

## FUMAGES

- Undersea Observatories
- Event-detection systems
- Nearshore, shoreline, shallow water, high-energy: sampling, imaging and monitoring.
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## FUMAGES Comments

From page 204

Field Programs:

- . there is evidence of a significant decline in the U.S. number of facilities supporting the needed field programs, including those for collecting .
- . recent data may have suffered because of inadequate technical support and system maintenance
- . given lack of consistent support for important information needed to support field related programs
- . equipment is expensive . irregular scheduling . technicians often on bench for long periods
- . Release on a single 'recharge' system does not work efficiently, as this may cause additional highly trained technicians to withdraw, three or more months for the old cause and the new project.

## APROPOS (Physical)

- High capacity, shallow draft coastal vessels are needed most urgently. (pg. 21).
- AUV's and ROV's will change requirements but require ships.
- More SOO's and VOS's for long term data sets.
- Sensors on merchant ships.

## Ocean Ecology (OEUVRE)

- I couldn't find any recommendations.

## FOCUS - Chemistry

Facilities that provide access to the sea, including the UNOLS Fleet can be one of the most expensive components of oceanographic research, and facilities must be used efficiently. The chemical oceanography community generally recognizes this.

In some cases, this recognition can negatively impact small science programs that need to work in remote areas or during bad weather. This type of science may produce a small science party on a large ship, or it may involve long transits for relatively few science days. Several steps can be taken to mitigate this type of problem.

First, the funded and proposed plans for ship uses should be widely distributed. Publication of these data in an easily accessible format on the Internet is under development by UNOLS and should be continued.

Second, scientists should be encouraged to review these ship requests, particularly if they plan to operate in remote areas, to see if it is possible to combine science parties or otherwise enhance efficient use of ships.

Efforts such as these will reduce costs of providing facilities support and increase the proportion of funds that can be used to support the basic science.