

The Lazarette Gazette

NEWS FROM

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MARINE SCIENCE INSTITUTE
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In this issue of Lazarette Gazette — Bob Jones: **Holiday greetings.** cover
\$1,727,000 to MSI Researchers: **Grants & Contracts — 1992** p. 2
Rick Tinnin: **Gulf of Mexico Symposium** p. 3
Don Gibson: **Project R/V 2000** p. 12
Regular sections: **trip reports & travel — p.3, seminars — p.6, egabrag wocs — p.6, marine education services — p.7, letters to the editor — p.8, tony's tidings — p.9, personnel — p.11, cruise reports & boat operations — p.14, editor's note — p.14**

Director's Report

It is my pleasure to extend to all our readers best wishes for a joyous holiday season as well as for a happy and healthy New Year from all of us at UTMSI.

In past years we have sent greeting cards at this time of year to our Advisory Council members, UT System-wide administration and colleagues, Southern Association of Marine Laboratories members, granting agencies, Port Aransas officials and friends, colleagues of our principal investigators, and other friends of the Lab, totalling approximately 300 cards.

We feel that sending these greetings is important, but as the holiday season approached, we wondered if this might be the year we would have to forego this *extra*. But we had a brainstorm!!! The *Lazarette Gazette*, not quite a year old, could possibly provide us with a different sort of vehicle to spread our season's greetings. Editor John Thompson enthusiastically agreed; therefore, here is a special Holiday edition of UTMSI's *LazGaz*! Hope you enjoy it!

HAPPY HOLIDAYS!!!

--Robert S. Jones

Atnas Egabrag Wocs

SURFBOAT SANTA (or Christmas in Port Aransas)

WHO VISITS OUR SMALL ISLAND TOWN EACH HOLIDAY SEASON
HE'S A SALTY SAINT NICK
BUT HIS MIND LOST ITS REASON

— SURFBOARD SANTA



WHO BRINGS US GIFTS FROM THE DEEP AND BRINY
ALL COVERED WITH SEAWEED
AND GRITTY AND GRIMY

— SURFBOARD SANTA



WHO BRINGS US THE NAUTICAL GIFTS THAT WE GET
ALL NEATLY WRAPPED
BUT SOGGY AND WET

— SURFBOARD SANTA



WHO IS IT ON CHRISTMAS WE TRUST
TO BRING US SOME GIFTS
BEGINNING TO RUST

— SURFBOARD SANTA



HIS GIFTS COME FROM UNDER THE SEA
THEY'RE COVERED WITH BARNACLES
PLEASE HANDLE VERY CAREFULLY

— SURFBOARD SANTA



HE'S A FABULOUS BEING, A SANTA RENOWN
WE ONLY HOPE
THE POOR MAN WON'T DROWN

— SURFBOARD SANTA



Grants & Contracts — 1992

\$1,727,000 was awarded to MSI researchers in calendar year 1992, primarily by federal agencies.

Department of Energy

- ☆ **R. Benner**, "Dissolved Organic Matter and Heterotrophic Microbial Activity," Subcontract via Louisiana Universities Marine Consortium, MSI-92-1/Project 6740132, 05/92-04/94 (Yr 1 of 2).

Environmental Protection Agency

- ☆ **K.H. Dunton**, "Development of Water-Quality Criteria for Protection of Coastal Seagrass Communities," X-996025-01-0, 10/92-03/94.
- ☆ **P. Thomas**, "Assessment of Endocrine Indices as Early Warning Indicators of Reproductive Impairment in Female Fish Exposed to Pollutants," R816023-02-0, 07/92-06/93 (Yr 3).

Minerals Management Service

- ☆ **P.A. Montagna**, "Gulf of Mexico Offshore Operations Monitoring Experiment: Phase I—Sublethal Responses to Contaminant Exposure," Subcontract via Texas A&M Research Fdn/GERG, RFP3582, 09/92-10/93 (Yr 1 of 3).

National Institutes of Environmental Health Science

- ☆ **P. Thomas**, "Endocrine Effects of Reproductive Toxins in Female Fish," #2401-ES04214-06, 03/92-02/93 (Yr 3 of 5).

National Oceanic & Atmospheric Administration

- ☆ **A.F. Amos**, "Marine Turtles", via National Marine Fisheries Service, P.O. 40WCNF202493, 04/92-08/92.
- ☆ **C.R. Arnold**, "Evaluation of Commercial Feeds and a High-Density Closed System for the Production of *Penaeus setiferus*," Sea Grant College Program via Texas A&M University, 09/92-08/93.
- ☆ **R. Benner**, "Organic Matter Decomposition, Nitrogen Recycling, and Oxygen Depletion in the Mississippi River Plume/Gulf Shelf Region," Coastal Ocean Program via Sea Grant College Program at Texas A&M University, NA990AA-D-SG689; Ltr Agmt Amnd 05/18/92, 06/92-05/93.
- ☆ **K.H. Dunton**, "Seagrass Habitat and Its Management in Texas Estuaries: Effect of Extended Periods of Low Light," Sea Grant College Program via Texas A&M University, 09/92-08/93 (Yr 2 of 2).
- ☆ **L.A. Fuiman**, "Juvenile and Adult Fishes as Predators on Red Drum Larvae in Texas Bays," Sea Grant College Program via Texas A&M University, 09/92-08/93 (Yr 2 of 2).
- ☆ **L.A. Fuiman**, "Otolith Calcium Concentrations as Indicators of Reproductive History in Red Drum (*Sciaenops ocellatus*)," Sea Grant College Program via Texas A&M University, R/F-54 (NA16RG-0457-01), 02/92-08/92.
- ☆ **G.J. Holt, P. Douillet**, "Role of Microbial Ecology in Larval Fish Nutrition," Sea Grant College Program via Texas A&M University, 09/92-08/93 (Yr 2 of 2).
- ☆ **C.A. Suttle**, "Isolation of Viruses that Infect Toxic and Economically Important Phytoplankton," Sea Grant College Program via Texas A&M University, 09/92-08/93 (Yr 2 of 2).
- ☆ **P. Thomas**, "Role of Gonadotropins and Prolactin in Atlantic Croaker, Red Drum, and Spotted Seatrout," Sea Grant College Program via Texas A&M University, 09/92-08/93 (Yr 2 of 2).
- ☆ **R.K. Tinnin**, "Marine Educations: An Interdisciplinary Approach to Minority Science Programs," Sea Grant College Program via Texas A&M University, 09/92-08/93 (Yr 2 of 2).

- ☆ **P. Thomas**, "Field and Laboratory Evaluation of Endocrine Indices of Reproductive Dysfunction in Atlantic Croaker," Coastal Ocean Program via Sea Grant College Program at Texas A&M University, 10/92-09/93 (Yr 2 of 3).
- ☆ **T.E. Whittedge**, "Buoyancy and Nutrient Exchange in the Mississippi River Outflow Region," Coastal Ocean Program via Sea Grant College Program at Texas A&M University, NA990AA-D-SG689; Ltr Agmt Amnd 05/18/92, 06/92-05/93.

National Science Foundation

- ☆ **A. F. Amos**, "Research on Antarctic Coastal Ecosystem Rates (RACER): Mechanisms of Bloom Formation and Decline—Physical Oceanography," DPP8907287, 04/92-03/93 (Yr 4 of 4).
- ☆ **R. Benner**, "Characterization of Dissolved Organic Matter in Seawater by Ultrafiltration and Major Biochemical Analysis," OCE9102407-A1, 05/92-04/93 (Yr 2 of 3).
- ☆ **R. Benner**, "Bacterial Carbon Metabolism in the Amazon River," Subcontract from University of Washington, 519393, 03/92-08/93 (Yr 1 of 2).
- ☆ **K.H. Dunton**, "Photosynthetic Performance of *Laminaria solidungula* and *L. saccharina* in the High Arctic: Adaptation to Very Low Light Levels Under Winter Ice," DPP9000605, 05/92-06/93 (Yr 3 of 3). UT Acct 26-1098-36.
- ☆ **C.A. Suttle**, "Marine Viruses Infecting Phytoplankton: Host-Specificity, Temporal Variability, Decay Rates, and Effects on Natural Phytoplankton Communities," OCE9018833, 03/92-02/93 (Yr 2 of 2).
- ☆ **R.K. Tinnin**, "Minority Participation in Southern Marine Laboratory Research, Academic Programs, and Field Activities," Subcontract from Gulf Coast Research Laboratory, GCRL-02-3309A1/OCE90-15768, 01/92-02/93 (Yr 2 of 2).
- ☆ **J.H. Thompson**, "Shipboard Scientific Support Equipment," OCE-9122951, 05/92-04/93.
- ☆ **J.H. Thompson**, "Ship Operations—R/V Longhorn," OCE9207130, 02/92-03/93.

Office of Naval Research

- ☆ **C.A. Suttle**, "Infection of Bioluminescent Plankton by Viruses and Genetic Diversity in Marine Viruses," N00014-92-J-1676, 05/92-12/93.

Other Sources

- ☆ **L.A. Fuiman**, "Interrelationships Between Sensory Development and Habitat Change in Clupeoid Larvae," (Fellowship Support of Dennis Higgs), Sport Fishing Institute/Electric Power Research Institute, SFI/EPRI9202, 01/92-12/94.
- ☆ **J.H. Thompson**, "Ship Time—R/V Longhorn," Texas A&M University/Texas Institute of Oceanography, IAC[92-93]1189, 01/92-08/92.
- ☆ **T.E. Whittedge**, "Biological Monitoring of the Effects of Diverted Inflow and Return Flows into Nueces Bay—Phase II," South Texas Water Authority, Ltr 05/11/92, 02/92-11/92.

Trip Reports & Travel

Gulf of Mexico Symposium — The University of Texas Marine Science Institute was represented at the *Gulf of Mexico Symposium* in Innisbrook, Florida, December 10—13 by Ed Buskey, Tony Amos, and Rick Tinnin. All three presented invited papers. Rick's presentation included slides of his teacher workshop programs and the short *University World* video of his R/V KATY student class trips. This was a unique conference. Over 2,000 scientists, federal and state environmentalists and a whole host of classroom teachers and students spent three days listening to technical, educational and student presentations which focused on the Gulf of Mexico, *America's Sea*. What impressed me the most was the participation of the

teachers and their students in the sessions. The students, especially, were thrilled to have the opportunity to interact with researchers and educators from around the Gulf. I heard many comments from the researchers expressing both surprise and appreciation for the enthusiasm, attention and involvement of the teachers and their students. Friday evening, about 700 participants were hosted by Anheiser Busch at nearby Busch Gardens where we literally had the park to ourselves. We were treated to a performance of their unique ice show, a train ride through the fourth largest zoo in the U. S. (it was dark and most of the animals were either asleep or wondering who this train load of rowdies was disturbing their quiet evening under a full moon!). We enjoyed a dinner of ribs and chicken and were entertained by a Bush Garden Jazz band, and an environmental troubadour, Bill Oliver. We then chanced our meal on the *Scorpion*, an incredibly fast roller coaster with a vertical 360 track for starters! The conference ended Saturday afternoon and everyone is looking forward to the next one in two years. This was a fitting end to the celebration of the *Year of the Gulf of Mexico*.
—Rick Tinnin

December 5—18 travel —

- ➔ *Bob Jones*, December 8—16, Honolulu, Hawaii, to attend a meeting of the Western Association of Marine Laboratories.
- ➔ *Tony Amos*, December 9, San Antonio, to present a program *Krill: It fed the whales, will it now feed man?* on the Ti-In National Television Educational Network.
- ➔ *Rick Tinnin*, December 10—13, Tampa, Florida, present an invited paper *Marine Education Field Experiences for Teachers and Students* at the *Gulf of Mexico Symposium*.
- ➔ *Ed Buskey*, December 9—12, Tampa, Florida, present an invited paper *Impact of a persistent "Brown Tide" Algal bloom on the Laguna Madre of South Mexico* at the *Gulf of Mexico Symposium*.
- ➔ *Tony Amos*, December 10—12, Tampa, Florida, present an invited paper *Fifteen years in the life of a Gulf Barrier Island Beach* at the *Gulf of Mexico Symposium*.

Where's the Triangle? (or, They All Drive on the Wrong Side of the Street!) [Third possible title: *Hayden's Big Adventure—Part One. —Editor*] Traveling to exotic ports as part of a ships company aboard a research boat is probably one of the greatest romantic adventures one can imagine. Having been aboard the R/V Longhorn for 16 years now, I have had the opportunity to travel to many of the romantic ports of call in the lower Florida Keys, the Western islands of the Bahamas and the ever popular, international port o' call—Cocodrie, Louisiana. None the less, my greatest adventure aboard a research boat came this September, when I flew to Bermuda to serve as Master/Mate of the R/V WEATHERBIRD II, a converted 115' oil field utility boat owned and operated by the Bermuda Biological Station for Research.

All of the cruising we have done on the R/V LONGHORN to the Lower Keys and Bahamas had not prepared me for this wonderful treat. Located at 32 degrees 15 minutes North by 64 degrees 45 minutes West, I had not realized that Bermuda is actually considered a tropical environment. Being constantly warmed by the Gulf Stream, a lush tropical vegetation has sprung from the old volcanic/dead coral reef soil.

The airliner approached the island from the Northwest quadrant and did a slight banking turn back to the Southeast, rewarding me with my first glimpse of my new home island for the next three weeks. The Royal Naval Dockyards and the city of Hamilton loomed ahead and the entire Northerly reef system that forms the perimeter of the island could be seen in the clear tropic blue water as we made our final landing approach into the airport near St. George's.

After helping the driver throw my bags in the trunk, I casually walked to the passenger side door and was greeted with a *Na, Na Mate, Yoour seeats on the oother soide* from the cabby. Slightly embarrassed, I

jumped into what we would consider our driver's seat and we proceeded to the BBSR station. Now let me tell you that a 6'3" Texan who is used to the wide open spaces and big trucks can get mighty upset when crammed in a very small subcompact taxi that is driving down the "wrong side" of a very narrow road at 40 mph. However, we did arrive at the BBSR with no difficulty (everyone else was driving on the wrong side of the street, too).

The BBSR, founded in 1926, has a truly spectacular grounds. Located on the North side of Ferry Reach, the grounds cover almost 5 acres of lush tropical foliage with buildings, labs and housing complexes (which were originally a grand hotel of the 20's era) all nestled between the greenery. Following the narrow winding road around the back of the main building, I found the *R/V WEATHERBIRD II* securely tied to the dock in Ferry Reach. As it was Saturday, no one was on board so I made myself at home in the Mates stateroom and prepared for the upcoming cruise on Monday.

The sound of activity from the back deck roused me from the new found security of my bunk and I arrived on deck to meet several of the science staff preparing for the Monday cruise. Pleasantries were exchanged and a brief description of the local points of interest within walking distances were learned from my newfound "mates". One of the more highlighted and acclaimed points of interest seemed to be the "Passing Wind Lounge" (a small bar operated by BBSR to defray the cost of the very expensive libations in town for its staff, guests and visiting scientists) which was located not more than 100' from where we stood on the back deck of the Weatherbird.

Deciding to forego the "Wind", as the bar is referred to, I grabbed my camera and headed out the winding road of the station towards the main road to St. George's in search of adventure, new friends or perhaps a cold beer if all else failed. Near the gate, I happened upon Linda, whom I had just met assisting her scientist/husband load his gear on the boat. She was taking her evening sunset walk down to the old railway trestles on the west end of Ferry Reach. I tagged along with her as we headed westerly down the dilapidated railbeds of the old Trans-Bermuda railway. She informed me that she did all of the coordinating and scheduling for the Elderhostel groups that stayed at the BBSR. We continued our westerly walk and talk as the sun slowly sank into the mirrored blue waters of the Atlantic. I learned much of the climatic, geological, botanical aspects of Bermuda as well as some of the local backgrounds and lore of the old island families and local inhabitants on this leisurely tour. Somewhere east of Whale Bone Bay we turned around to return to BBSR as the sun had just set. Our turnaround spot was the crumbling old train waiting station that the New York Astor family had built for its aristocratic, ringlet-haired, parasol-carrying damsels who would be brought down via a small rail personal train from the estate behind a lofty hill for their trip into Hamilton for a leisurely day at the cricket matches or rigged dingy races. We parted ways at the front gate of BBSR and I continued my walk into the town of St. George's where a pleasing little establishment caught my eye and the rhythmic thumping of a drum and guitar caught my ear. Enticed with the prospects of meeting a few of the local "blokes" and maybe having a few "pints", I entered the door of the Wharf Tavern. I accomplished both goals and threw an amazingly good game of darts.

I sailed as mate under Captain Lee Black, Monday the 28th, on the continuation of the Bermuda Atlantic Time Series four day cruise which originally started in the early 60's when Menzel and Ryther first occupied what is now station S of the expanded 25 station BATS/BBOP (Bermuda Bio-Optical Profile) program. CTD casts were taken to a depth of 500 meters and BBOP (transmissometry, dissolved oxygen and fluorometry) casts were taken to a depth of 200 meters. We occupied 22 of the scheduled 25 stations due to high winds and waves generated from hurricane Francis, which passed about 150 miles South of our southern most (about 90 nautical miles Southeast of BBSR) station. This was my first experience with the 15' high waves and 300' long fetch of the swells generated in the open ocean. I understand now why the Gulf of Mexico is referred to as "the pond".

Our second trip (a one day affair) departed BBSR on 05OCT92, myself again sailing as mate but in command of the boat as we left the dock and exited Ferry Reach through the "trestles" and exiting the "Narrows" through the reef system of St. David's Head into the open Atlantic. The cruise objectives would be to reoccupy the original Station S, mentioned before and to validate data gathered on the previous trip to Station S. CTD casts were taken to a depth of 2600 meters and several subsamples were analyzed from the water taken from the Niskin bottles attached to the rosette. This sea time was also utilized as a student training cruise. Several oblique plankton tows were taken at depths of 200 meters. During one of our tows we had the "fortune" to have an intersecting course with the *HMS SEPTRE*, a British submarine conducting surface operation drills about 1.5 miles off our starboard bow. Fortunately our one meter 333 micron plankton net didn't catch this particular piece of macronekton. --Hayden Abel
(Captain Abel serves as Mate aboard MSI's R/V LONGHORN; more of Hayden's Big Adventure next time.—Editor)

Seminars

Dr. James Cotner, Department of Wildlife and Fisheries, Texas A & M University, *Heterotrophic Bacterial Mediation of Ammonium and Dissolved Free Amino Acid Fluxes in the Mississippi River Plume* (November 20).

Dr. Sathy Naidu, Institute of Marine Science, University of Alaska, Fairbanks, *$\delta^{13}\text{C}$ Stratigraphy of Aleutian Basin Sediments: Evidence for Reconstruction of Holocene-Wisconsin History of the Bering Sea Region* (December 4).

David Rudnick, Microbiology Section, Cornell University, *Control of Dimethyl Sulfide Production in Aquatic Ecosystems* (Friday, December 18)

Egabrag Wocs

Scientific research? Many an activity in the name of science has been done at the Marine Science Institute with varying degrees of success. While I was a research associate (translation: gopher) at the Lab during the middle 60's, I had a lot of chances to participate in these projects. Sometimes I even volunteered.

One that comes to mind occurred in late spring of 1963 when a crew was organized to collect massive amounts of *Thalassia* plants from Redfish Bay to be transplanted to a large concrete pond located on the Lab property. Imagine six men with a small boat, and lots of metal washtubs, crossing the ferry and making a procession to a site located near a bait stand run by a crusty old lady along the causeway between Aransas Pass and Port Aransas. The boat would be unloaded from the truck, loaded high with washtubs, run out to the bay where we dug clumps of *Thalassia*, driven back to the bait stand, offloaded, reloaded again and repeated again many times through the hot spring day. We were hot and sweaty and covered with that sulfurous black bay mud.

The owner of the bait stand watched our progress throughout the day. She finally couldn't resist making a comment about our labor and offered her advice: *How about you boys getting an education so you won't have to work so hard?* The tired muddy sunburned crew members could only laugh at her remark. They included Howard Odum, Robert Beyers, B. J. Copeland, John Thompson, Ray McKnight, and Bill Gillespie. Maybe she was right!

--Bill Gillespie
(Bill Gillespie was born and raised in Port Aransas. He worked for MSI for several years during the 1960's. He is married to Terry Seelye, M.A., 1968. Bill and Terry both teach science in suburban Chicago--Editor)



12 Days of Christmas on the Flats — An oyster on the half shell, 2 periwinkles, 3 spoonbills, 4 blue-eyed scallops, 5 golden croaker, 6 rails-a-clapping, 7 willets wading, 8 redfish tailing, 9 porpoise leaping, 10 crabs-a-fiddling, 11 mullet jumping, 12 osprey fishing.

(Thanks to Cameron Pratt for this special 12 days of Christmas. Cameron works with Scott Holt at MSI and has lots of opportunity to observe life on the flats, but she has even more opportunity living at Charles Butt's Lighthouse on Harbor Island with husband/lighthouse keeper Rick Pratt.—Editor)

Marine Education Services

Arkansas students introduced to the Gulf of Mexico — The *R/V KATY*, which is the usual vessel scheduled for visiting groups, was out of service for a few days for engine overhaul. This is one of our busy times of year, but we were able to reschedule for the following week and take care of everyone except for one student group from Fayetteville, Arkansas. This group was rescheduled to the *R/V LONGHORN* on very short notice thanks to the cooperation of Senior Captain Gibson and crew. The group was very excited about going on the *big boat* offshore (we ordinarily limit our student voyages on the *R/V KATY* to the calm inshore waters). It was a normal winter day on the Gulf, and most of the students spent the time revisiting with their breakfast as it passed over the leeward rail. Jeff Heimann assisted the *R/V LONGHORN* crew and carried out the normal full suite of sampling including water, plankton, trawl, and bottom grab for those who were still in the vertical mode. Even the most sea sick enjoyed the trip and the offshore experience.

—Rick Tinnin

Hispanic Minority Workshop — Captain John Turany and Jeff Heimann took the *R/V KATY* to South Padre Island in support of a Hispanic Minority Workshop by Dr. Frank Judd, Director of the UT-Pan American Coastal Studies Laboratory. Thirty participants from valley colleges and universities attended presentations by the UT-Pan American faculty in the morning and then braved a 35 mph norther with drizzle aboard the *R/V KATY* in the afternoon. After collecting plankton, a mud sample and an otter trawl, Dr. Judd said *uncle* and the crew returned to the dock. John and Jeff motored to Port Mansfield in the teeth of the norther Saturday evening, and then returned to Port Aransas on Sunday, December 6.

—Rick Tinnin

Oceanography Explorer Post? The Gulf Coast Scout Council reports that many South Texas High School Students would be interested in joining a Scout Explorer Post which has an emphasis on Oceanography. The Scout Council surveys high school students to determine what career or subject area posts they would like to join. Marine Science and Oceanography are areas often mentioned. Exploring is open to high school aged students, both boy and girl. The Scout Council wishes it could have an Oceanography Explorer Post. To have a post at MSI, one person to be the Advisor (adult leader) would be required, plus two or three assistant advisors. For more information, contact John Thompson.

Abstract: "Marine Education Field Experiences for Teachers and Students" — (presented at the Gulf of Mexico Symposium—see travel section) The University of Texas Marine Science Institute, through the Marine Education Services (MES) program, provides opportunities for over 800 classroom teachers and over 9,500 of their students to gain first-hand experience with the marine world each school year. The students participate in a research cruise aboard the 57' *R/V KATY* where they collect water samples and determine salinity, temperature and oxygen levels at different depths, collect plankton samples and view them through a video microscope, wash and pick through samples of the benthos and sort through, identify and compare trawl samples from different depths and stations in the bays and channels adjacent to the marine laboratory. Another MES program targets classroom teachers and provides opportunities for all level teachers to come in contact with research scientists, marine educators, exemplary classroom curricula, field experiences and teaching strategies. The objectives of the weekend workshops are to improve their content

and pedagogical knowledge of marine science and specifically the Gulf of Mexico, to train them in field experiences so they can lead their classes into the field, and to provide them with an appreciation of the interdisciplinary nature of the study of the ocean, a theme which crosses all traditional subject boundaries.

—Rick Tinnin

January Movie Schedule for the Visitor Center —

MONDAY

■ **11 a.m. - Dolphins:** (14 min) There is a great deal to be learned about dolphins. This film will give you a glimpse of dolphin behavior and you will witness the birth of a bottlenose dolphin.

■ **3 p.m. - The Sharks:** (60 min) Takes you on a special expedition to study these fishes of fearful legend and challenge the myths surrounding them. Meet these living symbols of terror face to face and learn the truth about these creatures of the deep.

TUESDAY

■ **11 a.m. - Bullwinkle:** (26 min) The world's tallest oil drilling platform was built for Shell Oil and constructed at Ingleside, Texas. This magnificent rig was installed off the Louisiana coast and stands an impressive 1,615 ft high.

■ **3 p.m. - The Intertidal Zone:** (17 min) What kind of life thrives in the area between high and low tide?

WEDNESDAY

■ **11 a.m. - Plankton:** (12 min) These drifting organisms, many of them invisible to the naked eye, compose the essential link in the ocean's food chains. Without them, our oceans would be virtually lifeless.

■ **3 p.m. - The Flight of the Whooping Cranes:** (58 min) The salt marshes of the Texas Gulf Coast provides a winter home for the Whooping Crane. This species was almost driven to extinction.

THURSDAY

■ **11 a.m. - The Living Ocean:** (25 min) Explores the role of the oceans in the biosphere and shows how they formed. Also reveals how animals live in various habitats.

■ **3 p.m. - Flower Garden Banks:** (9 min) Over 100 miles off the coast of Texas are the northernmost coral reefs in the United States. These ancient reefs are a tropical underwater paradise for hundreds of species of fishes, invertebrates, and plants.

FRIDAY (no regular movie schedule for Friday)

Letters to the editor

■ *Thanks for preparing and sending Lazarette Gazette. I enjoyed reading it and hope that you will continue to include me in the distribution. I've enclosed a card with my current address.*

Although I seldom visit Texas, much less Port A, these days, I am able to keep in touch to some extent through phone calls to Pat Parker and through my involvement in the NOAA-funded study of the Mississippi—Atchafalaya River plume, in which UTMSI participates. The LazGaz provides a different and interesting perspective on the MSI.

—best wishes, John Calder

(John Calder, Ph.D., 1969. Senior Oceanographer, Program Development & Coordination, U. S. Department of Commerce, National Oceanic & Atmospheric Administration, Oceanic and Atmospheric Research, 1335 East-West Highway, Silver Spring, Maryland 20910, phone 301-713-2465 and fax 301-713-0666, OMNET: J. Calder.)

■ *I just received my first issue of the Lazarette Gazette and really enjoyed it. I think it is a great idea and I look forward to future issues. I wouldn't mind receiving past issues if it is not too much trouble.*

After leaving PA in 1970 I went to Florida State and completed a Ph.D. with John Calder (who as you know is another MSI alumnus and PLP's first doctoral student). I received my degree in 1974 and started work with the National Research Program of the US Geological Survey's (USGS) Water Resources Division. My first duty station was at the National Space Technology Labs in Mississippi (now the Stennis Space Center).

In 1980 I moved to Reston, Virginia to work on a study of the Potomac Estuary. Since 1989 I have increasingly moved away from doing useful work and into management. For the last 9 months I have been coordinator of the Global Change Hydrology Program of the USGS.

I thought I would relate the story of my first field trip at the MSI. It was the summer of '67. PLP and Bill Behrens scheduled a trip to Baffin Bay to do some coring and marine chemistry. We took off in the R/V MARCIA K, which was a converted cabin cruiser which had been donated to MSI by one of the Texas brewery families. Being a student I was impressed by the spacious accommodations and all the brass and teak. When we arrived at Baffin Bay we boarded the FLATCAT to do some coring. Afterwards we cruised around and looked at some of the salt pans and other oddities that the bay had to offer. Eventually we returned to the FLATCAT and noticed that it was riding a little low in the water. On closer inspection we realized it was sinking (apparently someone had left a hatch unsecured). Anyway Parker and Behrens, as the senior scientists, felt obligated to try and save her. They stripped to their skivvies and dove into the water and swam over to the fast disappearing FLATCAT. Bob Reimers, one of the students on the trip, had been a competitive swimmer in college. As I recollect he dove into the water after Pat and Bill had started chugging along and quickly passed them and eventually helped pull them on-board. Alas, their combined efforts were too late and the FLATCAT sank to the bottom. As we departed from the bay we could look back and see the derrick sticking out of the water. Needless to say I had high expectations for future field work at MSI, but nothing ever was quite as exciting as that failed rescue attempt.

In reference to the Great Taco Eating Contest, I didn't eat anything for the next 24 hours. However that next day I had to fly back to Tallahassee and as you can imagine the pressurization and depressurization at either end of the flight were rather uncomfortable experiences. Now that I am twenty years older I can only scarf down 5 or 6 at one sitting. I am going to proudly show my kids the Lazarette Gazette because they never have quite believed my rendition of the GTEC.

The Lazarette Gazette has brought back many other memories which I guess I should write down if only for my own amusement. Thank you for a pleasant morning of reminiscing.
—Dave Shultz
(David J. Shultz, M.A., 1970. MS 436, US Department of the Interior, Geological Survey, Reston VA 22092)

Tony's Tidings...



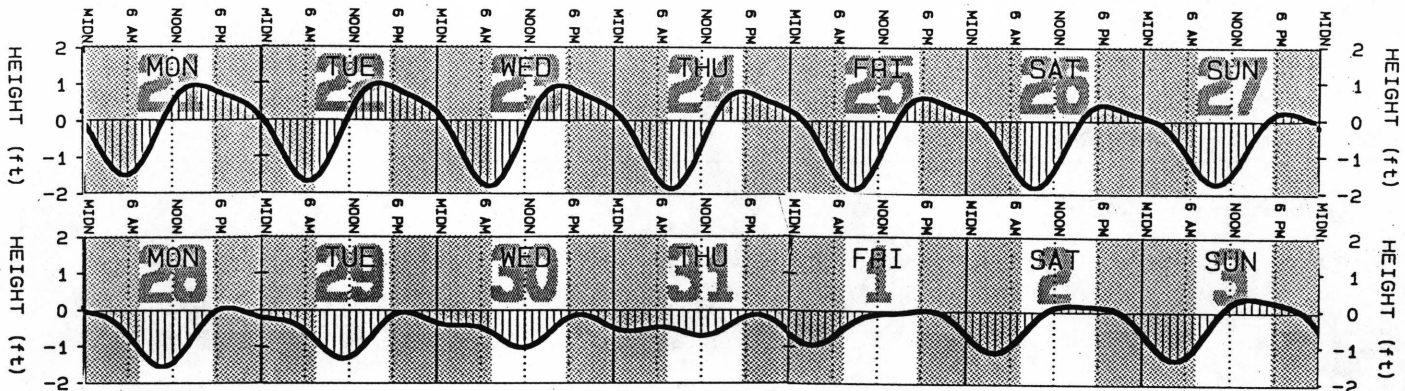
How I once spent Christmas Day (and I did this voluntarily!?). I was aboard the U.S.C.G. Cutter GLACIER in the Southern (extreme southern) Indian Ocean heading to the ice. It was 1978. I decided to do a REAL Christmas Bird Count, that is, one which took place on Christmas Day and would last for the entire day (24 hours, that is). I started at 4 in the afternoon ship-time to coincide with midnight Texas time. For the first period I stood on the GLACIER's bow and did not see a single bird. It was overcast and freezing. We were at 63°S, 152°E. By 6 pm the wind was blowing at 26 knots, but blue sky was beginning to show between the clouds. I started to see Antarctic Prions and Black-browed and Light-Mantled Sooty Albatross. At midnight I wrote "Wind stronger, whitecaps and foam streaks - thank goodness we are not in the troughs! Swell becoming organized." But there were compensations: "Sun less than one disc above the horizon - orange - beautiful." At 23 minutes past midnight, "Sun dipped below horizon,

slight green flash, iceberg off port bow, ship pitching heavily - spray enveloping vessel - fingers cold". At 3 in the morning (it was light enough with the sun set to see and count birds), "icing starting to form on ship's superstructure", and at 3:37 am, "Sun emerged from sea - several small green flashes as it moved

along the horizon. Spray making rainbows." Few people get to see green flashes at sunrise, especially multiple ones. Anyway, in all I observed for 20 hours in the 24-hour period, covering 250 nautical miles, saw 284 birds of 11 species (but couldn't find a single penguin!), and got the results published in the July 1979 issue of *American Birds*, along with the lead photograph in that Christmas Count issue.

—Tony Amos

Tide Predictions—December 21—January 3 (For tidal heights at the tide tower, South Jetty, the Aransas Pass. Heights are in feet above or below mean sea level. The shaded area is nighttime. Remember, this is tidal height, not tidal current. Slack water is when the wiggly line crosses the MSL line, not at peaks and valleys, where the tidal current will be a full flood or ebb.)



Great Blue Herons — As you may know, there is a volunteer effort at UTMSI to rehabilitate injured birds. The "Gazebo" in the turtle-palace area is almost never without one or more avian inhabitants, most commonly laughing gulls. One of our most familiar birds is the Great Blue Heron. It is also one of the most vulnerable local birds to injury caused by man. Quite slow in taking to flight, the Great Blue Heron is sometimes hit by cars on the highway, or even on the beach. It often gets entangled in fishing line around its legs and wings. Great Blue Herons are also among the most challenging birds to rehabilitate. First, they are big, strong and quite dangerous. The bill is formidable. To catch one is a job Andi Wickham, Chuck Rowe and myself do not look forward to. If they can fly, the job is almost impossible even though they may be hobbled with fishing line, hooks and lures. Their most common injury is a broken wing. By the time we are able to capture the bird, the wing is normally beyond repair and must be amputated. Local Veterinarian Mark Quade has performed several such operations.

A Great Blue Heron that cannot fly cannot survive in the wild. Our permits do not allow us to keep non-releasable birds and our facilities are inadequate to do that anyway. So we are faced with a choice: euthanasia, or find a legal home for a non-releasable bird. For the past many weeks the gazebo held two great-blues, both with one wing amputated. An adult with the wing gone at the shoulder and an immature with the wing amputated at the elbow. The adult was found floating in one of the ponds at our FAML laboratory several months ago. The immature was found on the beach in late August and was named Baby Huey because of its large size. One remarkable thing about this pair was that the young bird was considerably larger than the adult - possibly representing the extremes of sizes that the Great Blue Heron comes in.

We were about to despair over finding a home for either of those birds (we can only keep them legally for 90 days) when two offers to take them came in. The adult went to the Nature Center in Austin and the juvenile to the Gladys Porter Zoo in Brownsville. While someone from the Nature Center came down to get their bird, Chuck Rowe drove the huge juvenile down to Brownsville to deliver it to the Zoo where it is now part of a permanent outdoor exhibit. Thanks to the efforts of Chuck and Andi Wickham, those birds found a home.

—Tony Amos



Dear Santa, Please help the animals stop being injured by the negligence and stupidity of people. If you can't do that, help us build a larger and more efficient facility to rehabilitate these animals. The people of Port Aransas and Mustang Island rely on us to help all injured animals. Please send us a big pot of money so we can get UT to build a better gazebo, enclose the outdoor tanks so our big turtles don't freeze in the winter, build a nice protective fence so intruders (human and animal) cannot come in and harass or eat the animals, and improve the water circulation so that we don't grow tons of algae in the summer. If you cannot manage a big pot of money, a little one would do. We have been good girls and boys and this is all we want for Christmas.

—Andi Wickham

Weather Report—November 30—December 6

| 30 NOV - 6 DEC 1992 | MON | TUE | WED | THU | FRI | SAT | SUN | MEAN |
|---------------------|------|------|------|------|------|------|------|-------|
| DATE | 30 | 1 | 2 | 3 | 4 | 5 | 6 | |
| AIR TEMP HIGH | 65.6 | 59.1 | 62.2 | 70.1 | 71.4 | 53.2 | 49.2 | 61.5 |
| AIR TEMP LOW | 52.1 | 50.5 | 50.0 | 50.0 | 52.7 | 43.3 | 42.4 | 48.71 |
| SEA TEMP LOW | 62.7 | -- | 57.3 | -- | 62.9 | -- | 57.2 | 60.0 |
| RAINFALL TOTAL | 0 | 0.21 | 0 | 0 | 0 | 0.02 | 0.02 | 0.25 |

| 7 - 13 DEC 1992 | MON | TUE | WED | THU | FRI | SAT | SUN | MEAN |
|-----------------|------|------|------|------|------|------|------|------|
| DATE | 7 | 8 | 9 | 10 | 11 | 12 | 13 | |
| AIR TEMP HIGH | 60.2 | 66.5 | 73.5 | 77.7 | 65.8 | 70.3 | 70.5 | 69.2 |
| AIR TEMP LOW | 49.1 | 56.3 | 58.1 | 54.6 | 52.1 | 62.7 | 64.7 | 56.8 |
| SEA TEMP LOW | -- | 59.1 | -- | 58.0 | -- | 61.4 | -- | 59.5 |
| RAINFALL TOTAL | 0.03 | 0.16 | 0 | 0 | 0 | 0.02 | 0.02 | 0.19 |

—Andi Wickham

Personnel

Holiday mail and paychecks — If you don't have your pay sent to the bank by electronic mail, and you can't wait to see and hold it until the first regular day of work after the holidays, Monday, January 4—do not despair. Your friendly MSI office staff will have those paychecks available **Saturday, January 2, from 10 a.m. to noon.** The same congenial crew will be putting up the mail from time to time during the holidays, but not on a regular schedule.

Holiday emergencies or whatever — During the holidays our security patrol continues. In addition we will have a security person on duty between 8 and 5 during the weekdays. If a problem arises, contact security. If they can't solve it, they can probably find someone who can. In addition to our three regular guards—*Duffy Aldridge, Dennis Hendricks, Melvin Ervin*—our two reserve guards—*Javier Mendoza, Bruce Hendricks*—will also have duty hours. Jerry Clanton and associates will also be checking the building mechanical systems on a regular basis.

Ron Benner and Ed Buskey have recently been notified of their promotion to Associate Professor with tenure. Congratulations!!

John Smith returns to MSI for a few weeks as Research Fellow working with Peter Thomas. John (Ph.D., 1990) will be performing estrogen receptor assays on fish liver tissue to determine whether pesticides interfere with the estrogen receptor. John is now Adjunct Assistant Professor in the Department of Biology of the University of Tampa. John's wife, Jerilyn Jewett-Smith is also an MSI ex. (Ph.D., 1989). Welcome back!

Students "shadow" Dr. Holt — On Wednesday, December 2, two juniors from Carroll High School came to the FAML laboratory to work as part of their school's *shadow program*. Gabriela Ramirez and Bridget DeLeon are both interested in becoming marine biologists when they finish their education. Joan Holt was their sponsor for the day. Dr. Holt's staff (Cecilia Riley, Robin Brinkmeyer, Patti Pickering, and Patricia Serna) kept both students busy collecting zooplankton off the pier to feed larval fish, learning about rotifer production, using microscopes to monitor egg development and to count and identify zooplankton, and feeding the tropical fish.
—Joan Holt

Rini Budiantara received an early Christmas present. She was awarded a Student Travel Award from the *Society for Environmental Toxicology & Chemistry* to attend their annual meeting. Rini reports she learned a lot, met many interesting people, and had a good time.

Izhar and Najma Khan are the proud parents of a baby boy, Shariz, born December 10, 1992. Congratulations!

We heard Ronnie Revell bagged a big eight point buck over the Thanksgiving holidays. If you want to see a big smile, just ask him!

Kathy Binney is returning to work, at least partial time, although recuperating from major surgery. Fish picking is so much fun she just can't stay away.

Ned Smith will be making a short time return visit to Port Aransas to work with Russell Seguin and Terry Whitledge on further developments on the Underwater Nutrient Meter. Ned will be arriving about January 4 and departing around January 7. (Since the *LazGaz* goes to so many old timers, we should note that this "Ned Smith" is the Ned Smith who worked with Terry the last few years, not Physical Oceanographer "Ned Smith" who was a member of the senior research staff at MSI and is now at Harbor Branch.—Editor)

Dave Shultz — A last known address for Dave Shultz (Joe Morgan *et al.* should note the correct spelling of the last name) is: 12201 Sunrise Valley Drive, Mail Stop-430, U. S. Geological Survey National Center, Reston, VA 22090. (Thanks to Dick Scalan for the new address and correcting our spelling of David J. Shultz, M.A., 1970. Dick also notes that a Phantom Raisin was spotted atop a built-in book shelf in Warren Pulich's old lab in July of 1986, and what was probably the last of Brian Anderson's coke cans was removed from Parkers' outer office only three months ago.)

Congratulations to Jim and Terri Tolan! They brought Jessica Lynette by to meet everyone at MSI. Lots of oohs and aahs! She was born on November 9, 1992.

Project R/V 2000 — Don Gibson Comments

The subject of replacing both the R/V LONGHORN and the R/V KATY by the year 2000 with a single ship was a topic in a recent *Lazarette Gazette*. Is this practical? Can it be done? Will a 65-75 foot vessel accomplish all the work now being carried out by our current ships? These are some questions that come to mind. There would be certain things that R/V 2000 could not do that the R/V LONGHORN has done in recent years, i.e. the 15 foot rigid vibracore of TAMU, but projects such as this one are rare for the R/V LONGHORN.

On the bright side there are advantages to a single ship operation. Less maintenance cost. Cheaper overall operation costs. Less idle time or dock time.

What would this vessel look like? Only time will tell. The advances being made in the marine industry today will probably be obsolete in a couple of years, but here are a few ideas to throw on the table for some thought. Overall size? To steer clear of the new USCG regulations we should not exceed 78 feet for the new vessel as admeasurement regulations drastically change at the 79 foot length. I would think a beamy 68-72 foot vessel would be ideal. A vessel of this size could have a 4-6 day duration with accommodations for 6-8 scientists and a crew of three. This would be 24 hour open sea research. When used as a day vessel, as the *R/V KATY* is currently being used, she would be able to carry 35-40 students with an operating crew of two. The ship should be able to stern trawl, core, make CTD and other instrument casts, have the capacity to carry at least one 18 foot outboard boat on deck, do benthic grab sampling, and just about anything being accomplished by our current vessels. It would probably be restricted to shelf work within the 300 fathom curve as deck weight would have to be kept down, and the main deck winch would have a total capacity of about 3,000 feet of 1/2 inch wire and the hydrographic winch would hold about 2,000 meters of .322 conductor cable or 3,000 feet 1/4 inch hydro wire. Is a deck crane necessary? For day operations no, but it is really nice to have offshore. Ideally she would be of aluminum construction, twin screw with the capability to run light ship at about 18—20 knots and have as shallow a draft as feasible. Some consideration should be given to a *water jet* drive system. This would decrease the draft somewhat, and from recent *Workboat Magazine* articles, the system works. Sure there are some negatives in that reverse control would not be as good as the standard wheel and rudder setup, but in shallow water operation the jet would be beneficial on a larger vessel in that there are no obstructions underneath to worry about. Also a Water Jet, i.e. *OMNITHRUSTER*, bowthruster could be installed at a time of construction, thus improving overall vessel control. A 5-7.5 kw generator for scientific *clean power* would be a nice addition, and should eliminate power surges that often affect some science equipment on board ship.

As for the ship's electronics and navigation equipment, who knows what's on the horizon. The Coast Guard is currently installing transmitters to serve as ranging transponders for differential GPS systems, and I expect that everyone with the capability will be able to receive differential GPS within the next couple of years. I also expect to see new and cheaper methods of communications. The cellular telephone is now recognized by the USCG as a means of communications, and who knows what's next.

There seems to be an upsurge of interest by the National Science Foundation in coastal research and a *coastal lab* workshop is in the works for early 1993. One topic to be discussed is the design and need for a *Coastal Research Vessel*. Some feel that the NSF coastal vessel should be able to accommodate around 25 scientific personnel! Can you imagine the size ship and crew it would take for this many people? Better still, picture a vessel this size working in Corpus Christi or Baffin Bay, or any bay or estuary for that matter.

I feel considerable thought should go into this ship as an excellent opportunity exists to have an ideal vessel that would be very multi—purpose and could be a standard for others to follow. Just remember.....Ask for the Cadillac and you'll get the Chevrolet that you wanted in the first place.

--Don Gibson

(Senior Captain Don Gibson has been captain of the *LONGHORN* for 21 years; he also supervises other ship operations at MSI and serves as the MSI representative to the Research Vessels Operators Council.—Editor)

Cruise Reports & Boat Operations

R/V Longhorn continues in home port. We had one flurry of activity when we were contacted by the Aggies who are doing some of the *LATEX* work aboard their *R/V POWELL*. They had engine problems while in the middle of diving operations. After getting everyone on alert for a next day departure—including MSI Diving Officer Ken Dunton making the necessary paper arrangements to cover diving responsibility as defined in our membership commitment to AAUS (American Academy of Underwater Scientists), they were able to get their engine fixed quickly after all—*nevermind*. Actually, although this particular cruise did not work out, we have had many mutually productive and amicable cruises with these Aggie friends (TAMU's *GERG*, Geochemical & Environmental Research Group).

R/V Katy was in Port Isabel for the Hispanic Minority Workshop (see Marine Education Services) as well as having a heavy routine of visiting classes.

Small boat use November 21 — December 18 —

JEFFERSON — Ron Benner, 1 day.

KLEBERG — Scott Holt, 1 day.

KLEBERG — Terry Whitledge, 2 days.

BIG WHALER — Ken Dunton, 5 days.

BIG WHALER — Dean Stockwell, 1 day.

JET-AIR BOAT — Terry Whitledge, 2 days.

Editor's Note

Just to put your mind at ease, we have departed from tradition: *Surfboard Santa*, who is hauling up his soggy bag of toys in the masthead, is not intended to be a caricature of any particular person at MSI. On closer examination however, a certain portion of his anatomy does seem to resemble numerous members of the staff. If *The Night Before Christmas* had said *beer belly*—instead of *bowl full of jelly*—everyone would have already known that Santa was from Port Aransas, and we would not have needed our *Surfboard Santa* poem to tell you. Joe Morgan and I will probably never again put a "c" in Dave Shultz' last name: we now stand corrected by Dick Scalan, John Calder, and the elusive—taco—eating Shultz himself. It was a happy coincidence to receive letters from Dave Shultz and John Calder simultaneously. As Dave mentions, they were both students of Pat Parker and then Dave later got his Ph.D. with John at Florida State University. A special thanks to Don Gibson for his work on *Project R/V 2000*. Note that we would be pleased to have others join this forum. We did not (and I don't think he did until now) realize that Hayden Abel would be such a prolific writer. I hope you enjoyed part one of Hayden's big adventure and will stay tuned for part two next time. Thanks also to others for lots of help with this special issue: Bob Jones, Lynn Amos, JoAnn Page, Kathy Quade, Patty Baker, Tony Amos, Andi Wickham, Cameron Pratt, Rick Tinnin, Linda Fuiman, Linda Yates, and Bill Gillespie. The next issue of *Lazarette Gazette* will be January 15, 1993. The *Lazarette Gazette* is published and mailed with non-appropriated funds.

—John Thompson