ESSIC

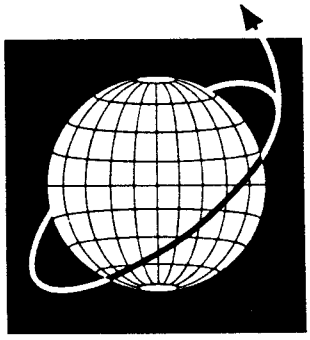
International Space Year Conference on Earth and Space Science Information Systems

February 10-13, 1992

Pasadena Convention Center
Pasadena, California, U.S.A.

Conference Program

NASA



ISY

JPL

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Reports

ESSIS/ISY February 10-12, 1992

Earth and Space Science Information Conference, Hosted by JPL/NASA and Caltech in Pasadena, California as the opening event of the International Space Year (ISY)

Benking, Heiner, Erlenweg 1, 8919 Greifenberg, Germany

This conference was the first in a series of events in 1992 to celebrate the International Space Year. The development of Earth and Space Science Information Systems is critical to manago the surge of information that is expected with the advent of new devices capable to register and combine coded and non-coded information. The event was designed to present capabilities for collecting, storing, processing, analysing, and disseminating large volumes of interrelated data. The focus on information systems was chosen to present possibilities to organize the information in response to research problems which are global and local in nature, may involve short-term and long-term phenomena, and cross boundaries between disciplines.

The purpose of the conference was to help understanding of global processes and to outline possible strategies for a) managing upcoming technologies, b) improving the ability of mankind to adjust, c) help decision makers, and d) predicting future changes. The space science community was invited to present its capabilities to create a new understanding of the system Earth by integrating spaceborne data with in situ measurements on land, oceans, and atmosphere.

The 207 papers and about 40 exhibits and posters covered the forefront of technological possibilities in handling earth and space science data, applications, and product offerings.

In an overview, Dr. Georg Ludwig, the Conference Chair, outlined requirements that will challenge the scientific community. Dr. Ludwig also introduced the US Earth and Space Science Support Office's view on the Global Change research agenda and the Global Change master directory which is currently under development.

Another excellent presentation was given by Dr. Edward Stone. Director of the Jet Propulsion Laboratory, who shared with his audience insights on research issues and practical experience. Quote: "the issue is no longer the cost of distribution of data via CD-ROM, is the issue of having the right ideas to ask the right questions". The research projects presented by JPL in posters and demonstrations clearly illustrated the problems.

Overview presentation included the concept of "discovery machines" by Dr. Peter Defining, George Mason University, and a very thoughtful and alerting synthesis of the US educational situation by Ms. M. Wickham, of USA Today.

After a number of interdisciplinary overview presentations, very interesting topics were covered in parallel sessions. The tropics included education, earth sciences, space sciences, technology, computing, database technology, data to knowledge, and the conventional space science fields like earth systems, planetary, astrophysics, space physics, etc.

The overload of parallel content put a great strain on participants resulting in continual changing between sessions. Thorough review of the abstracts and proceedings was indispensible for those who wanted to be fully informed.

The conference was considered well-timed. It was perfectly fit to address the critical processing, communications, analysis and synthesis requirements which confront the international research community. Beside visualization, and "getting from the pictures to the numbers", thematic, semantic and terminology issues were of great concern in many presented papers. The emphasis on training will be continued in further events. Applications in the new technologies arre still lagging behind, but some very powerful tools like "Link Winds" on Silicon Graphics maschines, or the SIPS (Spectral Image Processing System) for interactive access to hyper-spectral registrations, show trends. Multi-media communication and data-management were seen as the critical prerequisites to master the surge of recent and future data.

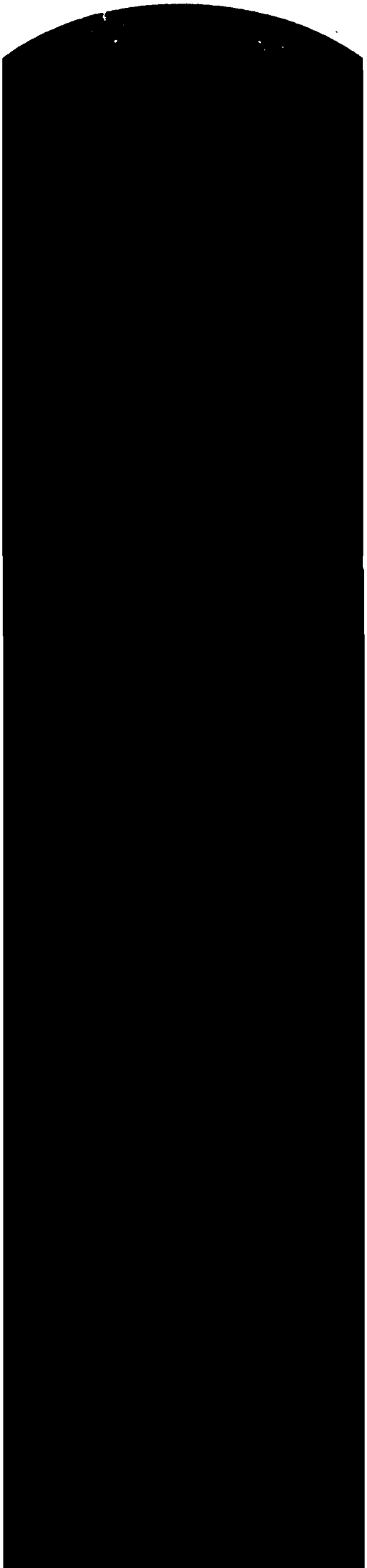
Global Databases, interoperability and meta-information systems were another mayor topic. Multi-media and hyper-text/hyper-link functionality was seen as the appropriate approach. After 20 years of rapid development, GIS is considered a matured technology.

Current approaches to navigate between the volumes of data collected all over the world and distribution policies were seen to be critical for the environmental research and management agenda. Various efforts in this field include IGBP-DIS, EOSDIS, CIESIN, CORINE CDS-MDS, UNEP/HEM-HEMIS, ... In view of the UNCED Conference, various activities seem to have taken off recently to support international coordination.

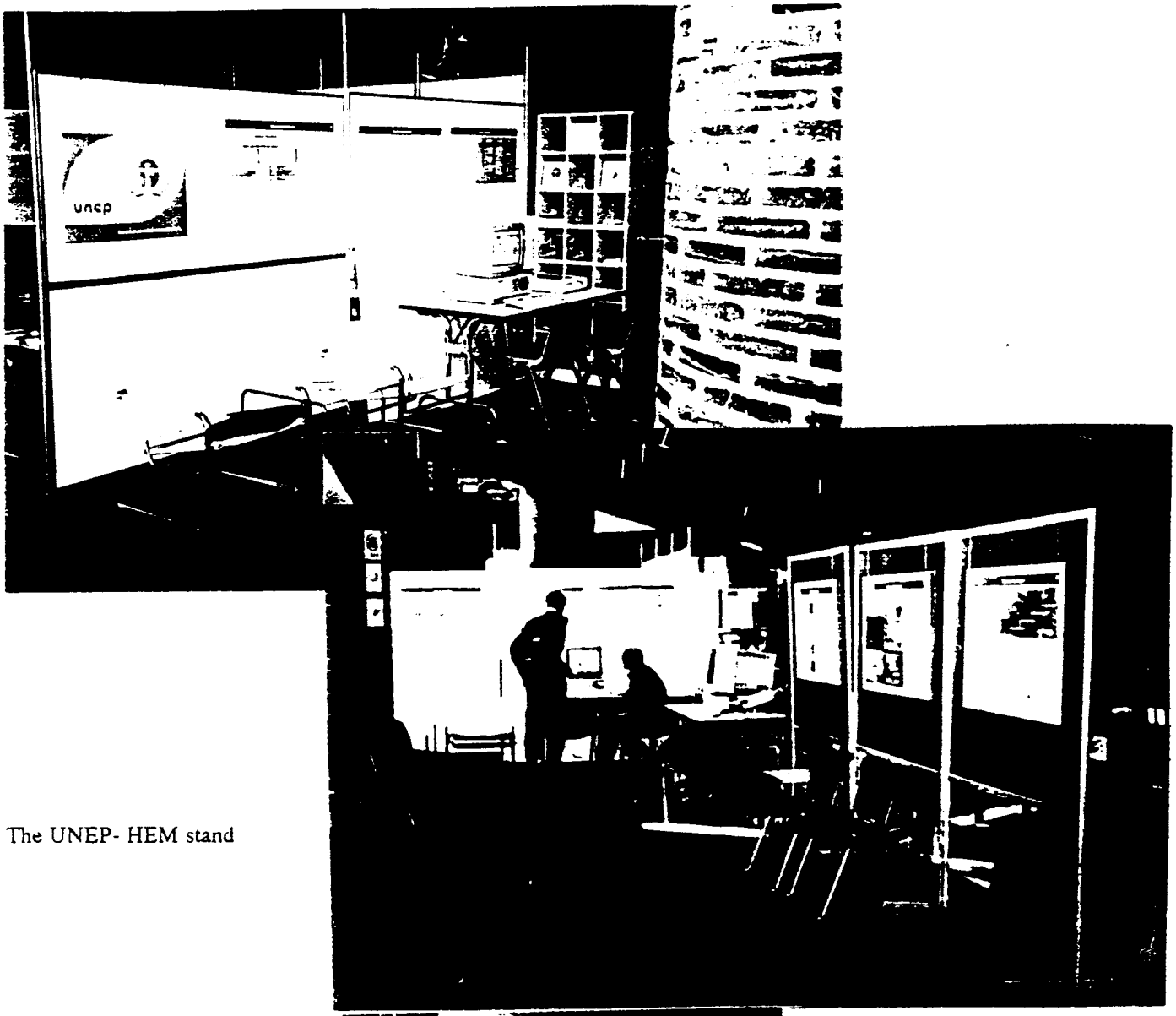
International participation was rare. Nearly 90% of papers and participants were from the US. However the European Science Information System Query Environment of ESA/ESRIN, the Processing & Archiving Facilities of the European ERS, and the operability of the German PAF at DLR, including GOME and ISIS prove the workability and versatility of the few international contributions.

The willingness and enthusiasm of the space science community to adress Earth and Life sciences more prominently must be considered very positively. New technologies are on the horizon to bridge disciplines and consider even ergonomic and human concerns. A future event will allow to invite a broader international spectrum and the inclusion of further disciplines. The task of managing this excellent International Conference was perfectly handled by Arther I. Zygielbaum from JPL. He and his local team made this conference unique and outstanding success.

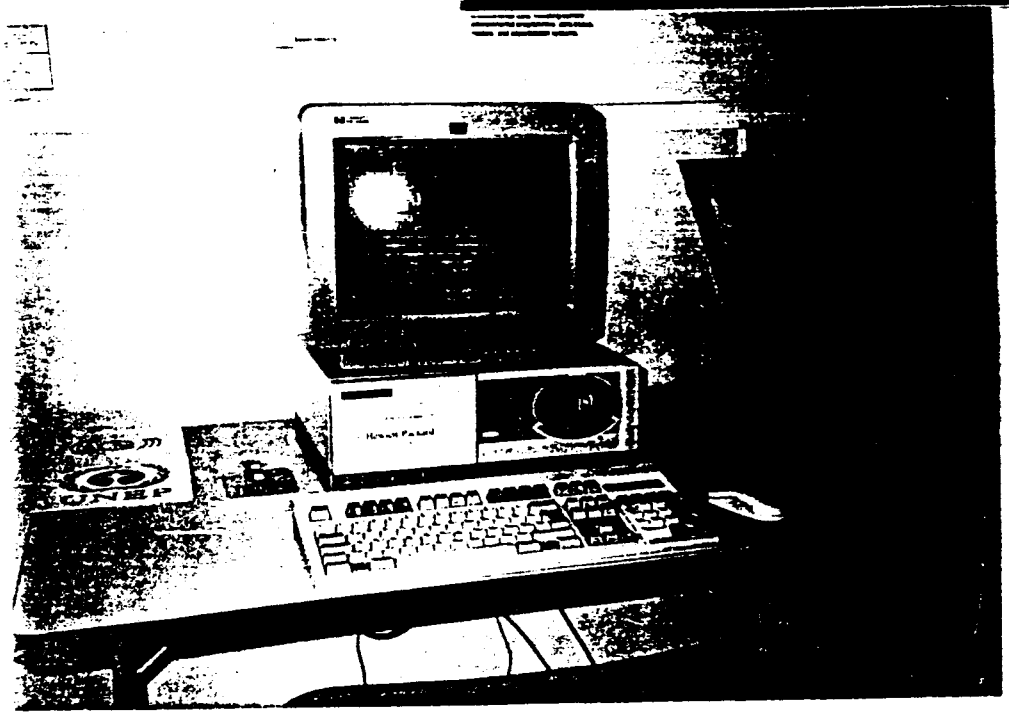
The ESSIS conference was the ideal opening event of the International Space Year, UN-ISY and will hopefully impact UNCED, ECO-World and the Economic Summit, which are all due in a short time.



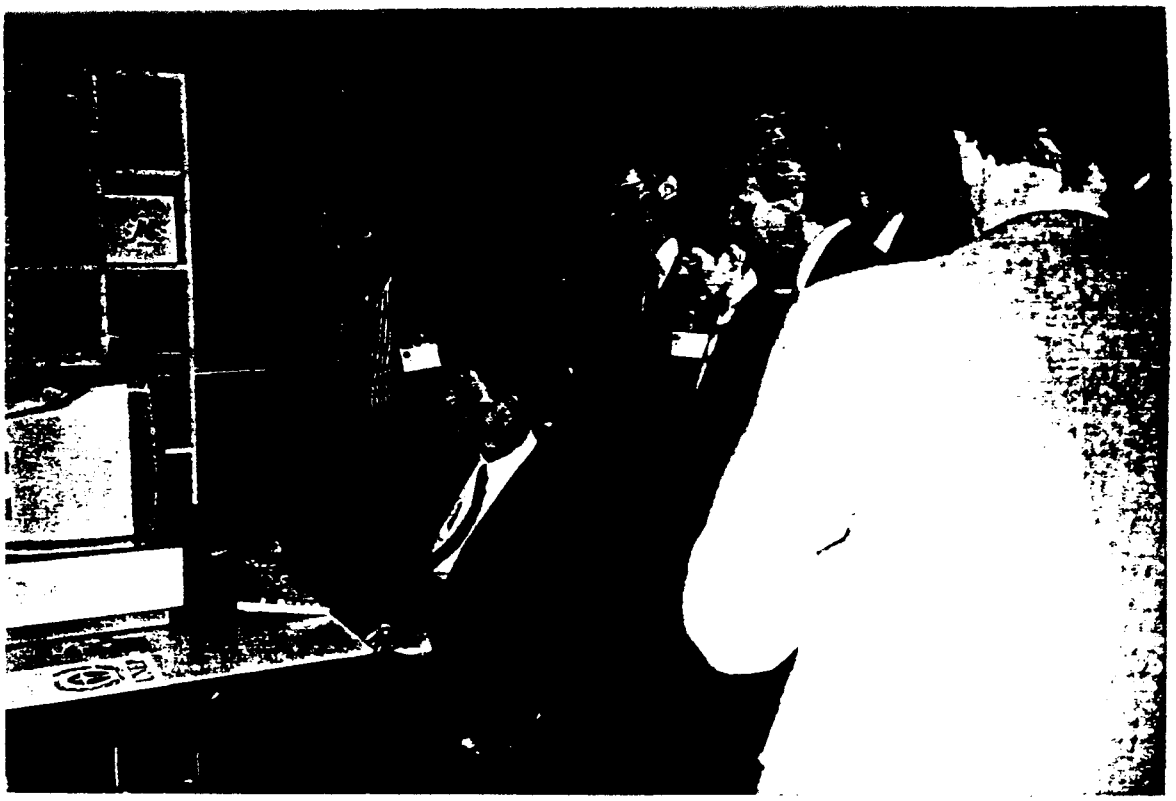
The UNEP-HEM stand at the European ISY Conference in Munich



The UNEP- HEM stand



The HEMIS prototype installed on a standard Personal Computer (PC) donated by Hewlett Packard (HP).



Demonstration of the HEMIS Prototype by Axel Theisen. From left to right Dr. Kalensky, FAO Rom, Dr. S. Lütkemeier, IGBP, Berlin, Mr. Benking, Dr. G. Helbig, BMFT, Bonn, Dr. H. Keune, Prof. M. Ehlers, Universität Osnabrück, Dr. D.A. Hastings, World Data Center-A/NOAA.

Informal get-together after the HEMIS User Meeting. Participants: Prof. I. Crain, Orbis Institute, Ottawa, Prof. O. Cogels, da Vinci Consulting, Brussels, Mr. M.-H. Cornaert, EEA-TF; Brussels, Mr. Yrjö Sucksdorff, EDC, Helsinki, Dr. G. Helbig, BMFT, Bonn, Dr. S. Lütkemeier, IGBP, Berlin, Dr. K. Bronsvelt, ITC, Enschede, Axel Theisen, UNEP-HEM, Dr. D.A. Hastings, WDC-A/NOAA, Dr. H. Keune, UNEP-HEM, Mr. H. Benking.