite Web site URLs and upload them to *Learnwise*.
- **Discover about reflective diaries:** these provide a strongly reflective part of this course. The diary should be completed and submitted to your locker every two weeks of the course. Information about how to complete diaries, ideas and criteria are provided in the course materials on *Learnwise*. Access the course reflective diary template and save it into your locker.

## Chapter 20



### New Web Tools and strategies for Geographic Education Workshop

**Alfons Koller, Linz, Austria**

Brno-Krtiny, Czech Republic

Web-GIS, Wiki-books, still- and moving-image-communities, digital globes and virtual flights through towns and realistic landscapes open new opportunities for geography in higher education.

**Wiki-books** ([HTTP://WWW.WIKIPEDIA.ORG](http://www.wikipedia.org)) can be written by everyone. One person starts a topic, others continue, so a free and world-wide book is growing. The following ‘geographical’ themes are available at the moment (10-20-2005 0:00): ENVIRONMENTAL SCIENCES - Environmental Sciences - Ecology - Regents Earth Science (High School) - Meteorology - Soil Science - Climate change - SOCIAL SCIENCES - Geography - Introduction to Palaeoanthropology.

These articles can mostly be used as an overview, for the first steps into a new theme of interest. If users want to find more detailed information then links are available in the bibliographies at the end of the topic. Furthermore just a few days before the workshop in Bruno a new Wiki-book started as an elearning university called Wikiversity has begun. Our discussion during the workshop in Bruno followed the possibilities and risks of using these Wiki-books during courses in higher education.

The workshop examined digital globes like **Google.Earth** (<http://earth.google.com>), which has been available since June 2005. These tools open a new and world-wide view to our planet. These digital globes present satellite images of the world from local to large scales (1:200.000), they are free to access and for the integration of your own data. You are able to look into the region of our interest, to unknown countries, to 3D-cities of the USA. They open a general interface to geographic information, to rivers and mountains, to streets and towns, to points of interest like restaurants and shops. They have the opportunity to follow up classical ‘yellow pages’ and to become the tourist guide of the future. Even

in higher education they open the door to get scientific information from a geographic interface, the globe or a satellite map. They open the opportunity to “think global”, like the journal “Nature” postulates (16.2.2006, vol. 439, no. 7078, p. 763).

The workshop also looked at **virtual flights** where several opportunities were demonstrated, for example to visit the Alps (Tyrol or the lake-region in Upper Austria) and the city of Salzburg. They consist of aerial photos fixed on 3d-terrain-models and include 3d-models of buildings in the city, too. Compare [HTTP://DORIS.OOE.GV.AT/GEOINFORMATION/3D/START.HTM](http://DORIS.OOE.GV.AT/GEOINFORMATION/3D/START.HTM) and [HTTP://WWW.FMMGIS.AT/ORTSPLAN/](http://WWW.FMMGIS.AT/ORTSPLAN/). Our discussion developed the question whether they are only for fun and virtual games, or if it makes sense to use them for our investigations.

In German speaking countries lots of **Web-GIS-services** have been opened (Table 19.1). Some of them are developed by data-providers, others by universities and educational institutions. Web-GIS services are available on Web-sites, on which the user can retrieve online maps and localise geographical information. He/she is able to make enquiries (e.g. places with precipitation  $\geq 1000$  mm) and the selected locations (as points or regions) are marked. Thus Web-GIS combines Web-related-operations with the functionality of geographic information systems (GIS).

Table 19.1 Some examples of Web GIS services

1	Bundesamt für Eich- und Vermessungswesen (2000 – 2005), Austrian Map Fly, Austrian Map Online.- Wien, DVD bzw. <a href="http://www.austrianmap.at">http://www.austrianmap.at</a> (22.5.2006)	Topographic map in the scale 1:50.000, 1:200.000 and 1:500.000 of Austria
2	Ämter der österreichischen Landesregierungen, Abteilung Geoinformation (2005), Geoland, das GeoDatenportal der österreichischen Bundesländer.- Linz, Web: <a href="http://www.geoland.at">http://www.geoland.at</a> (22.5.2006).	Aerial photos, topographic maps, maps of landuse, vegetation, natural hazards etc.. of the federal states of Austria
3	Austrian Academy of Science (2006) Web-GIS of the Raumalp-project, concerning spatial and structural problems in the Alps.- Vienna, Web: <a href="http://www.galpis.at">http://www.galpis.at</a> (22.5.2006).	Maps of landuse, ecology, demography, cities and tourism in the European Alps
4	Ernst Klett Verlag (2006) Klett-GIS.- Stuttgart, Web: <a href="http://www.klett.de/sixcms/list.php?page=titelfamilie&amp;titelfamilie=Klett-GIS">http://www.klett.de/sixcms/list.php?page=titelfamilie&amp;titelfamilie=Klett-GIS</a> (27.5.2006).	Thematic maps of the world, Europe and Germany
5	Gutenberg-Universität Main, Geographisches Institut (2006) Web-GIS Schule, der Einstieg in GIS für Schulen und Hochschulen.- Mainz, Web: <a href="http://www.webgis-schule.de">http://www.webgis-schule.de</a> (27.5.2006).	Climate of the world and Germany, Topography of Spain and France
6	Landesmedienzentrum Rheinland-Pfalz (2006), Web-	Time-zones and climate of the

	GIS Rheinland-Pfalz.- Koblenz, Web: <a href="http://webgis.bildung-rp.de">http://webgis.bildung-rp.de</a> (22.5.2006).	world, different maps of Germany
7	Universität Innsbruck, Institut für Geographie (2006), Der Tirol Atlas.- Innsbruck, Web: <a href="http://tirolatlas.uibk.ac.at">http://tirolatlas.uibk.ac.at</a> (22.5.2006).	Demographic and economic information, aerial photos and maps of Tyrol (North-, South- and East-)
8	Sächsischer Bildungsserver (2006), Web-GIS Sachsen.- Dresden, Web: <a href="http://gis.sn.schule.de">http://gis.sn.schule.de</a> (22.5.2006).	Social, economic and political data display on a worldwide map
9	Universität Wien, Institut für Geographie und Regionalforschung, Abt. Kartographie und Geoinformation (2005), MyMap, Thematic Mapping Tool.- Wien, Web: <a href="http://map.gis.univie.ac.at/mymap">http://map.gis.univie.ac.at/mymap</a> (22.5.2006).	An Online-Tool to import own data and display on different maps
10	Westermann Schulbuchverlag (2006), Westermann Web-GIS.- Braunschweig, Web: <a href="http://www.diercke.de/webgis/webgis.html">http://www.diercke.de/webgis/webgis.html</a> (22.5.2006).	Demographic, economic data on a worldwide map

All these Web-services are used in secondary schools and teachers' initial and further training. Furthermore they build the interface to Geoinformation in our courses in higher education and our research at universities. They intensify the communication between researchers, support the exchange of results and enable an open and wide community all over the world to get access to them. So Geographers should take the opportunities which are offered to them!

Alfons Koller

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## Annex 1: Workshop Agenda



# Computers in geographical education: developing exciting Geography

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An international HERODOT workshop  
21-23 October 2005  
Brno, Czech Republic

### What is the workshop about?

This residential workshop will have five main themes:

- (1) pedagogies and the use of computers in Geography
- (2) geoinformation and the World Wide Web
- (3) fieldwork and computers
- (4) online learning, elearning and virtual learning environments
- (5) planning and preparing new funding projects using computers in Geography

The primary aim of this workshop is to review and present aspects of using Computers in learning and teaching Geography in higher education. It will discuss aspects of the results of research undertaken within the network, include a survey about the study of Geography using computers and provide an insight into opportunities afforded by new technologies.

The workshop will introduce the issues associated with computer use and the impacts on learning that is either taking place in some courses. A further aim is to disseminate ideas for new collaborative European projects and to form possible partnerships in order to make project funding proposals to the European Commission.

This workshop is primarily aimed at those who do not normally integrate the use of computers in developing learning opportunities for students. More experienced participants are also welcome to attend.

# Final Programme

## Friday October 21<sup>st</sup>, 2005

afternoon      Arrival in Brno, Transfer to Křtiny (Moravian Karst)  
from 19:00      Welcome, Introductions, Registration and Evening Dinner

## Saturday October 22<sup>nd</sup>, 2005

09:00-09:10      Introduction and welcome, finances and administration.  
09.10-09.30      **Significance of computers**, curriculum development and Bologna (Karl Donert)  
09:30-10:30      **Pedagogies and using computers** in Geography (Karl Donert)  
10:30-10:45      Coffee break  
10:45-13:00      **Introduction to geoinformation and using the Web** (Alfons Koller)  
13:00-14:00      Lunch break  
14:00-15:45      **GPS-Geocaching-Outdoor-Workshop** (Yvonne Schleichter)  
15:45-16.00      Coffee break  
16.00-17:30      **Geography with GPS** (Alexander Kotsev)  
17:30-19:30      Visiting Brno  
20:00              Evening Dinner

## Sunday October 23<sup>rd</sup>, 2005

09:00-10:15      **Developing exciting geography**, using online (virtual) learning environments,  
workshop (Karl Donert)  
10:15-10:45      Discussion  
10.45-11.00      Coffee break  
10:30-12:00      Developing new projects and funding applications  
New project presentations, partner finding.  
Workshop on developing bids.  
12:30-14:00      lunch  
14:00              Visiting Moravian Karst Caves, departure

## Annex 2: Workshop and session abstracts

### **Workshop Aims:**

#### **Significance of Using computers, Pedagogies and using computers**

Does the use of computers enhance the learning (and teaching) experience? Why should we be encouraging and integrating computers into our courses? This workshop seeks to introduce and explore the issues associated with using and then integrating computer use in the learning process for students.

### **Abstract: Computers in Geography, Using a VLE**

**Karl Donert, Liverpool Hope University, UK**

HERODOT research indicates that there are gaps in the competences being offered by Geographers in their courses. The main area of concern in generic competences is in developing the use of computers. Geography academics widely use online materials and sources, prepare and present using computers but then do not integrate aspects of computer use into the learning process. This session seeks to explore what computer use in learning offers and the advantages (and disadvantages) of encouraging student learning online. It is then followed up by a workshop using a Virtual Learning Environment – Learnwise and examining typical student and tutor use patterns, leading to a discussion on establishing online courses.

### **New Web tools and strategies for Geographic education**

Wiki-books, Google.Earth and virtual flights through realistic towns and landscapes opens new opportunities for geography in higher education.

### **Abstract: New Web-tools and Strategies for Geographic Education**

**Alfons Koller, Head of the centre of lifelong learning an the pedagogic high school of the diocese Linz, lecturer at the university of Salzburg**

Wiki-books (<http://www.wikipedia.org>) can be written by anyone. One person starts a topic, others continue, so a free and world-wide book grows. The following ‘geographic’ themes are available at the moment (10-20-2005 0:00): ENVIRONMENTAL SCIENCES - Environmental Sciences - Ecology - Regents Earth Science (High School) - Meteorology - Soil Science - Climate change

SOCIAL SCIENCES - Geography - Introduction to Paleoanthropology. Just a few days ago a new discussion on Wikiversity, an elearning university, has started. – What do you think about it? Let us write a Web-book on geographical topics!

Another significant development is Google Earth (<http://earth.google.com>) this opens a new and world-wide view of our planet. This is a digital globe, free for access and for the integration of your own data. We can look at the regions we are interested in, to unknown countries, to 3d-cities of the USA etc. - Does this open a new interface to geographic data? Which topics of higher education will we be able to integrate? How can and do we use it?

Do you want to visit the Austrian Alps? Have you flown through the streets of Salzburg? – Enjoy aerial photos fixed on 3d terrain models. Are they developed just for fun? Or will we be able to use that in our research and development of Geography? Compare <http://doris.ooe.gv.at/geoinformation/3d/start.htm> and <http://www.fmmgis.at/ortsplan/>

In this workshop we will use these Web-links, develop our own opinion and discuss their relevance for Geography in higher education.

Contact: E-Mail [kol@ph-linz.at](mailto:kol@ph-linz.at)

Web <http://gw.eduhi.at> and <http://l3zentrum.ph-linz.at>

### **Geocaching and Geographic Education**

The geocaching-community is growing worldwide: The fascination to find the cache and a treasure brings students back to nature. Is it useful to integrate geocaching and GPS-reciever in geographic fieldwork? A project proposal for schools and university-students.

### **Abstract: GPS-Geocaching-Outdoor-Workshop in Bruno/Czechia**

**Yvonne Schleicher, University of Education Weingarten, Germany**

Geographers and teachers for Geography often own Global Positioning system (GPS) devices but do not know how they can use this amazing technology to do so much more than simply calculate a location. Especially for Geographic Education and Field Work the use of a GPS is a motivating tool to enhance learning. Focussing on Geocaching, the HERODOT workshop will deal with the following questions:

What is Geocaching?

What is a GPS device?

How do GPS devices work?

How do I use a GPS unit for Geocaching?

What are the rules in Geocaching?

How do I hide a cache?

What is usually in a cache?

Where are caches found?

Are there any variations?

And of course all participants will find their first Geocache and will create their

own Geocache. At the end of the workshop ideas will be collected how to integrate Geocaching in a curriculum. If participants already own a GPS please bring them to Brno!

**Funding for projects linking Geography, pedagogy and using computers**

How can the implementation of computer use be supported by EU financing? The advantages and potential of internationalisation through computer use can be enhanced with ICT. This session explores possible projects, seeks to introduce funding opportunities and establish new project proposals for submission in 2005/6.

**Abstract: Project funding**

**Karl Donert, Liverpool Hope University, UK**

HERODOT has spawned more than 20 other EU projects including curriculum development, working with countries beyond Europe, intensive courses, ODL, GI-science, teacher training and even an adult education project. The potential to network to allow collaboration and new developments is at the heart of the mission of the network. This session encourages members to propose project ideas, to partner search, to explore the potential for funding, discuss the issues and concerns with EU projects.