



San Diego State
University

2008 ESRI Education User Conference
August 19, 2007 8:30am – 9:45am
Mission Hill Room (Marriot Hotel)



Integrating Web Maps, Videos, and Exercises for GIS Career Awareness

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Two Types of GIS Education:



- **GIS professionals -- GIS technology training**
 - UCGIS Body of Knowledge
 - GIS Core curriculum Development
 - Software skills (ArcGIS, etc).
- **GIS application users -- GIS Awareness and Introduction**
 - Students from various disciplines (Biology, Forest, Public Health, Civil Engineering, etc.)
 - High school students (career awareness)
 - Extended education (non-traditional students)



An Integrated GIS Education Program



- **High Schools** (GIS 1c/2c)

- **Community Colleges**
- (Mesa College GIS 110, 111, 112)

- **Universities (four years undergraduate and graduate study – M.A., M.S. and Ph.D. programs)** Geography Department, GIS programs

- **Other Department (Forest, Public Health, Civil Engineering...)**



- **(Seamless GIS Education Integration)**

Students can continue the learning of GIS technology.



Project Website:

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



Geographic Information Systems (GIS): Career and Education Awareness Website (HOME) - Windows Inter...
 http://geoinfo.sdsu.edu/hightech/index.php
 File Edit View Favorites Tools Help
 Geographic Information Systems (GIS): C...

Geographic Information Systems (GIS) Career & Education Awareness Website
 NATIONAL SCIENCE FOUNDATION
 A Scalable Skills Certification Program in Geographic Information Systems
 NSF-ATE DUE # 0401990

April 9, 2007

- Home
- GIS Learning Modules
- What is GIS?
- Careers in GIS
- Educational Resources
- Online Community
- Educational Programs
- Online Maps and Tools
- Project Documents
- Contact Us
- Site Map

GIS Career Learning Modules

GIS Career Links

Education Resources

GIS Videos

2006 NSF-ATE GIS TEACHER WORKSHOP ALBUM
 On November 3, 2006, teachers from all over San Diego County were introduced to the GIS Career Learning Modules.

2006 HOOVER-HIGH STUDENTS VISIT ALBUM
 On December 1, 2006, students from Hoover High School learned to use the GIS Career Learning Modules.

Install the Free [Macromedia Flash Player](#) and the Free [Adobe Acrobat Reader](#) to View and Experience the Rich Content that is Available on this Website.

GIS are Everywhere!
 Geographic Information Systems (GIS) are technological tools to collect, store, query, analyze, and visualize spatially-associated data and information.

Global Positioning Systems (GPS) technology, vehicle navigation technology, online maps like [Mapquest](#) and [Google Maps](#), and virtual globe software applications like [Google Earth](#) and [NASA World Wind](#) are specific applications of GIS technology. Many people are familiar with these cutting-edge applications. However, they might not realize that they are using GIS and related geospatial technologies everyday.

Mesa San Diego College

SAN DIEGO STATE UNIVERSITY

Internet 100%

00671

Introduction to GIS Technology and Career Awareness Web Portal

Target Users: high school students and teachers

Internet-based Mapping: ArcWeb Explorer (ESRI), animation map (GIF), Crime-Mapping (ArcIMS).



San Diego County Regional Crime MAPS - Windows Internet Explorer

http://mapping.arjjs.org/main.aspx

Regional Crime MAPS

San Diego County

Legend

- Incidents
 - Aggravated Assault (non-DV)
 - Commercial Burglary
 - Curfew Violation
 - Deadly Weapons
 - Drunk in Public
 - Malicious Mischief/Vandalism
 - Narcotics
 - Prostitution
 - Residential Burglary
 - Robbery
 - Simple Assault (non-DV)
 - Theft
 - Vehicle Break-in
 - Vehicle Theft
- School Locations

Attributes for 3 Map Layers	
ZIP Code	92119
Map Layer	Attributes For Schools
Name	Momentum Middle
Type	MIDDLE
Address	6365 Lake Atlin Ave
Map Layer	Attributes For Incidents
Type	Aggravated Assault (non-DV)
100 Block Address	6300 LAKE ATLIN AV
Earliest Day of Week	Monday
Earliest Date	02/25/2008
Earliest Time	09:30 AM
Latest Day of Week	Monday
Latest Date	02/25/2008
Latest Time	09:30 AM

Navigation

- Zoom In
- Zoom Out
- Pan
- Previous
- Initial Map

Information

- Identify
- Totals
- Create PDF
- Report
- Summary
- Help

Other

- County Map
- Legend
- Attributes

Done

javascript:void(0)

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San Diego Wildfire 2007



Internet Mapping Services for San Diego Wildfire 2007, by Department of Geography, San Diego St...

http://map.sdsu.edu/

MAP.SDSU.EDU
Department of Geography San Diego State University



Web Mapping Services for San Diego 2007 Wildfires

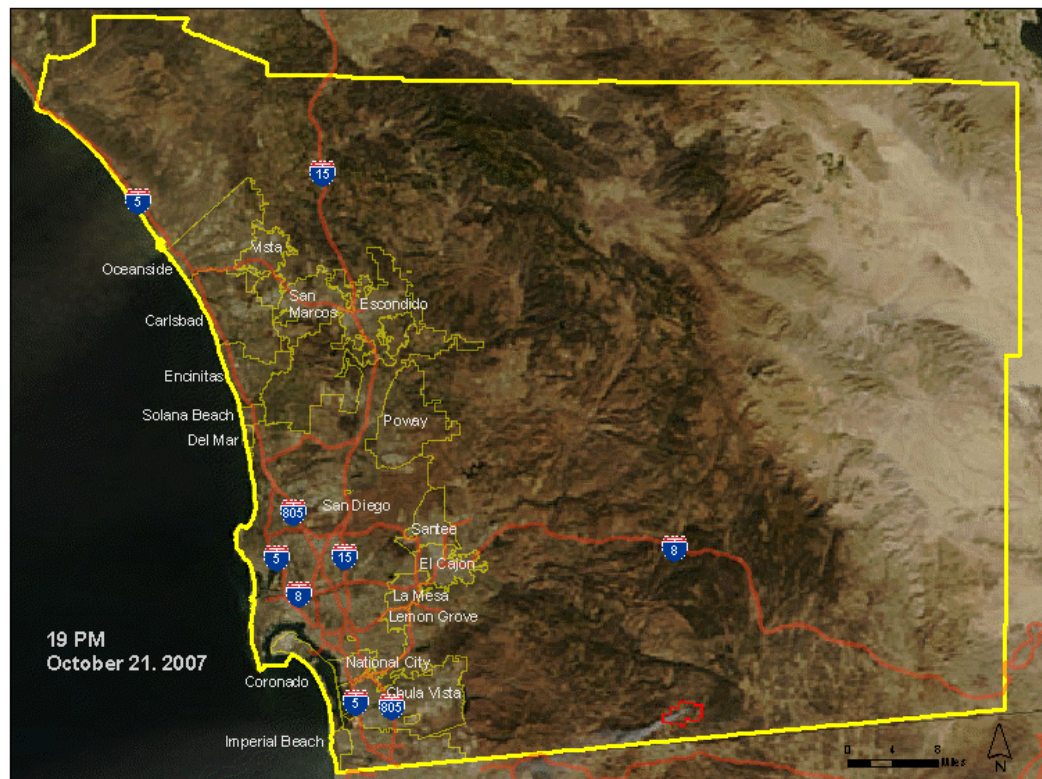
(Any media or persons are welcome to reproduce or redistribute these maps and information by acknowledging the map source [Department of Geography](#), San Diego State University.)

This website is maintained and updated by **the San Diego GIS force group**, a volunteer group of SDSU faculty and students. (Disclaimer: Since all GIS layers in these mapping services are derived from external sources, SDSU and the Department of Geography will do our best to provide useful information. However, we can not guarantee the accuracy of these maps and information from external sources).

If you have any questions or suggestions regarding this website, please contact Dr. Ming-Hsiang Tsou, mtsou@mail.sdsu.edu, or the Department of Geography, San Diego State University or gisforce@geography.sdsu.edu.

Aftermath and Damage Assessment (using GIS and Remote Sensing Technology):

- NEW! [Aerial Photos \(Georeferenced\) for damaged areas and buildings.](#)
- NEW! [High Resolution Satellite Images from FORMOSAT-2](#) (Daily images: Oct. 24, 25, 26, 27, 28, 29, 30, 31)
- GIS Data (Fire Perimeters) and baseline layers provided by San Diego County EOC, SanGIS, and the Department of Geography.
- NEW! [ArcIMS Mapping Services for San Diego 2007 Wildfires.](http://geoinfo.sdsu.edu:8080/fire2007) <http://geoinfo.sdsu.edu:8080/fire2007>
- NEW! [Google Earth KML/KML downloads.](#)

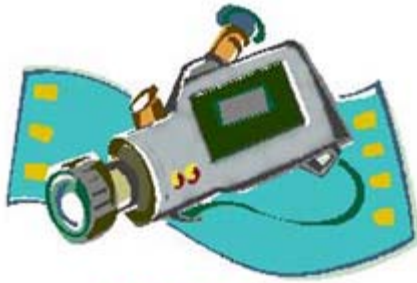
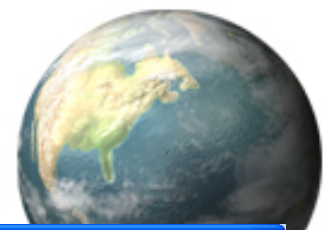


The Advantages of Internet GIS (Web Mapping)



- Internet GIS (Web mapping) is the **new form (medium)** of “maps” for the education community.
- **Free!** (from a teacher’s perspective) – comparing paper maps.
- **Dynamic!** (3D or animation) and multimedia (showing temporal changes).
- **Easy update** (comparing paper maps)
- Easy sharing and dissemination.
- Easy access (for teacher and students) from everywhere (schools, homes, libraries, etc.)

GIS Videos (better than PowerPoint!)



GIS Videos

YouTube

(low resolution)

Or

Download

(wmv format)

High resolution

12MB

GIS Career and Education Awareness (GIS VIDEOS) - Windows Internet Explorer

http://geoinfo.sdsu.edu/hightech/GISVideos.htm

Geographic Information Systems (GIS) Career & Education Awareness Website

NATIONAL SCIENCE FOUNDATION

A Scalable Skills Certification Program in Geographic Information Science (GIS)

NSF-ATE DUE # 041

July 31, 2008

GIS Videos

3D Animation of San Diego 2003 and 2007 Wildfire
Created By Aude Esperbe. In this animation, the first part is the 2003 CEDAR fire (orange color), and then the 2007 fires (Red color). The brown points in between represent the area that used to be burned by the 2003 fire. We can compare the spatial pattern between the two major wildfire and see their differences.
More San Diego Wildfire Maps at map.sdsu.edu

YouTube: <http://www.youtube.com/watch?v=cYcoU5wQNmM>
[Click here to download this video!](#)

Done Internet 100%

Created by Aude Esperbe, using ArcGIS, ArcScene

On-line Video Distribution: YouTube



Rate,
comments,
views..

YouTube - 3D Animation of San Diego 2007 Wildfire - Windows Internet Explorer
http://www.youtube.com/watch?v=cYcoU5wQNmM
File Edit View Favorites Tools Help
Links RefGrab-It
YouTube - 3D Animation of San Diego 20...
Worldwide (All) | English (US) Sign Up | QuickList (0) | Help | Sign In
Home Videos Channels Community
Videos Search advanced Upload
3D Animation of San Diego 2007 Wildfire

Rate: ☆☆☆☆☆ 0 ratings

Views: 231

Share Favorite Playlists Flag
MySpace Facebook Digg (more share options)

Commentary

Statistics & Data

Video Responses: 0 Text Comments: 1

Video Responses (0) Sign in to post a Video Response

Text Comments (1) Sign in to post a Comment

Show: average (-5 or better) Help

boazn8 (1 year ago)

Reply 0

I am interested in teaching GIS in the future perhaps at the HS level. Is the full video of this available?

Would you like to comment?

Join YouTube for a free account, or sign in if you are already a member.

SAN DIEGO Wildfires for 24, 2007
0:02 / 1:56

Views: 611

Write Playlists Flag
Digg (more share options)

Statistics & Data

Video Responses: 0 Text Comments: 0
Sign in to post a Video Response
Sign in to post a Comment

From: **geoinfoHightech**
Joined: 1 year ago
Videos: 11
Subscribe
Added: November 18, 2007 (More info)
Created By Aude Esperbe.
More San Diego Wildfire...
Embed: Customize
<object width="425" height="344"><param name="movie" value="http://...>

More From: geoinfoHightech

Related Videos

- Cartographic Enhancements in ArcGIS 9.2
03:57 From: RedlandsGIS
Views: 8,354
- GIS Awareness: 3D Touch Table Demo at ESRI Conference
01:12 From: geoinfoHightech
Views: 18,482
- GIS Awareness: Google Earth Tour of SDSU and surroundings
02:42 From: geoinfoHightech
Views: 1,892
- Grand Traverse 3D map
00:27 From: arosearose
Views: 649
- GIS Awareness: October 2003 Wild Fires in San Diego
00:05 From: geoinfoHightech

Promoted Videos

Eleven Videos so far....



YouTube - geoinfoHightech's Videos - Windows Internet Explorer

http://www.youtube.com/profile_videos?user=geoinfoHightech&p=r

File Edit View Favorites Tools Help

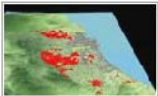



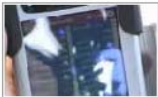


YouTube - geoinfoHightech's Videos

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geoinfoHightech's Videos

All Videos | Most View

- 
3D Animation of San Diego 2007 W...
Added: 8 months ago
Views: 602
01:56 no rating
- 
Wii-are-the-Mas ses (Wii Virtual...
Added: 1 year ago
Views: 338
04:57 ★★★★★
- 
GIS Awareness School GIS E...
Added: 1 year ago
Views: 230
07:02 no rating
- 
GIS Awareness: Helix High Tour o...
Added: 1 year ago
Views: 622
03:55 no rating
- 
GIS Awareness: NASA Reason
Added: 1 year ago
Views: 272
03:31 ★★★★★
- 
GIS Awareness: October 2003 V...
Added: 1 year ago
Views: 884
01:28 ★★★
- 
GIS Awareness: Google Earth Tour...
Added: 1 year ago
Views: 1,895
02:42 ★★★★★

YouTube - GIS Awareness: 3D Touch Table Demo at ESRI Conference - Windows Internet Explorer

http://www.youtube.com/watch?v=W3dz2xpCJVU&feature=related

File Edit View Favorites Tools Help

Links RefGrab-It

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Videos Search advanced Upload

GIS Awareness: 3D Touch Table Demo at ESRI Conference



Rate: ★★★★★ 15 ratings Views: 18,558

Share Favorite Playlists Flag

MySpace Facebook Digg (more share options)

Commentary Statistics & Data

Video Responses: 0 Text Comments: 11

Video Responses (0) Sign in to post a Video Response

Text Comments (11) Sign in to post a Comment

Show: average (-5 or better) Help

From: **geoinfoHightech**
Joined: 1 year ago
Videos: 11
Subscribe

Added: March 11, 2007 (More info)
Demo of the 3D Touch Table at the 2005 ESRI Con...

Embed: [Customize](#)
<object width="425" height="344"><param name="movie" value="http://

More From: geoinfoHightech

Related Videos

- 
Interactive Touchless Table in Tokyo
02:38 From: Chio23
Views: 125,969
- 
3D Hologram interactive video (Table type)
00:58 From: jspmmedia
Views: 6,235
- 
GIS
08:50 From: viewer718
Views: 18,500
- 
ESRI ArcGIS Explorer OpenGL
00:37 From: mresri
Views: 8,457
- 
Geographic Information Specialists Job Description
01:53 From: GarBallar

Promoted Videos

-  Make A Hot Girl Laugh
-  Summer Beauty
-  Hugh Downs
-  GOOD: Oil Addictio

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How to create a GIS awareness video?



- **Hardware:** digital camcorders (or digital camera).
- **Software:** Pinnacle Studio (\$100), or Ulead VideoStudio (\$100), or Microsoft Windows Movie Maker (Free)
- **GIS:** ArcGIS ArcScene, Google Earth, Gif-animation....
- **Time!** (one 5 minutes video can take three days to make)...

Collaborative GIS Mapping Tools

Where is the "Flat Stanley"?



<http://stanleymap.googlepages.com/index.htm>

(developed by Calvin JUNG)

The screenshot shows two browser windows. The left window is titled "FLAT STANEY MAP (Google map)" and shows a standard Google Maps interface with a "Mapping" header. The right window is titled "FLAT STANEY MAP (Google map + Picasa) - Mozilla Firefox" and shows a custom web page titled "Mapping Flat Stanley's Adventures with Google Maps".

The main map in the right window shows the state of California with a path of Flat Stanley's adventures marked by orange icons. The path starts in Lancaster, goes to Santa Barbara, Simi Valley, Oxnard, Glendale, Ontario, Los Angeles, Corona, Moreno Valley, Huntington Beach, Escondido, San Diego, Tijuana, and ends in Mexicali. A cartoon character of Flat Stanley is shown on the map. The map includes navigation controls and a "Photo Albums" sidebar.

The "Photo Albums" sidebar contains the following information:

Album	Location	Date	Photos
Calvin Jung	yellow stone national park	Jul 21, 2008	4
Ming-Hisang Tsou	San Diego	Jun 23, 2008	6
KailingTsou	taiwan	Mar 19, 2008	10

At the bottom of the page, there is a copyright notice: "Copyright@SDSU NSF-ATE Project: Stanley Map".



Collaborative GIS Mapping Tools

Family Tree (developed by Zhu Ke)



Norton Fraud monitoring is on

[Gmail](#) [Calendar](#) [Documents](#) [Photos](#) [Reader](#) [Web](#) [more](#) familytree.sdsu@gmail.com | [New Features!](#) | [Settings](#) | [My Account](#) | [Help](#)

Picasa™ Web Albums

[My Photos](#) [My Favorites](#) [My Public Gallery](#) Community Photos

family tree
By family tree
Jul 14, 2008 - Public

[Edit Map](#) [Back to album view](#) [View in G](#)

©2008 Google [Launch Picasa](#) - [Terms of Use](#) - [Privacy Policy](#) - [Program Policies](#) - [Developer](#) - [Blog](#) - [Google Home](#)

Done Internet | Protected Mode: On

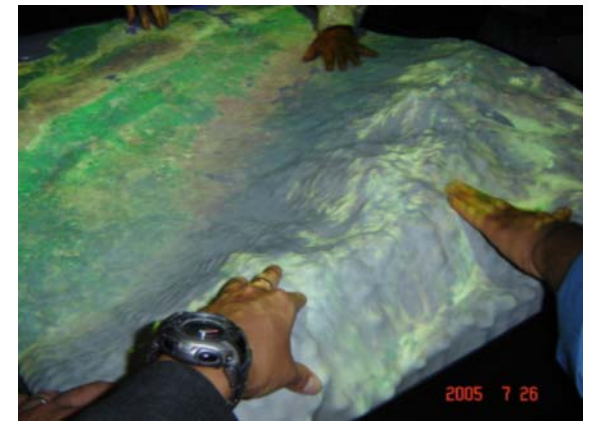
The Future Development of GIS education methods



- **Adopting Innovative GIS User Interfaces for teaching**
- **Utilize Cyberinfrastructure for GIS education**
- **Virtual Globes (ArcGIS Explorer, Google Earth, Microsoft Virtual Earth...)**

Adopting Innovative GIS User Interfaces for teaching -

- Bridge between people and maps



Utilize Cyberinfrastructure for GIS education !



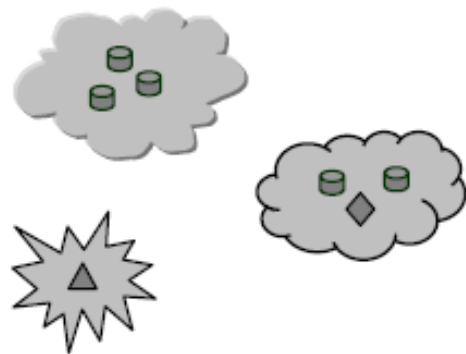
- On-line GIS course websites (link to each others)
- ESRI **Virtual Campus**, UCGIS **virtual seminars**.
- Collections of GIS curricula among different levels (high schools, community colleges, and universities) --
- **High Performance computing** (Grids) for on-line GIS exercises and spatial analysis tools.

Geospatial Cyberinfrastructure



refers to a combination of geospatial computing resources, data and knowledge to facilitate the development of GIScience research, geospatial technologies, and GIS education (Zhang and Tsou).

Data, Knowledge and Resource in Isolated Islands without Cyberinfrastructure



Linked and Integrated Resources in Cyberinfrastructure

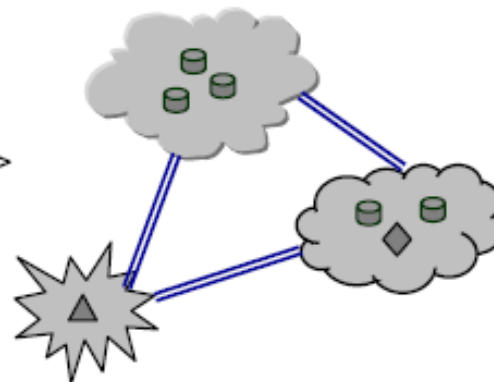


Figure 1. Integrated Resources in Cyberinfrastructure

Virtual Globes: GIS education tools.



The screenshot displays the Microsoft Virtual Earth interface. The main window shows a 3D globe with a colorful GIS overlay. A search window titled "Exploring - Start" is open, showing search results for "Crater Lake". The search window includes a search bar, a "Find" button, and a list of results. The results list includes "volcanoes.txt", "Oregon Study Area", "Riverside Study Area", and "Portland Study Area". The search window also displays a thumbnail image of Crater Lake and a "USGS" logo. The interface includes a task center, a search bar, and a navigation panel. The bottom of the window shows the position coordinates: "Position 38.880368 -119.517412, Altitude 137.83 Kilometers". The bottom right corner shows the ESRI logo and the text "© 2007 i-cubed".

Live Search Maps - Window
http://maps.liv
File Edit View Favorites
Live Search Maps
Businesses People Colle
2D 3D Road
Microsoft Virtual Earth
©2008 Microsoft | Privacy

Exploring - Start
File View Tools Help
Task Center - Wikipedia Search
Search for **Wikipedia** entries.
Find by Location Find by Placename
Find entries near a geographic location:
Location:
Radius: 50 miles
Count: 10 results
GeoNames - license Find

Tasks
Find Place
Find Address
Get Driving Directions
Create Notes
My Tasks
Electric Trace Task
APL US Phone Locator
APL EBIS Report
Wikipedia Search
APL World Climograph
APL Terrain Profile
Results
volcanoes.txt
Oregon Study Area
Riverside Study Area
Portland Study Area
Contents
In Range
Portland_Buildings
citylm_1996
citylm_2007
Portland_Imagery
OR CountyPop
OR Ecoregions
Topo Maps
Boundaries and Places
Transportation
Imagery
Out of View
Riverside Imagery
Riverside Circuit21
Riverside Street_Scene

Crater Lake
USGS
Get Driving Directions, From Here, To Here
Electric_Trace
APL EBIS Report
Wikipedia Search
Find Nearest Weather Station
Terrain Profile

Position 38.880368 -119.517412, Altitude 137.83 Kilometers
ESRI
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Thank You

- [Http://map.sdsu.edu](http://map.sdsu.edu)
- [Http://geoinfo.sdsu.edu](http://geoinfo.sdsu.edu)

Q & A

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



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Minds that move the world

