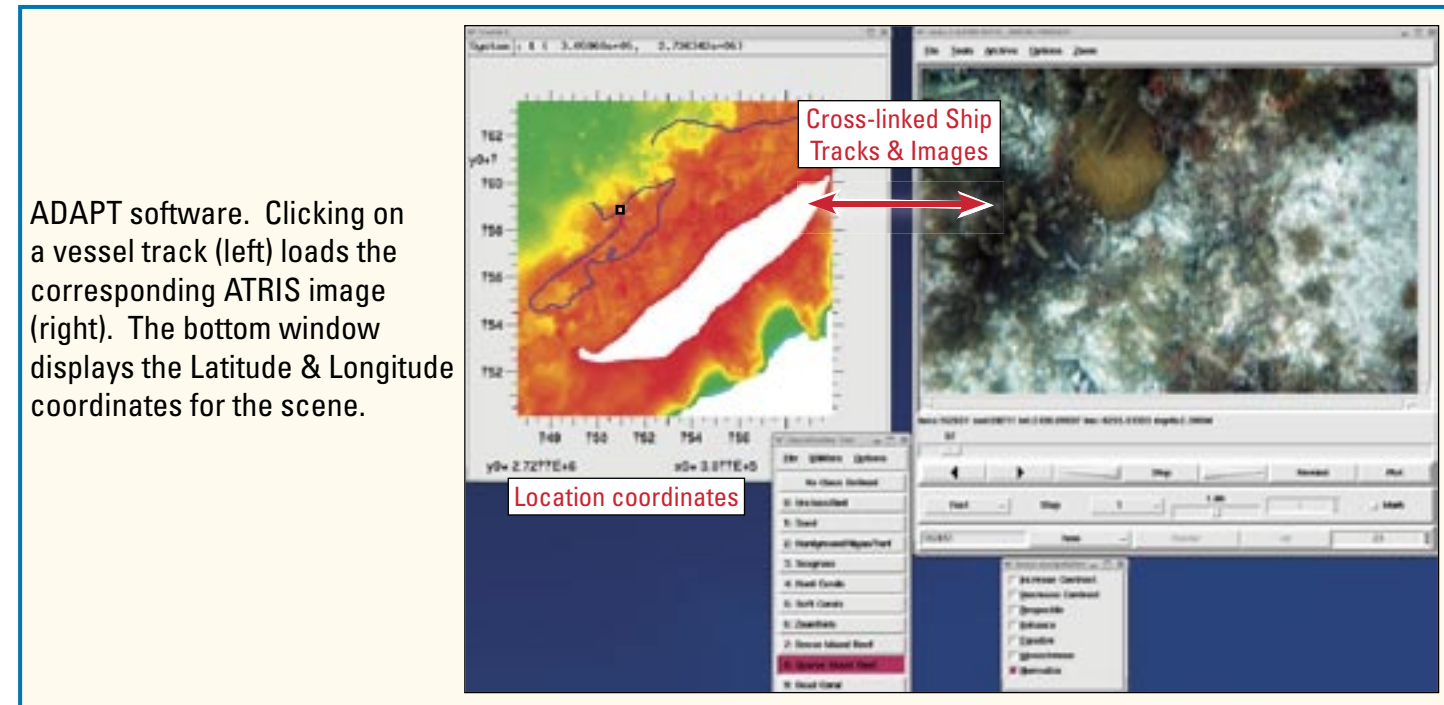


ADAPT Software

Complementing the acquisition system is the ATRIS Data Analysis and Processing Tool (ADAPT) software package. ADAPT makes it easy to examine and analyze the massive amounts of data collected on a typical ATRIS mission. ADAPT is based on open-source LINUX software and enables interactive geographic browsing, scaling, and extraction of specific images for further quantitative analysis. With the integrated Hypack navigational software component, vessel tracks can be plotted, allowing for spatial navigation of the images. Clicking on a point along a track loads the corresponding ATRIS image.



ADAPT software. Clicking on a vessel track (left) loads the corresponding ATRIS image (right). The bottom window displays the Latitude & Longitude coordinates for the scene.

Specifications

- Camera: 12.4 Megapixel
- Geo-location accuracy: >~50cm
- Depth sounder accuracy: ~1cm
- Operating depth range: 3-10m
- Power: 2 kW AC provided by portable generator.
- Boat: 25' with dry cuddy cabin. Room to mount ATRIS on transom.

Collaboration Opportunities

Work with us! The USGS actively seeks partnerships to foster further development and application of the ATRIS. Projects involving benthic habitat mapping and/or monitoring will benefit from the geo-located imagery collected with ATRIS. Join the growing ATRIS community!

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U.S. Geological Survey
600 Fourth Street South
St. Petersburg, FL 33701
(727) 803-8747

Along-Track Reef Imaging System (ATRIS)

The U.S. Geological Survey has developed the Along-Track Reef Imaging System (ATRIS), a boat-based sensor package for rapidly mapping shallow water (<10 m) benthic environments. ATRIS acquires high resolution, color digital images that are accurately geo-located in real-time. For a typical mission, 1,000 ATRIS images are captured per hour at a survey speed of 1 knot.

Features

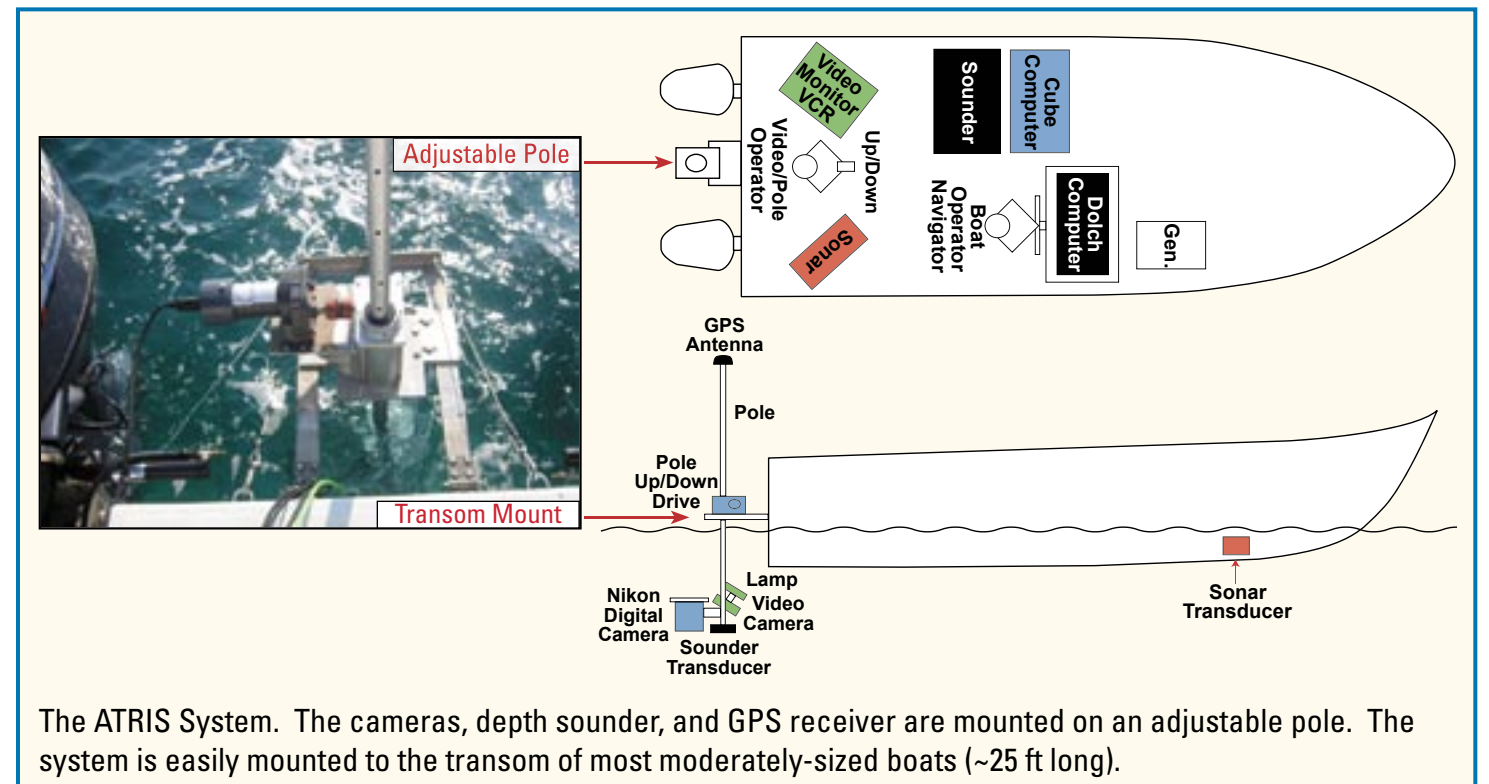
- Geo-located, scaled digital images
- Easily deployed from small boats
- Frame-of-reference video providing an oblique view
- Interactive, geographic browsing of boat position and acquired images

Applications

- Mapping
- Monitoring
- Habitat classification
- Change detection
- Impact assessment

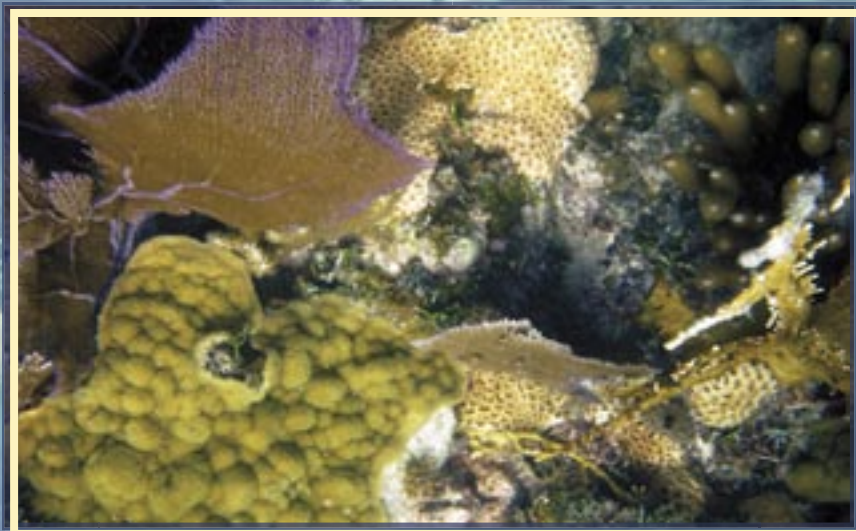
Ongoing Development

- Unsupervised classification algorithms
- Topographic complexity estimation
- Database with web-interface

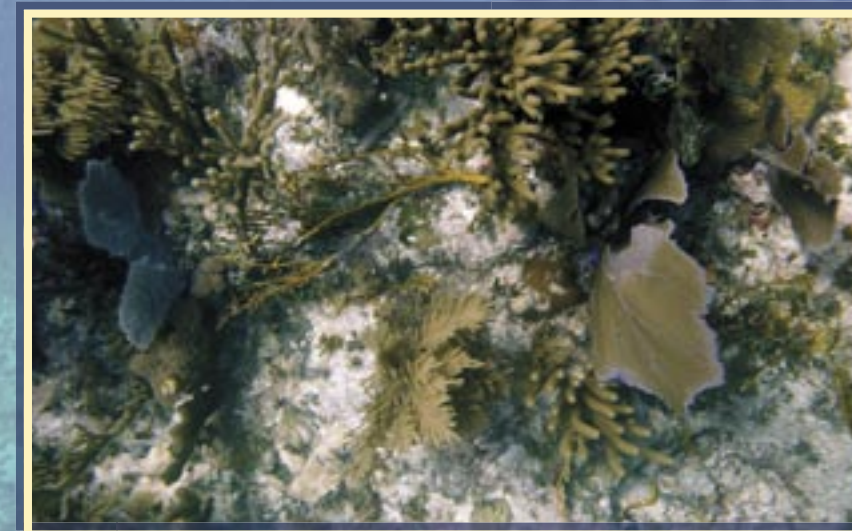


The ATRIS System. The cameras, depth sounder, and GPS receiver are mounted on an adjustable pole. The system is easily mounted to the transom of most moderately-sized boats (~25 ft long).

Hard Coral



Soft Coral



“ATRIS = Advanced Benthic Mapping”



Seagrass



Rubble

Fort Jefferson
Dry Tortugas, Florida