

## **HOW DO MOST SEARCH ENGINES WORK?**

### **1) Gather information from the Web**

A) Software crawlers, spiders, robots, bots are used to visit pages and sample content

- How does sampling occur? Title, metadata, clustering, etc.
- How often do crawlers visit?

B) Humans search for or submit pages for indexing

C) Hybrid: crawler/human

### **2) Index information that is returned by crawlers**

### **3) Answer queries from users**

**These search engines work superbly for a wide range of queries**

**However, it is always good practice to use more than one search engine to perform a given search.**

**And, METASEARCH ENGINES like ixquick and dogpile can be used to search several engines at once.**

**4) Always remember that most search engines are trying to sell you something. They are funded mostly by advertisers and these advertisers may be favored in searches--so that their sites always come up at the top of search results, for example, or in other ways..**

## **THREE PROBLEMS**

**1) Ambiguous names and terms--A common problem in cartography and geography when search for information about places with confusing placenames and different names in different languages**

**This is a reason for learning and using the advanced search options available for most search engines.**

**2) Finding different types of map and geospatial data**

**Sometimes the difference between finding finished maps and the raw data on which they are based.**

**See examples from [www.nationalatlas.gov](http://www.nationalatlas.gov)**

**Raster versus vector formats**

**3) Access to the "Deep" or "Invisible" Web, including:**

**A) Databases and web sites that generate responses dynamically from databases**

- <http://www.geocomm.com/>
- <http://www.loc.gov>

**B) Dynamic maps and mapservers**

**C) Sites that block crawlers**

**D) Rapidly changing sites**

## **References**

### **General Information About How Engines Work**

<http://searchenginewatch.com/>

### **Search Engine Feature Chart**

<http://www.searchengineshowdown.com/>

### **Examples of Metasearch Engines**

<http://www.dogpile.com/>  
<http://us.ixquick.com/eng/>

### **How Different Are the Results?**

<http://www.langreiter.com/exec/yahoo-vs-google.html>

### **Internet Tutorials, <http://www.internettutorials.net/>, including:**

Laura Cohen, The World of Search Engines  
<http://www.internettutorials.net/world-of-search-engines.asp>

Laura Cohen, How to Choose a Search Tool  
<http://www.internettutorials.net/choose.asp>

Laura Cohen, The Deep Web  
<http://www.internettutorials.net/deepweb.asp>