

EDITORIAL

COMPUTING AND GEOPHYSICS IN AUSTRALIA

Many high speed digital computer programs for processing and analysis of geophysical and earth science data must be available from many sources in Australia. These would include universities, federal and state government bodies and private companies. Computer usage could be batched-input or on-line. Applications of the programs would cover pedagogic purposes, routine exploration usages and research investigations.

It is considered appropriate at this time to comment on the lack of communication between Australian computer users in geophysics and for that matter in earth science generally. There must exist many, if not a plethora, of data reduction, data processing and mathematical modelling programs of varying degrees of sophistication and manifold applications. Many essentially similar programs would have been independently developed thus leading to needless repetition of effort and a situation which mitigates against the establishment of a broad rationale of common programming knowledge and expertise. Such a rationale, if established, could only be of benefit to the attainment of a state of efficacy in exploration geophysics computer technology.

At the University of Sydney a computer program reference section has been established in the Department of Geology and Geophysics

library. Available for borrowing at present are descriptor/listings of two and three dimensional gravity and magnetic modelling programs modified from some U.S.G.S. standard programs. It is planned to add many more programs to the list. These will be mainly in the field of processing and analysis of potential field data. Also, it is intended to include standard format programs from all geological, geochemical and geophysical theses submitted for honours, master's and doctor's degrees in the department.

The writer would be willing to allocate space in the Bulletin to workers in geophysics and earth science computing. This would facilitate the notification and exchange of information of various programs and other relevant information on computer methodology. Problems arising from differing formats and machine languages could also be discussed. Information on the application of the smaller types of computers and, for that matter, sophisticated electronic calculators to geophysical work would also be of interest. Any contributions should include: address for correspondence; type of program, documentation; language; availability (listings, card deck, magnetic tapes); cost of documentation and/or cards.

—D. W. Emerson
Editor

LETTER TO THE EDITOR

March, 1974

Dear Sir,

Over the last few years it has become more important for graduates in Science to do an honours year. This protracts their stay at university to four years. If one is studying an applied course such as Engineering, it is mandatory for the student to gain technical experience during vacation.

Exploration geophysics is an applied field of knowledge. It is my proposal that, as it is tending to become a four year degree, it is in the students' and employers' interests for the former to gain professional experience during vacations.

Exploration companies will thus benefit, in the long run, from a better standard of graduate. Also, employers would have an opportunity to observe and evaluate prospective employees. The student will have the opportunity of applying some of his theoretical edu-

cation and also obtaining an applied rationale for the study he is to continue the following year.

I have been fortunate enough to work for exploration companies over my previous two vacations. The extra dimension such experience had added to my professional outlook is assisting my fourth year of study by giving me a realistic attitude to the problems of data acquisition and interpretation.

I hope this letter will encourage exploration companies to approach the earth science departments at the universities and give students the chance of a more fruitful tertiary education.

Yours faithfully
Richard Schroder,
Student Member A.S.E.G.,
University of Sydney

ERRATUM

"The determination of inflection points on magnetic intensity profiles". *Bull. Aust. Soc. Explor. Geophys.*, Vol. 4, No. 4, December, 1973, pp. 33-34. Short Note by D. W. Emerson.
The equation on p. 34 should read:

$$y''(i) = \left[1/12h^2 \right] \left[16(y_{i+1} + y_{i-1}) - 30y_i - (y_{i+2} + y_{i-2}) \right]$$