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CHRONICLE

Workshop on Structure and Evolution of the West Antarctic Lithosphere Warszawa, Poland; 19–25 October 1992

A Workshop on Structure and Evolution of the West Antarctic Lithosphere, sponsored by the SCAR Working Group on Solid-Earth Geophysics and the Polish Academy of Sciences was held at the Institute of Geophysics, Warszawa, Poland, during the latter part of October. The meeting was convened by Professor Dr. Aleksander Guterch. The following countries were represented: Germany, Japan, Poland and the United States. The program consisted of formal presentations, displays of data and group discussions. Geophysical subject matter for the meeting centered on deep seismic reflection, deep seismic refraction, gravimetric, magnetic and microseismicity data.

Geological interpretations embraced vertical and lateral plate movements, crustal and upper mantle structure, and lithosphere structure, in subduction, continental margin and volcanic settings. The impact of Cenozoic Lithosphere deformation on paleotopography, terrestrial glaciation, and marine circulation in West Antarctica was also explored. Geophysical and geological data was drawn from the Weddell Sea, Drake Passage, South Shetland Islands (including King George Island), Deception Island, Bransfield Strait, the Antarctic Peninsula and East Antarctica (including the Transantarctic Mountains).

Presentations were as follows:

M. Górski: *Microseismic activity in the region of the South Shetland Islands and Antarctic Peninsula*;

M. Grad: *Seismic structure of the lithosphere across the zone of subducted Drake Plate and suprajacent Antarctic Plate (West Antarctica)*;

A. Guterch: *Deep seismic refraction and wide angle reflaction studies of the lithosphere in West Antarctica*;

C. Hübscher: *Refraction seismic studies in the Weddell Sea*;

T. Janik: *Crustal seismic model of the Bransfield Strait between King George Island and Hope Bay, Antarctic Peninsula*;

W. Jokat: *Constraints for a Gondwana reconstruction: Results from geophysical measurements in the Weddell Sea*;

E. Perchuć: *Crustal seismic models of the northern part of the Antarctic Penisula and Bransfield Through*;

H. Siobara: *Crustal and upper mantle structure in the western part of Antarctic Peninsula deduced from ocean bottom profiling*;

P. Środa: *Upper crustal structures of the Deception Island region, West Antarctica*;

P. N. Webb: *Transantarctic Mountains : Cenozoic structural and geological relationships.*

A major achievement of the meeting was the joint discussion of DSS data from the Pacific and Atlantic sides of the Antarctic Peninsula. Two dimensional crustal models of the Bransfield Strait and the southern Weddell Sea, based on refraction and wide-angle data were presented. A detailed model of the subcrustal lithosphere of the Drake Plate, which is subducted in the northwest of the Antarctic Peninsula was presented. Preliminary interpretations of reflection seismic data recorded at the East Antarctic plate margin in the Weddell Sea region are affecting

the interpretation of the transition between West and East Antarctica and, therefore, the interpretation of the refraction seismic data in the Weddell Sea. The possibility of oceanic crust under the Filchner-Ronne Iceshelf was discussed. Recently developed models of the drift history of the West Antarctic microplates impacts on the interpretation of the central and southern Weddel Sea embayment. Future investigations in the area are required to verify these models. The southward extent of the Pacific plate margin from the Bransfield Strait will be the target of the Alfred Wegener Institute survey in the Amundsen and Bellingshausen seas during 1993/94. A joint interpretation with the existing Polish data will be attempted.A detailed Alfred Wegener Institute refraction seismic survey in front of the Filchner-Ronne Ice Shelf is planned for 1994/95.

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