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8. DATA BASE MANAGEMENT - MSTRAC (Keynote Paper)

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MSTRAC: CHRONOLOGY OF EVENTS

At the first Workshop on Technical Aspects of MST Radars held in Urbana, IL, May, 1983, a draft recommendation and initiation statement was made for a group under MAP that would serve as a forum for data exchange discussions and MST activities coordination. The name of the group is MST Radar Coordination (MSTRAC). This group has a chairman, vice-chairman, and informal representation from all current and planned MST or ST radars and from the data-user community.

In July 1983, a letter was sent to the MAP mailing list requesting a response of interest in data exchange from potential users. Several existing facilities agreed to provide a sample data set and a list of contacts was provided with the letter. Approximately ten people responded to that letter.

Following up on these requests a meeting of MSTRAC was held in Hamburg at the IAGA/IAMAP meeting in August 1983. At that meeting, the geophysical parameters to be included in the sample data tapes were determined. It was also suggested that MSTRAC compile a catalog of existing data at each of the facilities. In December 1983, a letter was sent to the facilities requesting catalog information. The response to this letter was not good.

The conclusions after one year of MSTRAC are:

1. There is a community of interested users for MST data,
2. The initial responses from observatories indicates that interest in MSTRAC is not overwhelming, probably because of time involved.
3. We need to reassess the program.

SECOND WORKSHOP SUMMARY: REASSESSMENT OF NEED

Several concerns regarding a data base were mentioned at this Workshop. Alternatives to a data base were mentioned. Many people felt that interaction between the data user and experimenter was essential and thus preferred to contact the experimenter directly. This alternative would allow the user and experimenter to design or run the radar in a mode that would provide data to answer a specific question. One major disadvantage in this route is the amount of time required of the experimenter. Obviously this interaction would be limited to a few people. As the demand for data increases, a data base would be more appropriate.

RESOURCES

Most successful data bases have resources available to the experimenter to provide data tapes to the data base in an agreed-upon format. The availability of these resources (personal and financial) will need to be addressed at some point if a data base is to be developed. Several successful data bases that might serve as models are: Atmospheric Explorer, World Data Center, Microwave Meteorological Radars. All of these data bases have a set format for the data.

Another possibility is the incoherent-scatter radar data base which has a more flexible tape format.

DATA FORMAT

Potential data formats were discussed. However, it was agreed that a further assessment of the potential users was needed. One issue of concern involving tape format was the quantity of data and the difficulty in using binary tapes at different computer facilities. ASCII or EIBCIDIC formats would involve a much greater number of tapes. Another problem in setting a tape format at this time, is that the radars are still changing experimental parameters. Sample data tapes from the facilities should be sent to users that previously requested data. These tapes should consist roughly of one-minute data points of the first three spectral moments or their equivalent in the time domain. Noise levels should also be included, if possible. These parameters were agreed upon at the Hamburg meeting. (see minutes from that meeting, Handbook for MAP, Vol. 11).

DATA CATALOG

It was suggested that we still pursue the idea of a data catalog from the facilities. MSTRAC should distribute the data catalog and reassess the data-user response. The contact person for the Colorado ST network is Dr. R. Strauch, Wave Propagation Lab., NOAA/ERL, Boulder, CO 80305, USA.