

**San Diego a Scalable Skills Certification Program in GIS**  
**San Diego GIS Educational Consortium National Visiting Committee Meeting**  
<http://geoinfo.sdsu.edu/hightech/index.html>

**Meeting of March 24, 2005**  
**9:00 AM Room 435, San Diego Mesa College;**  
**7250 Mesa College Drive, San Diego, CA 92111**

**MINUTES**

**PRESENT:**

**Visiting Committee**

Dr. Karen K. Kemp, University of Redlands  
Dr. Arthur Getis, San Diego State University  
Warren Roberts, Rio Hondo College  
Ann B. Johnson, ESRI  
\*Joseph J. Kerski, Ph.D., US Geological Survey

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**San Diego Mesa College**

John Johnson (Principal Investigator)  
Margaret Gratton (President, S.D. Mesa College)  
Margie Fritch (Dean, Business, Computer, Tech)  
Shirley Orsinelli (Chair, Business, Comp., Tech)  
Eileen Goff (Adjunct GIS Instructor)

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**San Diego State University**

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Carl Eckberg (Co-Principal Investigator)  
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**Regional GIS Council (DACUM)**

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Gina Durizzi City of San Diego Survey  
Nancy Ross, City of Chula Vista  
Melanie Casey, County of San Diego  
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Jason McNeil, City of Escondido

*\* Attended via speaker phone*

## **OVERVIEW**

This is the first annual meeting of the San Diego GIS Educational Consortium National Visiting Committee. Its purpose is to bring together members of National Visiting Committee and people who have been involved in this project to report the project progress, present project accomplishments and deliverables, and receive project performance critiques/suggestions from the National Visiting Committee panel.

*The meeting was called to order at 9:00 AM*

### **I. WELCOME, INTRODUCTIONS**

M. Gratton, the President of San Diego Mesa College, welcomed everybody who attended and introduced Mesa College.

M. Fritch, the Dean of Business Computer & Tech, introduced the project grant, the project scope, the members of the National Visiting Committee, the project team members and other attendees including many members of the project's DACUM panel.

### **II. PROJECT OVERVIEW, DESCRIPTION & PROGRESS REPORT**

1) J. Johnson, the Principal Investigator of this project, conducting a slide presentation covering such topics as a Project Overview, accomplishments, the DACUM (Developing A Curriculum) process and future planned work.

**Discussion:** The audience discussed the duties, tasks, general knowledge/principle, skill level and the job/title description of GIS Technician. They also gave some advices about how to develop a curriculum for helping GIS people do their job well and increase their work skills.

#### **10-minute Break**

2) M. Tsou, the Co-Principal Investigator, conducted a presentation and described the role of SDSU in this project, the GIS certificate programs, the Web-based GIS career awareness programs, and the HTH workshop with video.

3) C. Eckberg, the Co-Principal Investigator, conducted a presentation with the description of the SDSU Geography and SDSU Computer Science Departments' collaboration in GIS/GIScience education.

4) A. Howser, the SDSU graduate student, representing the other graduate students, described and demonstrated the project website, the two GIS learning modules, and other relevant information.

Here is the website link for downloading the above PowerPoint slides and movies:  
<http://map.sdsu.edu/nvc2005-presentation/>

**Discussion:**

- 1) The audience asked the project team about how to deal with students with different GIS knowledge/skills levels. M. Tsou explained that we will create multiple entry points for students so they can progress through their GIS program without needlessly overlapping their studies. J. Johnson stated that Mesa College and SDSU have equivalent 1-year GIS Certificate courses that students can take at either of the schools. This short-term program is great for people who are seeking new careers in the GIS field.

Here is the link from our project website which includes the list of California GIS Certificate and Degree Programs:

<http://geoinfo.sdsu.edu/hightech/caGISCertPrograms.html>

- 2) The audience asked the project team about how to identify proper GIS learning modules. M. Tsou pointed out that the first step for developing a learning module is to collaborate with high school teachers and create modules that meet their needs. The second step is to develop a standard module, like a template, so that people from nationwide can utilize it to create their own modules.
- 3) A. Johnson recommended the GIS book - "Mapping Our World". She stated that this book has a very good format. She also agreed with J. Kerski that the Web-based GIS component of the research can use materials from the text. M. Tsou stated that this project provides two primary formats of GIS learning modules, one is paper-based and the other is web-based.

To view our GIS learning modules in both formats, please visit our project website:

<http://geoinfo.sdsu.edu/hightech/index.html>

Here is the link for the information of GIS book - "Mapping Our World" from ESRI website:  
<http://gis.esri.com/esripress/display/index.cfm?fuseaction=display&websiteID=29&moduleID=0>

**12:00 PM – 1:30 PM on-site Lunch**

### **III. SITE VISITS**

National Visiting Committee members visited several facilities in the afternoon from 1:30 PM to 5:00 PM:

- 1) San Diego Mesa College: tour of GIS facilities, meet with students.
- 2) High Tech High School: tour of facilities, meet with students.
- 3) San Diego State University: tour of CESAR Lab & other GIS facilities, meet with students.

### **IV. ADJOURNMENT**

*The meeting was adjourned at 5:00 PM.*

**San Diego a Scalable Skills Certification Program in GIS**  
**San Diego GIS Educational Consortium National Visiting Committee Meeting**  
<http://geoinfo.sdsu.edu/hightech/index.html>

**Meeting of March 25, 2005**  
**9:00 AM Room 435, San Diego Mesa College;**  
**7250 Mesa College Drive, San Diego, CA 92111**

**MINUTES**

**PRESENT:**

**Visiting Committee**

Dr. Karen K. Kemp, University of Redlands  
Dr. Arthur Getis, San Diego State University  
Warren Roberts, Rio Hondo College  
Ann B. Johnson, ESRI  
\*Joseph J. Kerski, Ph.D., US Geological Survey

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Shirley Orsinelli (Chair, Business, Comp., Tech)  
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Jing-Yi Chen (Grad. student)  
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**Project Evaluator**

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*\* Attended via speaker phone*

**OVERVIEW**

This meeting is the second-day meeting of the first “Yearly Meeting” of the San Diego GIS Educational Consortium National Visiting Committee meeting. Its purpose is to get feedback from the National Visiting Committee in order to increase the effectiveness of the project.

*The meeting was called to order at 9:00 AM*

**III. RECAP & DISCUSSION**

- J. Johnson did a presentation by introducing Project Objectives, the next tasks for DACUM, and the challenges that Mesa College is facing.

**Discussion:**

1) The audience discussed the differences between Certificate and Certification. The Certification process is much more complex than a Certificate program. A GIS Certificate will come out of this project eventually. Currently, Mesa College has two different kinds of GIS Certificates provided.

2) The audience discussed how to document statistics on the change of the number of GIS Technicians. A better way to do this is to track how many students registered in the program and how many of them finally get the certificates.

3) J. Johnson, M. Fritch and M. Tsou stated that Mesa College will have GEOG 110 course which will eventually articulate to a for-credit course in the program at SDSU.

4) J. Johnson stated that Mesa College arranges internships for students as a component of the program and they get education credits for their efforts. J. Kerski and M. Tsou mentioned that there also opportunities for internships in USGS.

5) The audience discussed how to attract general public taking GIS lessons. W. Roberts shared some of his methods, such as sending mails, making posters, doing GIS shows/tours on campus, offering classes at evenings or weekends. In order to have the ability to teach GIS courses, Mesa College is going to hire a new full-time faculty who needs to have both Geography and GIS knowledge.

6) A. Johnson stated that Military is a big user of GIS. If we can do the training that fits their time frame, it will have more students.

7) The audience discussed how we can teach GIS technology in an effective way. A. Getis stated that he was involved in a UCGIS activity. There has one-week GIS workshop instead of 15 or 16-week study for training people who have no GIS background or are interested in GIS and giving them a certificate at the end of the workshop. It has been very successful in the past four years.

8) J. Johnson addressed that one of the challenges for this project is student enrollment and outcomes is being analyzed only once a year. That is not good enough for analysis of the reason why the enrollment is keeping dropping. P. Sensenig suggested not worrying too much about the first year's evaluation. Keep focusing on why the enrollment is dropping. The members in NVC also suggested that we can send a survey/evaluation to students to gather the information for planning the courses for next semester.

9) The members in NVC suggested that we can focus on doing teacher trainings especially for some key high school faculty members. A. Johnson and J. Kerski suggested that we can attract the teachers first by giving them the GIS ideas and then letting them self-select into the project. It will be also be more effective if 2 or 3 students join in the teacher sessions.

**15-minute break**

- M. Tsou did a presentation for introducing Outreach Activates, and development of new curriculum - GEOG 104 and SDSU team's next steps.

**Discussion:**

The audience discussed the relationship between GEOG 104 in SDSU (<http://map.sdsu.edu/geog104/>) and GIS 110 at Mesa College. Concerns about articulations and content were addressed.

- C. Eckberg stated that we are going to create a GIS question bank which is similar to the certificate exams used by JAVA, Oracle SQL or MCSE, etc.

**Discussion:**

A. Johnson recommended the following websites that have their own workshop/training and GIS certification program. We can use them as reference.

<http://www.digitalquest.com/index.php>

<http://digitalquest.com/spacestars/>

PowerPoint slides: <http://map.sdsu.edu/nvc2005-presentation/>

**1.5-hour session for NVC members to prepare the draft of the NVC Meeting Report.**

**IV. DRAFT REPORT PRESENTED ORALLY TO PROJECT STAFF**

A. Getis represented other NVC members did the oral draft report to the project staff. Here is the brief summary of this report:

**The following goals have been identified by the project:**

1. Identify work-based competencies for GIS Technicians;
2. Develop skills certificates which certify these competencies;
3. Develop a standards-based GIS curriculum linked to job descriptions;
4. Align curriculum at High School, Community College & University levels;
5. Develop a Web-based GIS Career awareness program;
6. Share the model program with other institutions.

This is the first year of project. The NVC took time to visit Mesa College (with side trips to High Tech High School and San Diego State University) where it heard progress reports from project participants. The following comments represent the NVC's assessment of the process and provide some initial viewpoints on the projects plans for subsequent activities:

The NVC is favorably impressed with the progress of the project especially in that it was only started 6 months ago. The NVC found no major areas of concern. The project has gotten off to a good start. We will list some of the areas that need to be addressed.

**Commendations**

- The leadership is effective.

- Presentations were well done.
- Partnerships are working well.
- Project staff is impressive.
- Site visits were nicely done and sites are well equipped to carry out projects.
- Administrative support is good.
- Website is effective.
- Have held one successful workshop at High Tech High School.
- Web based Career Awareness has been outlined.
- The DACUM has been successfully carried out and results will be used to develop curriculum.
- Representation from local counties.
- Plans for future activities have been well thought through.

## **Recommendations, suggestions and observations**

### *General notes*

- Large amount of work completed but much more needed to do. Perhaps constrain it within the context of their vision.
- Too much work for part-time faculty.
- GIS Program in Mesa College moved from Social Science department to Computer Business Technology department. Kendra Jeffcoat (PI) left the project team in Sept. 04 and John Johnson took over the responsibilities. Interim Dean - Margie Fritch is leaving. No full time faculty for this project. Mesa is going to have a new position at a 40% GIS and 60% Geography. Low GIS student enrollment in Mesa - is current possible student-audience saturated?
- NVC concerned about some of the structural issue embedded in the institution. The PI (John Johnson) is overextended within the project. There is no fulltime faculty member.

### *Recommendations (high priorities)*

- The process that began with the DACUM procedure leading to the definition of the curriculum and certificates must be completed as soon as possible.
- Maintain a focus on the main goals of the project rather than other related opportunities; be constantly aware of the ATE workforce development objectives.
- Remember that spatial thinking and learning are fundamental to any GIS instruction.
- Address the needs and give special effort to disseminating information about the programs (GIS Courses). Investigate the myriad ways to inform potential students (free workshops, industry, k-12 career days, GIS Day, mailings).
- Ensure that the university level courses are articulated with the results of the DACUM process.
- Evaluation of Project. Begin to systematically gathering information about the project.
- J. Kerski's Comments
  - 1) He believes that spatial thinking and learning has a place throughout the college campus. These powerful data sets and methods are too wonderful to reserve for just one department, such as geography department.
  - 2) He emphasized that one does not have to be a GIS expert in order to use GIS.

- 3) He emphasized that you are training people on the campuses to apply GIS, not to learn all about GIScience. In other words, you're teaching WITH GIS, rather than ABOUT GIS.
- 4) In addition, make it fun and interesting!
- 5) Provided a number of GIS-in-education events.

(source: <http://www.riohondo.edu/tech/gis/nsf/>)

### **III. CLOSING COMMENTS**

All five of NVC members presented their final comments on this project.

A. Johnson stated that the project team did very good job. She thinks the link between high school and university is good and very unique.

K. Kemp suggested that the project team should make sure what the project team is doing (including workshops, on-line modules, designing the website and creating awareness program) are fitting tightly to the project. This would help the project team stay in track.

W. Roberts pointed out that people in Industry does not like a long-term training (15 ~ 18 weeks). In this project, we should have some short-term courses.

J. Kerski summarized that what we are doing will benefit the high schools, colleges and universities. It is the beginning of GIS education in nationwide. He also suggested that the project team could use some existing templates to avoid recreate the whole wheel.

A. Getis stated that we could all benefit from mapping what we have done to model curriculum or vice versa.

J. Johnson thanked everyone's participation.

### **IV. ADJOURNMENT**

*The meeting was adjourned at 1:00 PM.*