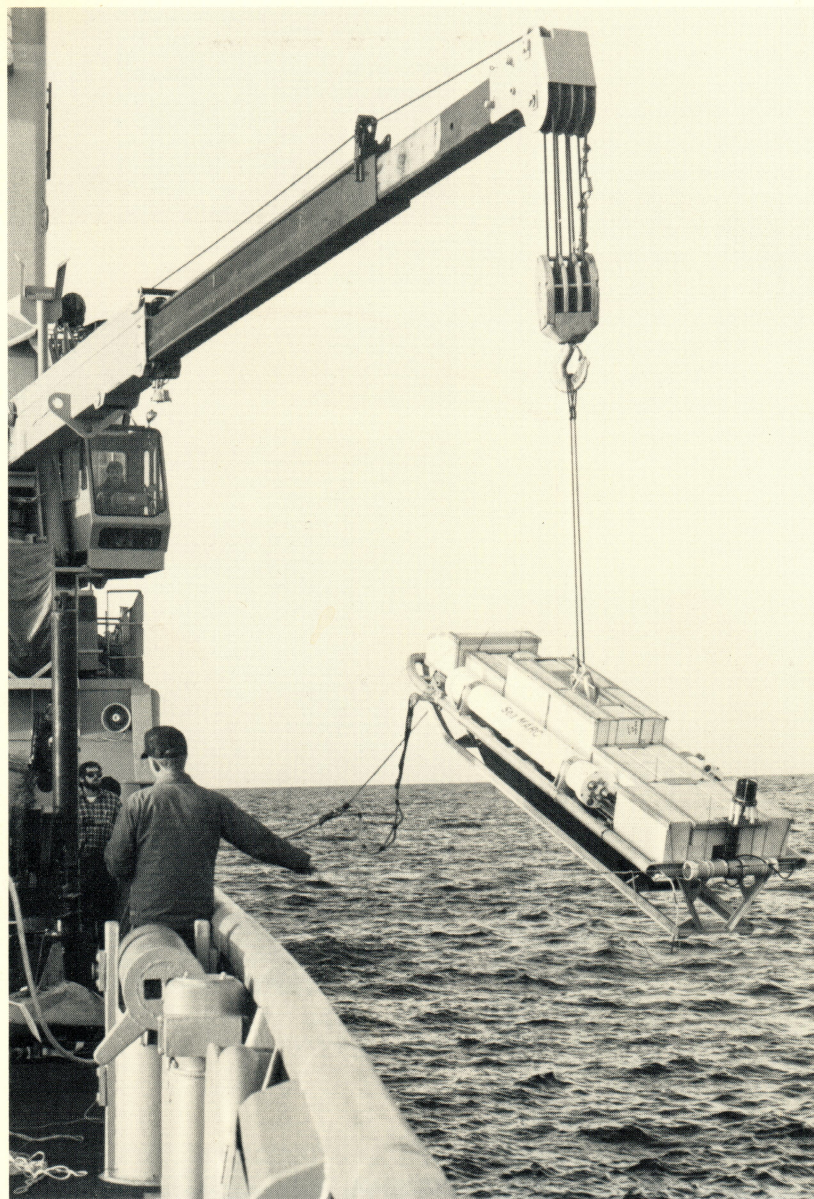


IDSS / Williamson & Associates, Inc.



Oceanography and Geophysics

Williamson & Associates is an earth science consulting firm providing expert personnel and equipment for geophysical investigations across a wide range of applications.

International Deep Sea Survey, Inc. (IDSS) adds a special dimension to W&A by supplying specialized instrumentation and equipment for surveys in the deep ocean environment.

Established in 1982, **Williamson & Associates** represents the continuation of 20 years of professional services in the earth sciences by Michael Williamson, president. Areas of our firm's expertise span marine and terrestrial geophysics, marine geology, geo-hazards surveys, and geophysical instrumentation. Related equipment includes vibracoring, wireline samplers and corers, and underwater camera and video operations.

Piston Coring Operations in Alaska.



Sidescan Sonar Survey, Puget Sound, Washington



Ground Penetrating Radar Survey across a frozen lake.

Our clients include A&E firms, oil and gas companies, state and local governments, the U.S. Army Corps of Engineers, Environmental Protection Agency, NOAA, U.S. Navy, and mining and other industry groups.

Offshore & Onshore Geophysics

Offshore geophysical surveys for engineering and environmental studies require utilization of one or more traditional geophysical methods....

- Sidescan sonar
- Marine magnetometry
- Seismic reflection
- Seismic refraction
- Multichannel digital techniques

....depending on the problem and the site.

Onshore surveys for environmental cleanups, design investigations and other engineering or public safety issues benefit from our wide variety of geophysical services:

- Ground penetrating radar
- Magnetics
- EM
- Resistivity

We have applied all these approaches over water and land to help solve our clients' site information needs.

Magnetometer Survey at a hazardous waste site in Washington.



Deep Ocean Operations

IDSS offers unique systems for sonar surveys of the seafloor, down to full ocean depths. These include the "SeaMARC 1A" and the "AMS-120" sidescan sonars. Our deep ocean capabilities include interferometric swath bathymetry for precision depth data and detailed seafloor geomorphology obtained concurrently with sonar imagery.

These sonars provide high-resolution digital mapping, which is acquired and enhanced through our state-of-the-art image processor. The sonar data are obtained over variable survey



Deep Water Deployment of the AMS-120 in the Gulf Stream.

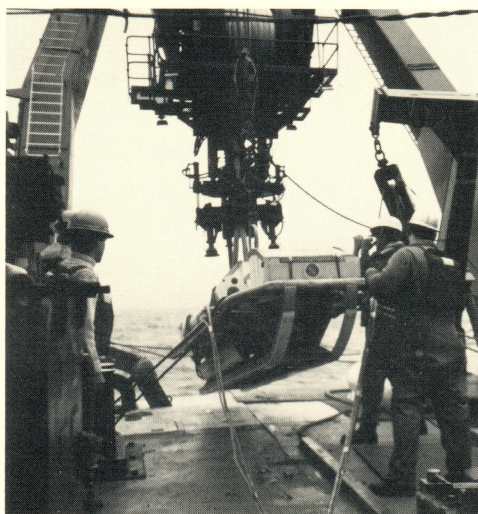
widths, up to a 5-kilometer swath with the 30-kHz SeaMARC 1A. The 120 kHz AMS-120 is specifically designed to meet MMS/OCS requirements, and the special needs of the oil industry.

These serve seafloor data needs for geological and ecological habitat mapping, and searching for seafloor objects, including wreckage and military targets. Operations experience for these deep ocean systems is provided by W&A, and our field teams have worked in most of the world's wide range of geographic conditions.



Sea MARC 1A Operations off Cape Canaveral, Florida.

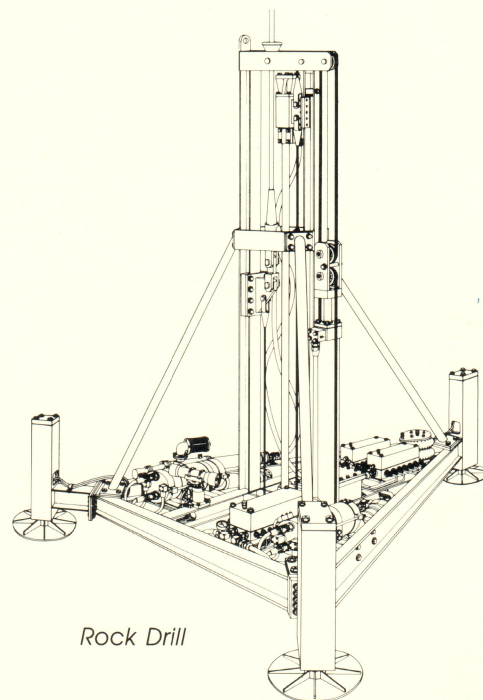
Sea MARC 1A Deployment from the R/V Atlantis II in the North Pacific.

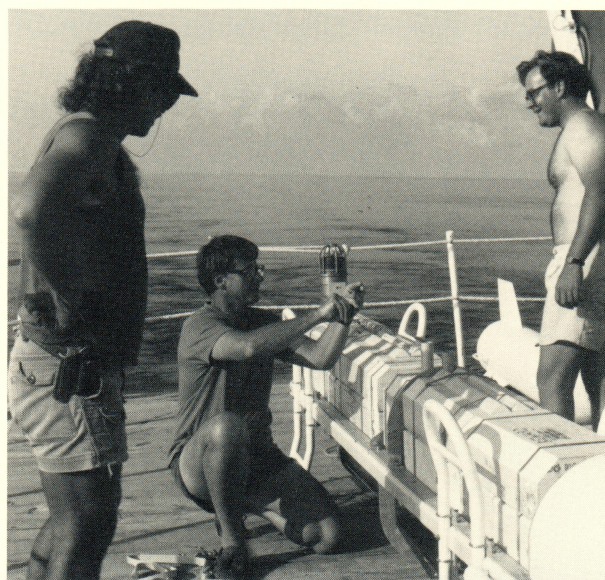


Research & Development

We provide research support to academic and governmental groups for data collection. For example, IDSS has supported the University of Washington, Oregon State University and NOAA in deep ocean investigations of seafloor spreading sites.

A project now underway with National Science Foundation and U.S. Navy support is the development of a deep ocean rock coring device. This drilling machine is being designed to recover 3-meter rock cores while being operated from a wide range of research vessels.





Williamson & Associates specializes in projects that often require an innovative approach as well as the application of sophisticated instrumentation. These projects require modification of existing equipment and the development of new instrumentation. Our research and development support these operational needs for our clients.



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