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MAPPING RESULTS OF THE SEISMIC DATA RE-INTERPRETATION IN THE WESTERN ROSS SEA (ANTARCTICA)

CS Sauli

Istituto Nazionale di Oceanografia e Geofisica Sperimentale – OGS –, Trieste, Italy

This contribution introduces the ongoing revision of the stratigraphic maps of the principal regional unconformities and seismic sequences in the Victoria Land Basin, Central High and Northern Basin (Western Ross Sea), made by the Ross Sea Regional Working Group of the Antarctic Offshore Acoustic Stratigraphy project (ANTOSTRAT) (Brancolini et al., 1995).

We present a new series of digital seismo-stratigraphic maps for the Western Ross Sea area in order to show the distribution of the main depositional sequences and to better understand the tectonic and glacial processes that dominated during their formation.

Particularly the contour maps of some of the key unconformities (e.g. RSU6, RSU5, RSU4 of Brancolini et al., 1995), that represent significant tectonic events and paleoenvironmental changes in the studied area during the Cenozoic, are presented.

The objectives of this revision study have been achieved incorporating all the current available seismic data that have been acquired in the last 10 years; multichannel seismic lines (MCS) (IT88/89/90, USGS, NBP) and single channel seismic lines (SCS) (PD90), otherwise integrated with the most recently available drilling data of Cape Roberts Project.

The reprocessing of some seismic lines sometimes contributes to improve the lateral continuity of the seismo-stratigraphic events and to enhance the reliability of the correlation between the horizons, dated in correspondence of the drill sites, and the unconformities interpreted in areas where drilling data controls are not available.

The digital maps, made interactively on a PC-based environment (SeisX, Petrosys, software), give a more consolidated understanding of the distribution, of the geometry and of the age of the main sedimentary bodies deposited in the studied area. These new maps display thickness and irregularities of the interpreted seismo-stratigraphic units.

The results of this study consist in new information that represents a more solid base for the geodynamic reconstruction of the Western Ross Sea area.

Furthermore the produced digital maps are easily updateable, in view of further new data, and are actually incorporated in the new database that will manage and distribute all the information on the Ross Sea.

Bibliography

1. Brancolini, G. et al. *Descriptive text for the seismic stratigraphic atlas of the Ross Sea, Antarctica.* (eds. Cooper, A. K., Barker, P. F. & Brancolini, G.) (American Geophysical Union, Washington, D.C., 1995).

2. Brancolini, G., Cooper, A. K. & Coren, F. in *Geology and Seismic Stratigraphy of the Antarctic Margin, Antarctic Research Series.* (eds. Cooper, A. K., Barker, P. F. & Brancolini, G.) 209-233 (American Geophysical Union, Washington, D.C., 1995).

3. Cape Roberts Science Team. Studies from the Cape Roberts Project, Ross Sea, Antarctica: Initial Report on CRP-3. *Terra Antartica* **7**, 1-209 (2000).