



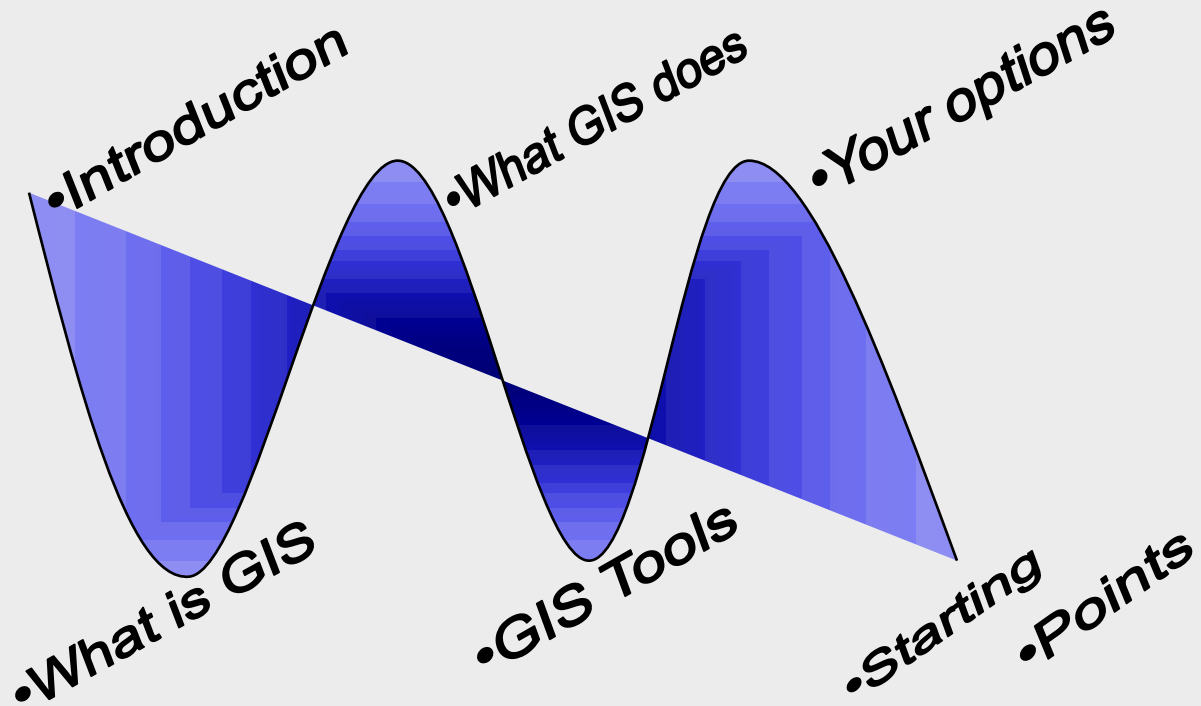
GIS at UCSD...

what it is and what it means to you

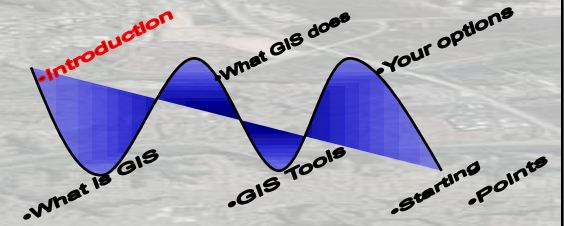
Tracey Hughes
UCSD GIS Coordinator
2006

Image from Google Earth

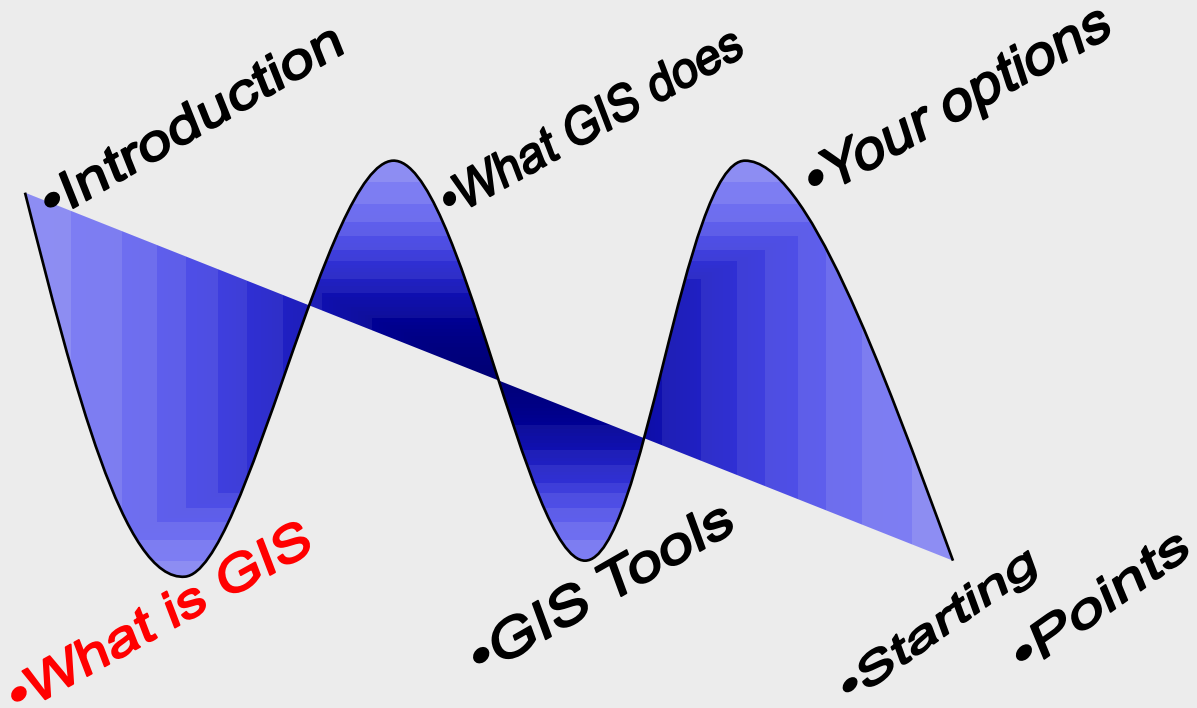
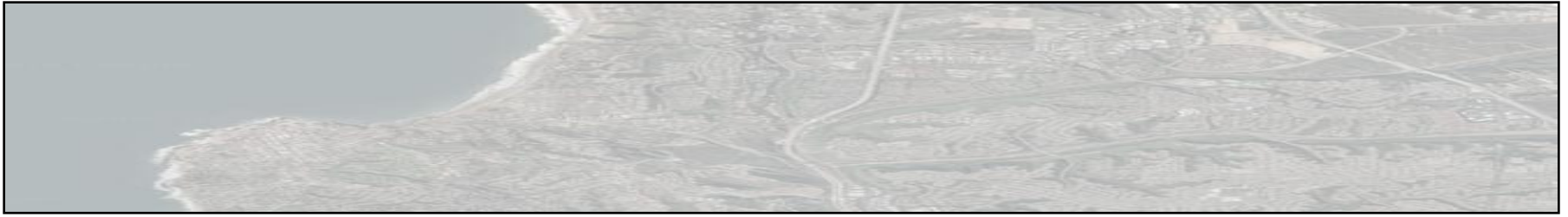
An outline



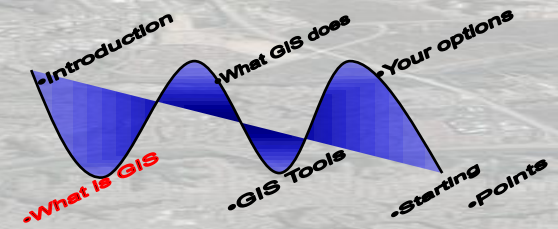
A little about me



- GIS Coordinator
- Information Professional
 - Librarian
 - Spatial analyst
- AICP Planner

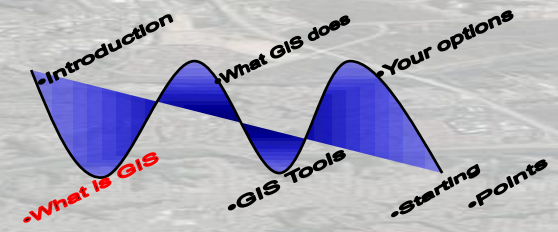


What GIS is...



- **G**eographic **I**nformation **S**ystem
- Implemented with software tools
- Spatial mindset
 - Spatial analysis
 - Visualization in 2D, 3D, or 4D

Representation of the 'real' world



- Layers with attributes
 - Points
 - Lines
 - Polygons
- Vector Data
 - Points
 - Lines
 - Polygons
- Raster Data
 - Images
 - Grids

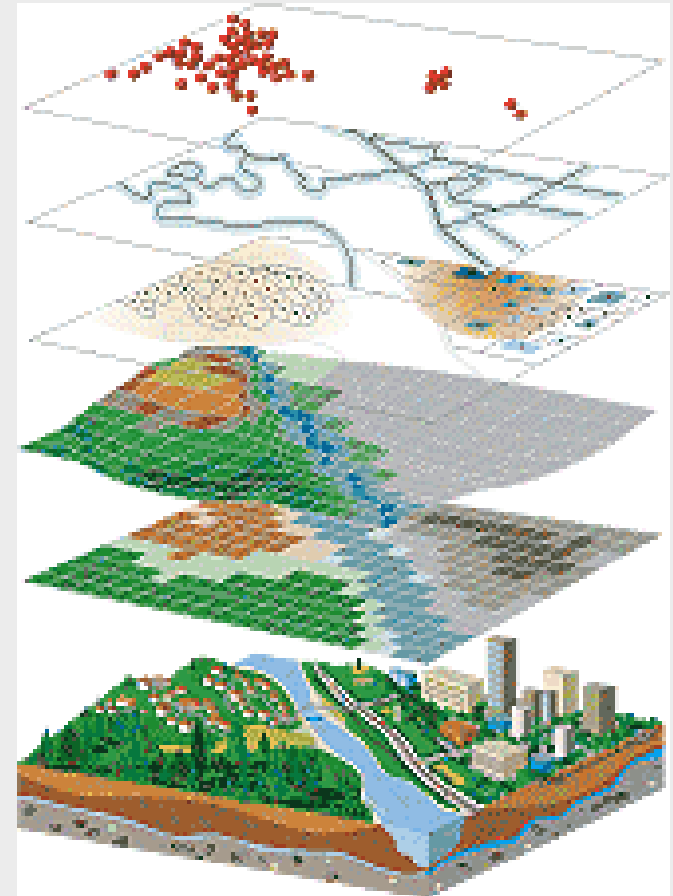
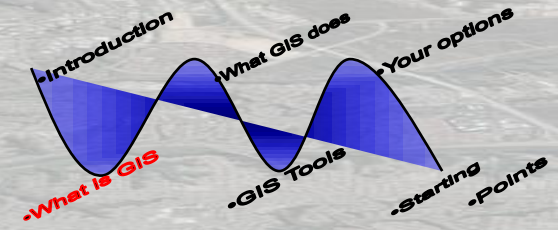


Image from ESRI

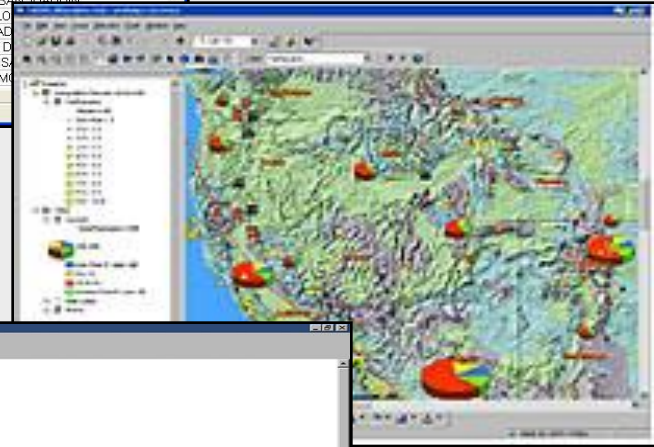
Three 'views' of GIS



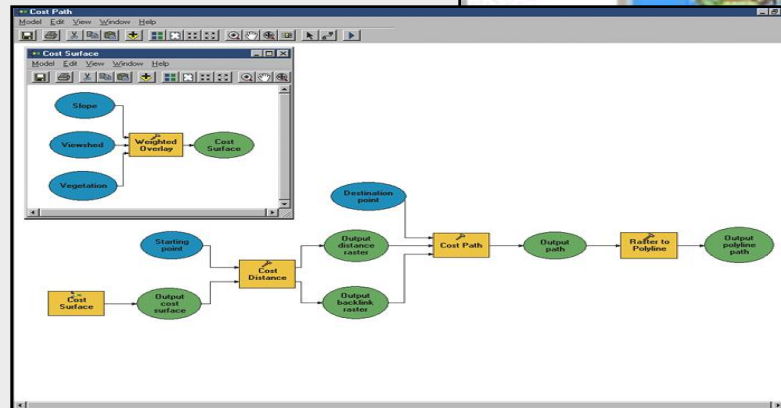
- Database

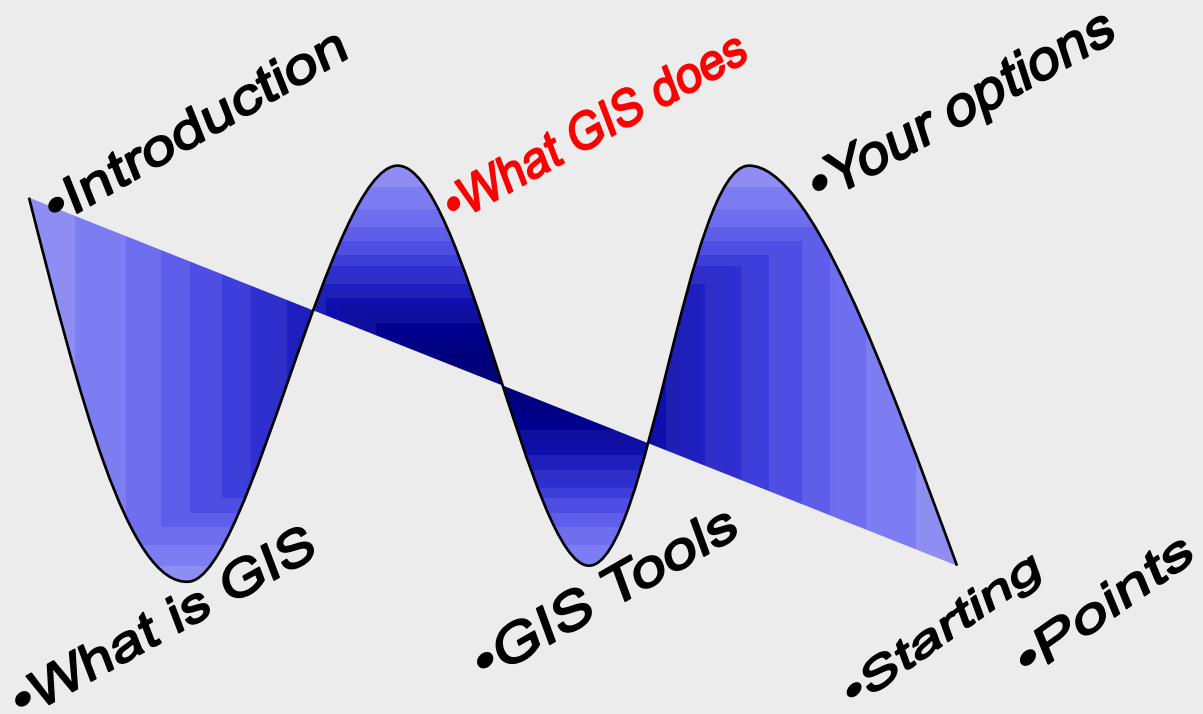
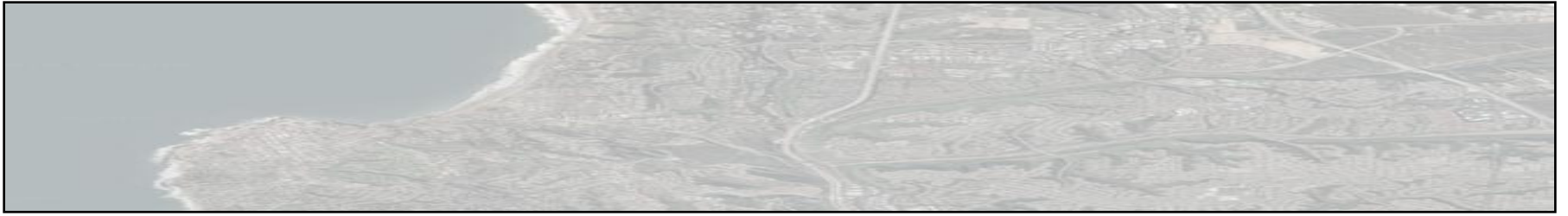
ID	ZIP_CODE	CITY	STATE	AREA_CODE	CITY_ALIAS_NAME
1	00501	HOLTSVILLE	NY	516	HOLTSVILLE
2	00501	HOLTSVILLE	NY	516	IRS SERVICE CENTER
3	00544	HOLTSVILLE	NY	516	HOLTSVILLE
4	00544	HOLTSVILLE	NY	516	IRS SERVICE CENTER
5	00601	ADJUNTAS	PR	787	ADJUNTAS
6	00601	ADJUNTAS	PR	787	JARD DE ADJUNTAS
7	00601	ADJUNTAS	PR	787	URB SAN JOAQUIN
8	00602	AGUADA	PR	787	EXT LO
9	00602	AGUADA	PR	787	AGUAD
10	00602	AGUADA	PR	787	ALTS D
11	00602	AGUADA	PR	787	URB IS
12	00602	AGUADA	PR	787	URB M
13	00602	AGUADA	PR	787	URB M

- Map

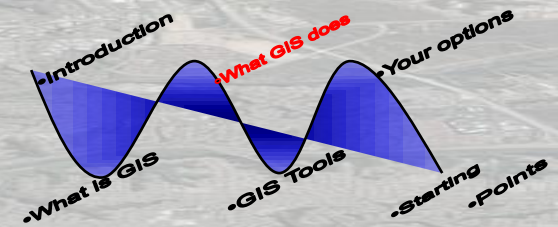


- Model



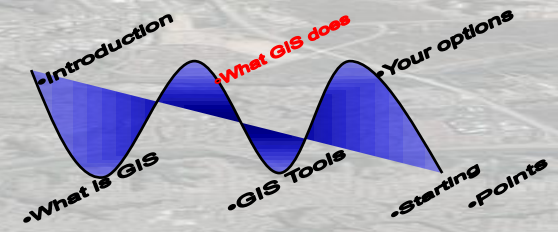


The GIS Process



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

How GIS relates to **you**



Visualize, explore and shape environments

Social environments

- Education
- Social equity
- Interaction spaces

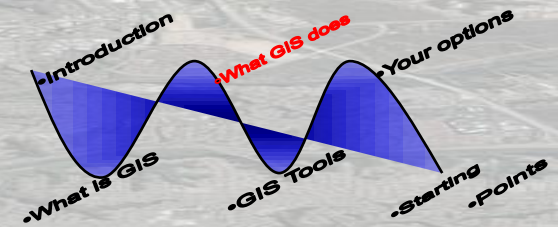
Natural environments

- Environmental justice
- Earth
- Atmosphere
- Ocean

Built environments

- Urban & regional planning
- Economic & community development
- Architecture
- Culture

Communicate

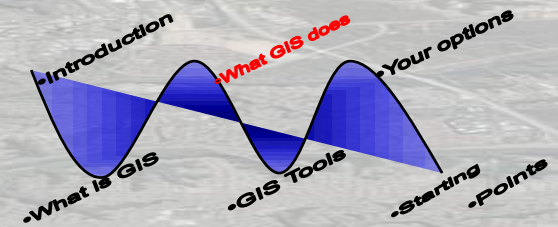


“ [GIS] incorporates the **geographic visualization** of databases, metadata and history, and has **become a fundamental communication modality** to government, academic and nonprofit agencies.”

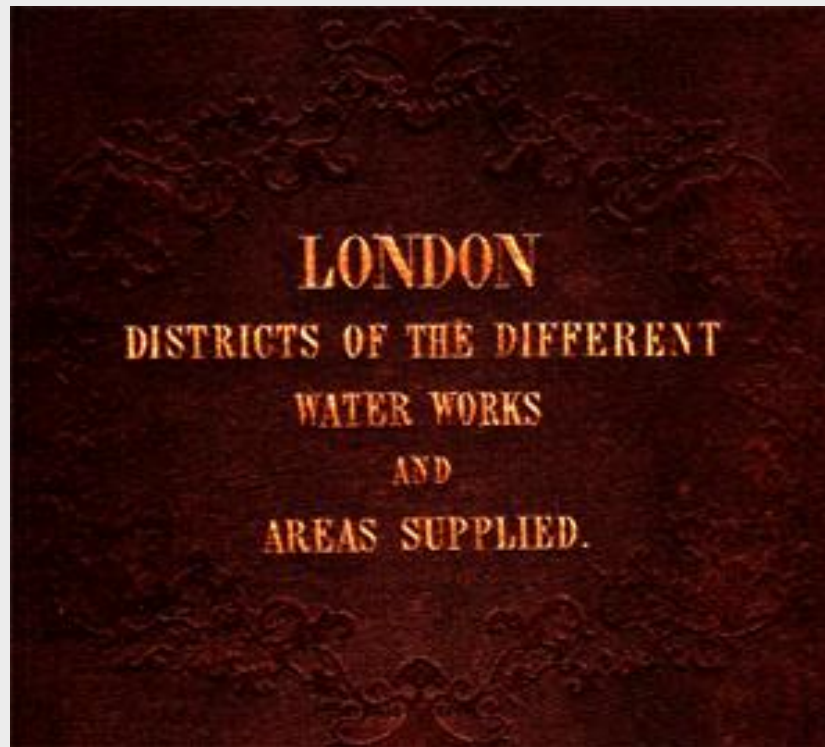
--Rosemary McKeon, UCSD Visual Arts Graduate

Accessed on 10/18/06
at <http://jupiter.ucsd.edu/%7Erose/teaching.htm>.

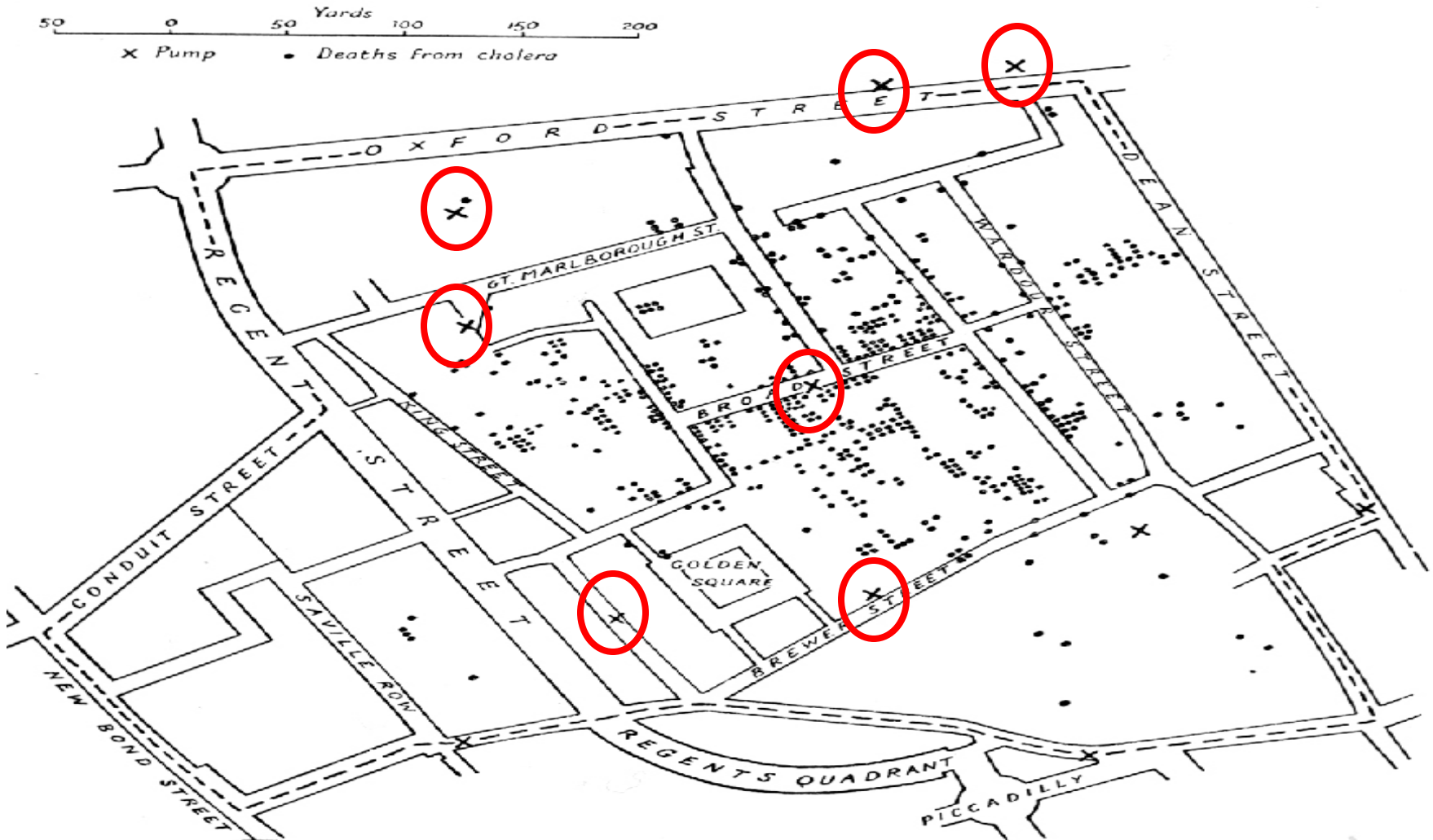
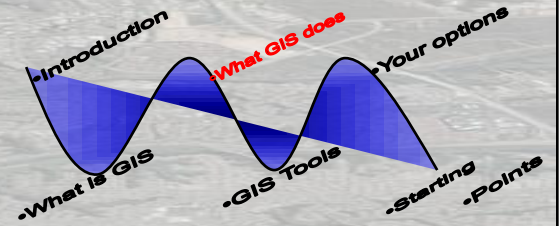
GIS in action



- London Cholera Epidemic of 1854



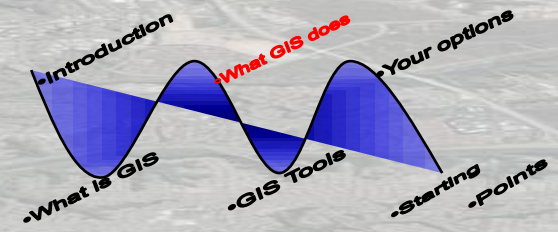
A spatial issue?



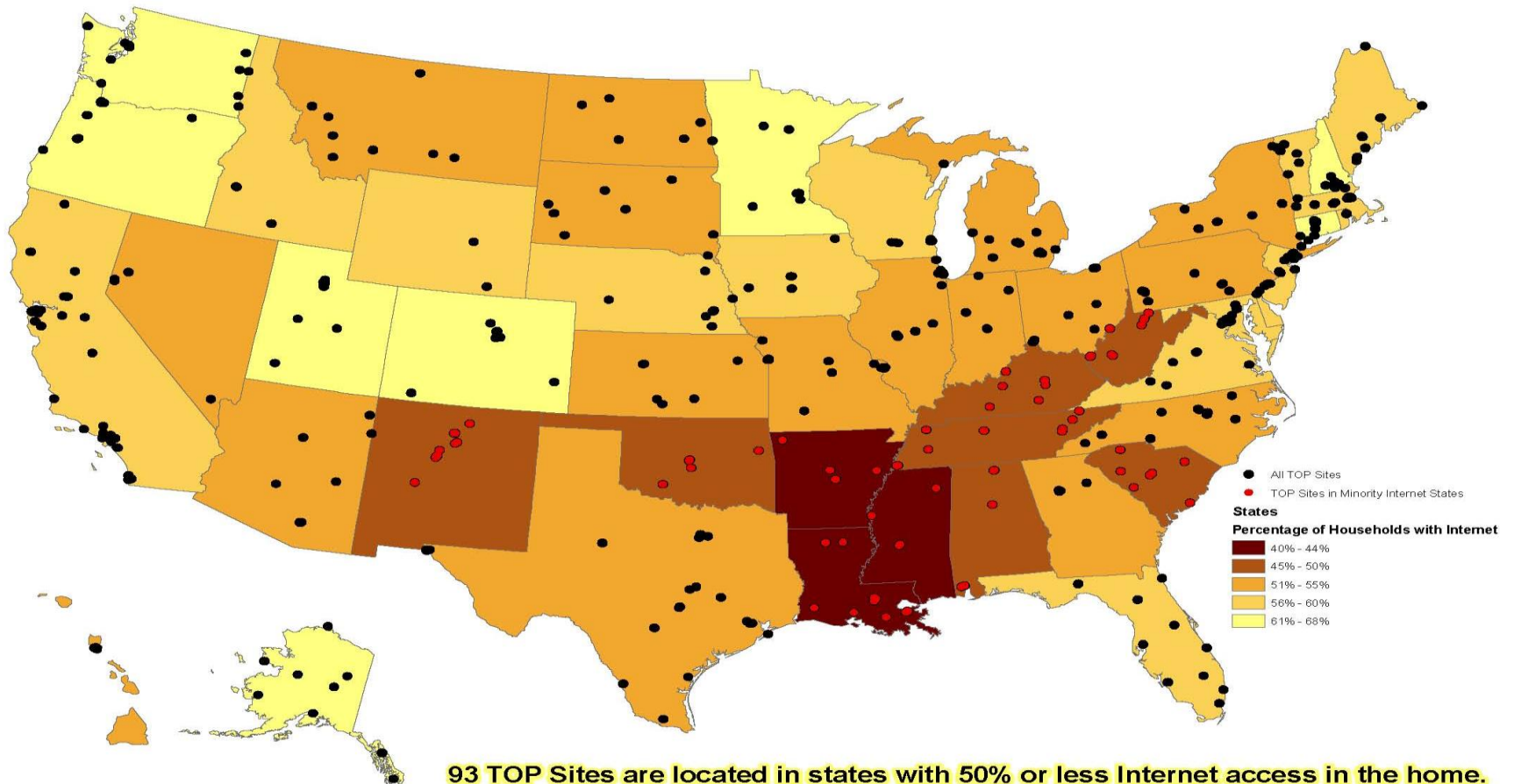
Each dot represents one death from cholera.

500 people died in the epidemic, caused by a contaminated well.

GIS & the Digital Divide



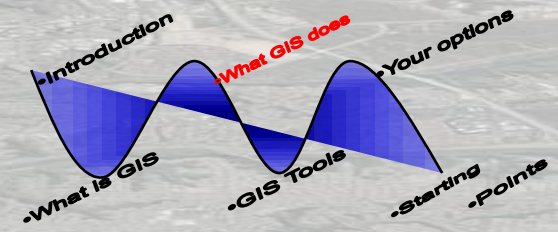
Household Internet Penetration by Percentage with TOP Sites



Not to Scale

TOP Sites layer created by TOP Data Archive
Internet data derived from 2003 CPS
Map created by TOP Data Archive
March 2006

See things in a new way



Percentage of
population
below poverty
level viewed as
height

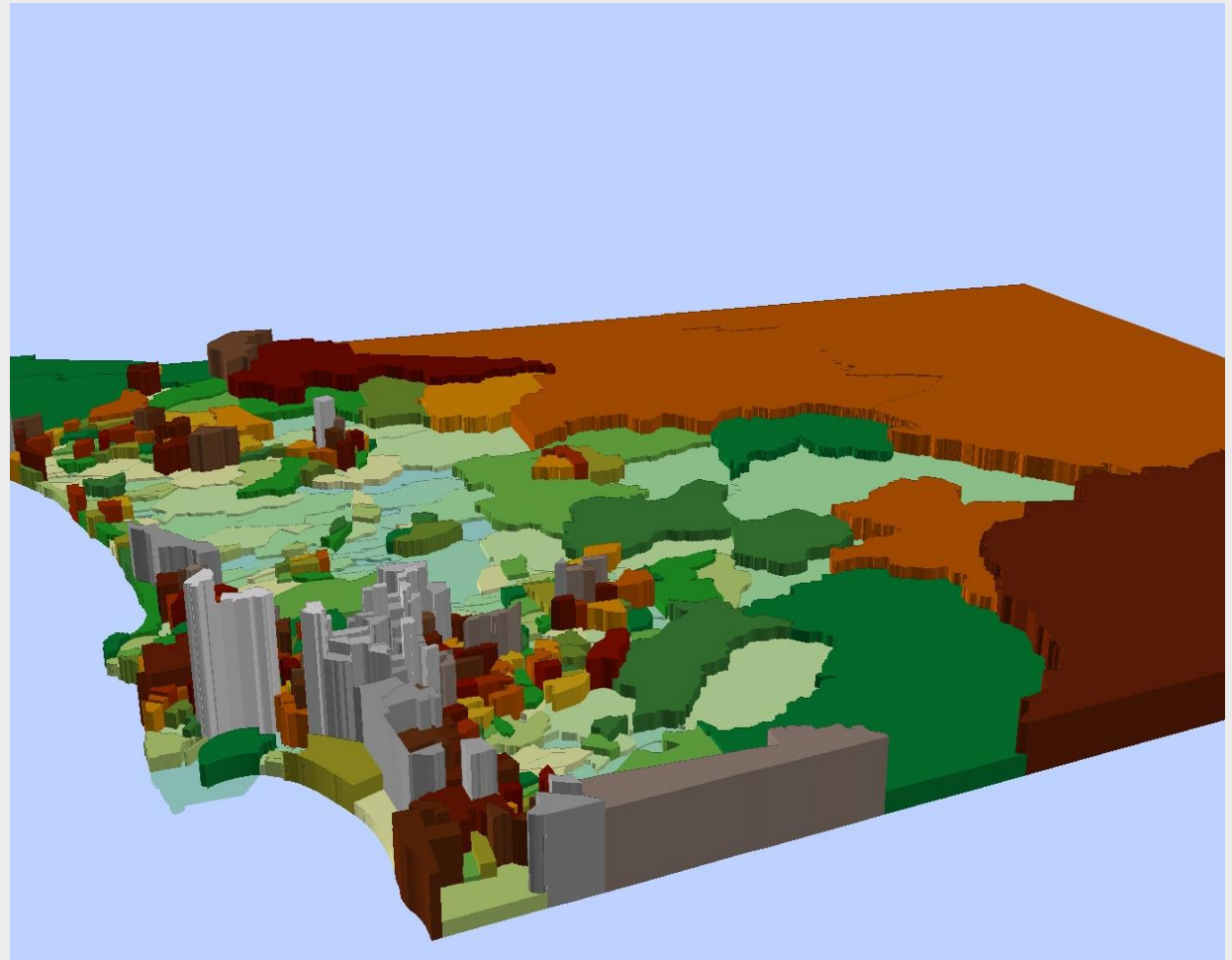
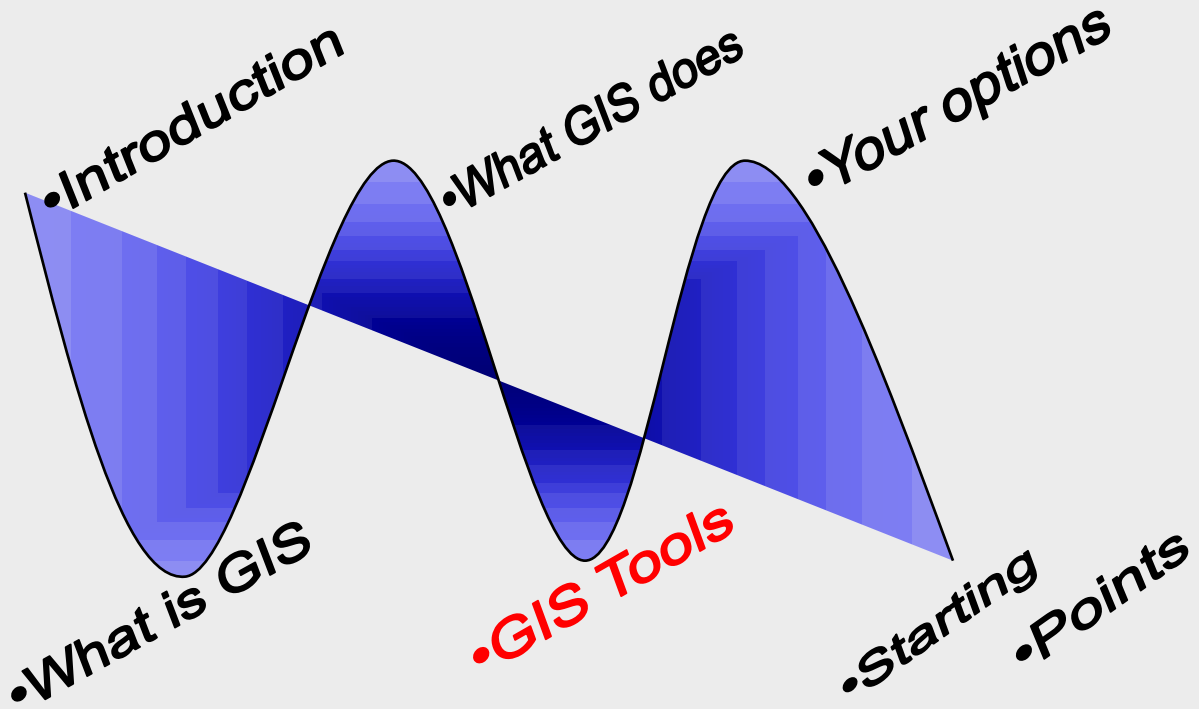
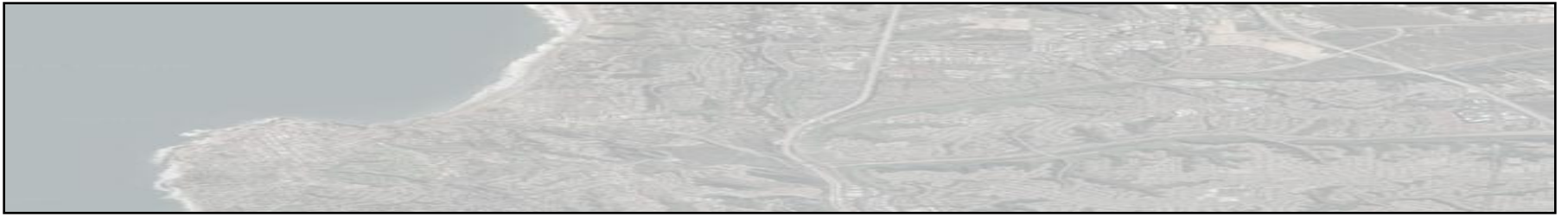
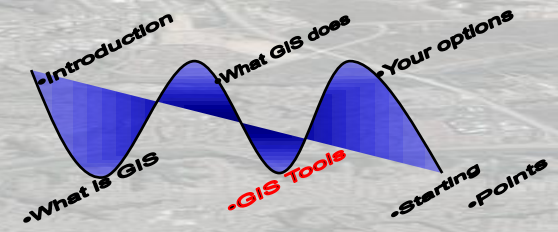


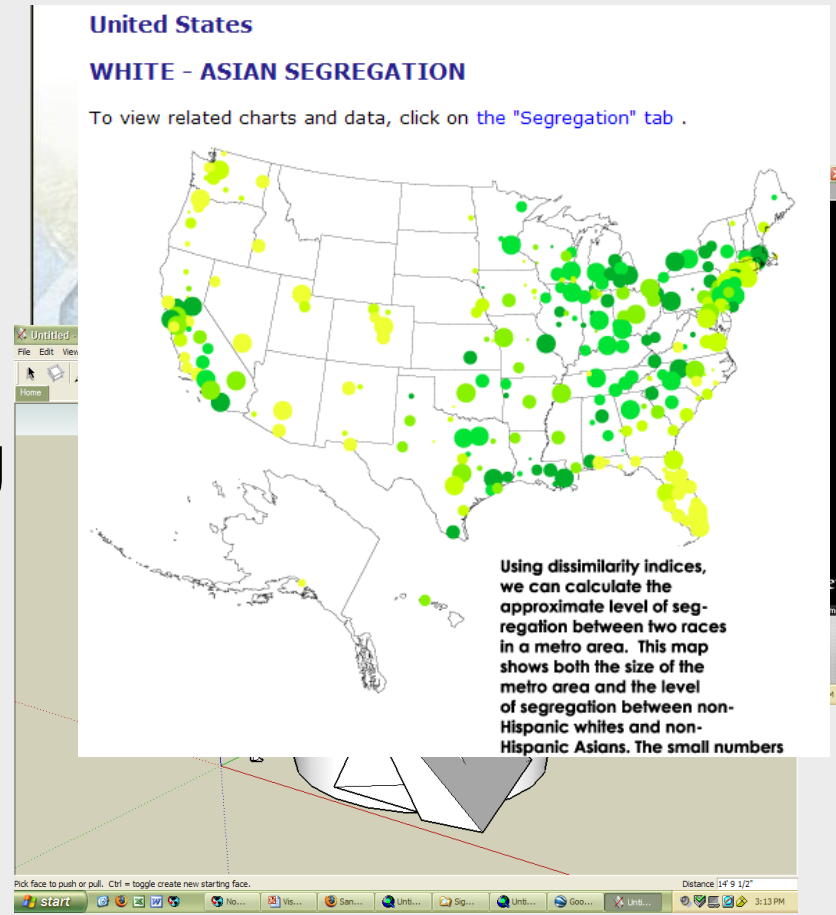
Image created by TELESIS with the Regional Workbench Consortium



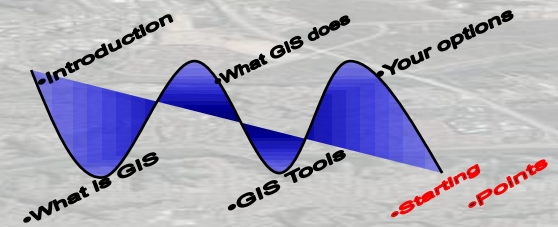
GIS Tools



- ArcGIS Desktop
- Google Earth
- Google Sketch Up
- Interactive mapping websites

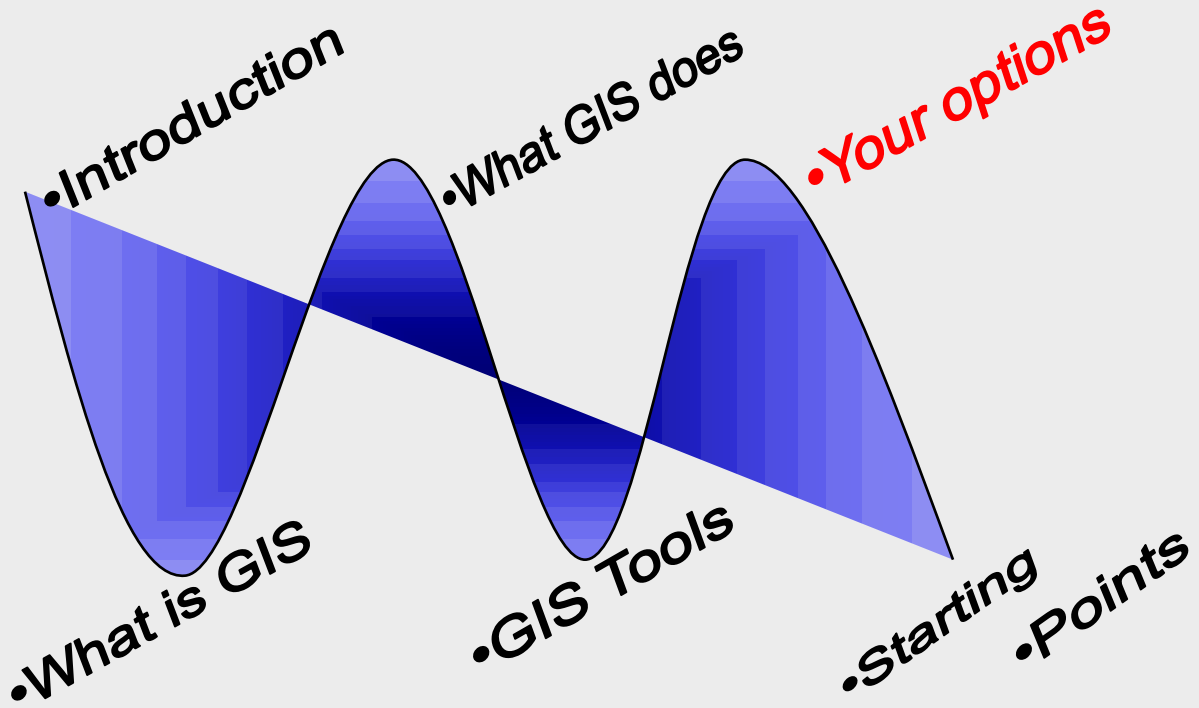
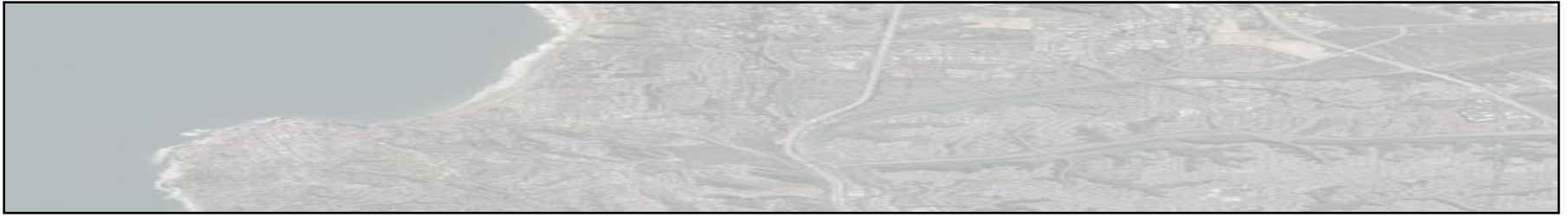


ETHN104 Specific

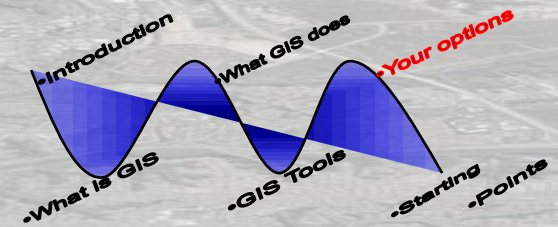


For more on the tools...

- ArcGIS
 - Virtual Campus course (<http://www.campus.esri.com>)
 - Specific task instruction
- Google Earth & Sketch Up
 - Download it (<http://earth.google.com>)
 - Specific task instruction
 - Play with it!
 - Create your own data

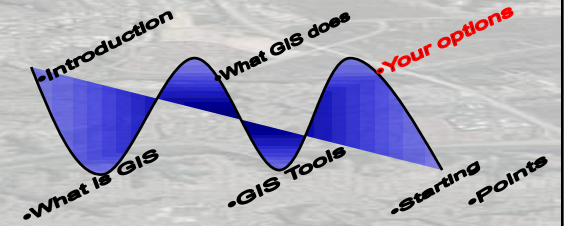


GIS Resources



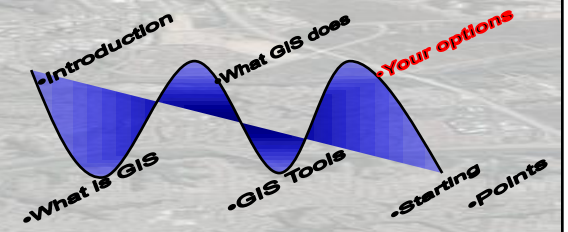
- **Geisel GIS Lab**
 - Computers, printers, scanner
- **Instruction**
 - Online & workshops
- **Software**
 - ArcGIS Desktop
- **Data**
 - Some already there, some in progress
- **Community**
 - Lunches, discussion forum
- **Me!**

More freebies



- Free consultations to determine how GIS can fit with your research
- Free tailored assistance with data collection & analysis
- Free poster-size print if you use GIS in your assignment

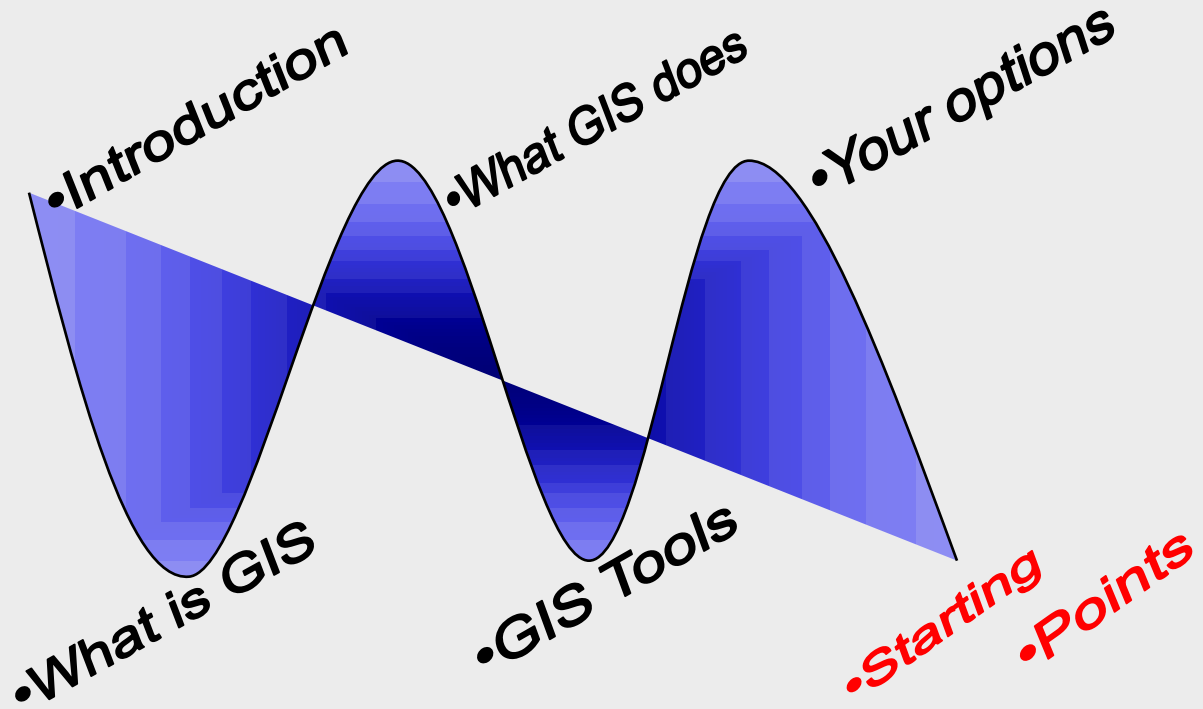
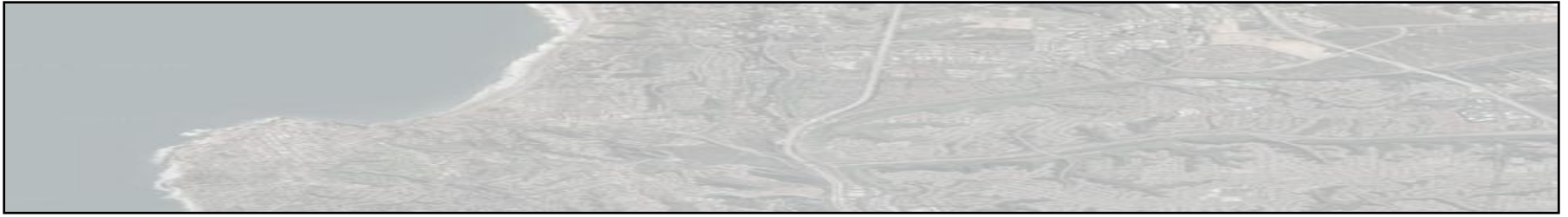
The real limitations



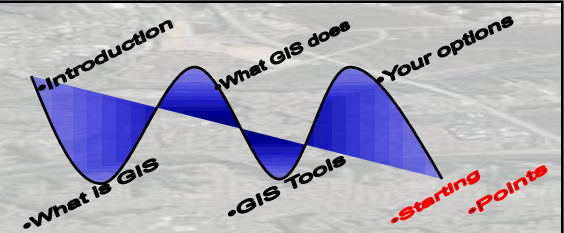
- **Data**

- **Time**

- **Desire**



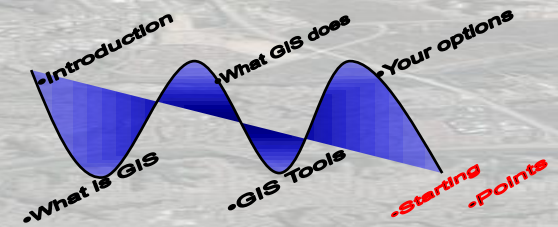
ETHN104 Specific



- **All kinds of information (San Diego)**

- The Library!!
- Data, Government & Geographic Information (<http://govinfo.ucsd.edu/>)
- Social Sciences & Humanities Data Center (<http://ssdc.ucsd.edu/>)

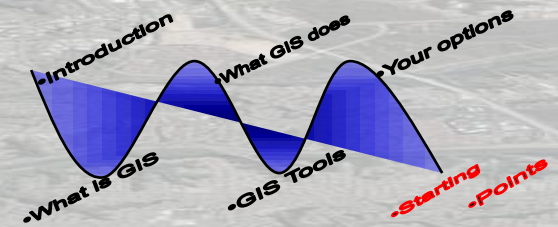
ETHN104 Specific



- **All kinds of information (San Diego)**

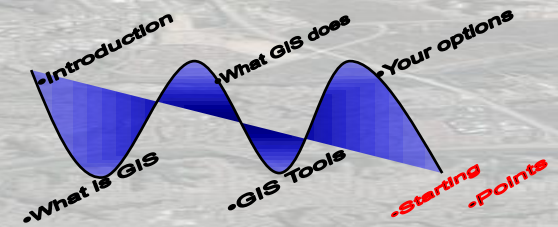
- City of San Diego: Community Planning pages (<http://www.sandiego.gov/planning/community/plans.shtml>)
- City of San Diego Official Zoning Map (<http://www.sandiego.gov/development-services/zoning/zoninggridmap.shtml>)
- County of San Diego: Department of Planning (<http://www.sdcountry.ca.gov/dplu/index.html>)
- SanDAG →Resources (<http://www.sandag.org/>)
- SanDAG's Data Warehouse (<http://datawarehouse.sandag.org/>)
- City Planning & Community Investment (<http://www.sandiego.gov/cpci>)
- Community Development Block Grants – click on 'Funded Projects' (<http://www.sandiego.gov/cdbg>)

ETHN104 Specific



- **All kinds of information (Los Angeles)**
 - City of Los Angeles
(<http://www.lacity.org/lacity197.htm>)
 - County of Los Angeles Regional Planning
(<http://planning.co.la.ca.us/>)

ETHN104 Specific



- **All kinds of information (General)**

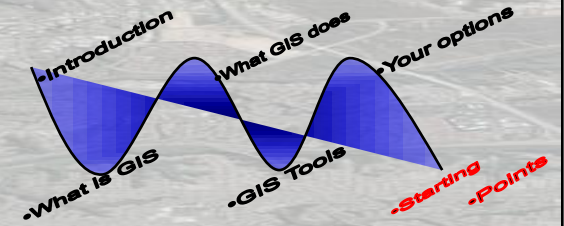
- American FactFinder

- (<http://factfinder.census.gov>)

- All Urban Studies course guides, esp. USP 193

- (<http://ssh1.ucsd.edu/instruction/guides/usp193.html>)

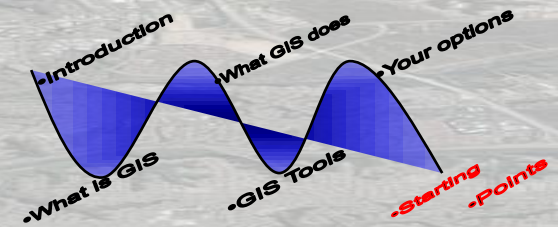
ETHN104 Specific



- **GIS Data**

- Data on server accessed in Geisel GIS Lab
- SanDAG → Resources → GIS
(<http://www.sandag.org/>)
- SanGIS (City & County data):
(<http://www.sangis.org/>)
- National Historical GIS (<http://www.nhgis.org/>)

ETHN104 Specific



- Interactive Mapping

- City and County of San Diego via SanGIS

- (http://www.sangis.org/sangis/IntMapping_main.htm)

- REDI: a tool from SanDAG where you can zoom easily to particular SD areas

- (<http://cart.sandag.org/redi/>)

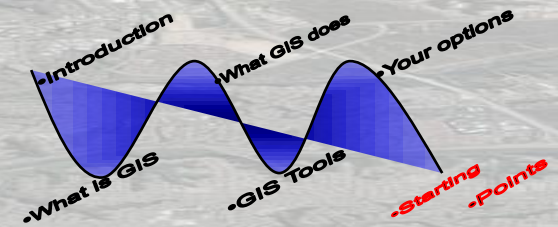
- City of Los Angeles

- (<http://www.lacity.org/lacity197.htm>)

- County of Los Angeles

- (<http://planning.co.la.ca.us/intGisMaps.htm>)

ETHN104 Specific



- Interactive Mapping

- Social Explorer: Quick maps at Census tract level & race time series of LA

(<http://www.socialexplorer.com>)

- CensusScope: Maps, trends , rankings and racial segregation based on Census data

(<http://www.censuscope.org>)

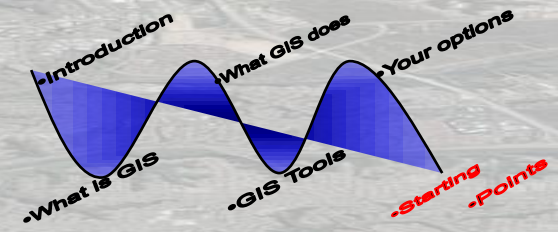
- Historical Census Mapper: Can create maps easily

(<http://fisher.lib.virginia.edu/collections/stats/histcensus/>)-

- San Diego Quality of Life Mapper

(<http://www.qolsandiego.net/maproom.htm>)

I'm here for you!



**Tracey Hughes, GIS Coordinator
Geisel Library**



t2hughes@ucsd.edu

(858) 534-1266



How can **you** use GIS?



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

Jack Dangermond, ESRI President & Founder