

## Geochemical and Environmental Research Group (GERG)

### DRAFT STRATEGIC PLAN

April 28, 2014

#### **VISION**

To be a world leader in the development and application of operational, analytical and applied measurement systems to address environmental issues of societal relevance and in the process train the next generation of environmental scientists using cutting edge technologies and methodologies.

#### **MISSION STATEMENT**

To serve the University, the State of Texas, our nation and our world in matters pertaining to ocean science, environmental health and resource enhancement. We support the mission of the College of Geosciences by performing original and innovative research with an emphasis on applied and operational research in the geosciences, through supporting the training and mentoring of undergraduate and graduate students by offering hands-on access and experiences of real-world situations, and offering quality research opportunities and services to enhance the research capabilities and competitiveness of the College and University.

#### **VALUES**

We value initiative, innovation, flexibility, adaptation and performance. We take pride in our state-of-the-art capabilities for research, analyses, sustained environmental observations and interpretation. Our excellence in these areas requires our personal commitment at every level of training and experience to producing the highest quality data. We are committed to diversity and providing a vibrant and exciting workplace where the best ideas are developed into practical solutions.

#### **STRATEGY**

You can only manage what you can measure. We are committed to developing strategies to find new innovative systems to provide solutions for our stakeholders. We will interact with departments and other centers within the University and with our colleagues in Galveston and Corpus Christi to bring ocean observing capabilities to Texas A&M. We will link with other Universities, Research Consortia, industry, private and public funding sources to work as one team to be the best operational program in the Gulf of Mexico. We will work with outreach organizations including, Sea Grant, science museums and centers to promote ocean literacy as an

important part of the mission of the State of Texas and the nation. With a commitment to excellence and reputation of innovation we will build a sustained funding model.

## **SWOT**

### **STRENGTHS**

- 1) Staff: diverse, innovative, flexible, knowledgeable, available and produce highest quality advice and data with rapid response capabilities
- 2) Instrumentation, equipment, operational capability
- 3) Enhance the research capabilities and competitiveness of faculty (critical mass)
- 4) Location, easy access, space, low cost of living

### **WEAKNESSES**

- 1) Lack of sustained funding, discretionary funds, or control over fund raising
- 2) Funds to replace aging instrumentation, equipment and facilities
- 3) Need younger staff to increase technical and research depth and funding
- 4) Improve communication both within GERG and with College
- 5) Availability of ships
- 6) No funds for staff training in new technology required to keep up with cutting edge research
- 7) No funds for teaching and international training programs

### **OPPORTUNITIES**

- 1) Find constant, consistent sources of funding (like TABS, USFWS, TX DSHS)
- 2) Improve infrastructure by upgrading the building and offices
- 3) Establish collaboration in US and internationally (e.g. Mexico, Cuba, Ecuador, Oman, Qatar, Brazil, Panama, Spain)
- 4) Increase external public image by making publicity video, web presence, seminars GERG's facility appearance.
- 5) Serve as centralized analytical/equipment resource for the college/university
- 6) Provide training for university students (local and distant), mentor graduate students, outreach to local intermediate school and museums
- 7) Promote a long term survey of the Gulf of Mexico including acoustics

## **THREATS**

- 1) Funding cuts (government, University indirect return)
- 2) Competition (other Universities, corporate service companies)
- 3) University support system (SRS, CONCUR) and regulations
- 4) Lack of a Ship
- 5) Accreditations (such as NELAC)
- 6) Export control

## **CRITICAL ISSUES**

- 1) It is clear that the relationship between GERG/University/Research Foundation needs to be resolved for GERG to prosper and grow. GERG needs to have academic status within the University and Indirect costs need to be accrued for work associated with GERG. Facilities maintenance needs to be provided by the University.
- 2) Stronger connections with the Department of Oceanography need to be developed in order to provide the opportunity for both Units to better succeed.
- 3) Teaching and mentoring needs to be enhanced at GERG, ideally this should be a home for graduate students as well as undergraduate REU's to develop their careers. Some existing research space needs to be morphed into teaching space for such course as petroleum chemistry for geologists. Campus transportation needs to be provided to GERG from campus to help achieve this.
- 4) GERG needs major renovation for its analytical facilities including a clean room for trace metal analysis, general deferred maintenance tackled and two major instruments (A high resolution Mass Spectrometer, and ICP Mass spectrometer).
- 5) Cash flow through services for hire needs to improve so GERG can bid on large projects and cost-share when needed.
- 6) A blue water ship needs to be identified for use of all GULF based science and education.

## **DRAFT GOALS AND POSSIBLE ACTIONS**

### **1) Expand and Confirm GERG Leadership Role in Ocean Observing in the Gulf of Mexico**

- a. Interface with Stakeholders
  - i. Strengthen the connection with Harte Institute by developing a plan for Texas Restore Act (2014)
  - ii. GCOOS – nominate a GERG science team member for GCOOS Board (2015/16)
  - iii. GOMURC – develop leadership role in Blue Ocean Science
  - iv. Industry – Deploy instrumentation for industry (Shell etc.)
  - v. Department and College – broaden connections and integrate greater

#### **b. With ONCG and partners implement SMART Gulf**

- i. Complete CRI package/request (2014)
- ii. Create partnership with USM/Rutgers/GERG for remote sensing instruments (2014/15) Gulf-wide
- iii. Establish HF radar system for Texas (2016)
- iv. Sustain and Expand TABS (dialog with TGLO) (2015)

#### **c. Pursue Feasibility of Cabled array for the Flower Garden Banks (2015)**

#### **d. Broaden GERG Science Team (expand by 10 - from 35 to 45) 2014**

#### **e. Convert GISR II into Blue water time-series program (2019)**

#### **f. Pursue an ocean going ship for the Gulf of Mexico with partners (2016)**

#### **g. Develop joint research programs with Mexico and Cuba (2014-2016)**

#### **h. Use CRI funds to finish the glider facility (2014)**

#### **i. With ONCG develop a joint advisory committee (2015)**

### **2) Expand and Sustain Geochemical Research and Resource Geochemistry**

#### **a. Interface with Stakeholders**

- i. Government agencies
- ii. A&M Departments, Colleges, Berg-Hughes, IODP.
- iii. Industry
- iv. Develop education programs (see 4)
- v. Specifically target oil pollution programs – expand Ocean/human health funding opportunities.

- b. Improve facilities
  - i. Develop analytical teaching space (by 2016)
  - ii. Renovate analytical preparation facilities (by 2016)
- 3) Define Role of GERG in College and University
  - a. Interaction with Research Foundation and University (2014)
  - b. Become an Academic Unit of the University (2015)
- 4) Enhance Student involvement and connectivity with GERG
  - a) Confront Faculty bias of off-campus travel to GERG
    - i. Develop relationships for graduate student to use GERG equipment (2014)
    - ii. Work with Transportation to get bus to GERG (2015)
    - iii. Target 3 graduate students at GERG (2014-2105)
    - iv. Implement successful NSF REU program (2015)
    - v. Develop a course in petroleum chemistry for geologists (2016)
    - vi. Develop laboratory course for Environmental Science with ONCG Faculty
- 5) Strengthen outreach to provide a sustainable funding model for GERG
  - a) Improve General fund raising – work with the College Staff
  - b) Enhance Foundation Contacts
  - c) Cultivate BP/Chevron/Exxon-Mobil/ Shell for funding of projects directly
  - d) Submit 10 proposals per year