

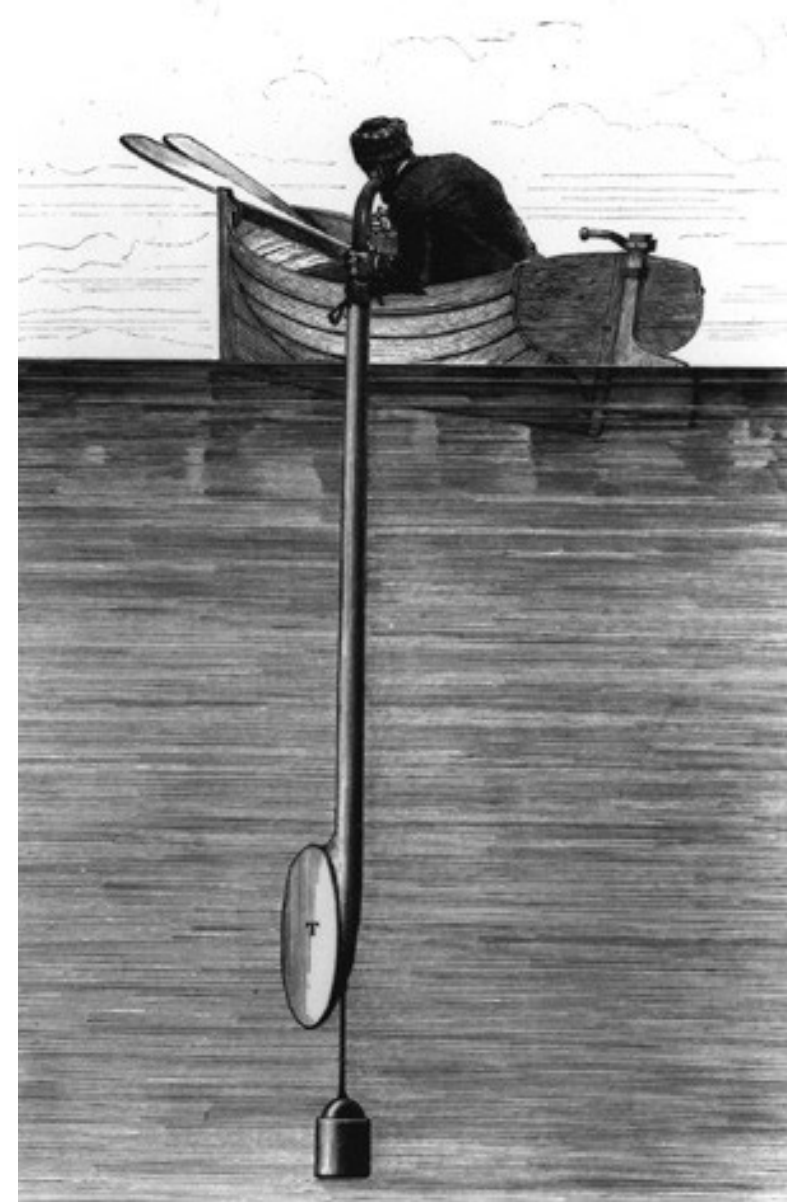
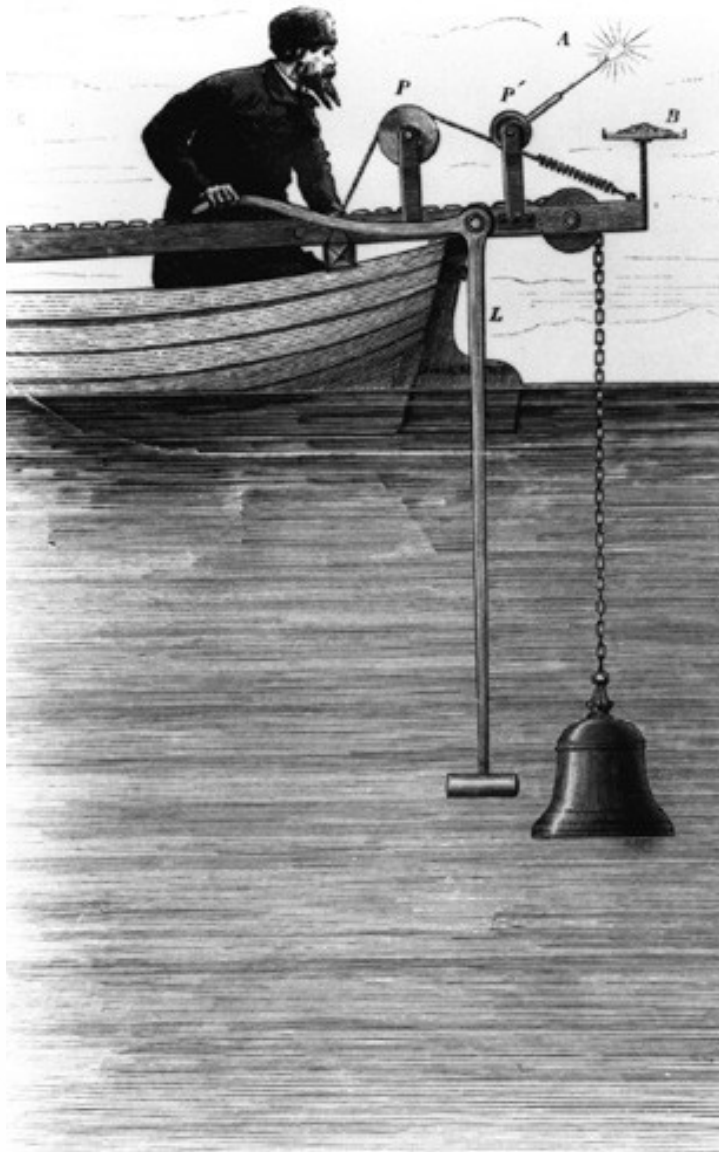


# SEJSMOAKUSTYKA BADANIA DNA MÓRZ I STRUKTURY SKORUPY ZIEMSKIEJ

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gizej@igf.edu.pl



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Polskiej Akademii Nauk



*Colladon, Souvenirs et mémoires, Genève, 1893*  
*Library of the Musée d'histoire des sciences de*  
*Genève*

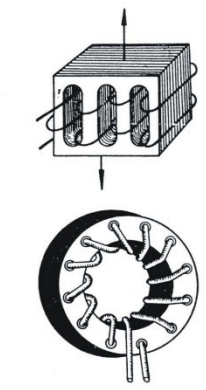
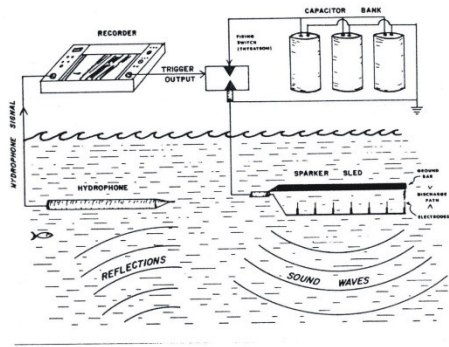
ŹRÓDŁA SYGNAŁU AKUSTYCZNEGO

EKSPLOZYWNE      MECHANICZNE      PRZETWORNIKI E/A

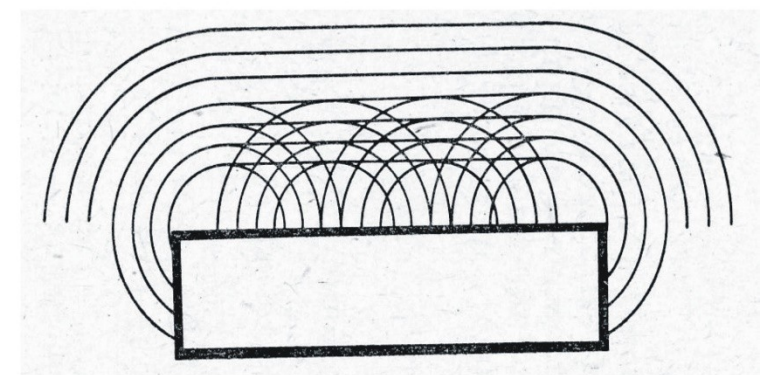
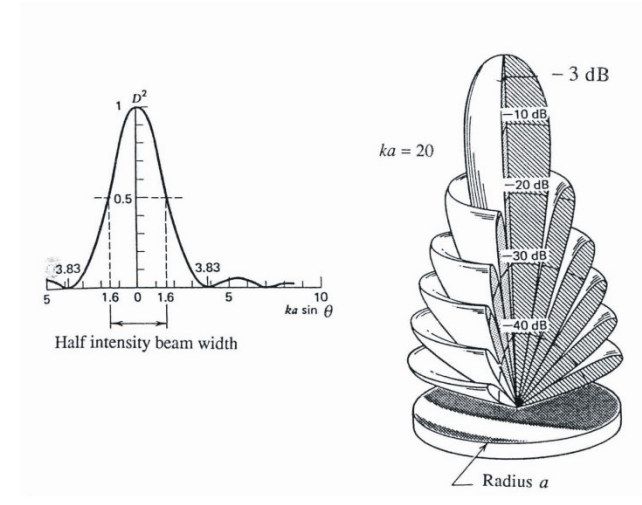
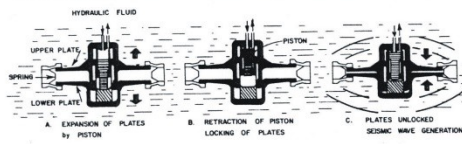
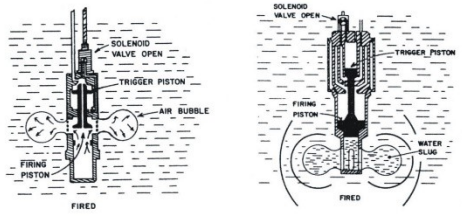
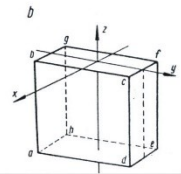
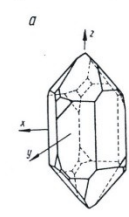
Mat. wybuchowe  
sparker

Air gun  
Water gun  
Flexihoc

magnetostrykcyjne  
Słupowe  
Toroidalne



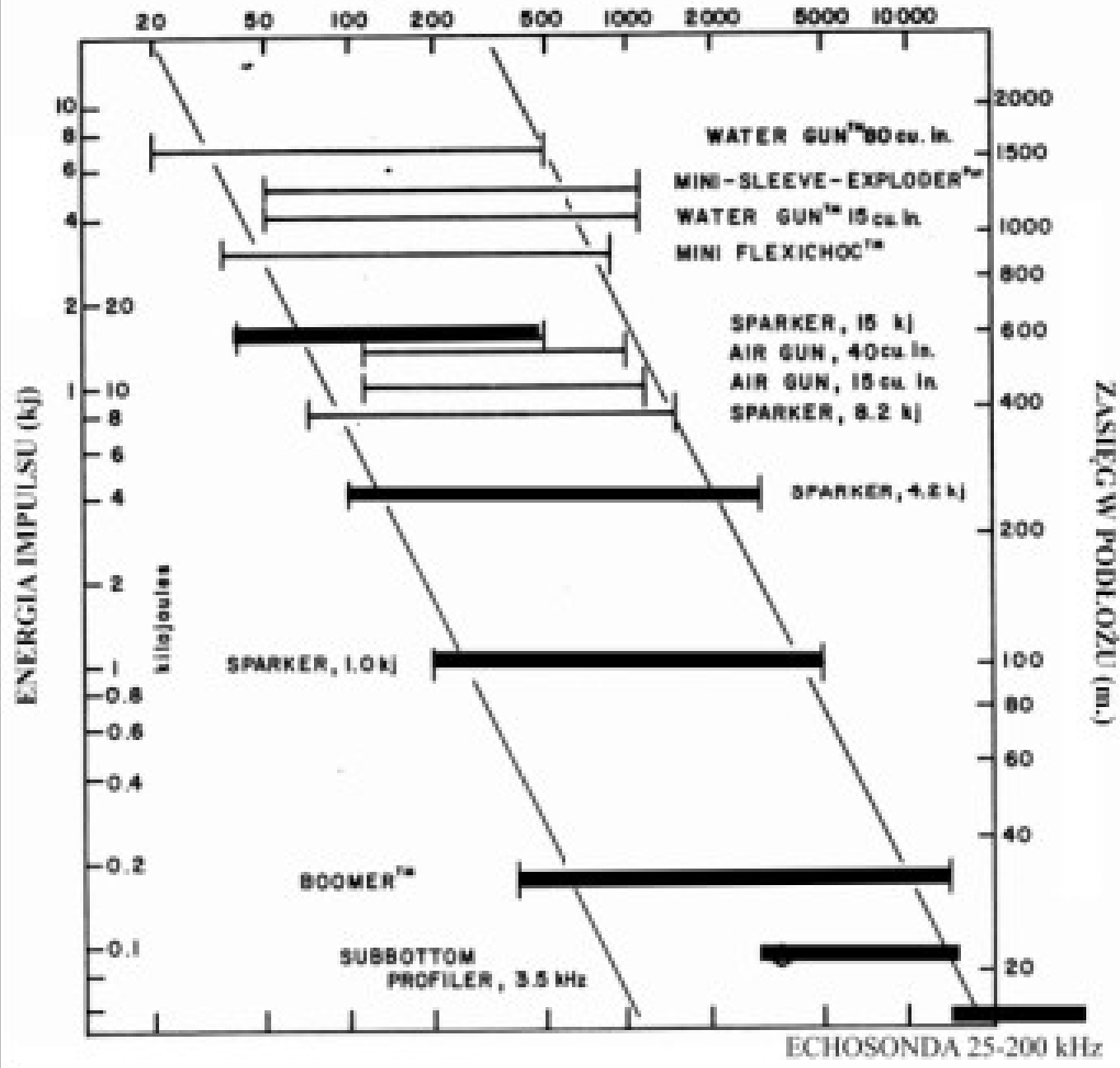
Piezoelektryczne

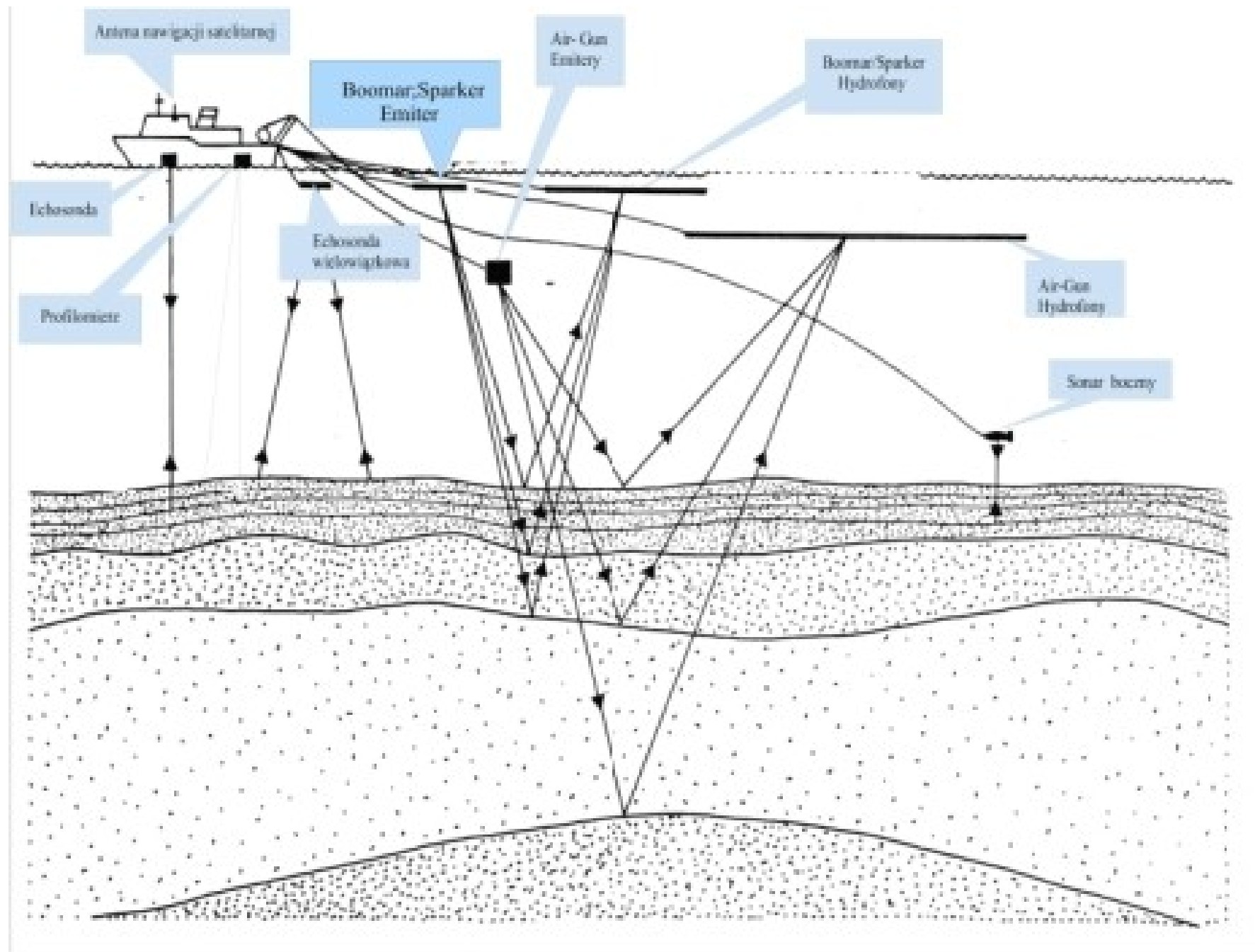


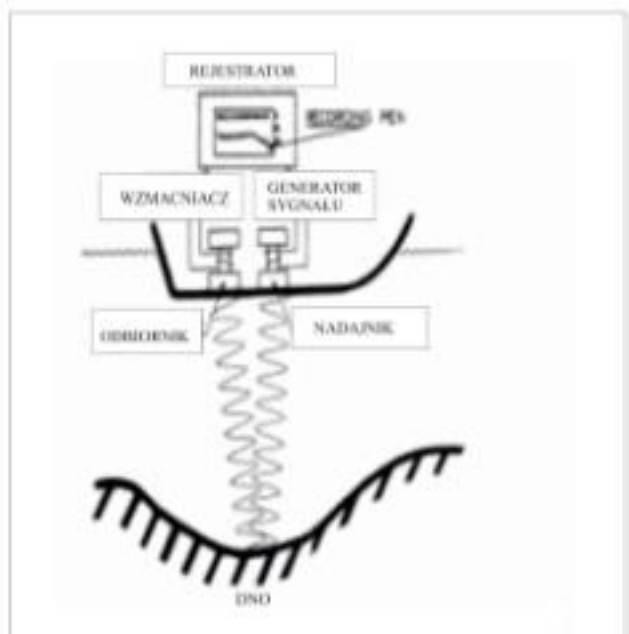
Na podstawie: Trabant, P.K., 1984



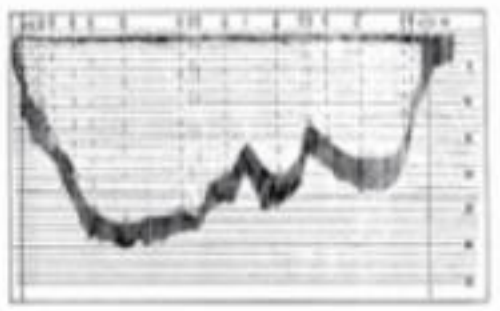
CZĘSTOTLIWOŚĆ (HERTZ)



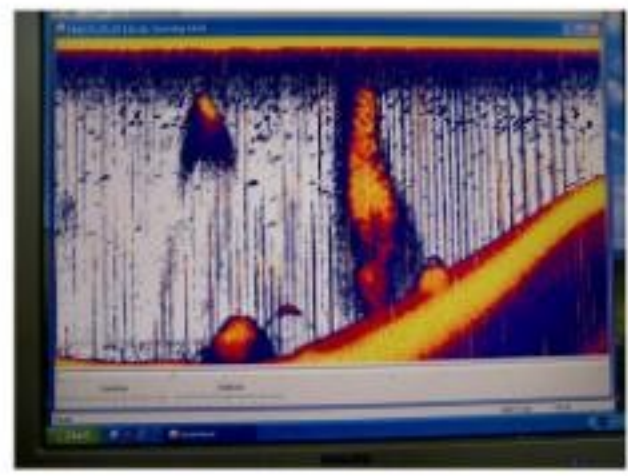
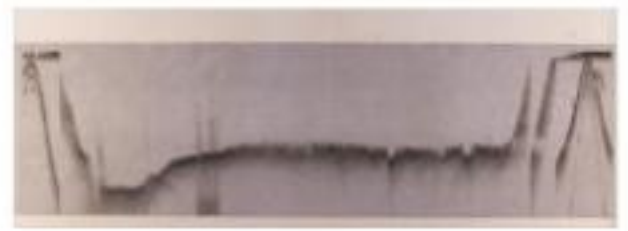
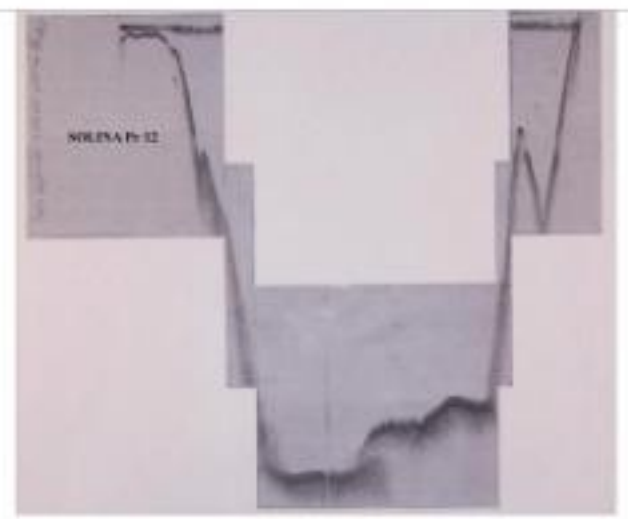
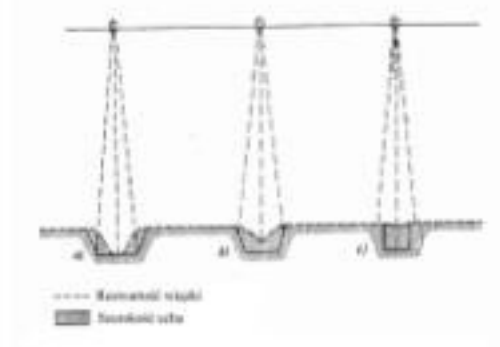
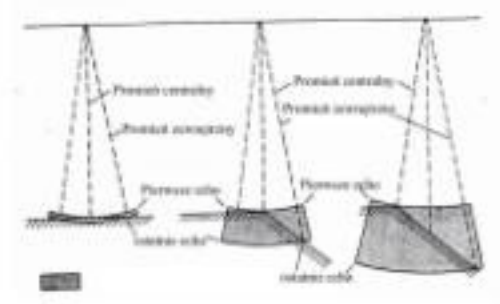


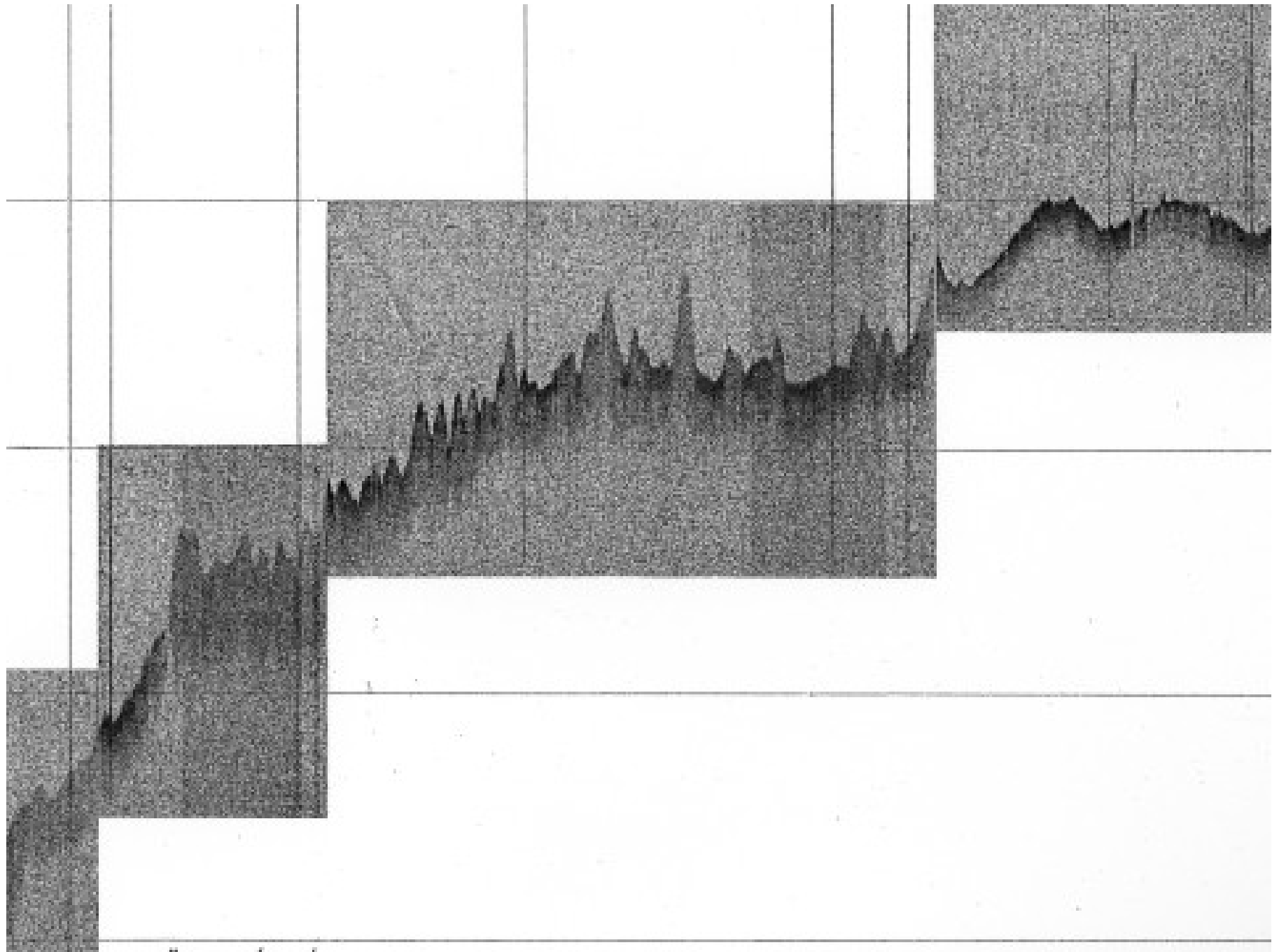
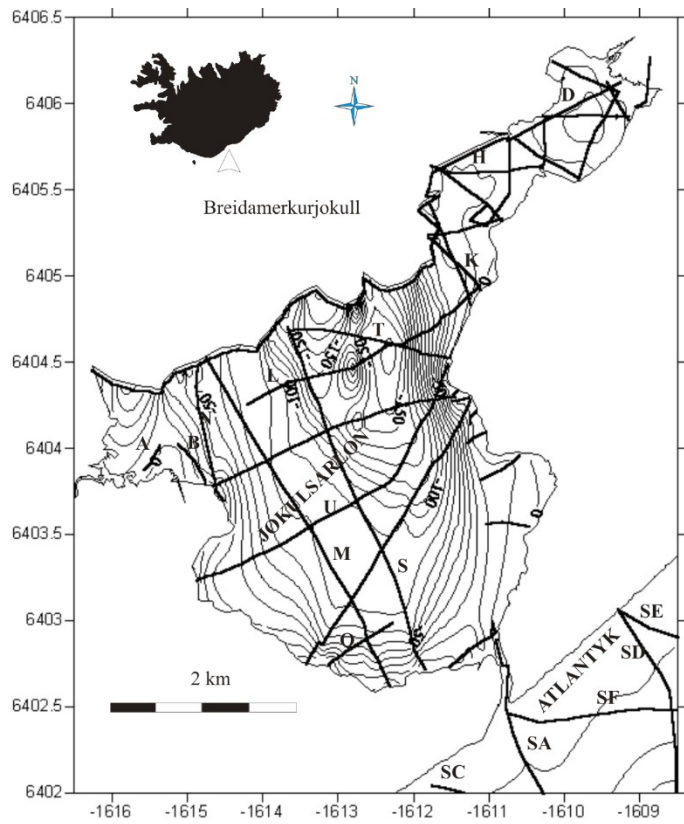


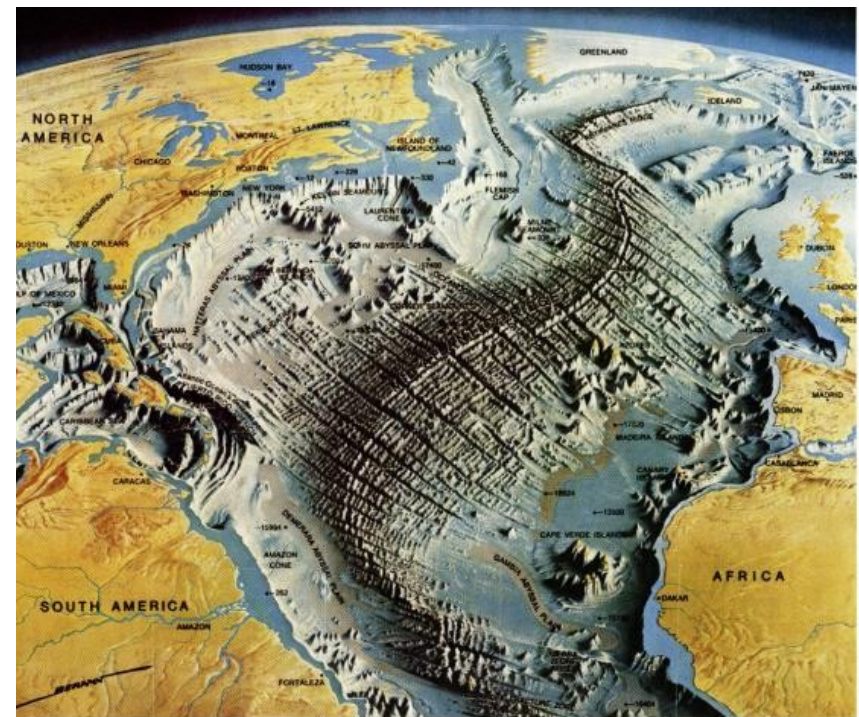
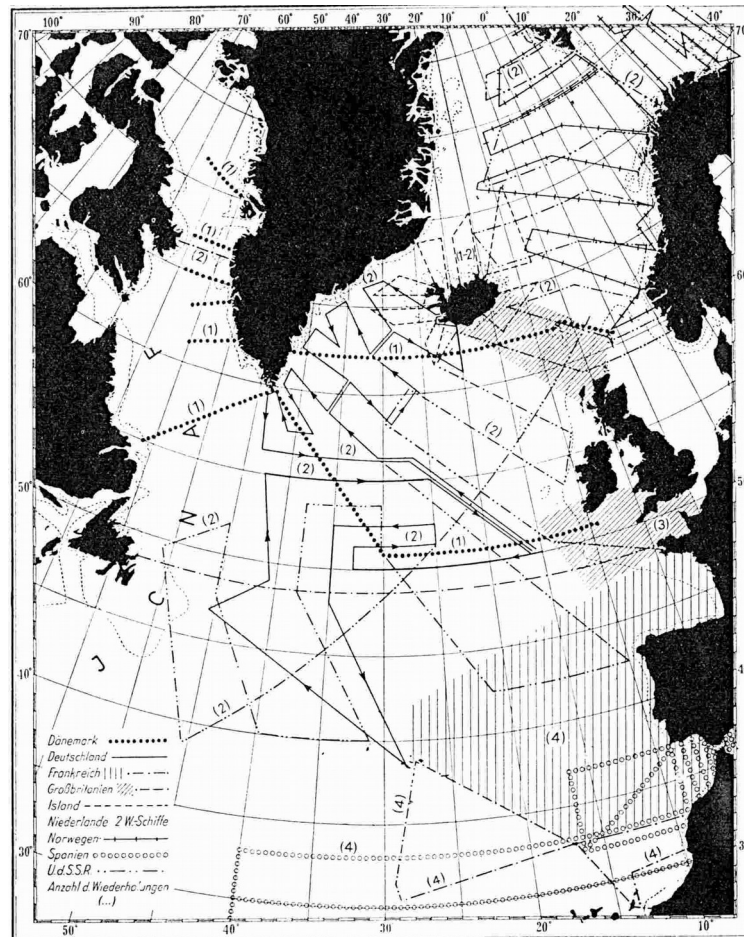
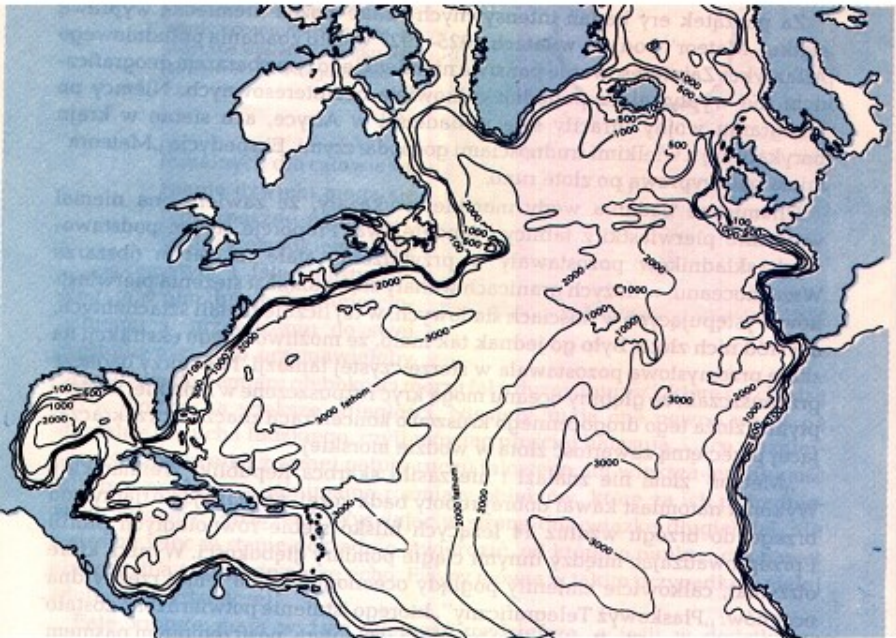
Schemat drabiania głębokości (Błakowski 1981)



Przykład anagornego zapisu w gruncie (Błakowski 1981)





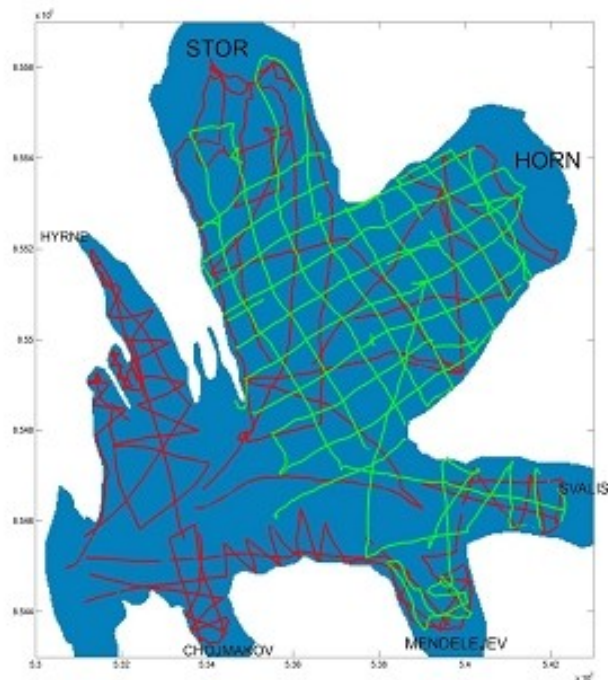




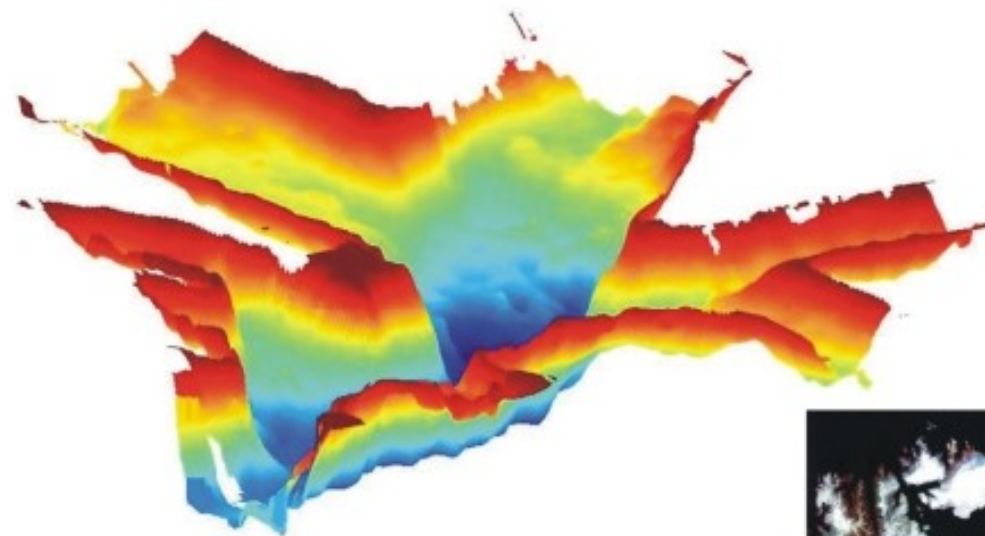
# Pomiary terenowe – rozkład profili batymetrycznych

Całkowita długość profili – 390 km

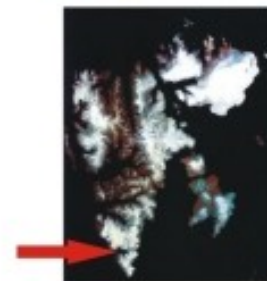
Długość linii brzegowej – 340 km

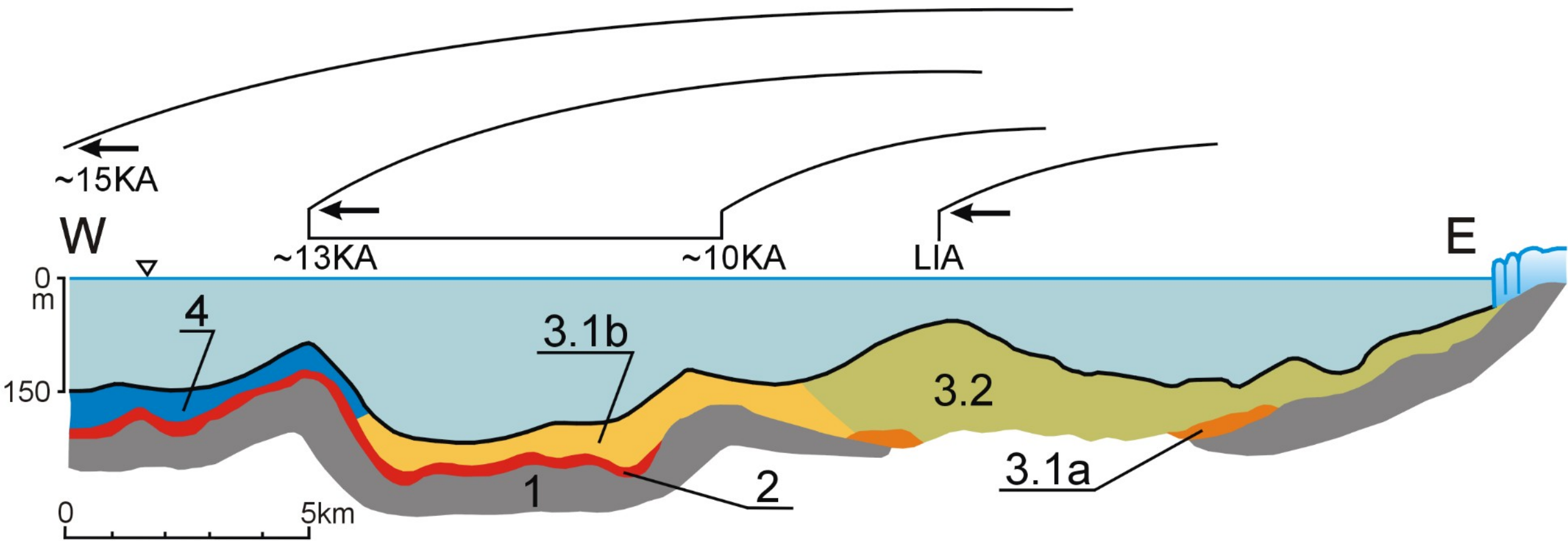


# SPITSBERGEN - ZAT. BREPOLEN

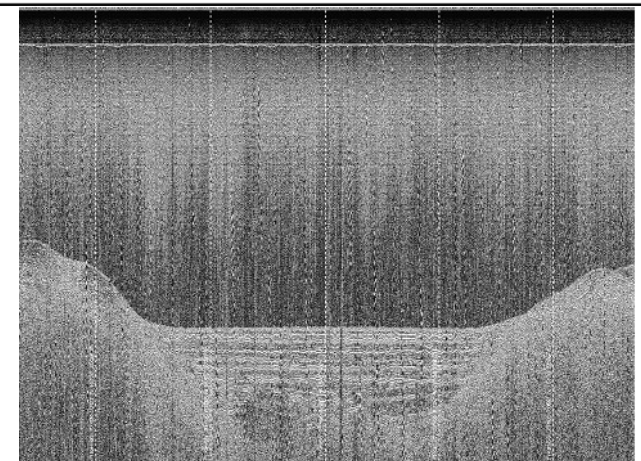
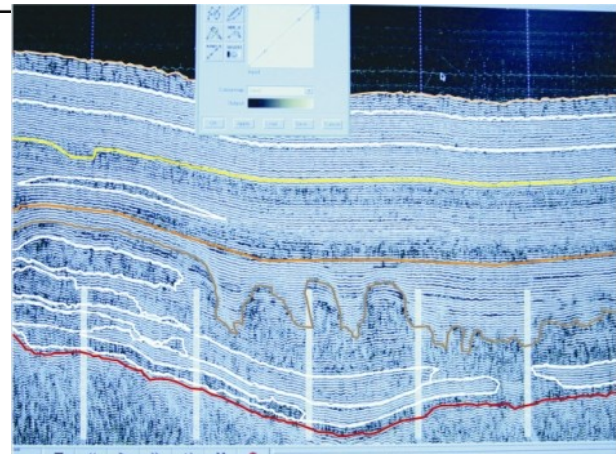
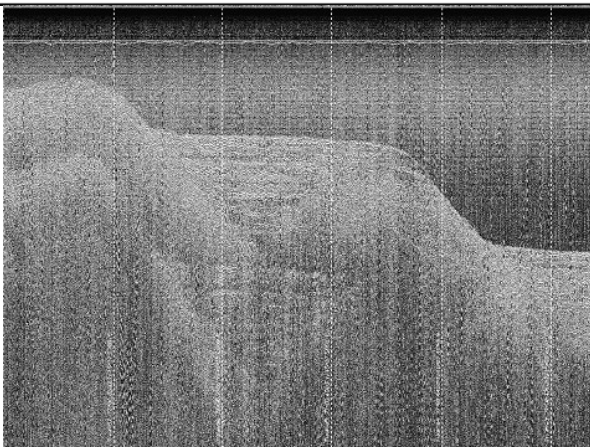


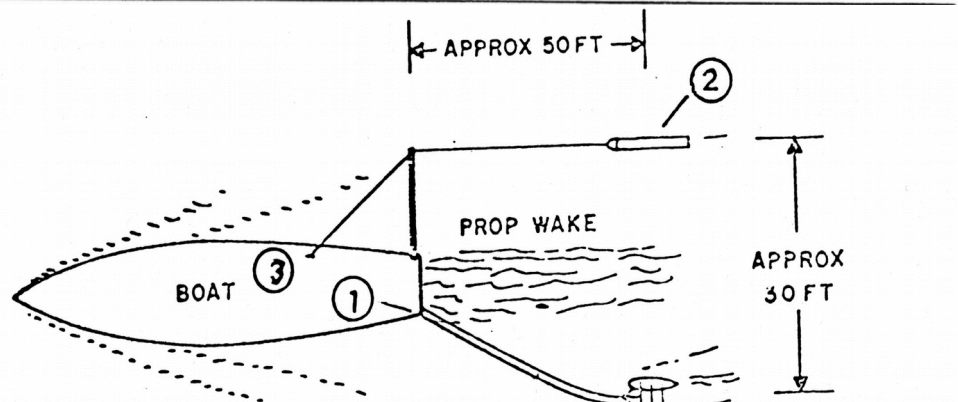
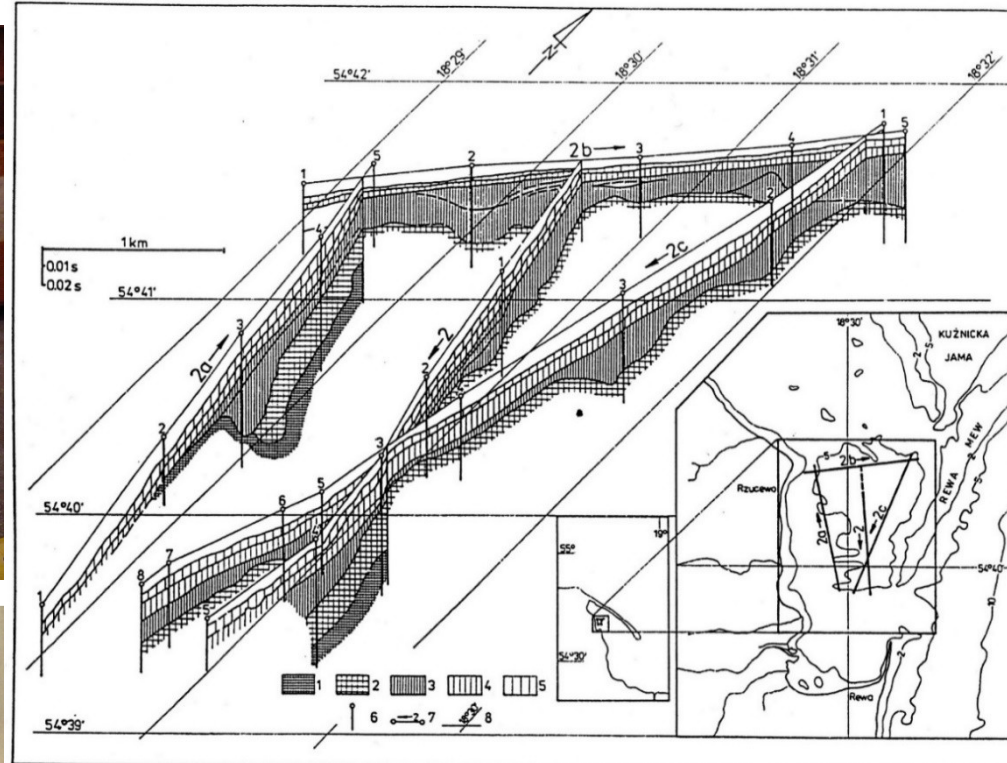
WYNIKI INTERPRETACJI POMIARÓW SEJSMOAKUSTYCZNYCH



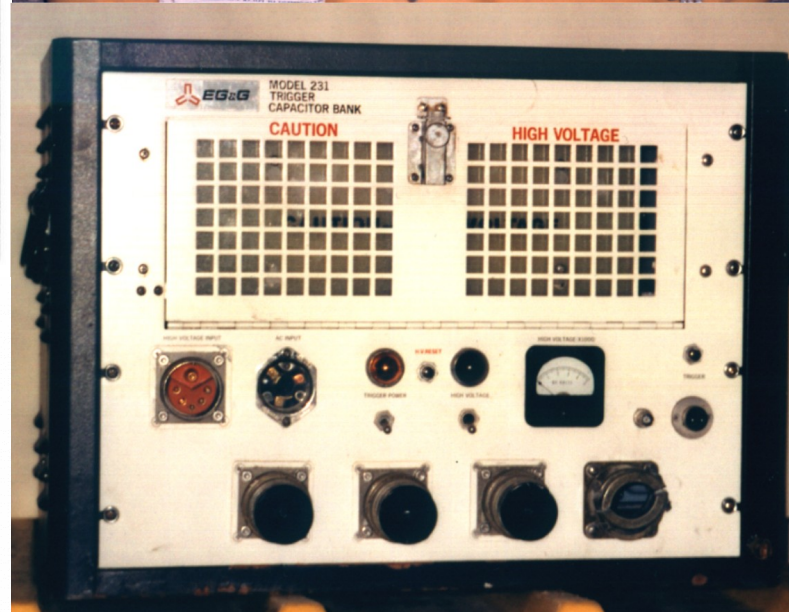


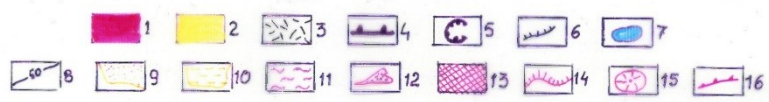
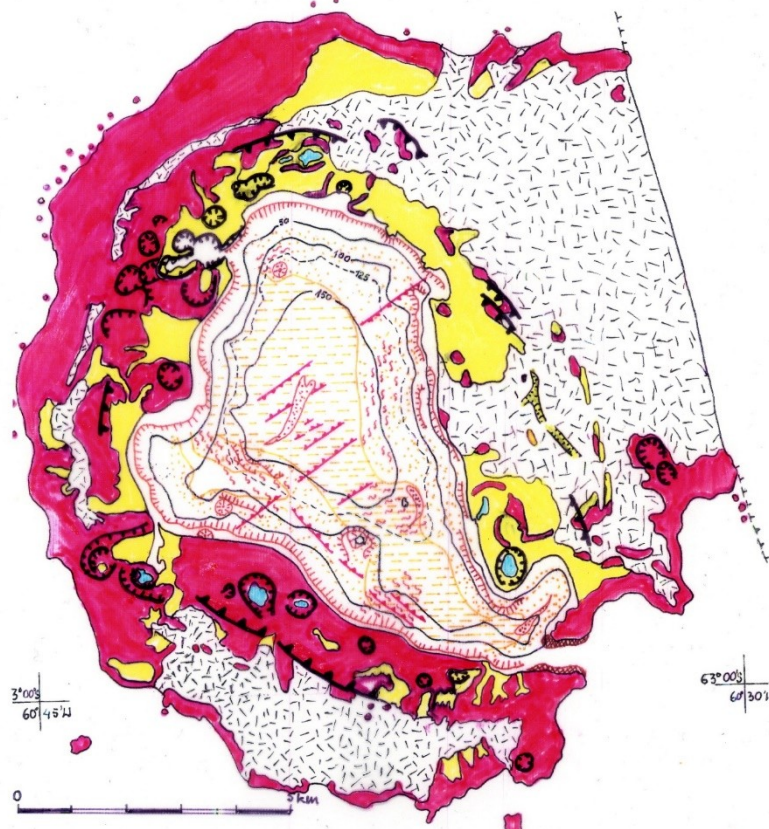
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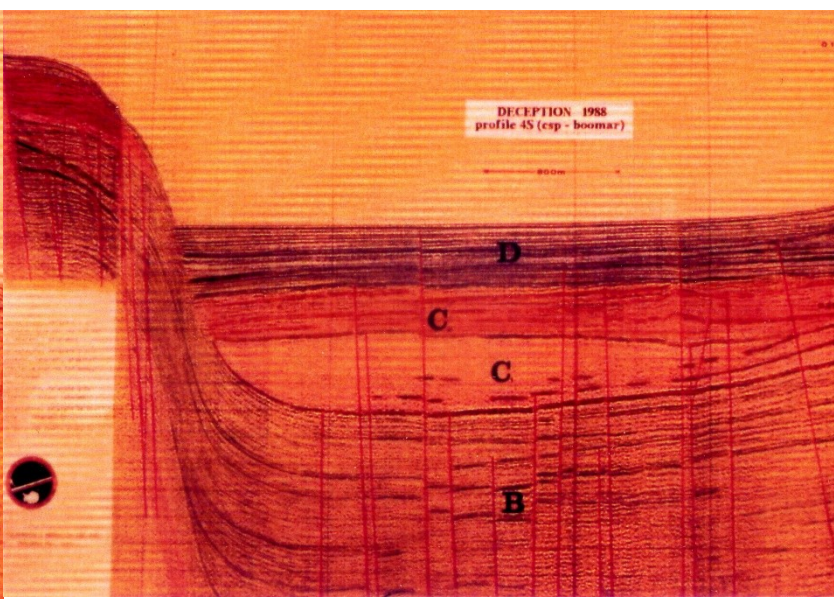
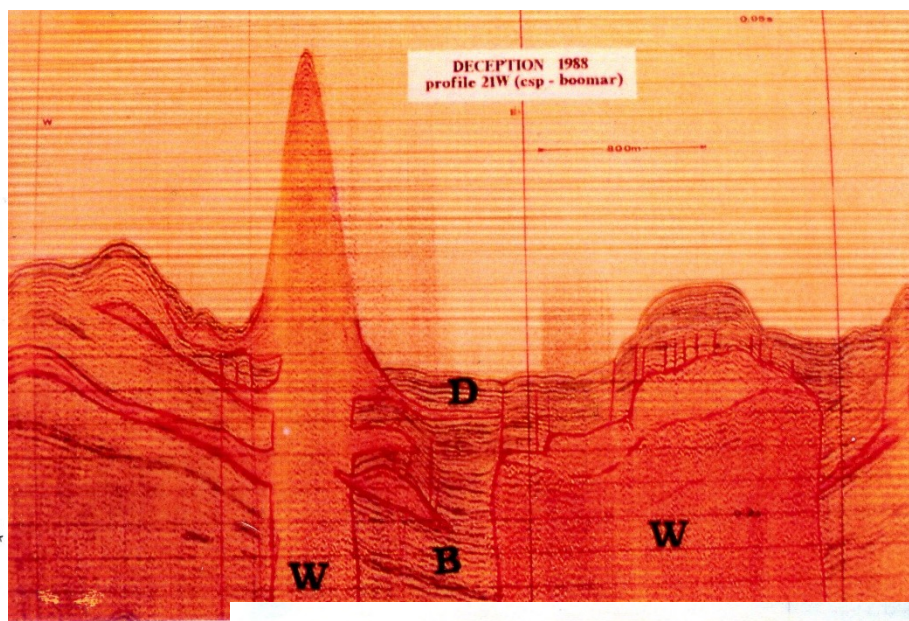


UNIBOOM AND CATAMARAN FLOAT  
Model 230-1 UNIBOOM

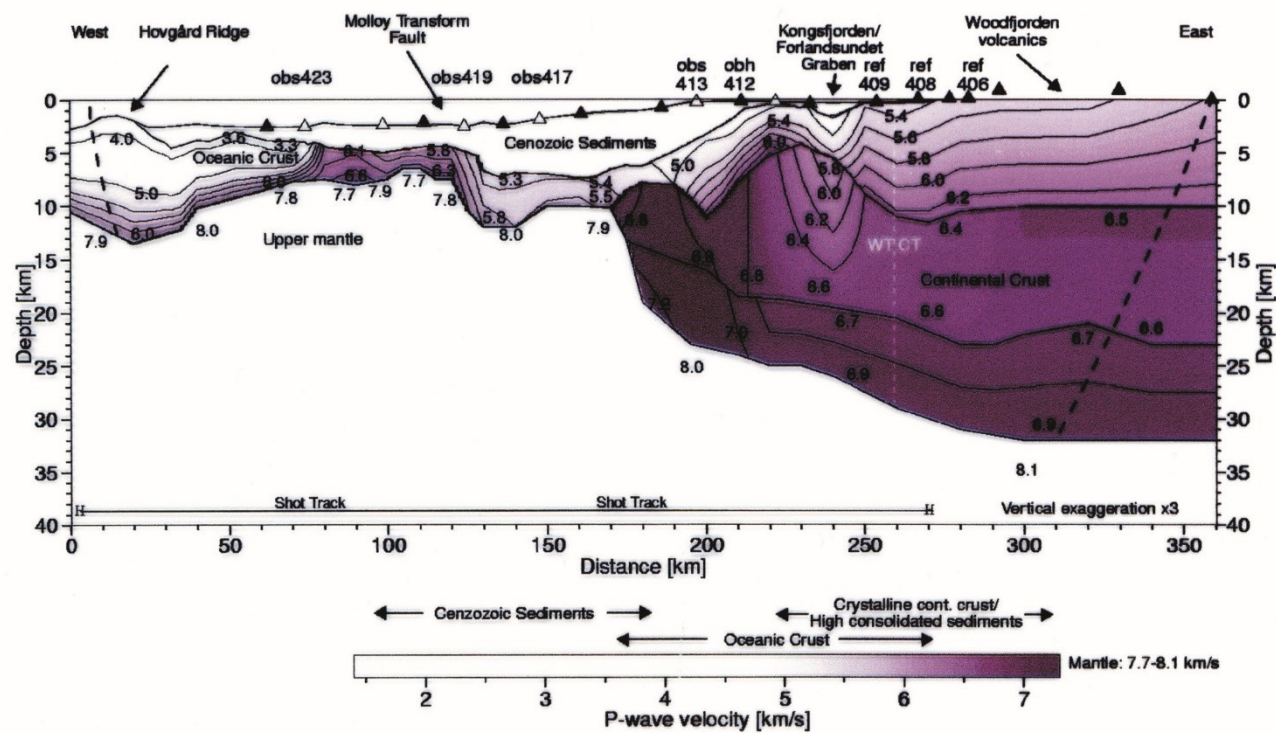
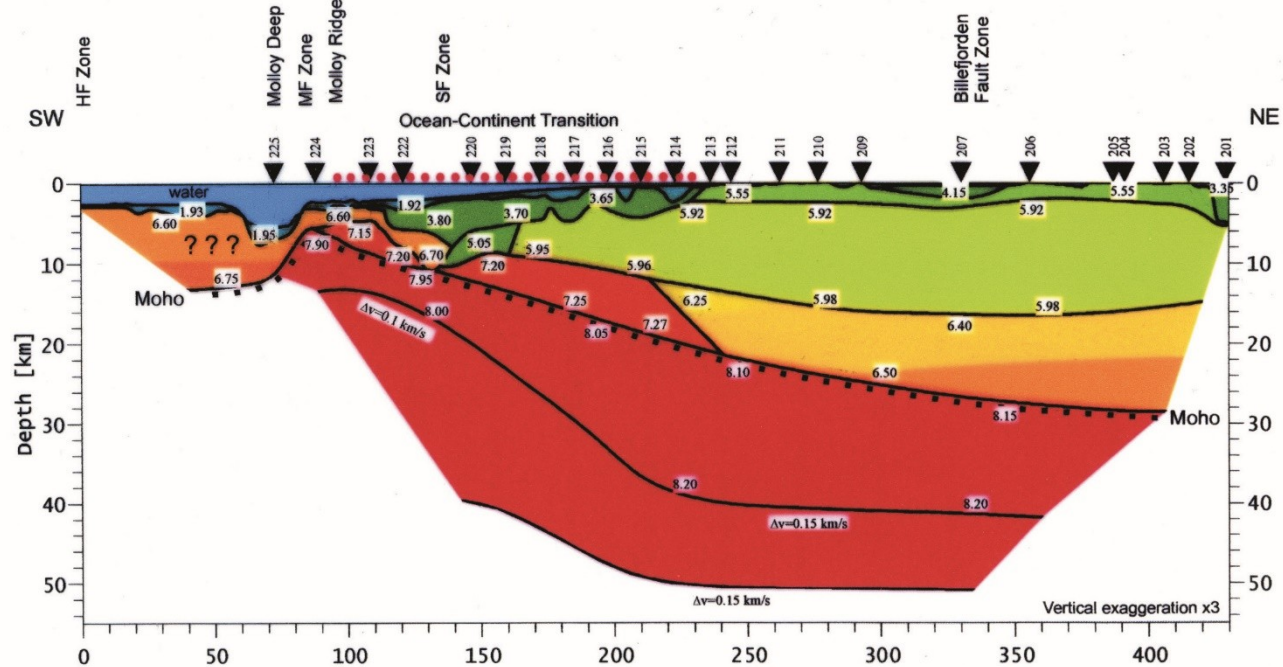
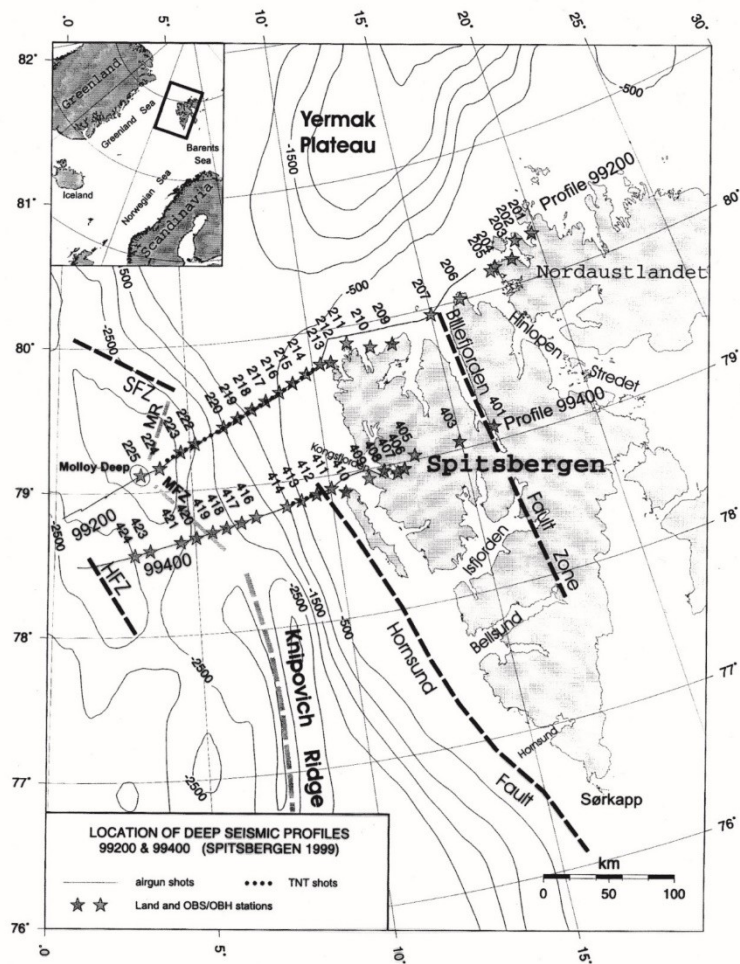


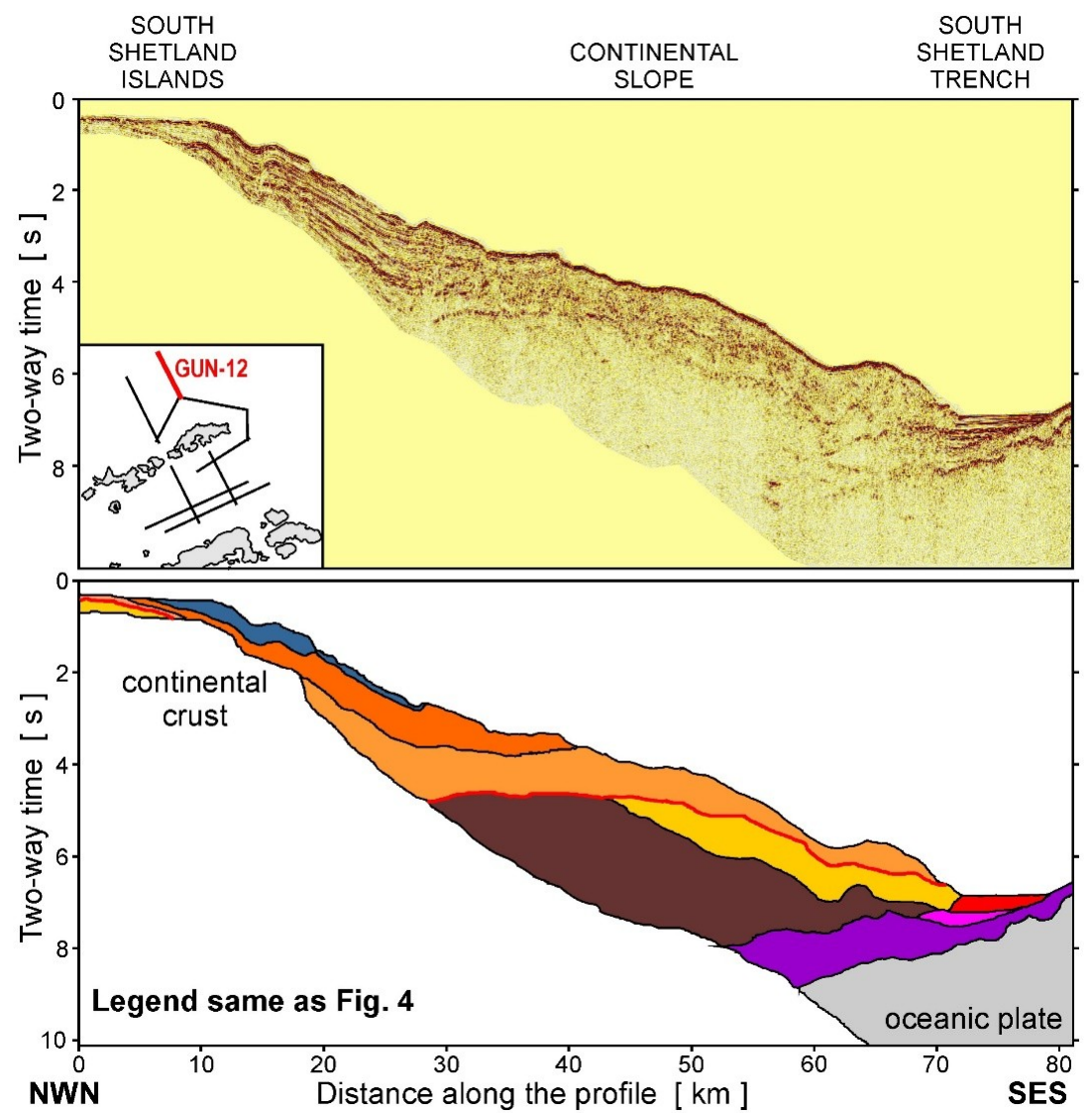
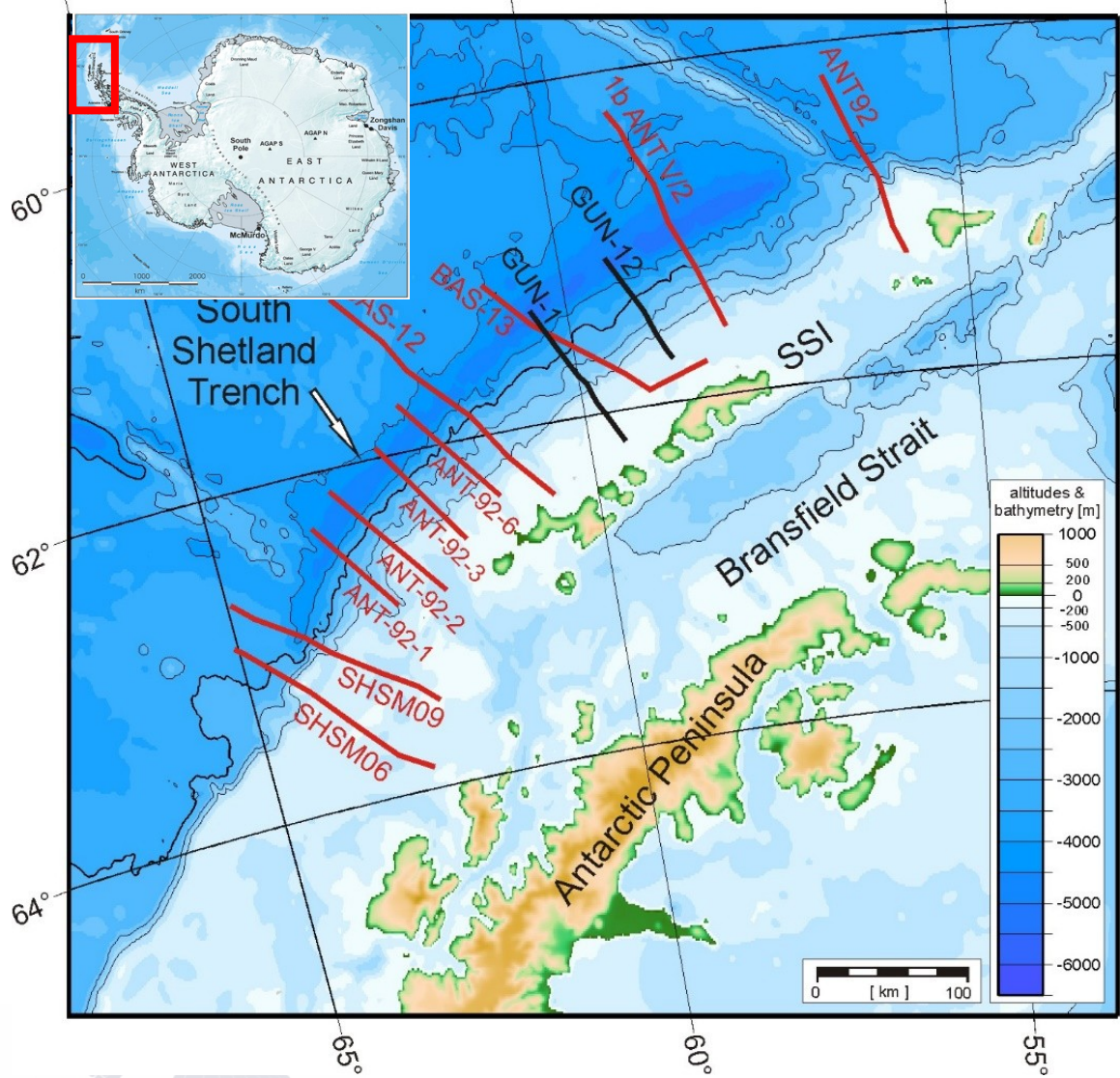


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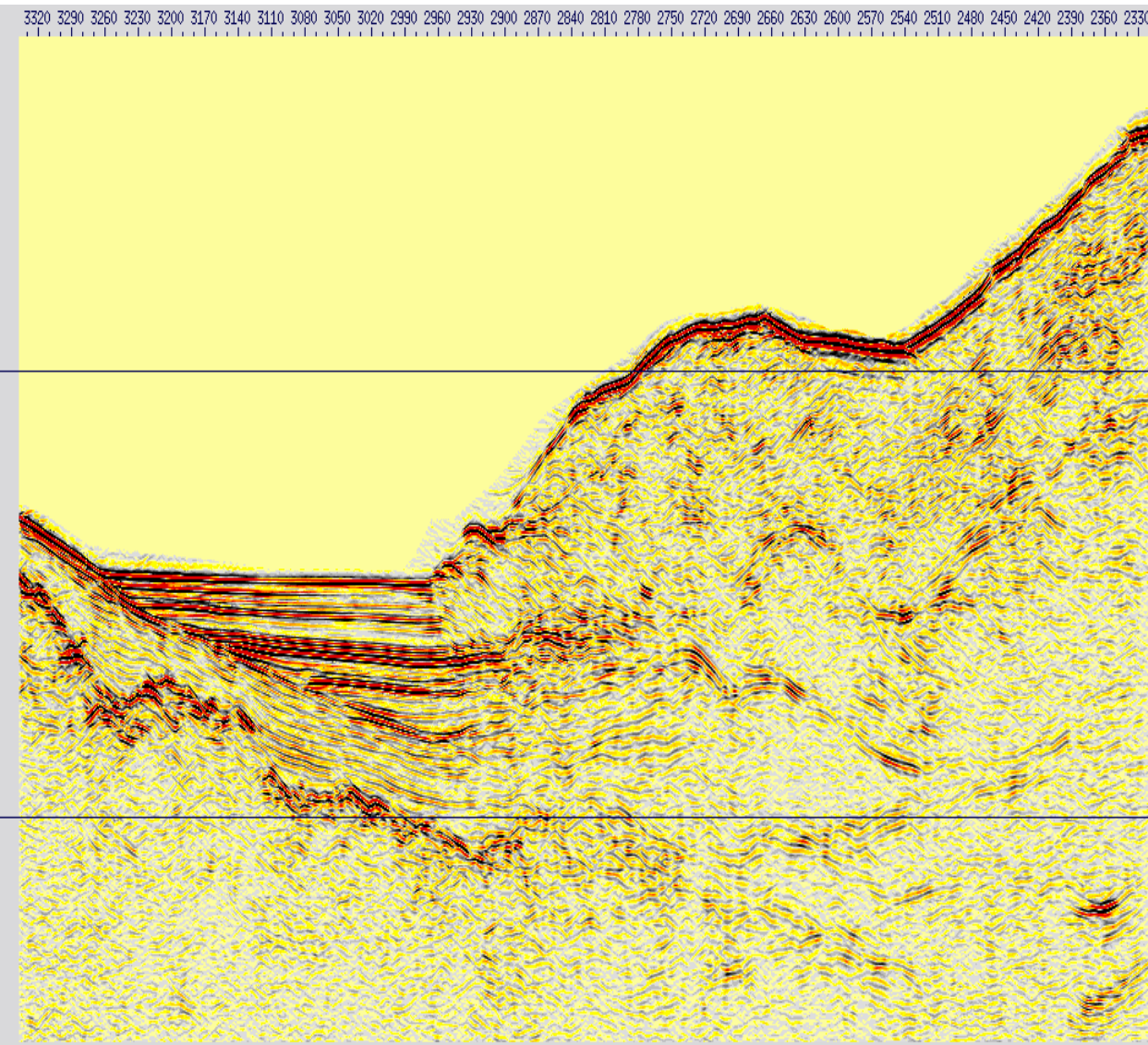






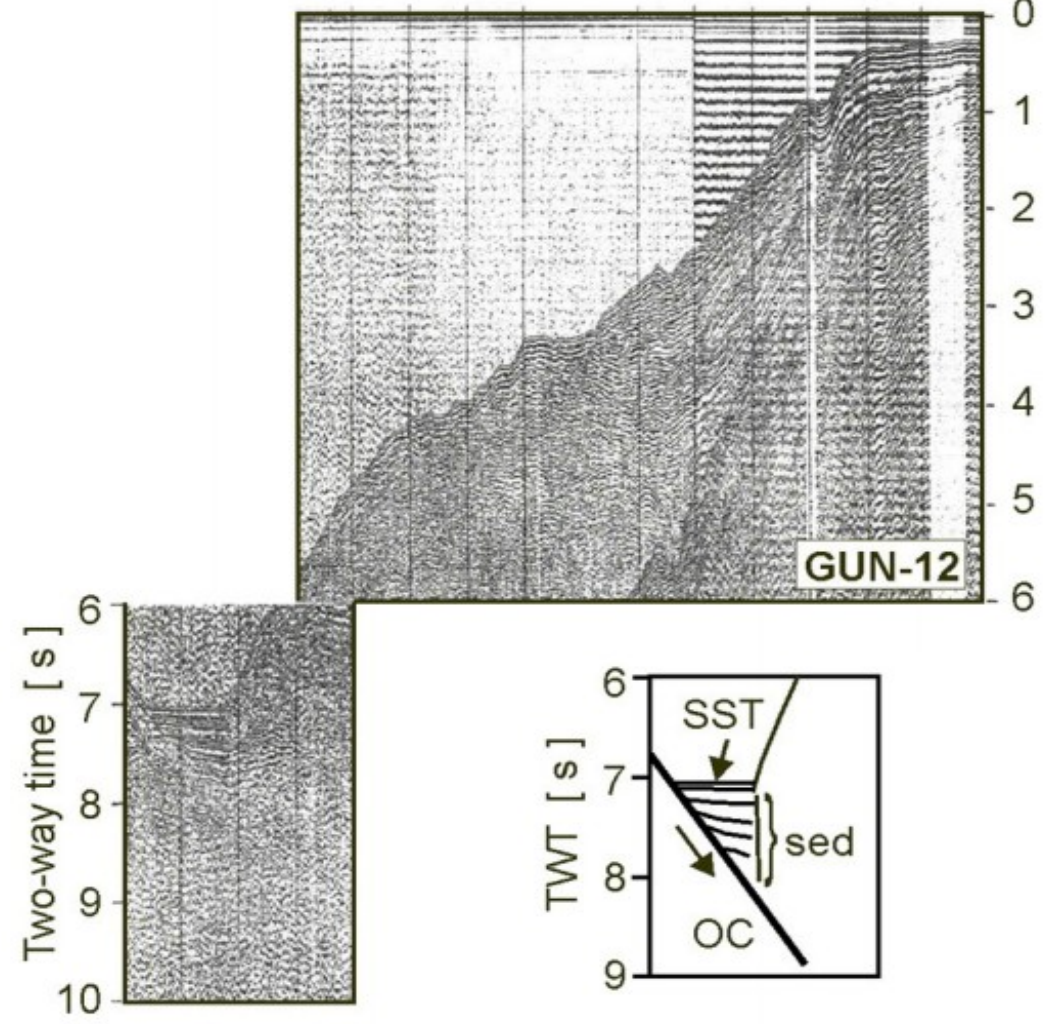


# GUN\_12 RÓW SZETLANDÓW POŁUDNIOWYCH



South Shetland Trench

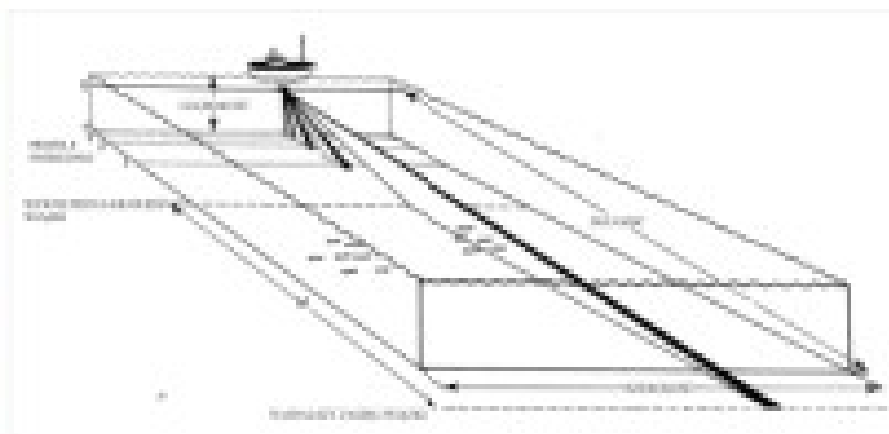
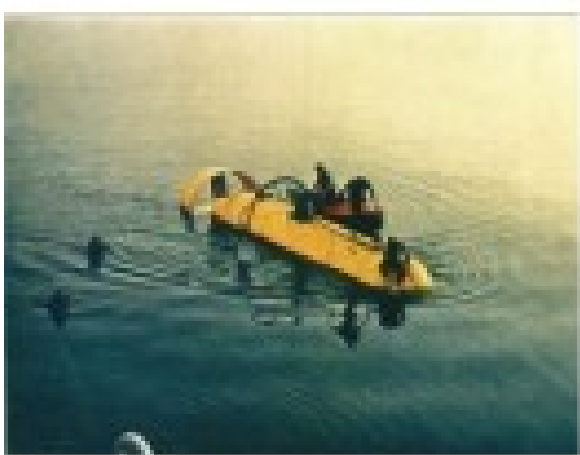
South Shetland Islands



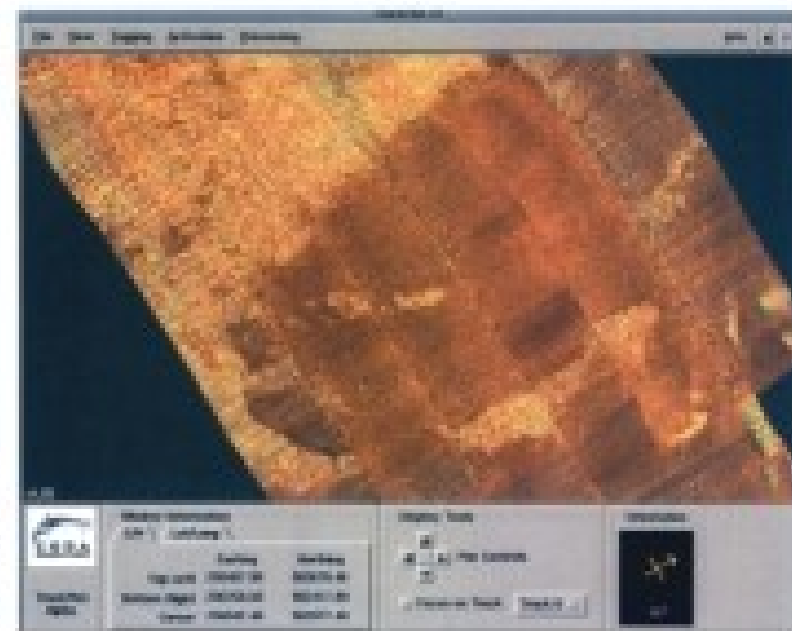
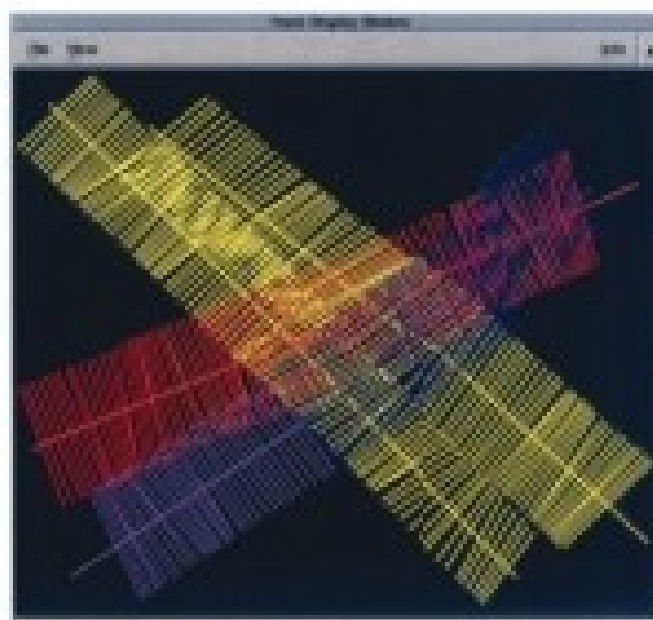
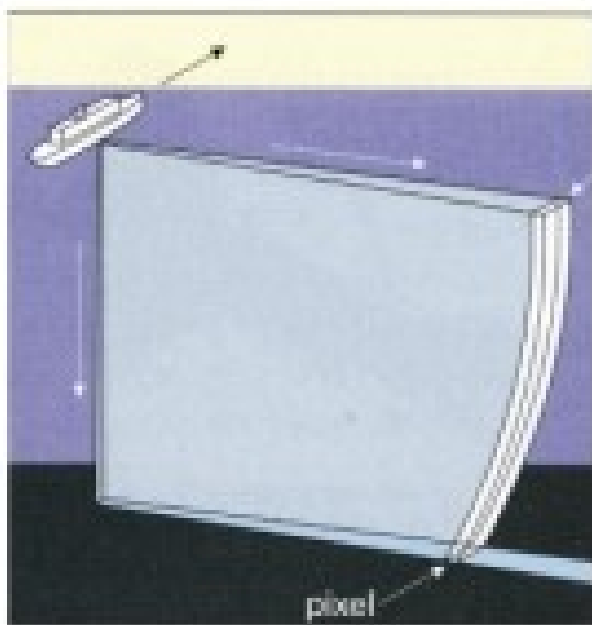
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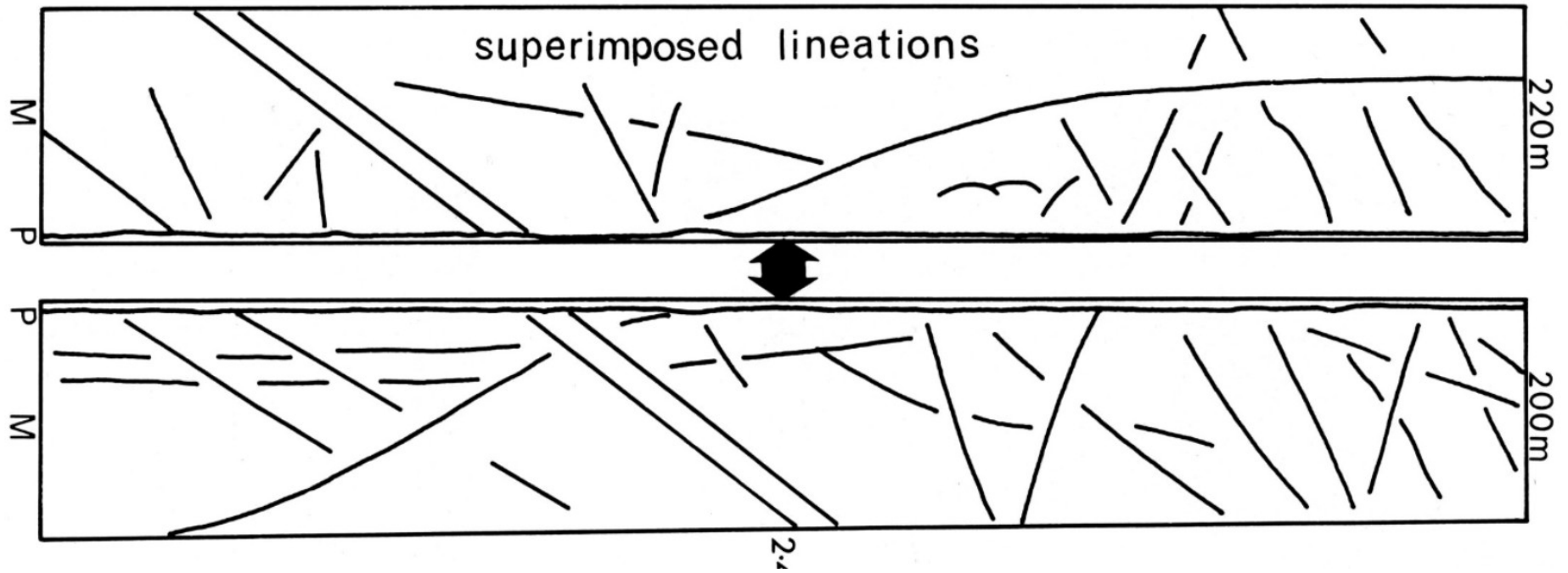
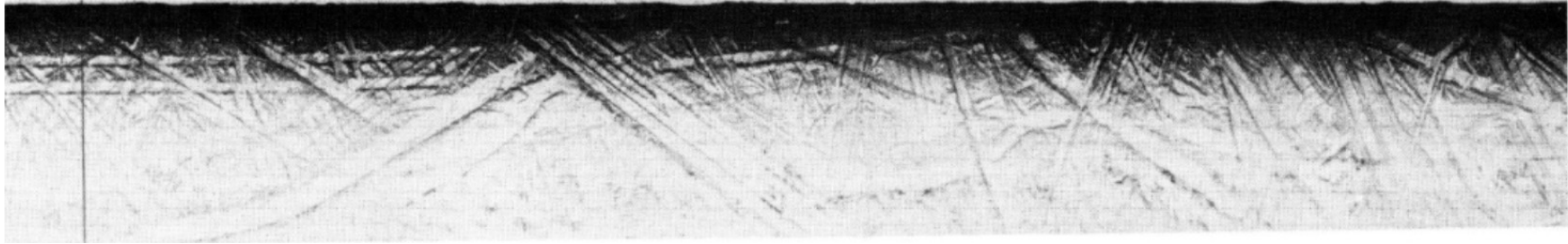




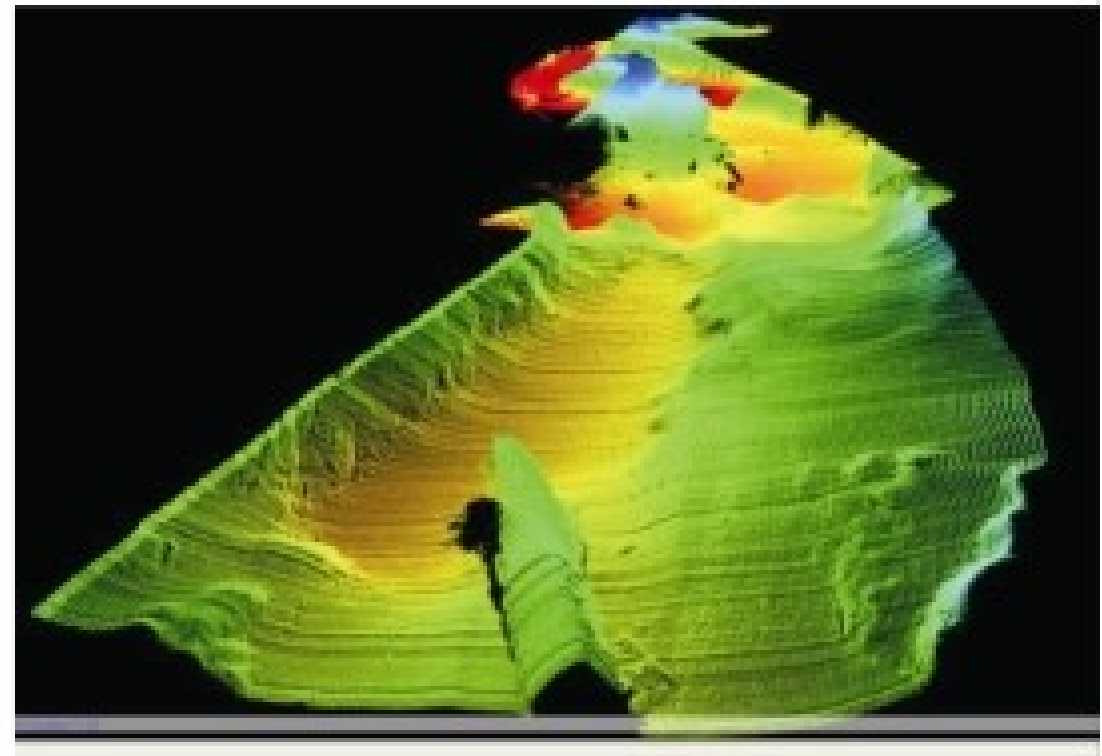
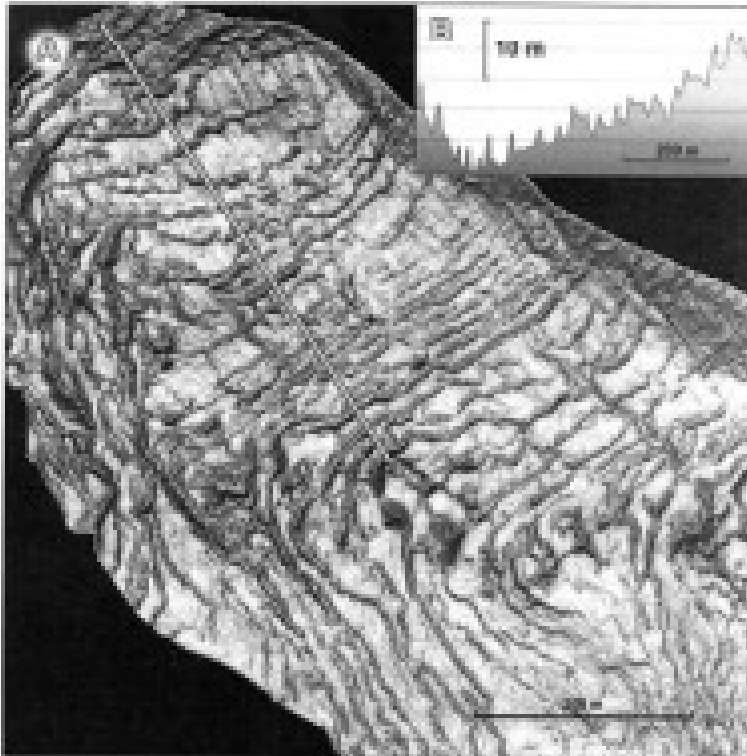
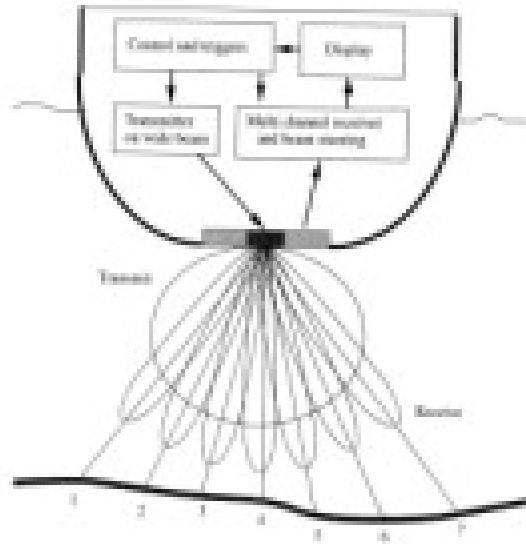


## SONARY BOCZNE





# ECHOSONDY WIELOWIĄZKOWE



DZIĘKUJĘ  
ZA  
UWAGĘ



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- BELDERSON, R.,H., KENYON, N.,H., STRIDE, A.,H. & STUBBS,A.,R. : 1972: Sonographs of the Seas Floor, a Picture Atlas. ELSEVIER.
- CZUBA W., GRAD M. and GUTERCH A. 1999. Crustal structure of north–western Spitsbergen from DSS measurements. Polish Polar Research 20 (2): 131–148.
- GARRISON, T.: 1999. Oceanography, 3<sup>rd</sup> Ed.. Brooks/Cole & Wadsworth
- GIŻEJEWSKI J. 2004. Proglacjalne jeziora przedpola lodowca Breiðamerkur (SE Islandia) jako model dla Pojezierza Zachodniopomorskiego. W: Styszyńska A., MarszA.A., (red) 2004. XXX Międzynarodowe Sympozjum Polarne Gdynia 23-25 wrzesień 2004, Streszczenia wystąpień : 47-50.
- GIŻEJEWSKI, J. & RUDOWSKI, S., 1995: Geological Structure of the Rzucewo Deep, Puck Bay. Prace P IG 149, J.,E., Mojski (ed) Proceedings of the Third Marine Geological Conference “The Baltic” : 126-127
- GIŻEJEWSKI, J., KRUSS, A., TATAREK, A., TĘGOWSKI, J., WĘŚŁAWSKI, J.M., WIKTOR, J., 2007. Wielkoskalowy model zmienności i różnorodności młodego środowiska peryglacjalno – morskiego Zatoki Białego Niedźwiedzia (Spitsbergen, Hornsund). Projekt Nr 3 P04E 005 25 Raport końcowy, część merytoryczna ( niepublikowane)
- HAKANSON, L.1981 A Manual of Lake Morphometry Springer Verlag
- JANIK T., GRAD M., , GUTERCH A., ŚRODA P. 2014 , The deep seismic structure of the Earth's crust along the Antarctic Peninsula—A summary of the results from Polish geodynamical expeditions, Glob. Planet. Change 123 (2014) 213–222
- KOWALEWSKI W., RUDOWSKI S. and ZALEWSKI S.M. 1991. Seismoacoustic Studies in Hornsund, Spitsbergen. *Polish Polar Research* 12 (3): 353-361.
- OKOŃ J., GIŻEJEWSKI J., JANIK T., 2016. A new insight on the geological interpretation of multi-channel seismic profiles from the Pacific Margin of Antarctic Peninsula, Polish Polar Research, 37, 2, 243–268, doi: 10.1515/popore-2016-001.
- TRABANT, P.,K., 1984: Applied High- Resolution Geophysical Methods, Offshore Geoengineering Hazards, D.RIEDEL PUBLISHING COMPANY, Boston.
- WILLE, P., C., 2005: Sound Images of the Ocean in Research and Monitoring, SPRINGER ATLAS ELECTRONIC
-