

# A Story of My Majors

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- 1 Undergraduate Major — GIS
  - GISystem vs. GIScience
  - GISer
  - GIS is everywhere
- 2 Graduate Major — Ecology
  - In the eyes of public
  - In my eyes
- 3 Research Interest — Environmental Health

## Do you know GIS?

- Time: September 2008
- Place: "White House" — A Teaching Building looks like the White House
- People: The student counsellor and 36 students
- Event: First class meeting

How many of you choose to study GIS?

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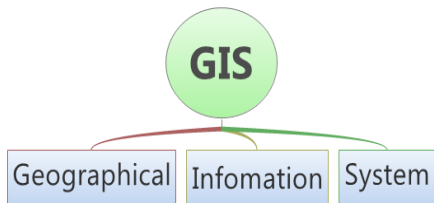
How many of you choose to study GIS?

 3/36



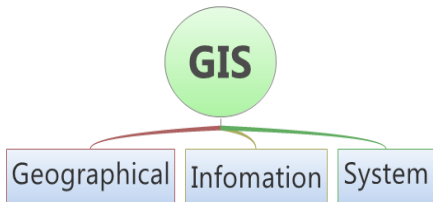
## GIS

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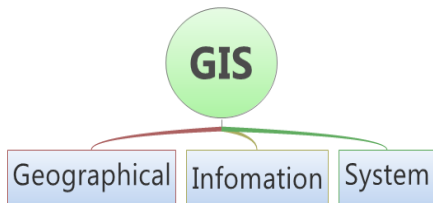
Michael F. Goodchild

System → Science

- GISystem — tool, technology
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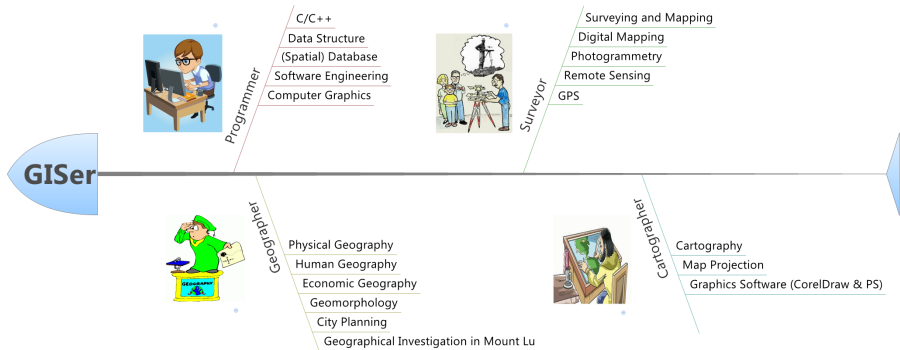
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Prof. Goodchild grows up and wants to be the **father** of GIScience.

## GISer Equation

GISer = Programmer + Geographer + Surveyor + Cartographer



# Geographical Investigation in Mount Lu



Travelling through jungles



Measuring soil depth



Mapping the route



Just for fun



Google Earth



Baidu Map



GPS Car Navigation System



ESRI ArcGIS



Tippi and Animal of Africa



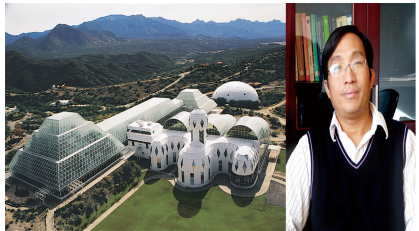
Animal Planet — Penguins



Tippi and Animal of Africa



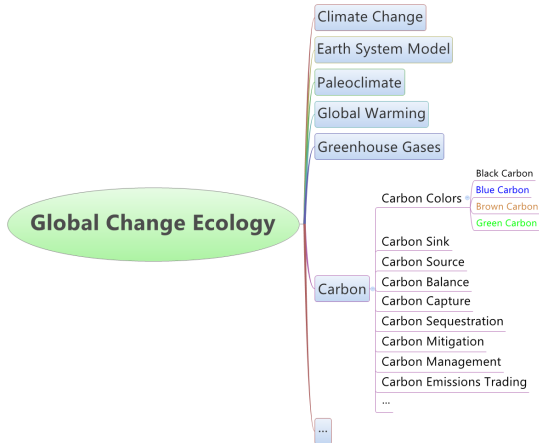
Animal Planet — Penguins

Jane Goodall and Chimpanzee  
Beauty and the BeastsBiosphere 2 (Tucson, Arizona, USA)  
Prof. Lin



# Global Change Ecology

## Numerous carbon topics



# Stale Isotope Ecology

- Collecting feces and eggshells of bar-headed goose (*anser indicus*)



Bar-headed goose



Feces



Eggshells

- Testing  $\delta^{13}\text{C}$  and  $\delta^{15}\text{N}$



carbon-12  
98.9%  
6 protons  
6 neutrons

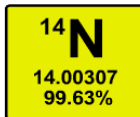


carbon-13  
1.1%  
6 protons  
7 neutrons

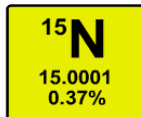


carbon-14  
<0.1%  
6 protons  
8 neutrons

Carbon isotopes



Stable

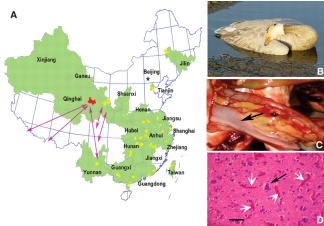


Stable

Nitrogen isotopes

- Food and diets of bar-headed goose

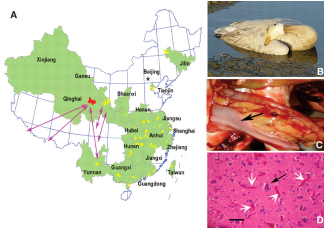
- Bar-headed goose is a kind of wild birds who can carry avian flu virus (e.g., H5N1).



Liu et al., *Highly Pathogenic H5N1 Influenza Virus Infection in Migratory Birds*. Science, 2005.

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Thank you for your attention!