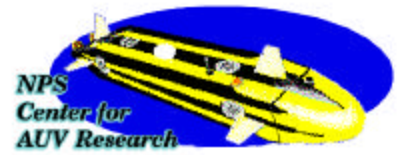


Office of Naval Research



ARIES *Acoustic Radio* *Interactive Exploratory Server*



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The ARIES AUV is under development as a communications server vehicle. The vehicle is an outgrowth of the Naval Postgraduate School (NPS) Phoenix AUV which has been used as a test bed for AUV control systems and Command and Control research. The vehicle is also used to develop low cost underwater navigation capabilities using DGPS when surfaced. When equipped with an underwater video camera, it may be used as a reacquisition and ID vehicle for minelike contacts. In particular, when surfaced, it both corrects navigational error and acts as a communications server for file transfer and underwater vehicle redirect. Extended operating range are obtained using communications links through an aerial relay vehicle (Pelican).

The vehicle has a top speed of almost 4 knots, an operating depth of 50 meters, and an endurance up to 4 hours with the current battery set. It has a bottom following capability, track following, and (to be installed) a station keeping and bottom sitting capability.

Physical Characteristics:

Length 120" (304 cm)
Width 10"x16" (25x 40cm)
Weight 490 lbs (220 kg)

Sensor Packages:

Acoustic Doppler Current, Video
Camera

Navigation Means:

Acoustic Ground Locked
Doppler, IMU, Compass, Dead
Reckoning, GPS correction
when surfaced

Dynamic Tracking:

When surfacing

In Development:

Acoustic Communications,
Communications Network
Server