Remote Sensing: What’s it all about?
How can I learn to use it with my students?

Here’s an opportunity!!
> to have the technical & scientific support and the resources needed to teach remote sensing, and
> to become part of the iGETT Community of Practice.

**Integrated Geospatial Education and Technology Training - Remote Sensing (iGETT-Remote Sensing)**

**What is iGETT-Remote Sensing?**
igETT: Remote Sensing was recently funded with a grant from the National Science Foundation to the National Council for Geographic Education, in collaboration with the NASA Goddard Space Flight Center, the US Geological Survey Landsat Project, and the GeoTech Center. (DUE ATE # 1205069). The project offers 18 months of professional development that will enable Geographic Information Systems (GIS) instructors to integrate remote sensing data and concepts in ways that support workforce needs. iGETT-Remote Sensing builds on the success of the first iGETT project (2007–2012), and iGETT-Remote Sensing participants will join an active Community of Practice established during that time.

The 36 iGETT-Remote Sensing educators will be divided into two cohorts, with Cohort 1 participating from February 2013 through July 2014 and Cohort 2 from February 2014 through July 2015.

Each cohort will participate in two Summer Institutes. *Members of Cohort 1 will have their first summer institute June 18 to June 27, 2013. The 2014 and 2015 institutes will also begin in mid-June.*

All participants will receive additional instruction, mentoring and guidance throughout the project through webinars and personal interaction. They will gain foundational knowledge of remote sensing and will learn to identify, download, analyze, and integrate federal land remote sensing data (such as Landsat, MODIS, and ASTER) with GIS to solve practical problems. Topical applications include agriculture, biodiversity, climate change, disaster management, environmental science, forestry, urban planning, and water management.

iGETT- Remote Sensing exercises and training resources will be based on skills and competencies that are aligned with geospatial technology industry needs, as identified in the Remote Sensing Model Course developed by the NSF-funded GeoTech Center (geotechcenter.org). Training materials, case studies, and lab exercises will be publicly available on the iGETT- Remote Sensing web site for the benefit of all educators.

iGETT- Remote Sensing is a multi-year collaboration by the National Council for Geographic Education, NASA Goddard Space Flight Center, the US Geological Survey (USGS) Land Remote Sensing Program, and the GeoTech Center. Faculty interested in submitting an application will benefit from visiting the iGETT website at: [http://igett.delmar.edu](http://igett.delmar.edu).

**Who may apply? What college resources and support are required?**
Faculty who currently teach GIS at US high schools, two-year colleges, and universities are eligible to participate in iGETT- Remote Sensing. Priority will be given to applicants from two-year colleges (28 participants) and from high schools (4 participants) and universities (4 participants) interested in developing career pipelines that include two-year colleges.
Each applicant must:

1) submit a completed application form, accompanied by a letter from a department chair or college administrator agreeing to support program innovations based on iGETT- Remote Sensing participation and to cover travel costs to the two Summer Institutes. Applicants whose institutions cannot provide travel funds are welcome to seek other funding or to cover travel costs themselves.

2) have access to computer laboratories that can support GIS and remote sensing instruction.

3) be currently teaching GIS and be able to use ArcGIS 9 or later (See Application Form.)

**iGETT- Remote Sensing will offer each participant —**

- two Summer Institutes with housing at a local hotel (two persons per two-bedroom/two-bathroom suite). Each cohort will participate in an eight-day institute during their first summer, and their work with the iGETT-Remote Sensing will culminate in a five-day institute during their second summer. The first institute will focus on remote sensing basics, data access, image processing techniques, and vector manipulation methods; integration of GIS and remote sensing; using the Alta II reflectance spectrometer for investigations of reflected light; and related Global Positioning Systems (GPS) applications. The second institute will provide additional instruction and also focus on program applications at the home institutions. Cohort 1 will have its first Summer Institute at the USGS Earth Resources Observation and Science Center (EROS), in Sioux Falls, SD and the second at EROS or at NASA Goddard Space Flight Center in Greenbelt, MD. Cohort 2 will have its first Summer Institute at EROS and the second at NASA Goddard Space Flight Center.

- mentoring and technical support as participants develop lab exercises, course modules and/or new courses and outreach initiatives. Remote sensing scientists, graduates of the first iGETT project, and project staff will be available by e-mail, phone, and web-conferencing throughout the life of the project.

- remote sensing analysis software and GIS software through the 18-month term of each cohort’s participation: 25-seat laboratory licenses for ENVI, ArcGIS, ArcInfo, Spatial and 3D Analysis extensions, with low fees for maintaining the software beyond the time of the project.

- an Alta® II reflectance spectrometer

- stipends: $900 for successful completion of the two Summer Institutes and $400 during the intervening academic year for delivering case studies and lab exercises and for fully participating in web-seminars.

- reimbursement of up to $100 for outreach activities related to meeting workforce needs in their localities.

- opportunities to compete for one of four competitive travel awards of up to $1,300 each to make presentations about their program innovations at national or regional professional meetings.

**Participants will —**

- take (or test out of) the Esri on-line GIS refresher course and review the Canada Centre for Remote Sensing tutorial: Fundamentals of Remote Sensing prior to the first Summer Institute

- classroom-test an iGETT exercise and submit a formal review of the exercise according to a template provided by iGETT staff

- develop a three-hour lab exercise keyed to workforce needs that can be met by integrating GIS and federal remote sensing data, to be disseminated on the iGETT website

- collaborate with staff and other participants on matrices that key their lab exercises to national geospatial skill standards

- participate in web-based seminars during the academic years, focused on the lab exercises and on module/course development that can meet workforce needs

- share ideas for replicable pipeline initiatives that support high school to two-year and four-year college geospatial education.

**Project staff are available to answer questions:**

Osa Brand, National Council for Geographic Education: 703-201-6039; brand.ncge@gmail.com

Jeannie Allen, Sigma Space Corp. at NASA: 240-460-0946; Jeannette.E.Allen@nasa.gov

Chris Cruz, Park Management, West Valley College: 408-741-2622; chris.cruz@westvalley.edu

Rachel Headley, Landsat Project, U.S. Geological Survey: 605-594-6118; rheadley@usgs.gov

Ann Johnson, GeoTech Center: 909-583-3806; gisajohnson@delmar.edu or ann@baremt.com
iGETT-REMOTE SENSING APPLICATION FORM: Cohort 1

COHORT 1 APPLICATIONS ARE DUE BY
December 20, 2012

Letters of acceptance/non-acceptance will be mailed by January 10, 2013.

Download another application at http://igett.delmar.edu
or request it from: Jeannette.E.Allen@nasa.gov

Complete the application and send it with your home institution’s letter of commitment to
Osa Brand: brand.ncge@gmail.com

1. First Name: _______________________ Last Name: ________________________________

2. Position Title: ________________________________________________________________

3. Nature of Institution: ___ two-year college; ___ high school; ___ 4-year college or university

4. Complete work address (including Name of Institution, Department, Street, City, State & Zip Code):
   ___________________________ ______________________________________________________
   _________________________________________________________________
   ____________________________________________________________________________

5. Work Phone: _________________________ Cell Phone: ______________________________

6. E-mail Address: ______________________________________________________________

7. Name and affiliation of co-applicant(s), if any: (Each applicant must submit a separate application.)
   ____________________________________________________________________________
   ____________________________________________________________________________

8. Number of Years Teaching: _______ Number of Years Teaching GIS: _______

9. Please provide information about your institution’s program in questions A through E, below.
   A. Which of these courses, if any, are part of your current program?
      __ GIS          __ Remote Sensing
      __ GPS          __ Cartography
      __ Internship or Capstone  __ Other (Please describe): ______________________________
B. Which of these courses are you personally teaching?
   __ GIS  __ Remote Sensing
   __ GPS  __ Cartography
   __ Internship or Capstone  __ Other (Please describe): ___________________________  

C. URL for your program web site, if any. ____________________________________________

D. Title of geospatial certificate or degree offered by your institution, if any:
   ____________________________________________________________________________

E. What do you consider the main strengths of your program?
   ____________________________________________________________________________
   ____________________________________________________________________________
   ____________________________________________________________________________

10. Does your institution currently support a GIS computer laboratory?  ___Yes  ___ No     If yes:
   A. Number of seats _______
   B. Installed software __________________________________________________________

11. Please indicate your level of expertise in GIS by describing the specific software applications you
    commonly use (by name and version). Also describe your experience with PC operating systems (e.g.
    Windows XP) and related software such as Excel, PowerPoint, etc.
   ____________________________________________________________________________
   ____________________________________________________________________________

12. Please indicate your level of experience with remote sensing. (No experience is required for a
    successful application.)
   __ No experience.
   __ I use remote sensing images in my teaching.
   __ I can download and analyzing remote sensing data.
   __ Other. Please explain: ________________________________________________________

13. Please indicate all topic areas for which you would consider developing lab exercises. Specific
    information about your interests will help iGETT-Remote Sensing staff to serve your needs.
   A. Agriculture
      __ Crop type mapping  __ Crop health
      __ Crop yield estimates  __ Other: _____________________________________________

   B. Biodiversity. Please describe:
      __________________________________________________________________________

   C. Climate Change. Please describe:
      __________________________________________________________________________

   D. Disaster Management
      __ Predicting, managing, or mitigating results of natural or human disasters
      __ Other: ___________________________________________________________________

   E. Environmental Sciences.
__ Vegetation mapping  __ Invasive species mapping
__ Ecological forecasting  __ Wildlife habitat distribution
__ Drought assessment  __ Other: ________________________________

F. Forestry
__ Forest health  __ Industrial forestry
__ Forest mapping  __ Forest fire recovery, quantifying burn severity
__ Other: ________________________________

G. Urban Planning:
__ Urban development/expansion  __ Urban resource management
__ Other: ________________________________

H. Water management. Please describe:
________________________________________________________________________

I. Other Topic(s): _______________________________________________________
________________________________________________________________________

14. Please use the space below to provide an explanation of why you would like to participate in iGETT-Remote Sensing and what you and your institution hope to gain from your participation. (Minimum 250, maximum 600 words. Attach a separate page if necessary.)
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

15. The following question is optional. Please note that your response will help the project meet its goal of serving diverse populations.
   Gender:  M ___  F ___
   Ethnicity: Anglo American   Native American   Asian   Hispanic
              African American   Pacific Islander   SE Asian   Other ___

16. Please include with this application a letter from your department chair or dean with a commitment to:
   (A) cover the cost of travel to the two Summer Institutes;
   (B) support your development and implementation of at least one lab exercise that is keyed to workforce needs during the project period; and
   (C) consider supporting broader program development (course enhancements, new courses) based on the bank of exercises produced by iGETT-Remote Sensing.

If your institution cannot cover your travel costs, please have your administrator omit this item and explain below how you will meet this expense.
________________________________________________________________________

Thank you for your interest in iGETT-Remote Sensing.