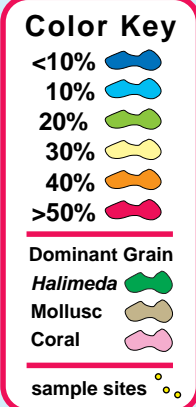




Open-File Report 97-453
Plate 1



A
Key West

American, Maryland, and Pelican Shoals; Eastern Sambo and Eastern Dry Rocks reefs

B

Dominant Grain

C

inner platform
outer platform
platform margin

Percent Halimeda

Percent Mollusc

D

Percent Coral

<10%
10-29%
30-49%
20-65%
30-65%

E

declining reef corals
senescent reef corals
healthiest reef corals

Coral Vitality

major tidal passes

The USGS serves the Nation by providing basic, objective, and informative scientific knowledge on Earth history and processes, and on human impact on resources. Two of the most effective ways are through descriptive and interpretive maps and through the USGS marine home page on the World Wide Web (<http://>

The maps show contoured data obtained through petrography which is the microscopic examination of resin-impregnated thin sections of sediment (or rock) to identify grains and determine percentages. (A) Upper Keys sands are dominated by grains of *Halimeda* or mollusc. Middle and lower Keys sands are dominated by grains of *Halimeda* or coral. The most important percentages are those of coral grains. (B) *Halimeda* grains are generally most abundant on the inner platform. (C) Mollusc grains are most abundant near the margin off the upper Keys but on the inner platform to the southwest. (D, E) Healthiest reefs are protected by the linear island of Key Largo, where coral sand grains are <10%. The least healthy reefs lie off the wide tidal passes. Reefs off narrower passes in the lower Keys are generally perceived as declining. Coral grain percentages are highest along the outer margin of the middle and lower Keys. There is a direct correlation between reef health, location off islands or tidal passes, and the coral fraction of the sand.