

Working Group 4: Renewable resources in rural areas

J. Beseničar
Chairman

Working Group IV conducted 5 plenary sessions in the fields of Remote Sensing for soil mapping, -crop monitoring, -vegetation mapping, -forestry and -land use studies with 19 papers. In addition a business meeting was held and 6 poster sessions with 36 presentations.

Characteristic for the Working Group is its diversity of application as a result of the different objectives of the work, the initial databases, working methods and data processing techniques such as:

- different types of initial data resolution: from large scale aerial photography to small scale satellite imagery.

- different types of data forms: digital data of MSS satellite or airborne scanners to analogue photography obtained from satellite, airborne and terrestrial platforms.

- different types of methods and algorithms used in solving the problems: the presented solutions are mostly project oriented and only for a few cases system oriented.

- diversity of hard-ware: from simple tools to the application of complicated and advanced systems.

The participants of Working Group IV stressed the need for a more uniform systematic and coherent approach in solving the problems of the practical application of Remote Sensing in the different thematic subjects and for the field conditions. Recommended is that for the digital processing of the data techniques should be developed, which are based on personal computers using simple multipurpose software. These software programs should enable uniform base data management, image processing and overlay techniques.

Also recommended is more emphasis on the economical and financial aspects of the methods used. The participants of Working Group IV have the feeling that this subject is insufficiently discussed or covered by sufficient papers.

Recommended is to have a colloquium in October 1987 in Yugoslavia for Working Group IV and taking into account the great importance of renewable resources in rural areas for the solution of ecological and food problems to support the idea of preparing and carrying out the International Conference on aerospace methods in ecology and nature protection (UNESCO/UNEP) Programme on Man and the Biosphere, (MAB), Poushtchino, USSR, 1988.

During the symposium was felt as being successful and recommended also for Kyoto. Other joint sessions could be: image processing for geology, geobotany, and thermal infrared for biology.

Concern was expressed regarding the rising cost of satellite data, specifically with respect to education and research. New problems have arisen in addition to costs. The continuity of availability of satellite data needs to be guaranteed if research is to be maintained.

The wish for stereoscopy of satellite data, as an important long-standing requirement of the geological remote sensing community, has been partially met by SPOT. Future research of stereoscopy with SPOT is

expected to show the benefit of this technique. The different remote sensing systems (MSS, Landsat, SPOT) are not incompatible as far as data integration is concerned. However, it should be realized that systems are somewhat application-specific.

Integration of different data sets is felt as being of prime importance in applications. Not only that the image processing data sets should be made compatible, but combinations of microwave, thermal and visible part of the spectrum should allow for a complete data integration, but also combining with geobotany, geobotany and geological data should allow for geological/geographical information systems. These methods for data integration should receive attention of the Working Group and are proposed as future specific topic.

Other topics which have been proposed to receive more attention by remote sensing geologists are:

1. Importance of new sensor systems (including microwave, high spectral resolution systems and thermal systems);
2. Methods for analysis;
3. Geobotany and biogeochemical aspects.

Finally the importance of government policy in directing the future of research and development in geological remote sensing cannot be understated. It is imperative that geological remote sensing scientists lobby government policy makers to ensure an effective dissemination of data.

3 SUMMARY

3.1 At the Enschede symposium, 15 papers were presented and as many poster session topics of:

- geo-information systems
- mineral analysis
- mineral exploration
- geobotany
- geomorphology
- advanced sensors/techniques
- microwave remote sensing for geology

3.2 Since the last symposium we have seen the following changes in satellite data:

- spatial resolution has increased
- spectral resolution has increased
- radiometric resolution has increased
- stereo capability
- data integration through geo-information systems
- cost of S.S. data has increased

3.3 The following problems were identified:

- lack of system compatibility
- difficulty in data acquisition
- cost of data
- cost of data processing facilities

3.4 Recommendations for future directions:

- data integration and geo-information systems
- attention to basic analysis
- emphasis on exploration research
- geobotany and metal stress
- computational techniques for multidata integration
- solicitate papers from industry

3.5 Recommendations for Kyoto Working Group V:

- emphasis on poster sessions

Working

The Working
chairmen B.
sessions ha
combined se
Data. A tot
ly and abou
sions, two
sented on M

2 CONCLUSIONS