

## Using AVHRR Imagery To Study Suspended Sediment Transport & Chlorophyll-a Concentrations in Galveston Bay

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**T**OTAL SUSPENDED SOLIDS, ALONG WITH CHLOROPHYLL-A CONCENTRATIONS are important components of the Galveston Bay waters. However, acquiring sufficient in situ measurements to characterize a water body as large as Galveston Bay is very difficult. This study seeks to overcome this problem by acquiring ground truth from throughout the bay which is then correlated to representative pixels of a remotely-sensed image. Imagery from the NASA AVHRR satellite is the remotely-sensed data being used in the study. Once the correlation is established, only AVHRR data will be needed to study changes in suspended solid and chlorophyll-a concentrations. This information will aid various agencies in understanding the origin, transport, and impact of sediment in the Bay. Furthermore, because AVHRR data have been archived for over two decades, historical trends in suspended sediment and chlorophyll-a concentrations can be established.



**NASA PHOTOS**—Dr. Theron Sage seeks to correlate in situ measurements of total suspended solids and chlorophyll-a with remotely sensed imagery acquired real time. She heads a team of NASA researchers and UHCL students who acquire ground truth data that is then correlated to NASA remotely sensed data acquired through AVHRR.



**TESTING THE WATER**—Prof. Theron Sage (kneeling) and UH-Clear Lake student Julie Duane, a senior in environmental science, examine water quality and sedimentation in a bayou within the grounds of the UH-Clear Lake campus.



**TEAM EFFORT**—Julie Duane, UHCL sr. (*l.*), Dr. Theron Sage (*c.*), and Dr. Kamlesh Lulla (*r.*) review satellite images of Galveston Bay and compare data in the photo with the analyses of in-situ samples taken in Galveston Bay.

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