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Global Resource Information Database-Geneva

The GEO-3 Production Process

The year 2000 is off to a flying start as far as the production of the third edition of UNEP's flagship environmental assessment, the Global Environment Outlook (GEO-3) is concerned. Preparation of GEO-3 is a global process which involves nearly all staff of UNEP's Division of Environmental Information, Assessment and Early Warning (DEIA&EW), other UNEP divisions and offices, some thirty-five Collaborating Centres in all regions of the world and numerous other partners.

A 'start-up' meeting to launch the GEO-3 process was held in Nairobi in November 1999 to examine lessons learned from previous work and plan for the next two years of GEO-related activities. A series of "small working groups" were also set-up to plan the preparatory work of various specialised components of GEO-3 work, including capacity building, data requirements,

policy evaluation, the "Rio+10", scenarios development and vulnerability analysis. This was followed by a second internal meeting of the GEO Management Team (including DEIA&EW's Regional Coordinators) with senior UNEP management in late January 2000.

The first Production Meeting for GEO-3 was held at the Asian Institute of Technology, Bangkok, Thailand, 3-7 April 2000. Hosted by UNEP's Environmental Assessment Programme for Asia and the Pacific, the meeting was attended by about 55 participants from GEO Collaborating and Associated Centres, UN partner agencies, and DEIA&EW staff responsible for coordinating and activities under the GEO Process.

Proposals developed by the "small working groups" set up following the

GEO-3 Start-up Meeting were tabled at the Bangkok meeting. As chairman of the "data and illustrations working group", Ron Witt (DEIA&EW Regional Coordinator Europe) presented the data strategy for GEO-3. Discussions then focused on approaches to developing the content of GEO-3 and defining the roles and responsibilities of the various collaborating institutes and partner agencies.

The United Nations Fund for International Partnerships (UNFIP) granted UNEP two million dollars in 1999 in support of its Global Observing and Assessment Strategy centering on the GEO process. The main objective of the initiative is to strengthen the environmental information and assessment capacity of a select number of UNEP Collaborating Centres in developing and transitional countries. ?

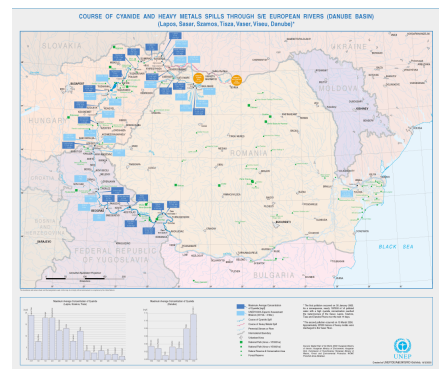
Monitoring Cyanide Spill in Danube River Basin

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Not long after the end of the Balkans conflict, concern over regional water quality was rekindled following news of a cyanide spill from a gold and silver mine in Baia Maria, western Romania, on 30 January. Large fish kills were reported, particularly in Hungary, and the incident has been compared to that of the Sandoz accident on the Rhine River in 1986. The spill was carried by the Tisza river through Hungary to Yugoslavia where it continued flowing down to the Danube. In response to a request for an emergency evaluation by the governments of Romania, Hungary and the Federal Republic of Yugoslavia, UNEP and the UN Office for Co-ordination of Humanitarian Affairs (OCHA) set-up a Rapid Assessment Mission, composed of international experts to monitor the extent and impacts of cyanide pollution. The mission was coordinated by UNEP's Regional Office for Europe (ROE), and led by the Regional Director Frits Schlingemann.

UNEP's Executive Director, Dr. Klaus Töpfer requested Balkans Task Force scientists to dispatch two mobile laboratories for the



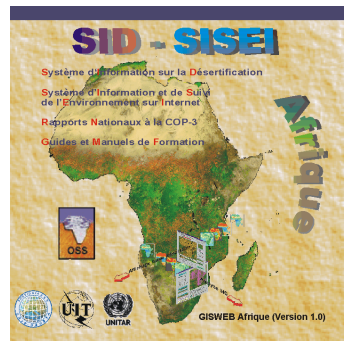
emergency sampling. GRID-Geneva staff, for their part, prepared and regularly updated a map tracking the course of the cyanide spill as it progressed along the tributaries of the Danube River. The map shows the region of the cyanide spill, concentrations of cyanide at measured points along the river system and principal populated areas and natural and protected zones nearby. The map can be downloaded from the BTF website:

www.grid.unep.ch/btf/maps/cyanide.html

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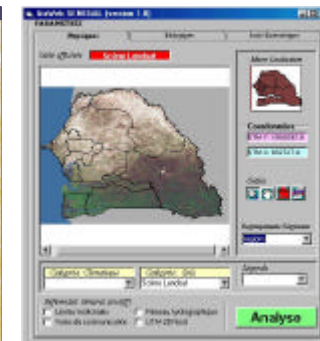
Internet-based GIS Training in Africa and Mediterranean countries

In 1999, GRID-Geneva and the United Nations Institute for Training and Research (UNITAR) launched a joint project to develop a software application program, known as "GISWeb-Africa" which aims to make spatial environmental information in the form of dynamic maps and Geographic Information Systems (GIS) databases more widely accessible to users through the use of the Internet. A prototype version of the GISWeb-Africa was released on CD-ROM in early 2000, providing simple but powerful geo-spatial query and analysis tools at decision-makers' fingertips. GISWeb-Africa will be further enhanced based on user feedback from African partners. Next steps planned are directed at moving beyond a regional approach for the African continent and introducing the GISWeb software at the national level. In this context, a training



A prototype version of GISWeb Africa is now available in CD-ROM, accompanied with a user guide and manual.

workshop was organised for government technical employees in Dakar, Senegal from 31 January – 6 February 2000, and hosted by the Centre de Suivi Ecologique (CSE). Some of the main achievements realised include incorporation of CSE environmental databases to create a GISWeb for Senegal and initiating a multi-stakeholder process for the conception and development



of GISWeb-Senegal to increase the final products' thematic richness. The workshop also provided an opportunity to test the utility and robustness of the GISWeb software as a tool for national environmental decision-making, and assess the feasibility as well as chart a strategy for the dissemination of this technology to other African countries. Participants expressed their satisfaction with the user-friendly analytical

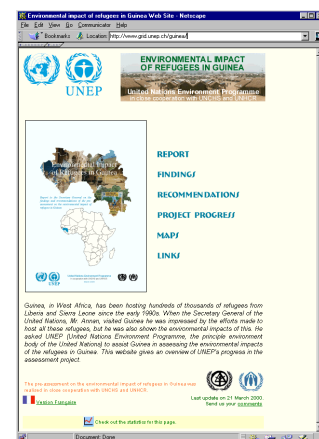
modules provided by the GISWeb software, and it is now expected that they would continue to further develop the information base of GISWeb-Senegal as well as provide training to other users.

In a related activity, GRID-Geneva staff Carlos Munoz in cooperation with UNITAR provided training on database management and use of GIS to national representatives from Mediterranean countries at the Blue Plan Office in Sophia Antipolis/Nice, France, from 24-28 January. The workshop was organised by UNEP's Mediterranean Action Programme (Blue Plan) as part of its MEDStat project. The objective of the workshop was to introduce participants to the spatial dimension of environmental management by making use of current information technology tools.?

UNEP Releases Report on Environmental Impact of Refugees in Guinea

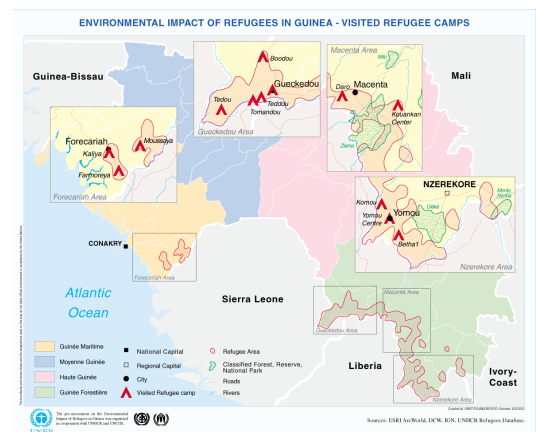
On 15 March 2000, UNEP released a report on the environmental impacts of some 600,000 refugees in southern Guinea who had fled conflicts in neighbouring Sierra Leone and Liberia. The UN Secretary General, at the request of the Government of Guinea, had called on UNEP to prepare the report in cooperation with the UN Centre for Human Settlements (Habitat) and the UN High Commission for Refugees (UNHCR). The assessment was based upon a desk-study followed by a joint field mission to effected areas in Guinea.

The report highlights the significant toll that refugees have had on the natural resource base in southern Guinea, seriously undermining long-term environmental sustainability. Both rural areas and urban centres have been impacted by the large population influx. In rural areas, where the refugee camps are situated, increasing demand for food crops has led



to the conversion of natural land and forest areas for agriculture with severe impacts on biodiversity and water systems. Urban centres have also been hard-pressed to cope with the refugee population, in some cases exceeding the original population. This has generated important waste removal and water supply problems, leading to the total collapse in sanitation management systems in certain urban centres with potentially dire human health implications.

The Guinea Report can be downloaded from GRID-Geneva's website at: <http://www.grid.unep.ch/guinea>.



The UNEP-led team called on the United Nations to develop an action plan to incorporate sustainable use and management of natural resources in rural areas and also develop a programme to improve capacities for urban environmental management. Dr. K. Töpfer, Executive Director of UNEP, said that the proposed action plan "aims to prioritise environmental management issues and package them as self-contained projects". The initiative is to be presented during a Guinea donors

conference scheduled to be held later in 2000.

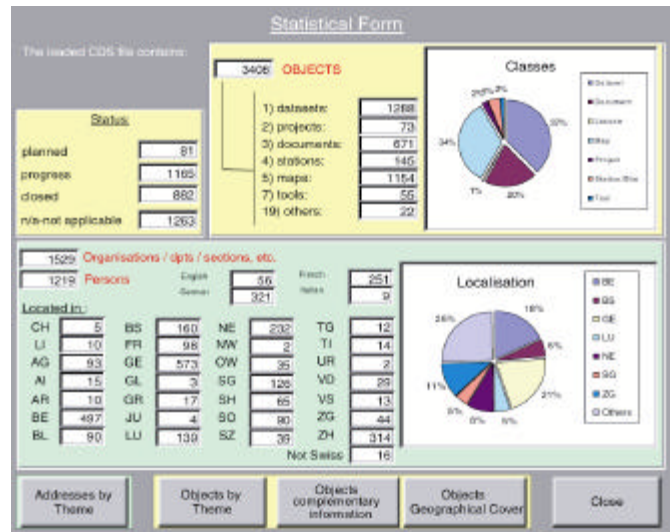
GRID-Geneva was closely involved in the report's preparation, providing cartographic support as well as various graphical outputs. The office also developed a website for the Guinea project and assumed responsibility for the report's layout. The full report, "Environmental Impact of Refugees in Guinea" and related information products including maps, are accessible from GRID-Geneva's website. ?

Reference Data on Switzerland's Environment on Internet Soon

The Swiss Catalogue of Data Sources (Swiss-CDS) is a database providing reference information or meta-data on Swiss environmental organisations and data collections. Developed by the Swiss Agency for the Environment, Forests and Landscape (SAEFL) with support from GRID-Geneva, this electronic catalogue is meant to facilitate access to Swiss environmental information sources and data sets. The first phase to develop a framework and initiate meta-data collection for the Swiss-CDS was completed in December 1999. Presently, the catalogue is being populated with information from federal and cantonal authorities and national research organisations including scientific centres and academic institutions. Currently, about 1,500 institutes and 1,200 experts, and 3,500 meta-data of

environmental data sets, maps, projects, documents, observation stations or tools have been incorporated in the database. To date, information has been obtained from 16 cantons, two cities and 19 federal offices.

Within the Swiss-CDS project, GRID-Geneva is responsible for database harmonization, providing technical support to cantonal partners and development of additional software tools. Several software tools have been developed or improved upon in order to provide a more user-friendly and robust interface (e.g. printing and analytical tool). These tools will soon be accessible on-line at SAEFL's Swiss-CDS website. The second phase to render the Swiss-CDS accessible to the public is currently underway. Following a trial period and further data verification, the



Description of present status of Swiss-CDS, extracted from analysis tool.

catalogue will be accessible on the Internet by summer 2000. During the upcoming period, the database will be updated by federal and cantonal authorities already involved in

the project as well as by other participants. ?

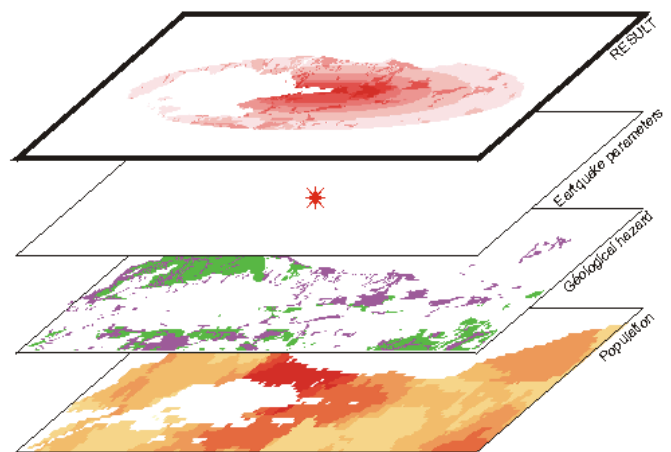
Modelling Earthquake Impacts on Population Centres using GIS

In 1999, GRID-Geneva launched a Project for Risk Evaluation, Information and Early Warning (PREVIEW) which aims to prepare risk maps for different types of human-induced and natural disasters (and "complex" ones which are a mixture of both), as well as facilitate networking between organizations working on early warning issues. In order to address the issue of natural hazards in a systematic manner, there is an existing need to develop new methodologies for early warning purposes. To this end, Bruno Chatenoux, a geologist from the University of Geneva, elaborated a test model using a Geographic Information System (GIS) for simulating earthquake impacts and to determine the size and distribution of affected populations as a consequence of seismic intensity.

The prototype model used the major earthquake that struck near the city of Izmit in Turkey on 17 August 1999, and

which measured 7.4 on the Richter scale, as a control case study. Three thematic data layers - population, geological hazards, and earthquake parameters - were employed to carry out the seismic risk evaluation. ArcView was the GIS software application used to handle and manipulate the data, and the programme for modelling earthquake impacts was developed using Visual Basic.

A new activity, which will allow Internet users to visualise past and recent natural disasters at a global scale and determine exposed populations, has also recently been launched as part of the "PREVIEW" project. State-of-the-art Internet technologies, such as Internet Maps Server (IMS), will be used to make this possible. A clearing-house mechanism is also being developed that will allow aid organisations, researchers and the general public to directly access more than 100 organisations working in the field of early



Data layers on population, geographic hazard and earthquake parameters are merged to derive a risk map of earthquake hazard.

warning. Information about a dozen types of natural disasters will be made available (e.g. earthquakes, floods, forest and wildfires, oil and other spills) making it easier for users to locate relevant and reliable websites in a timely manner. For further information on the PREVIEW project please contact: pascal.peduzzi@grid.unep.ch.

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Cyanide Spill

Continued from page 1)

A concluding meeting of the Rapid Assessment Mission was held in Geneva on 6 March, which reported that levels of cyanide concentration in the river Danube in Yugoslavia are not an immediate threat to human health via drinking water supplies. However, measurements indicate

levels of concentration slightly above the recommended safe levels with regards to toxicity for certain fish species, and the RAM recommended close monitoring of pollution downstream. The final report of the RAM is due for release in mid-April and will be made available on the UNEP/ROE website. ?

Calendar of Events, Meetings & Missions Planned (April – June 2000)

12 April

GRID-Geneva Advisory Board Meeting, Bern, Switzerland.

Mid-May

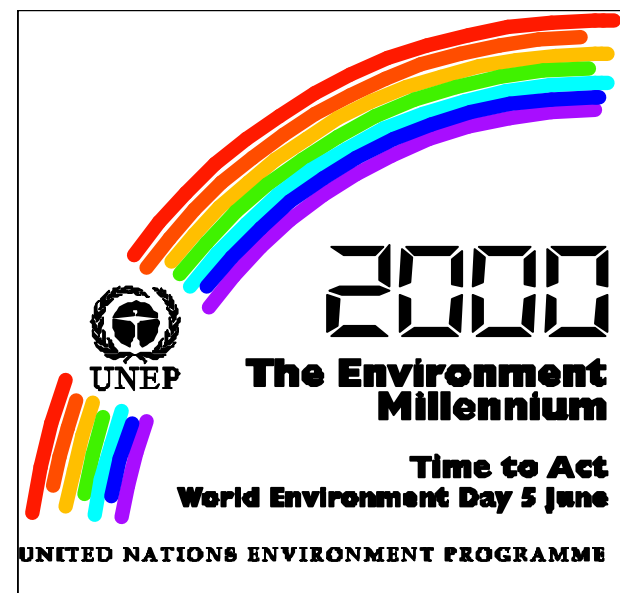
Official launching of the Geneva-CDS and Swiss-CDS by BUWAL and Canton of Geneva, Geneva, Switzerland.

29-31 May

UNEP Special Session of Governing Council, Malmö, Sweden

21-23 June

GEO-3 Regional Meeting of European Collaborating Centres, Geneva, Switzerland.



Updating of the GRID Meta-Data Directory

Final work is underway to prepare version 3 of the GRID Meta-Data Directory (Mdd), which will offer new tools and a more user-friendly interface for users. This includes extended import and export functions allowing GRID centres to easily exchange their meta-data (in GRID-DIF format) and to export their new meta-data for inclusion in NASA's Global Change Master Directory (GCMD). The Mdd was distributed to the 15 GRID centres for their use, input of new meta-data entries and feedback. The latest version 3 will be made available in April 2000.

information assets and where". Updating of the GRID Mdd has been funded by the GCMD project of NASA's Goddard Space Flight Centre since late 1998. The aim is to bring up to date and correct the GRID Mdd based on a survey of data collections of GRID Centres and to verify, transform and transfer the received information to NASA's GCMD. The potential next stage of the project is to port the Mdd application to an on-line Internet version, for the benefit of a wider community of users, resources permitting. ?

The GRID Mdd is an electronic catalogue of environmental data sets. It is an important tool allowing all GRID Centres and all other users to know "who holds what data and

Recent Publications and Other Products

New Publications

- ◆ *Environmental Impact of Refugees in Guinea* (published by UNEP in collaboration with UNHCS and UNHCR)

Maps

- ◆ Course of the Cyanide Spill through S/E European Rivers (Danube Basin ~ Lapos, Szamos, Tisza, Danube)
- ◆ Environmental Impact of Refugees in Guinea Regions
- ◆ Guinea Refugee Areas
- ◆ Visited Refugee Camps in Guinea
- ◆ Environmental Impact of Refugees in Forecariah Area, Guinea
- ◆ Environmental Impact of Refugees in Gueckedou Area, Guinea
- ◆ Fires in Ethiopia (24 March 2000)
- ◆ Flooding in Central and Eastern Europe

CD-ROM

- ◆ Prototype version of GISWeb Africa (GRID-Geneva/ITU/OSS/UNITAR)