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Invited paper

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DISSEMINATION OF INFORMATION
IN PHOTOGRAMMETRY AND REMOTE SENSING

Abstract

The author gives a brief review of selected items for panel discussion during 14 th Congress of ISP in Hamburg concerning dissemination of information in photogrammetry and remote sensing and in particular on:

- available satellite and aerial imagery,
- new instruments,
- current research projects,
- new methods and technologies,
- applications of photogrammetric and remote sensing methods,
- training courses and other training oportunities.

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1. General remarks

Efficient systems of dissemination and exchange of information are important stimulants of progress in basic and applied research, especially in case of rapidly developing branches, such as photogrammetry and remote sensing.

In case of photogrammetry and remote sensing the term information does not only concern information on publications, but embraces very important information on available aerial and satellite data and imagery, information on new instruments, new methods and technologies, information on research trends and activities, on completed research projects, and finally information on various forms of training. The above listed kinds of information will be dealt with in this article.

2. Information on available satellite and aerial imagery

The problem of dissemination of information on satellite imagery has arisen after launching Earth oriented research satellites of global coverage. The problem concerns information on satellite systems, on the kinds of available products as well as up-dated information on imagery available for a given area.

Satellites of LANDSAT series form the only operational satellite system so far created. Information on the system itself is disseminated by NASA as well as by the EROS Data Centre in Sioux Falls, USA. Technical data on the system, i.e.: satellites, ground receiving stations and methods of

data preprocessing are included in the publication entitled: "LANDSAT Data Users Handbook" and its later supplements. The Handbook also provides up-dated information on imagery acquired and available for particular areas of the globe.

EROS Data Centre distributes catalogues of its products as well as price lists, inquiry and order forms to prospective customers throughout the globe.

A special computer data information and retrieval system has been set up at the EROS Data Centre. The prospective customer who has identified the area of his interest either by center point coordinates or by corner coordinates will receive full computer listing of data available for the area.

The User Services Branch of the EROS Data Centre has a library of microfilms of all available satellite frames. A visit to EROS browsing room is highly recommended to researchers trying to locate the best material for their studies. Those who cannot come personally select the material on the basis of so called quick look's provided by the Centre.

The EROS Data Centre distributes information on imagery acquired not only by LANDSAT but also by other satellites, including manned space missions such as Skylab and Apollo-Sojuz.

Current information on LANDSAT system is available in subsequent issues of LANDSAT Data Users Notes, a bimonthly information bulletin. The information on technical changes introduced in the system, on new ground receiving facilities and organized training programs is included in the Notes.

Preliminary information on planned satellite systems is included, among others, in NASA News and NASA Application Notice.

The distribution of satellite materials for users in Europe is taken care of by the ESA's EARTHNET Programme with headquarters at the European Space Research Institute /ESRIN/ in Frascati near Rome. Information on available satellite materials and their technical parameters is included in subsequent issues of the EARTHNET Review, published since 1979. EARTHNET provides also information on other satellite missions, such as SEASAT and HCMM.

Information on available satellite imagery is also disseminated by appropriate institutions in individual countries /e.g. CCRS in Ottawa/; the choice of items, however, limits its applicability to selected regions.

Information on aircraft photographs is, by its nature, limited to individual countries. Some countries have organized state data retrieval systems providing information on all available aircraft photographs. The library of aircraft photographs of the Canadian Ministry of Energy, Mines and Resources, Surveying Branch is an example of proper organization. The system ensures the fullest possible utilization of existing material and is most beneficiary for the users.

In other countries the information on existing photographs is available in several institutions involved in acquisition. Such a system is obviously disadvantageous for the users.

3. Information on new instruments

Information on new instruments for photogrammetry and remote sensing may be divided into information primarily aimed at sales promotion and the information of mainly technical and scientific character. Sales promotion material distributed by producers to all potential customers includes only the most basic technical parameters and information on the performance of a new product. The manuals and instructions accompanying the sold product contain much more information, but are of much more limited circulation.

The scientific-technical elaborations presenting the results of works performed with the use of a new instrument of the studies of its performance appear in specialized periodicals; in some cases such material is circulated among prospective clients or users.

Major producers of photogrammetric and remote sensing instruments publish their own information bulletins. Carl Zeiss Jena publishes "Vermessungs Informationen" with scientific and scientific-technical papers dealing with results of investigations of performance and fields of application of individual instruments.

Wild Heersbrug issues "Wild Reporter" with short information on instruments and applications. Similar information is provided by "Bulletin Kern" issued by the famous Swiss firm.

By far the best form of information on new development in instrumentation is accessible at technical exhibitions organized during congresses and conferences and on international trade fairs. Nothing may surpass the live contact with new instruments and direct communication with the competent producer's representative. Technical exhibitions accompanying congresses of the International Society of Photogrammetry are very positive examples of this form of dissemination of information.

An important role is also played by publications issued by Patent Offices.

4. Information on current research projects, new methods and technologies.

The sources of information on the above subject are very diversified. Progress reports and information on completed research projects constitute the most comprehensive source of information on the subject. Reports of the Canadian National Research Council are good example here. Scientific and scientific-technical periodicals issued by academies of sciences, research institutes or universities and scientific-technical journals of general circulation complete the list of sources of information on research trends and progress.

International and national congresses, conferences, symposia and seminars gathering specialists representing various fields of interest are an excellent form of the exchange of information. The opportunity for informal discussions is even more valuable than the most up-to-date information on research activities and results disseminated during formal sessions.

Nobody can question the high usefulness of the international exchange of research workers and specialist.

Various information bulletins giving summaries of more important research projects and descriptions of methods and technologies are an important source of concise information. The Information Bulletin of the Scientific-Technical Information Centre of the Institute of Geodesy and Cartography in Warsaw, Poland is an example of well organized work in the field. "Express - information for managers", another product of the Centre is a xeroxed publication of limited circulation; it provides quick and concise information useful for the management.

The importance of information contained in thematic bibliographies is unquestionable. For many years the photogrammetric bibliography was published by the ITC /Enschede, the Netherlands/ in the form of separate cards. Bibliographic material also appears in the form of thematic series, e.g. GEO Abstracts, with separate issue dealing with "Remote Sensing, Photogrammetry and Cartography".

Numerous computerized bibliographic systems have been organized during the last few years; such as ESA Information Retrieval System or Lockheed Information System /LIS/. CCRS computer bibliographic system for remote sensing and related disciplines is an example of well organized specialized system.

In view of the rapidly growing amount of information large network systems with central computer and user terminals seem to be the only solution to the information retrieval problem.

5. Information on applications

Information on applications is available in catalogues of maps and photomaps issued in some countries; sometimes it appears in the form of special reports.

Also scientific-technical periodicals occasionally publish information on the subject. National surveying and cartographic services usually keep records of this kind of works.

6. Information on training courses and other training opportunities

Formal training in photogrammetry and related fields is provided by appropriate university departments and by vocational secondary schools.

Follow-up education in new methods and technologies is often organized in the form of courses by universities or special training centres. Very wide range of training programs is provided by the ITC - International Training Centre in Enschede, the Netherlands. Highly specialized courses, for limited number of participants are organized by Purdue University, USA on such narrow topics as numerical processing of remote sensing data for selected applications.

Intermediate level specialists are trained e.g. by the "Swiss School of Photogrammetry Operators" in St.Gallen. The school issues its own information bulletin "News from the SSPO".

The Stanisław Staszic University of Mining and Metallurgy in Cracow, Poland organizes courses for university graduates in the field of engineering photogrammetry; Warsaw Technical University organized in 1980 for the first time a similar course in remote sensing. Information on such courses is mainly disseminated via professional and institutional channels, it also appears in the general press.

7. Closing remarks

Individual problems connected with the kinds of information related to photogrammetry and remote sensing have been only briefly outlined in this article. The author is of the opinion that panel discussion organized by the working groups: V/4: "Exchange and Dissemination of Information in Close Range Photogrammetry" and VI/4: "Bibliography and Information Dissemination" will provide rich material for outlining policies aiming at significant improvement in the exchange of information.