

Cruise report
R/V/ CAPE HATTERAS cruise CH 12-92

Ports: depart Morehead City, Sept 21
return Morehead City, Oct 4, 1992

Survey Location: ~31° 30' -33°N, 75°-76°30'W

Systems:

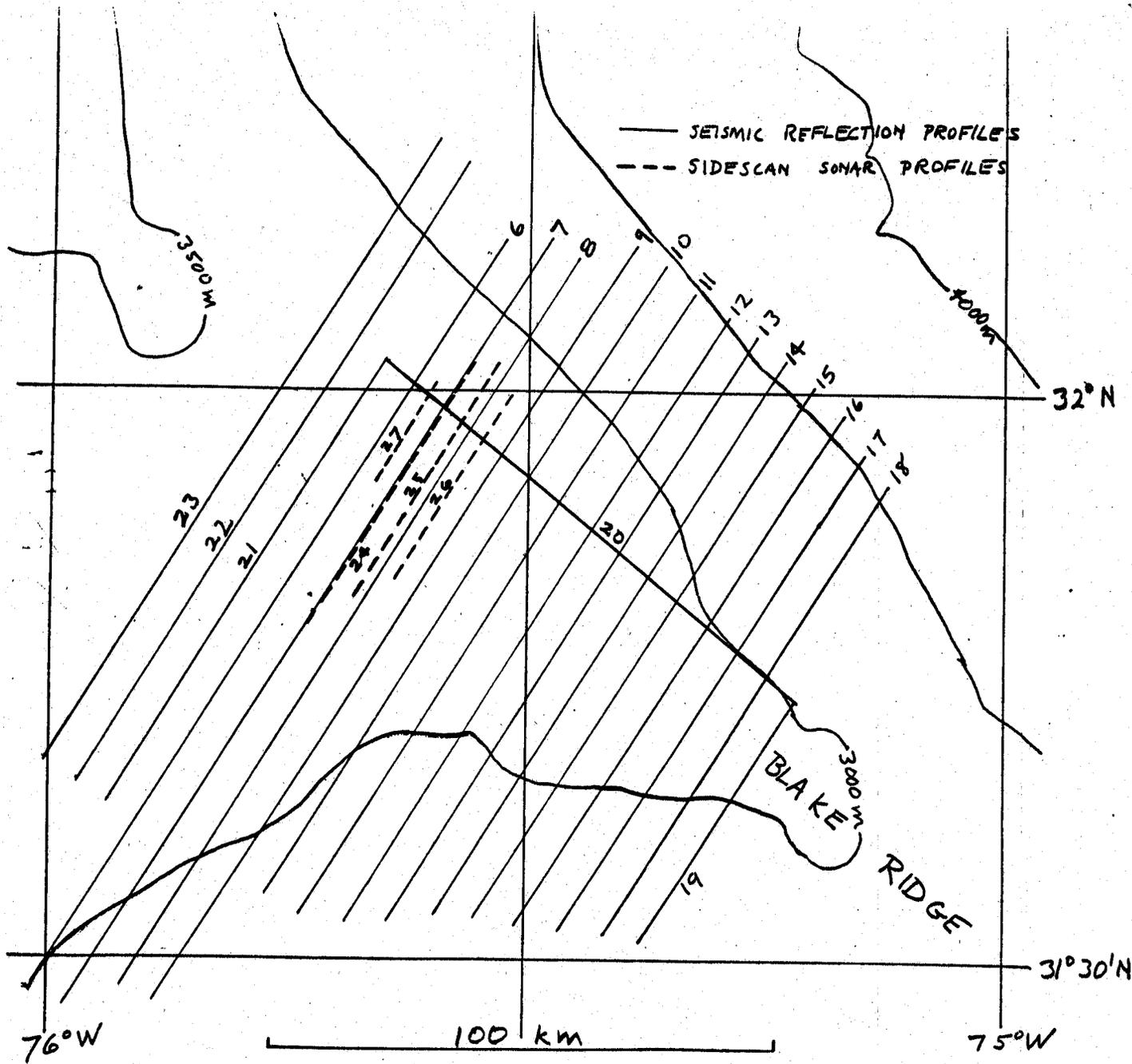
- digital, 2-channel seismic reflection profiling system, using 160 in.³ airgun seismic source and USGS/Masscomp aquisition recording
- USGS/Datasonics 30 kHz deep-towed sidescan sonar
- hull-mounted 3.5 kHz profiling system
- Navigation:
 - USGS differential GPS
 - Duke integrated loran-C (SAIL) system

Personnel:

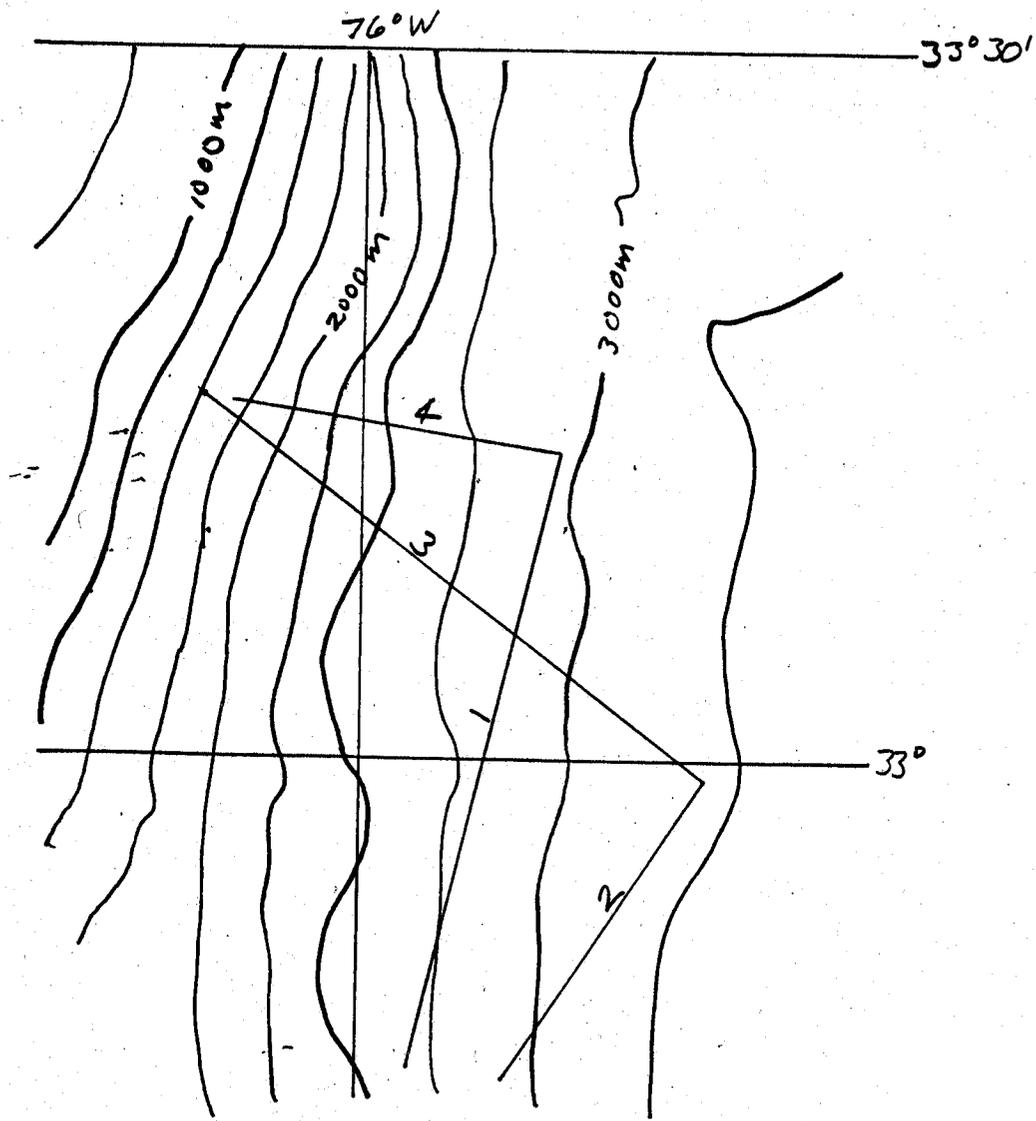
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Cruise objectives were to obtain digital seismic profiles in the area of gas hydrate development on the continental rise off North and South Carolina and to test and obtain data from the new USGS/Datasonics deep-towed sidescan sonar system. Two research areas were studied, a northern one at the head of the Cape Fear slide and a southern one on the crest of the Blake Ridge. The seismic profiling system worked perfectly and allowed collection of 163 km of excellent quality seismic data at the northern site and 1204 km in the southern area (see maps). Unfortunately,

the outer section of the streamer was damaged during operations (presumably it went into the ship's propellers), but the damaged section was replaced by a spare section. Four test lowerings of the sidescan sonar were carried out. During the first three lowerings only the port side of the system provided data when the system was at operating depth. The problem was finally identified as a leaking connector, which was repaired. During the last day of operations the sidescan worked properly and 91 km of sidescan sonar data were collected (see map). Weather conditions prevented lowering of the sidescan sonar during much of the latter part of the cruise, and one day was lost to any work because of tropical storm "Earl".



Seismic reflection profile tracklines (solid) and dectowed, 30 kHz sidescan sonar tracklines (dashed) in the southern research area on the Blake Ridge.



Seismic reflection profile tracklines in the northern research area (Cape Fear slide).