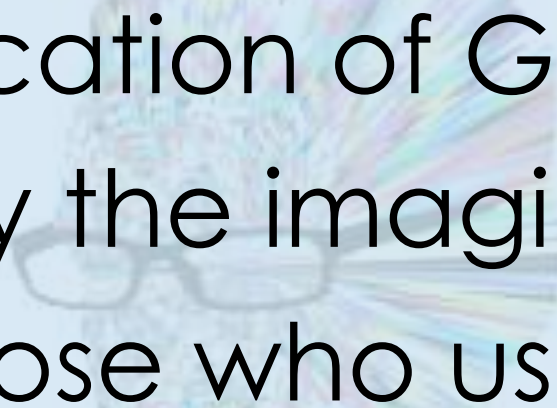


# A Brief Intro to GIS & Your Resources



Tracey Hughes, UCSD GIS Coordinator  
October 2007



“The application of GIS is limited  
only by the imagination  
of those who use it.”

*Jack Dangermond, ESRI President & Founder*

Image credit to Nature Magazine's 2020 Future of Computing

# Our Plan of Action

What is GIS?

Why use  
GIS?

GIS  
Resources

The  
End!



# Introduction

What is GIS?

Why use GIS?

GIS Resources

The End!

## Me

- GIS Coordinator, Librarian

## GIS

- What is it



# Introduction to GIS...

What is GIS?

Why use GIS?

GIS Resources

The End!

- **G**eographic **I**nformation **S**ystem
- Implemented with software tools
- Layers & Attributes

# Layers

What is GIS?

Why use GIS?

GIS Resources

The End!

This is what we mean by layers...

Topography as pixels

Land use as pixels

The real world!



Houses as points

Streets as lines

Subdivisions as polygons

# Tables...

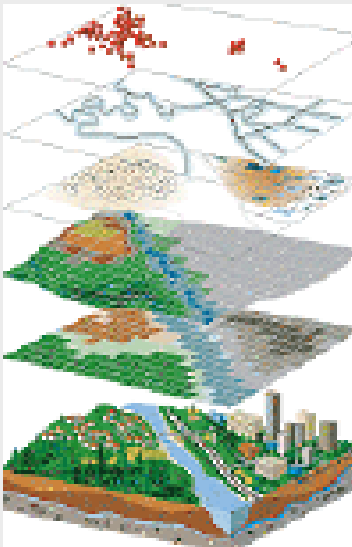
What is GIS?

Why use GIS?

GIS Resources

The End!

- Behind the map are database tables



ID	ZIP_CODE	CITY	STATE	AREA_CODE	CITY_ALIAS_NAME
1	00501	HOLTSTVILLE	NY	516	HOLTSTVILLE
2	2 00501	HOLTSTVILLE	NY	516	IRS SERVICE CENTER
3	3 00544	HOLTSTVILLE	NY	516	HOLTSTVILLE
4	4 00544	HOLTSTVILLE	NY	516	IRS SERVICE CENTER
5	5 00601	ADJUNTAS	PR	787	ADJUNTAS
6	6 00601	ADJUNTAS	PR	787	JARD DE ADJUNTAS
7	7 00601	ADJUNTAS	PR	787	URB SAN JOAQUIN
8	8 00602	AGUADA	PR	787	EXT LOS ROBLES
9	9 00602	AGUADA	PR	787	AGUADA
10	10 00602	AGUADA	PR	787	ALTS DE AGUADA
11	11 00602	AGUADA	PR	787	URB ISABELLA CATOLICA
12	12 00602	AGUADA	PR	787	URB MONTEMAR

# The GIS Process...



- Ask a question
- Obtain necessary data
- **Determine best method of analysis**
  - **Temporal**
  - **Spatial**
  - **Attribute**
- Analyze
- Present results

What is GIS?

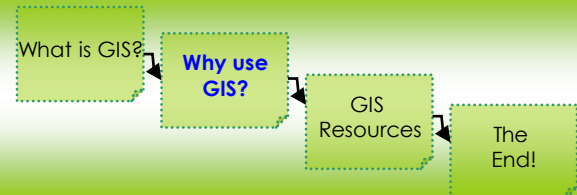
**Why use  
GIS?**

GIS  
Resources

The  
End!



# Endless possibilities...



**What can  
I do with  
GIS?**



A better question is what can't you do with GIS!

Use GIS in 2, 3 or 4 dimensions...

Ask questions about how close, how far, how dense...

See relationships, patterns and trends...

Model networks or roads or other systems...

**VISUALIZE** your information in ways you simply cannot with other tools!

# See things anew...

What is GIS?

Why use GIS?

GIS Resources

The End!

Percentage of population below poverty level viewed as height

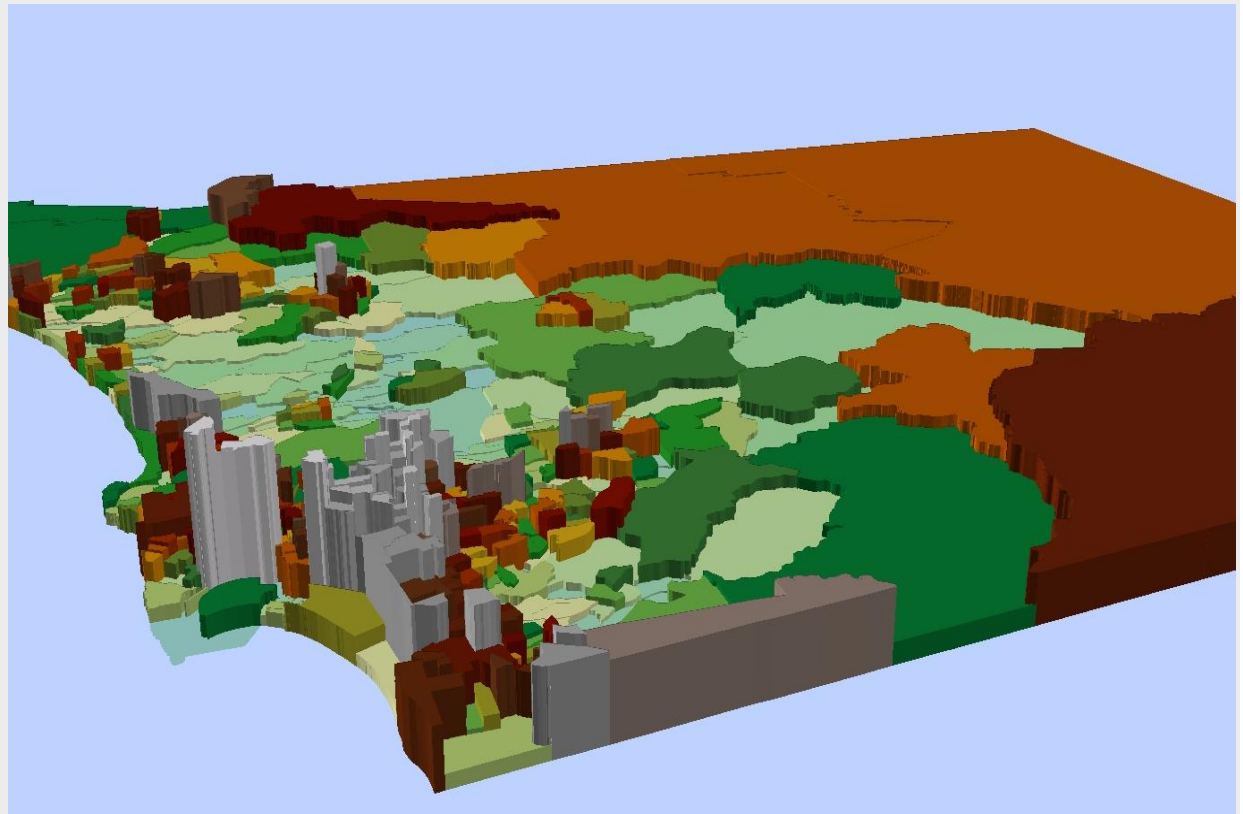


Image created by TELESIS with UCSD's Regional Workbench Consortium

# Land Life & Oceans

What is GIS?

Why use GIS?

GIS Resources

The End!

- Global population w/in 100km of coast

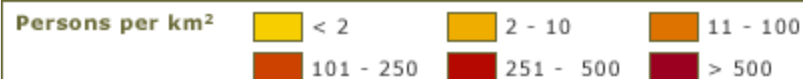


Image from [http://earthtrends.wri.org/maps\\_spatial/maps\\_detail\\_static.php?map\\_select=196&theme=4](http://earthtrends.wri.org/maps_spatial/maps_detail_static.php?map_select=196&theme=4)

Geographic Information Systems (GIS) @



UCSD Libraries

Here to help you explore our world...

What is GIS?

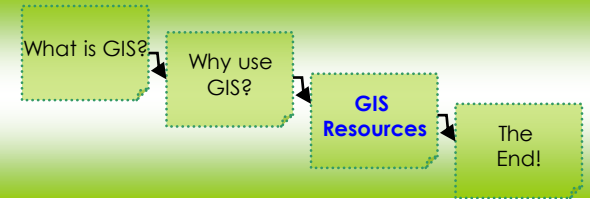
Why use  
GIS?

**GIS**  
**Resources**

The  
End!



# GIS Resources



The Geisel GIS Lab...the starting point for UC San Diego's GIS needs.

## IN THE GIS LAB

- GIS Data
- GIS Workstations
- Dedicated GIS staff
- Project Consultation
- Step-by-Step GIS Help
- 11x17 Inch Color Scanner
- Large-Format GIS Printing

## OUTSIDE THE GIS LAB

- Online GIS Classes
- Classroom and Staff Presentations
- Instructional Workshops
- GIS Community Activities

## JUST FOR STUDENTS

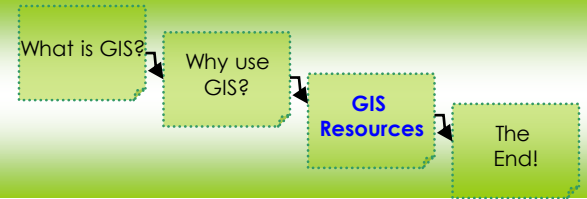
ArcGIS software (1 year time-out)

## JUST FOR FACULTY & STAFF

Google Earth Pro (application required)



# Data



## Multidisciplinary = multiple information types

- **Policy Info**

- Municipal websites
- Federal documents

- **Scientific Info**

- NOAA
- Southwest Fisheries
- SIO

### **Economic Information**

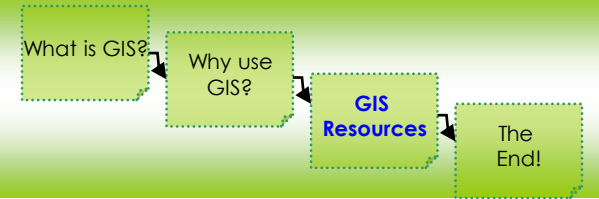
- Census
- Journals
- Business databases

### **Geographic Information**

- Many of the same sources

**Don't forget to use your librarians!**

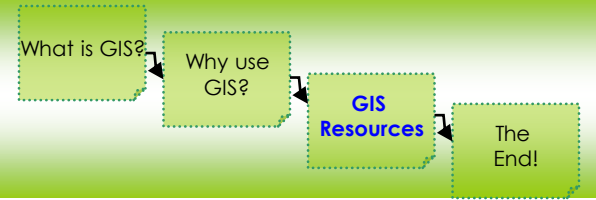
# GIS Data



- **X Drive in Geisel GIS Lab**
- **GIS Sage Page**
- **Your Excel files and tables**
- **Your GPS data**



# An Example



- **San Diego Neighborhood – Literacy Effects**
  - Specific proximity to libraries
  - Specific ethnicity
  - Specific age(s)
  
- **ArcGIS**

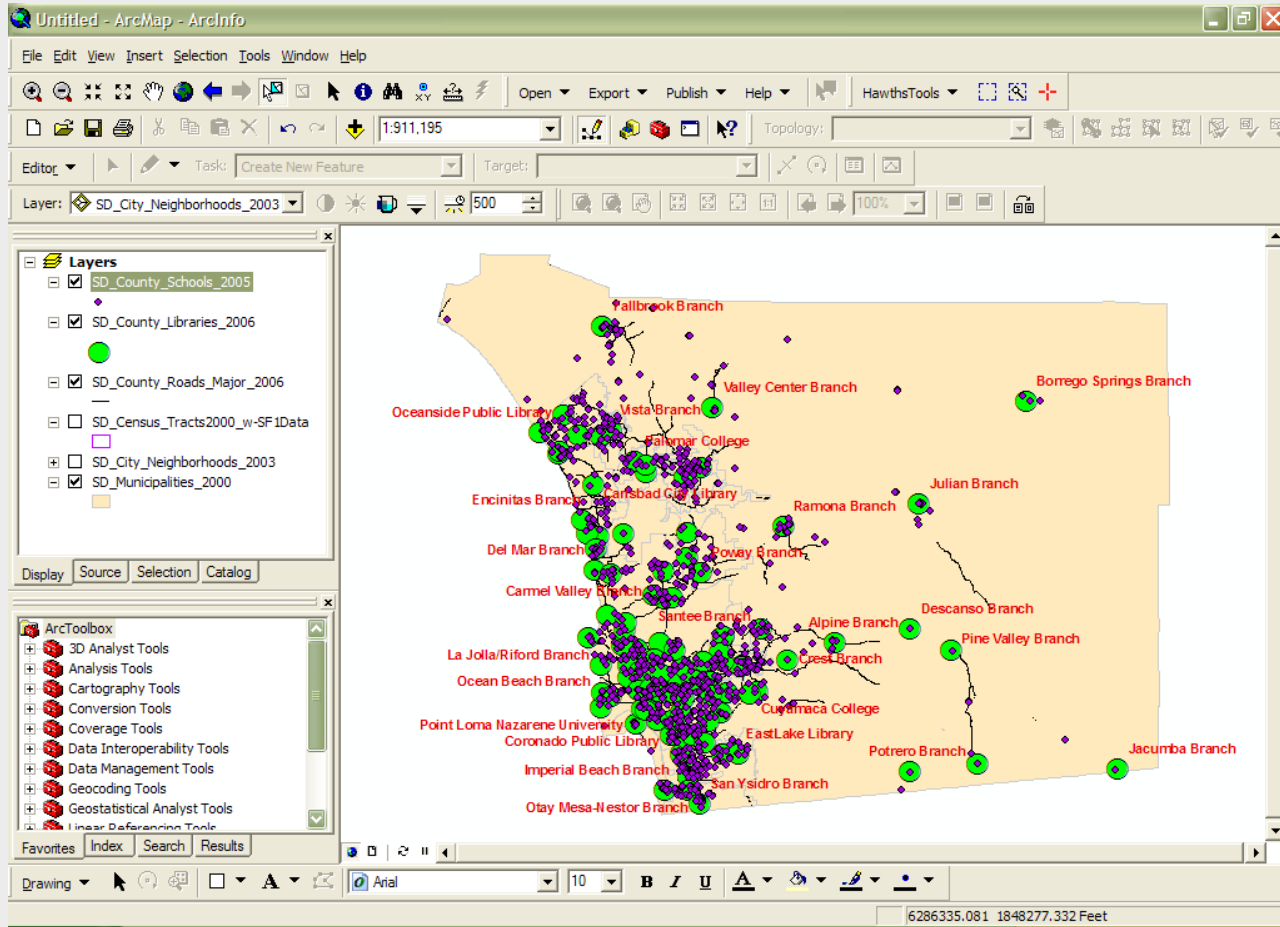
# An Example

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GIS Resources

The End!



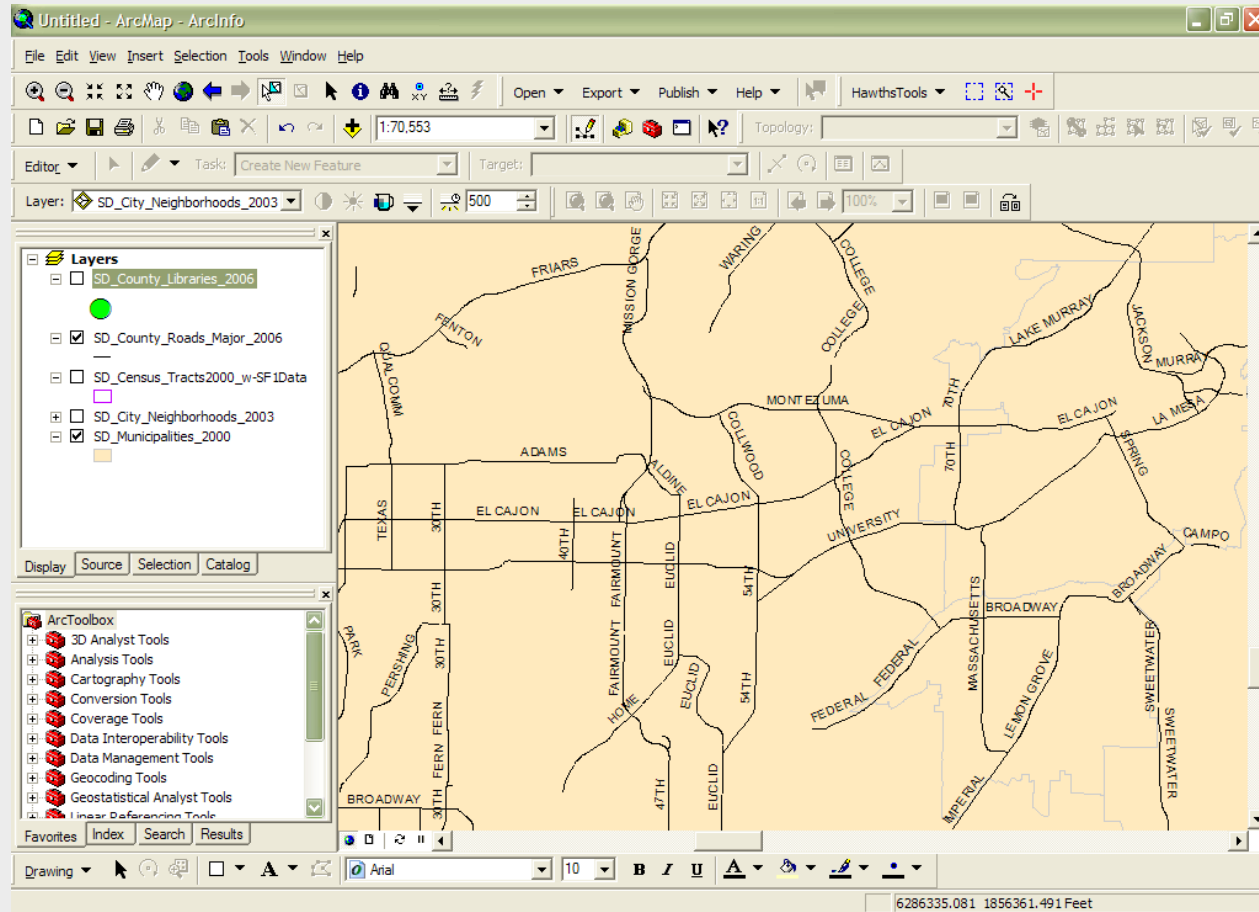
# An Example

What is GIS?

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# An Example

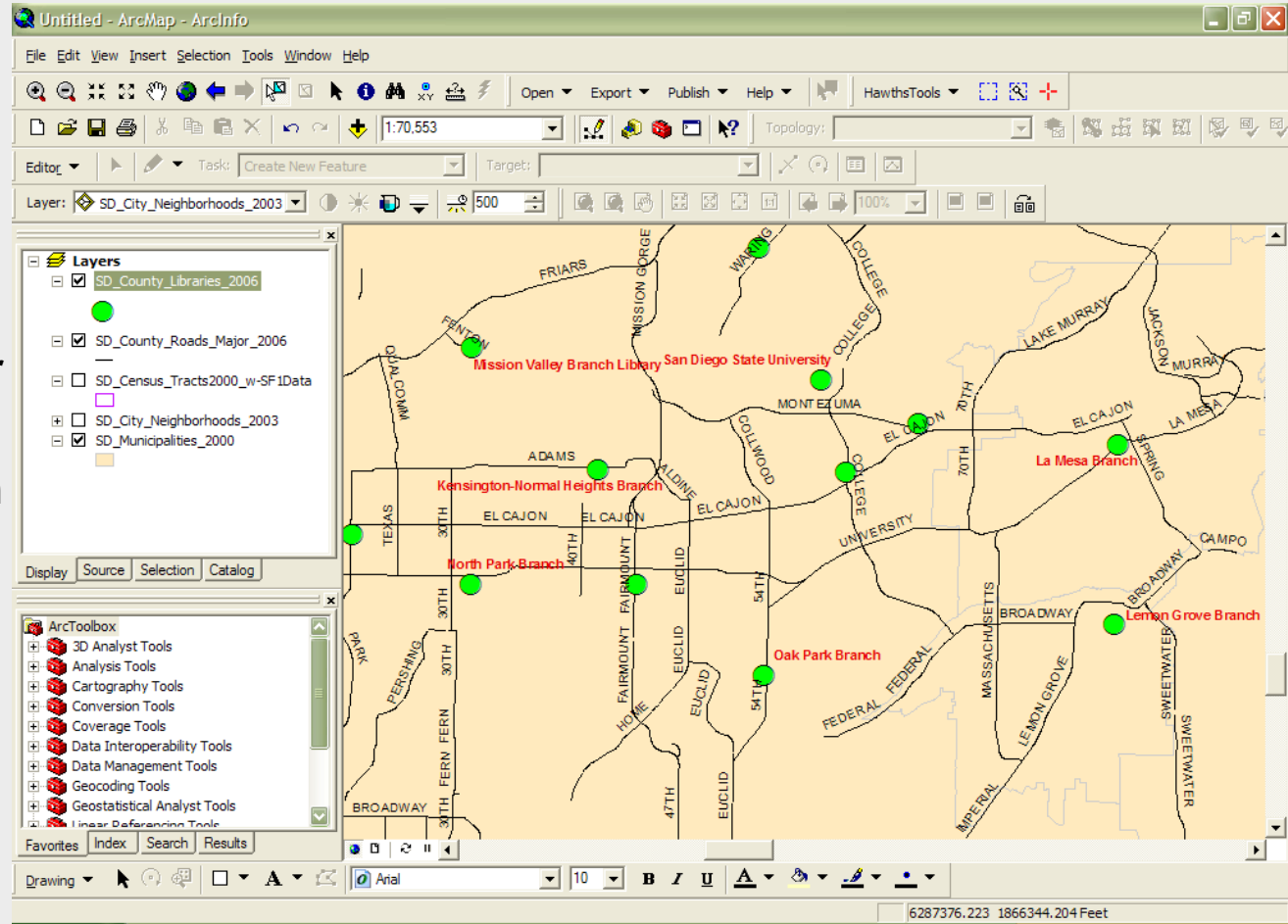
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Here you could determine how much of your neighborhood is within .5 mile from a library



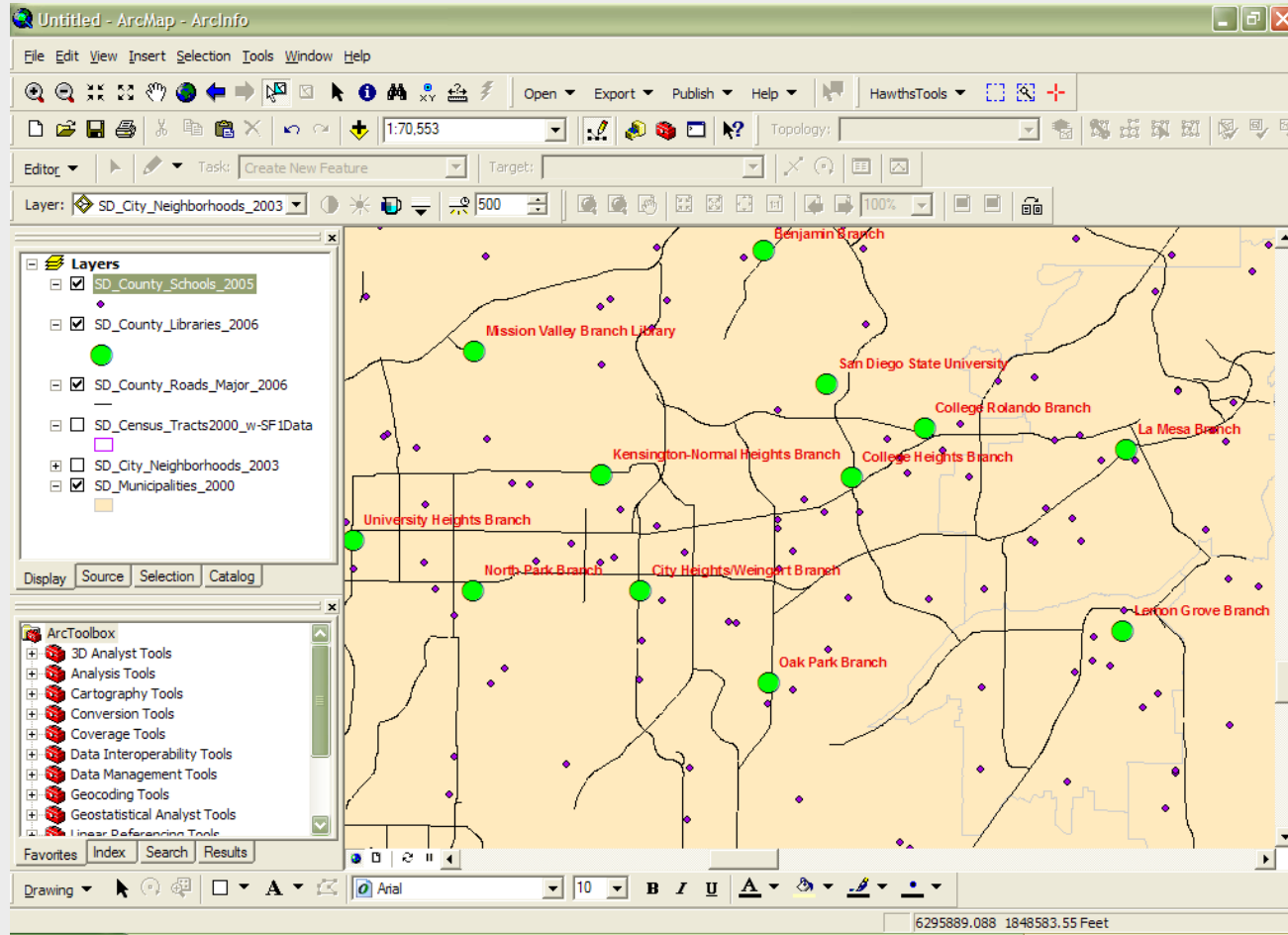
# An Example

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Geographic Information Systems (GIS) @



UCSD Libraries

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Resources

**The  
End!**

# You have help!

Tracey Hughes, GIS Coordinator  
Geisel GIS Lab



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(858) 534-1266

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