

# Roberto Gutiérrez

## Professional Summary

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## Academic Background

Professional Certificate, US Army German Language School, Oberammergau, FRG,  
B.S., with high honors, Geophysics and Geology, The University of Texas at Austin, 1981  
Ph.D. Geophysics, The University of Texas at Austin, 1990

## Areas of Expertise

Applications of Airborne LIDAR technology to geodesy, topographic mapping and vegetation analysis.

Application of satellite geodetic techniques to geologic problems.

Monitoring of beach erosion and study of coastal processes along the Texas Gulf Coast and Southern California Coast using Global Positioning System and Airborne LIDAR.

Measuring extension rates across southern Rio Grande Rift in New Mexico and the Basin and Range in West Texas.

## Professional Work Experience

A. Present Position: Retired.

B. Research Scientist Associate, The Center For Space Research, The University of Texas at Austin (January 2007 - 2010).

Developed airborne LIDAR technology for mapping applications and conducted research in airborne LIDAR waveform technology.

C. Research Scientist Associate, Bureau of Economic Geology, The University of Texas at Austin (January 1993 - 2007).

Developing kinematic Global Positioning System (GPS) techniques to survey large areas of beach along the Texas Gulf Coast accurately. Project is part of USGS program to measure modern rates of beach erosion and understand processes driving coastal change. Also developing a high-precision, shallow-water bathymetric surveying system utilizing GPS, with support from the Texas Advanced Technology Program.

D. Lecturer, Department of Geological Sciences, The University of Texas at Austin (January 1991 - 1997).

Teaching undergraduate geology and graduate geophysics. Collaborating with Clark R. Wilson to establish and operate a NASA FLINN (Fiducial Laboratories for an International Natural Science Network) site at McDonald Observatory in West Texas. Working with Bob E. Schutz at the UT Center for Space Research on GPS data processing.

E. Research Assistant, The University of Texas at Austin (June 1984 - July 1983).

Studying the effects of seasonal air and water redistribution on the gravity field and satellite orbital motion. Examining the effect of wind-stress-driven sea-level variations on both satellite and polar motion using an ocean circulation model.

F. Graduate Student Researcher, The University of Texas at Austin (June 1990 - July 1991).

Organizing and conducting a GPS experiment in the western U.S. in order to compare VLBI and GPS measurements for identical baselines, examine the effects of selective availability, and monitor crustal deformation. Participants: UT–Austin, UT–Dallas, UT–El Paso, Nevada Bureau of Mines and Geology, USGS, UNAVCO, and Texas Department of Transportation. Conducting site surveys in West Texas and New Mexico, organizing equipment and training of participants, and coordinating observations.

G. Imagery interpreter, U.S. Army Intelligence (1971 - 1978).

Analyzing aerial photography, radar and infrared imagery, and other national intelligence resources. Producing reports supporting U.S. and NATO tactical and strategic intelligence efforts. Supervising and instructing intelligence personnel.

### Professional Societies

American Geophysical Union

### Awards and Honorary Societies

NASA Minority Graduate Student Researcher, NASA Grant NGT-70029, 1987 - 1990

Minority Graduate Fellowship, National Science Foundation, 1981 - 1984

Grant-in-Aid, Getty Oil, 1984

Dean's Honor List, College of Natural Sciences, 1979 - 1981

Scholarship, Amoco Foundation, 1980 - 1981

Scholarship Fund Summer Grant, Pennzoil Company, 1981

Academic Excellence Award, Atlantic Richfield, 1980

Commendation Medal For Outstanding Contributions to the U.S. Army Intelligence Center and School, U.S. Army, 1978

Good Conduct Medal, first and second awards, U.S. Army, 1977

Commendation Medal For Meritorious Service in Support of the U.S. Military's Intelligence Requirements, U.S. Air Force, 1976

Good Conduct Medal, first and second awards, U.S. Army, 1974

### Publications

#### Articles

Young, A.P., Guza, R.T., O'Reilly, W.C., Flick, R.E., and Gutierrez, R., 2011. Short-term retreat statistics of a slowly eroding coastal cliff, *Natural Hazards and Earth Systems Sciences* 11, 205-217.

- Young, A.P., Olsen, M.J., Driscoll, N., Flick, R.E, Gutierrez, R., Guza, R.T., Johnstone, E., and Kuester, F., 2010. Comparison of airborne and terrestrial LIDAR estimates of seacliff erosion in southern California. *Photogrammetric Engineering and Remote Sensing* 76(4), 421-427.
- Gutierrez, R., A.L. Neuenschwander, M.M. Crawford, 2005, Development of waveform digitization for airborne lidar topographic mapping instrumentation, *Geoscience and Remote Sensing Symposium*, 2005. IGARSS '05. Proceedings. 2005 IEEE International, 2, 1154-1157.
- Weed, C.A.; Crawford, M.M.; Neuenschwander, A.L.; Gutierrez, R. Classification of LIDAR data using a lower envelope follower and gradient-based operator, *Geoscience and Remote Sensing Symposium*, 2002. IGARSS '02. 2002 IEEE International, 3, 1384 -1386.
- Collins, E. W., Tremblay, T. A., Raney, J. A., Paine, J. G., Hovorka, S. D., Gutiérrez, Roberto, Smyth, R. C., and Hepner, Tiffany, 2004, Geologic mapping and construction of digital map data sets of the Edwards aquifer region, Central Texas, *in* Hovorka, Sue, ed., *Edwards water resources in Central Texas: retrospective and prospective*: South Texas Geological Society and Austin Geological Society, CD-ROM, p. 1–15.
- Gibeaut, J. C., White, W. A., Smyth, R. C., Andrews, J. R., Tremblay, T. A., Gutiérrez, Roberto, Hepner, T. L., and Neuenschwander, Amy, 2003, Topographic variation of barrier island subenvironments and associated habitats, *in* *Coastal Sediments '03: Crossing disciplinary boundaries*: Proceedings, Fifth International Symposium on Coastal Engineering and Science of Coastal Sediment Processes, Clearwater Beach, Florida, May 18–23, 10 p., CD-ROM.
- Gibeaut, J. C., Hepner, T. L., Waldinger, Rachel, Andrews, J. R., Smyth, R. C., and Gutiérrez, Roberto, 2003, Geotubes for temporary erosion control and storm surge protection along the Gulf of Mexico shoreline of Texas, *in* *Proceedings, 13th Biennial Coastal Zone Conference: Coastal Zone 3: Coastal Zone Management through Time*: Baltimore, National Oceanic and Atmospheric Administration, 5 p., CD-ROM.
- Gibeaut, J. C., Gutiérrez, Roberto, and Hepner, Tiffany, 2002, Threshold conditions for episodic beach erosion along the southeast Texas coast: *Gulf Coast Association of Geological Societies Transactions*, v. 52, p. 323–335.
- Smyth, R. C., Dutton, A. R., and Gutiérrez, Roberto, 2002, Forensic hydrogeology applied to a half-century-old crude oil seep, Colorado River, Wharton County, Texas: *Gulf Coast Association of Geological Societies Transactions*, v. 52, p. 907–917.
- Gutiérrez, Roberto, Gibeaut, J. C., Smyth, R. C., Hepner, Tiffany, Andrews, J. R., Weed, C., Gutelius, Bill, and Mastin, M., 2001, Precise airborne LIDAR surveying for coastal research and geohazards applications: *International Archives of Photogrammetry and Remote Sensing*, v. 34, part 3/W4, p. 185–192.
- Gibeaut, J. C., Gutiérrez, Roberto, and Kyser, J., 1998, Increasing the accuracy and resolution of coastal bathymetric surveys: *Journal of Coastal Research*, v. 14, no. 3, p. 1082–1098.
- Gutelius, Bill, Carter, W. E., Shrestha, R. L., Medvedev, Eugene, Gutiérrez, Roberto, Gibeaut, J. C., Crawford, Melba, and Smith, Solar, 1998, Engineering applications of airborne scanning lasers: reports from the field: *PE & RS (Highlight article)*, v. 64, no. 4, p. 246–253.
- Gutiérrez, Roberto, Gibeaut, J. C., Crawford, Melba, Mahoney, M., Smith, Solar, Gutelius, Bill, Carswell, Donald, and MacPherson, Elise, 1998, Airborne laser swath mapping of Galveston Island and Bolivar Peninsula, Texas, *in* *Proceedings, Fifth International Conference: Remote Sensing for Marine and Coastal Environments*, San Diego: p. I-236–I-243.
- Slatton, K. C., Crawford, Melba, Gibeaut, J. C., and Gutiérrez, Roberto, 1998, Post-processing techniques to minimize systematic and random height errors in TOPSAR DEMs, *in* Kim, Yunjin, ed., *Summaries of the Seventh Airborne Earth Science Jet Propulsion Laboratory*: Publication 97-21, v. 2, p. 83–98.
- Slatton, K. C., Crawford, Melba, Gibeaut, J. C., and Gutiérrez, Roberto, 1997, Removal of residual errors from SAR-derived digital elevation models for improved topographic mapping of low-relief areas, *in* *IGARSS'97: 1997 International Geoscience and Remote Sensing Symposium: Remote sensing—a scientific vision for sustainable development*: IEEE Publications, Catalog Number 97CH36042, Library of Congress Number 97-70575, v. 1, p. 457–459.

Slatton, K. C., Crawford, Melba, Gibeaut, J. C., and Gutiérrez, Roberto, 1996, Modeling wetland vegetation using polarimetric SAR, *in* Stein, T. I., ed., IGARSS '96, International Geoscience and Remote Sensing Symposium: remote sensing for a sustainable future: Institute of Electrical and Electronics Engineers, Inc., IEEE Catalog Number 96CH35875, Library of Congress Number 95-80706, volume 1, p. 263–265.

Solheim, F. S., Alber, C., Rocken, R. H., Schutz, B., and Gutiérrez, Roberto, 1995, Tropospheric effects upon GPS repeatability, *in* Proceedings, 21st General Assembly of IUGG, Boulder, Colorado:

Gutiérrez, Roberto, and Wilson, C. R., 1987, Seasonal air and water mass redistribution effects on Lageos and Starlette: *Geophysical Research Letters*, no. 14, p. 929–932.

### Abstracts

Gibeaut, J. C., Gutiérrez, R., Hepner, T. L., and Andrews, J. R., 2006, Effects of Hurricane Rita on Texas beaches (abs.): *Eos Transactions AGU*, v. 87, no. 36, Ocean Sciences Meeting Supplement, Abstract OS16H-03.

Smyth, R. C., Gutiérrez, Roberto, and Neuenschwander, Amy, 2005, Use of lidar to improve estimates of hydrologic modeling parameters (abs.), *in* The abstract book of the 2005 Ground Water Summit Program, April 17–20, San Antonio, p. 299–300.

Gibeaut, J. C., White, W. A., Gutiérrez, Roberto, Waldinger, Rachel, Andrews, J. R., Hepner, T. L., Smyth, R. C., and Tremblay, T. A., 2004, The Texas Shoreline Change Project: combining lidar, historical photography, and ground surveys to measure shoreline change rates along bay and gulf shorelines (abs.), *in* 5th Biennial Texas Coastal Issues Conference bios and abstracts: Texas General Land Office, Coastal Resources Program, CD-ROM.

Bellian, J. A., Jennette, D. C., and Gutiérrez, Roberto, 2003, Dual-purpose geologic analysis using airborne and ground-based lidar, coastal southern California: quantitative 3-D characterization of modern coastal erosion and ancient reservoir architecture (abs.): *American Association of Petroleum Geologists Annual Convention Official Program*, v. 12, p. A11–A12.

Gibeaut, J. C., White, W. A., Gutiérrez, Roberto, Waldinger, Rachel, Andrews, J. R., Hepner, T. L., Smyth, R. C., and Tremblay, T. A., 2003, The Texas Shoreline Change Project: combining lidar, historical photography, and ground surveys to measure shoreline change rates along bay and Gulf of Mexico shorelines (abs.), *in* Proceedings, 3rd Biennial Coastal GeoTools Conference, Charleston, South Carolina: NOAA Coastal Services Center, CD-ROM.

Smyth, R. C., Dutton, A. R., and Gutiérrez, Roberto, 2002, Forensic hydrology applied to a half-century-old crude-oil seep, Colorado River, Wharton County, Texas (abs.): *Gulf Coast Association of Geological Societies Transactions*, v. 52, p. 103–104.

Gibeaut, J. C., White, W. A., and Gutiérrez, Roberto, 2002, Effect of an artificial tidal inlet on shoreline change (abs.), *in* Proceedings, Shoreline Change Conference: Charleston, South Carolina, NOAA Coastal Services Center, May 7–9, unpaginated.

Gibeaut, J. C., White, W. A., Gutiérrez, Roberto, Waldinger, R. L., Andrews, J. R., Hepner, Tiffany, Smyth, R. C., and Tremblay, T. A., 2002, Measuring shoreline change along bays and oceans using historical aerial photography and airborne topographic LIDAR surveys (abs.): *Gulf Coast Association of Geological Societies Transactions*, v. 52, p. 336.

Gibeaut, J. C., Gutiérrez, Roberto, Hepner, Tiffany, Smyth, R. C., and Andrews, J. R., 2002, Shoreline change analysis using airborne lidar (abs.), *in* Proceedings, Shoreline Change Conference: Charleston, South Carolina, NOAA Coastal Services Center, May 7–9, unpaginated.

Gibeaut, J. C., Gutiérrez, Roberto, Hepner, Tiffany, Andrews, J. R., and Smyth, R. C., 2001, Shoreline mapping with airborne LIDAR (abs.), *in* Proceedings, 2nd Biennial Coastal GeoTools '01 Conference, Charleston, South Carolina, January 8–11, unpaginated.

Gibeaut, J. C., and Gutiérrez, Roberto, 2000, Episodic beach erosion hazard analysis and LIDAR surveys (abs.), *in* First International Global Disaster Information Network (GDIN) Information Technology Conference Abstracts: p. 29–30.

Gibeaut, J. C., Crawford, Melba, Gutiérrez, Roberto, Neuenschwander, A. L., Slatton, K. C., and Smyth, R. C., 1999, Mapping topography and bathymetry of barrier islands using airborne, terrestrial, and marine systems (abs.), *in* AAPG Annual Convention official program: American Association of Petroleum Geologists, p. A46.

Gutiérrez, Roberto, Gibeaut, J. C., Gutelius, Bill, and MacPherson, Elise, 1999, Characterization of coastal change using airborne LIDAR mapping (abs.): *Eos Supplement*, v. 80, no. 46, p. F437.

Gutiérrez, Roberto, Neuenschwander, A. L., Gibeaut, J. C., Crawford, Melba, Gutelius, Bill, MacPherson, Elise, Kumar, M. M., and Sharma, R., 1998, Multi-sensor analysis of coastal hazards and environments using airborne laser terrain mapping and synthetic aperture radar (abs.): *Eos (Supplement)*, v. 79, no. 45, p. F200.

Gibeaut, J. C., Gutiérrez, Roberto, and Kirkland, B. L., 1998, The Texas high school coastal monitoring program (abs.): *American Association of Petroleum Geologists Annual Convention Extended Abstracts*, v. 1, p. A233.

Gibeaut, J. C., Gutiérrez, Roberto, and Kirkland, B. L., 1998, High School Beach Monitoring Program: a pilot project in education, public awareness, and coastal management (abs.), *in* 1998 Ocean Sciences Meeting: *Eos Supplement*: v. 79, no. 1, p. 0S38.

Gutiérrez, Roberto, Gibeaut, J. C., Slatton, K. C., Crawford, Melba, Gutelius, Bill, Carswell, Donald, MacPherson, Elise, Dale, Sarah, and Smith, Solar, 1998, Digital terrain mapping of Bolivar Peninsula, Texas, using airborne laser and radar systems (abs.): *Eos (Supplement)*, April, p. S60.

Gibeaut, J. C., Kyser, J., Gutiérrez, Roberto, and Morton, R. A., 1996, Accurate and rapid bathymetric surveys for coastal research (abs.): *Geological Society of America, South-Central Section, Abstracts with Programs*, v. 28, no. 1, p. 14.

Gibeaut, J. C., Slatton, K. C., Crawford, Melba, and Gutiérrez, Roberto, 1996, Mapping depositional environments on barrier islands using airborne synthetic aperture radar (abs.): *Geological Society of America, South-Central Section, Abstracts with Programs*, v. 28, no. 1, p. 14.

Gibeaut, J. C., Crawford, Melba, Gutiérrez, Roberto, Slatton, K. C., and White, W. A., 1996, Geomorphic analysis and depositional environment mapping of barrier island systems using AIRSAR (abs.), *in* 1996 spring meeting program: American Geophysical Union, p. S263.

Gutiérrez, Roberto, Gibeaut, J. C., and Morton, R. A., 1996, Geoid variations and beach morphology: a regional approach to shoreline surveying using the global positioning system (abs.): *Geological Society of America, South-Central Section, Abstracts with Programs*, v. 28, no. 1, p. 17.

Morton, R. A., Paine, J. G., Gibeaut, J. C., and Gutiérrez, Roberto, 1996, Differential kinematic GPS beach surveys: key to improving models of nearshore sediment flux (abs.): *Geological Society of America, South-Central Section, Abstracts with Programs*, v. 28, no. 1, p. 55.

Slatton, K. C., Crawford, Melba, Gibeaut, J. C., and Gutiérrez, Roberto, 1996, Modeling wetland vegetation using polarimetric SAR (ext. abs.), *in* Kim, Yunjin, ed., *Summaries of the Sixth Annual JPL Airborne Earth Science Workshop: National Aeronautics and Space Administration, Jet Propulsion Laboratory, AIRSAR Workshop, JPL Publication, 96-4*, v. 2, p. 95–103.

Schutz, B., Kruizinga, G., Kuang, D., Abusali, P. A. M., Shum, C. K., Gutiérrez, Roberto, and Nelson, S., 1995, Galveston Bay experiment for altimeter calibration (abs.): *Eos*: no. 76.

Gibeaut, J. C., Kyser, J., Gutiérrez, Roberto, and Morton, R. A., 1995, High-accuracy bathymetric surveys for coastal research (abs.), *in* *Linked Earth systems: Congress program and abstracts vol. 1: St. Pete Beach, Florida, SEPM (Society for Sedimentary Geology)*, p. 58.

Gutiérrez, Roberto, Wilson, C. R., and Schutz, B., 1993, West Texas FLINN site: comparison of OMNI, GAMIT, and MSODP baseline solutions for the 1990 and 1992 GPS footprint occupations (abs.): *Eos*, v. 74

Abusali, P. A. M., Schutz, B., Watkins, M. M., Kuang, D., Nam, Y. S., Byun, S. H., Lo, C. F., and Gutiérrez, Roberto, 1992, Terrestrial reference frame determination and comparison of long- and short-arc solutions from IGS Campaign '92 (abs.): *Eos*, v. 73.

Schutz, B., Chao, Y. C., Gutiérrez, Roberto, and Wilson, C. R., 1990, Observations of selective availability and the effect on precision geodesy (abs.): *Eos*, v. 71

Wilson, C. R., Kuehne, J., and Gutiérrez, Roberto, 1990, Water redistribution effects on polar motion (abs.): *Eos*, v. 71

### Contract Reports

Collins, E. W., Tremblay, T. A., Gibeaut, J. C., Waldinger, R. L., White, W. A., Raney, J. A., Smyth, R. C., Hepner, T. A., Andrews, J. R., and Gutiérrez, Roberto, 2006, Summary report for the 2005–2006 STATEMAP Project: geologic mapping to support improved database development and understanding of urban corridors, critical aquifers, and special areas of environmental concern in Texas: The University of Texas at Austin, Bureau of Economic Geology, final report prepared for U.S. Geological Survey, under cooperative agreement no. 05HQAG0046, 20 p. + maps.

Smyth, R. C., Gibeaut, J. C., Andrews, John, Hepner, Tiffany, and Gutiérrez, Roberto, 2003, The Texas Shoreline Change Project: coastal mapping of West and East Bays in the Galveston Bay System using airborne lidar: The University of Texas at Austin, final report prepared for the Texas General Land Office, under GLO Contract Number 02-520 C, 41 p.

Collins, E. W., Tremblay, T. A., Gutiérrez, Roberto, Raney, J. A., Rawlings, Jennifer, Lindley, Adrien, and Hovorka, S. D., 2003, Applications of laser terrain mapping in Central Texas for managing karst aquifers and land use: The University of Texas at Austin, Bureau of Economic Geology, final report prepared for California Institute of Technology, Jet Propulsion Laboratory,, under contract 1247072 for the NASA-AAG Program, 34 p.

Gibeaut, J. C., Hepner, Tiffany, Waldinger, R. L., Andrews, J. R., Smyth, R. C., and Gutiérrez, Roberto, 2003, Geotextile tubes along the upper Texas Gulf Coast, May 2000 to March 2003: The University of Texas at Austin, Bureau of Economic Geology, report of the Texas Coastal Coordination Council pursuant to National Oceanic and Atmospheric Administration Award No. NA07OZ0134, GLO Contract Mp/ 02-493 R, 102 p. + 3 pls.

Gibeaut, J. C., Hepner, Tiffany, Waldinger, R. L., Andrews, J. R., Smyth, R. C., and Gutiérrez, Roberto, 2002, Geotubes along the Gulf shoreline of the upper Texas coast: observations during 2001: The University of Texas at Austin, Bureau of Economic Geology, final report prepared for Texas Coastal Coordination Council pursuant to National Oceanic and Atmospheric Administration Award No. NA97OZ0179, under GLO contract number 01-597 R, 24 p. + apps.

Gibeaut, J. C., Hepner, Tiffany, Waldinger, R. L., Andrews, J. R., Gutiérrez, Roberto, Tremblay, T. A., and Smyth, R. C., 2001, Changes in Gulf shoreline position, Mustang and North Padre Islands, Texas: The University of Texas at Austin, Bureau of Economic Geology, final report prepared for the Texas Coastal Coordination Council pursuant to National Oceanic and Atmospheric Administration, under Award No. NA97OZ0179 and GLO Contract No. 00-002R, 28 p.

Gibeaut, J. C., Gutiérrez, Roberto, and Crawford, Melba, 2000, Patterns of shoreline change and hurricane washover on barrier islands: The University of Texas at Austin, Bureau of Economic Geology, annual report prepared for the National Aeronautics and Space Administration (NASA), Office of Earth Science, under NASA Grant No. NAG 5-7660, 31 p.

Smyth, R. C., Dutton, A. R., and Gutiérrez, Roberto, 2000, Site investigation and preliminary assessment of the Colorado River Seep site in Wharton County, Texas: The University of Texas at Austin, Bureau of Economic Geology, technical report prepared for the Railroad Commission of Texas, under Interagency Contract No. UTA98-0380 (Work Order No. 4), 27 p. + apps.

Gibeaut, J. C., and Gutiérrez, Roberto, 2000, Texas High School Coastal Monitoring Program: Ball, Port Aransas, and Port Isabel High Schools, 1999/2000: The University of Texas at Austin,

Bureau of Economic Geology, final report prepared for Texas Coastal Coordination Council, pursuant to National Oceanic and Atmospheric Administration Award No. NA97OZ0179, 21 p.

Gibeaut, J. C., White, W. A., Hepner, Tiffany, Gutiérrez, Roberto, Tremblay, T. A., Smyth, R. C., and Andrews, J. R., 2000, Texas Shoreline Change Project: Gulf of Mexico Shoreline change from the Brazos River to Pass Cavallo: The University of Texas at Austin, Bureau of Economic Geology, report prepared for the Texas Coastal Coordination Council pursuant to National Oceanic and Atmospheric Administration Award No. NA87OZ0251, 32 p.

Gibeaut, J. C., and Gutiérrez, Roberto, 1999, Dune and beach dynamics in Galveston County, Texas, 1994 to 1998: critical information for coastal management: The University of Texas at Austin, Bureau of Economic Geology, final report prepared for the Texas Coastal Coordination Council, pursuant to National Oceanic and Atmospheric Administration Award No. NA77OZ0202, 34 p. + apps.

Gibeaut, J. C., Gutiérrez, Roberto, and Agbe, Ade, 1999, High School Coastal Monitoring Program, year 2: a pilot project in education, public awareness, and coastal management: The University of Texas at Austin, Bureau of Economic Geology, final report prepared for the Texas Coastal Coordination Council, pursuant to National Oceanic and Atmospheric Administration Award No. NA77OZ0202, 11 p. + apps.

Gibeaut, J. C., Gutiérrez, Roberto, and Kirkland, B. L., 1999, High School Beach Monitoring Program: a pilot project in education, public awareness, and coastal management: The University of Texas at Austin, Bureau of Economic Geology, final report prepared for the Texas Coastal Coordination Council, pursuant to National Oceanic and Atmospheric Administration Award No. NA77OZ0202, 11 p. + appendices.

Warne, A. G., Aslan, Andres, White, W. A., Gibeaut, J. C., Tremblay, T. A., Smyth, R. C., Guevara, E. H., Gutiérrez, Roberto, Hovorka, S. D., Raney, J. A., Crawford, Melba, Smith, Solar, and Neuenschwander, A. L., 1999, 1999 final report year two: geo-environmental characterization of the Delta del Orinoco, Venezuela: The University of Texas at Austin, Bureau of Economic Geology, final report prepared for Petróleos de Venezuela, S.A., and Coordinación Desarrollo Armónico de Oriente, 99 p. + figures, tables, and appendices.

Gibeaut, J. C., Slatton, K. C., Crawford, Melba, and Gutiérrez, Roberto, 1997, Detecting small-scale topographic changes and relict geomorphic features on barrier islands using SAR: Year 2: The University of Texas at Austin, Bureau of Economic Geology, annual report prepared for National Atmospheric and Space Administration, Office of Mission to Planet Earth, Topography and Surface Change Program, under NASA grant no. NAG 5-2954, 12 p. + apps.

Gibeaut, J. C., Gutiérrez, Roberto, Kyser, J., and Morton, R. A., 1996, Shallow-water, high-accuracy, high-resolution bathymetric surveying system: The University of Texas at Austin, Bureau of Economic Geology, final report prepared for the Advanced Technology Program, under contract no. 003658-105, 4 p. + attachments.

Gibeaut, J. C., Crawford, Melba, Gutiérrez, Roberto, and Slatton, K. C., 1996, Detecting small-scale topographic changes and relict geomorphic features on barrier islands using SAR: Year 1: The University of Texas at Austin, Bureau of Economic Geology, annual report prepared for National Atmospheric and Space Administration, Office of Mission to Planet Earth, Topography and Surface Change Program, under NASA grant no. NAG 5-2954, 8 p. + apps.

Morton, R. A., Gibeaut, J. C., and Gutiérrez, Roberto, 1995, Pre-project surveys of beach and nearshore conditions, Galveston Island beach nourishment project: The University of Texas at Austin, Bureau of Economic Geology, contract report prepared for the City of Galveston, 23 p. + app.

Morton, R. A., Gutiérrez, Roberto, and Gibeaut, J. C., 1995, Field identification and classification of coastal dunes, Galveston County, Texas: The University of Texas at Austin, Bureau of Economic Geology, contract report prepared for the Texas General Land Office, Texas Natural Resources Inventory, under interagency contract no. 95-026, 101 p.

Morton, R. A., White, W. A., Gibeaut, J. C., Gutiérrez, Roberto, and Paine, J. G., 1995, East Texas and western Louisiana coastal erosion study: year 4: The University of Texas at Austin,

Bureau of Economic Geology, annual report prepared for U.S. Department of the Interior, U.S. Geological Survey, under cooperative agreement no. 14-08-0001-A0912, unpaginated [474 p.].

Morton, R. A., Gibeaut, J. C., White, W. A., and Gutiérrez, Roberto, 1993, East Texas and western Louisiana coastal erosion study, year 2: The University of Texas at Austin, Bureau of Economic Geology, annual report prepared for the U.S. Department of the Interior, U.S. Geology Survey, under cooperative agreement no. 14-08-0001-A0912, variously paginated [71 p.].

#### Atlases/Maps/Cross Sections

Gibeaut, J. C., Hopkinson, Christopher, Gutiérrez, R. C., Smyth, R. C., Andrews, J. R., and Stephens, D. M., 2001, Digital elevation model, Austin, Texas (oversize, color lidar poster (2.5 × 5.25 ft): The University of Texas at Austin, Bureau of Economic Geology, including 1-p text.

#### Workshop Workbooks

Paine, J. G., Fountain, David, Gamey, Jeff, Gutiérrez, Roberto, Hodges, Greg, and Witherly, Ken, contributors, 2003, Workshop notes: airborne geophysics: applications and advances in environmental and engineering investigations: Environmental and Engineering Geophysical Society, Symposium on the Application of Geophysics to Engineering and Environmental Problems, variously paginated.

#### Dissertation

Seasonal air and water mass redistribution and its effect on satellite and polar motion: Austin, Texas, The University of Texas at Austin, Ph.D. dissertation, 130 p., 1990.

#### Research Support

Co-Investigator: Detecting Small-Scale Topographic Changes and Relict Geomorphic Features on Barrier Islands Using SAR, NASA Topography Program (1995-1997, \$327,000).

Co-Investigator: Acquisition of Two Global Positioning System Receivers for Geodetic and Geodynamics Research, NSF Earth Sciences: Instrumentation and Facilities Program (1995–1996, \$56,000).

Co-Investigator: Establishment of a FLINN site in West Texas, NASA's Dynamics of the Solid Earth project (1992–1995, \$90,000).

Co-Investigator: Shallow-Water, High-Accuracy, High-Resolution Bathymetric Surveying System, Texas Higher Education Coordinating Board through the Advanced Technology Program (1994–1995, \$187,820).

Co-Investigator: Identification of Critical Dune Areas and Gulf Beach Access Points, Texas General Land Office through the Texas Natural Resources Inventory Program (1994, \$33,232).

#### Miscellaneous Activities of a Professional Nature

Judge, Science Fair, Spicewood Elementary , February 1, 2005

#### Military Service

U.S. Army Intelligence, Aerial Imagery Interpreter, 1971 - 1978; Honorable discharge.



