

# Changes in Information Access

## Old Day, Old Way

- Paper
  - - Search dependent upon careful metadata

**Creating metadata is labor intensive**

## New Day, New Way

- Web pages
  - - Crawlable
- Databases
  - - Metasearch

**Crawling and Metasearching are automated processes**

# Science.gov searches across 47 million pages located at 12 different agencies

The screenshot shows the science.gov homepage with a navigation menu, a search bar, and a grid of science categories. The categories include Agriculture & Food, Applied Science & Technologies, Astronomy & Space, Biology & Nature, Computers & Communication, Earth & Ocean Sciences, Health & Medicine, Math, Physics, & Chemistry, Natural Resources & Conservation, and Science Education. At the bottom, there are featured web sites like Ciencia@NASA, Inter-American Biodiversity Information Network, and MedlinePlus Espanol, along with logos for DOE/OSTI, USGS, and INTIS.

**science.gov**  
FIRST GOV for SCIENCE

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**NEW! A Deep Web Search of GPO Access Federal Regulations**

Science.gov Search  [Begin Search](#) [Advanced Search](#)

*Explore Selected Science Web Sites by Topic*

- [Agriculture & Food](#)**  
Food Safety, Gardening, Pesticides, Veterinary Science ...
- [Energy & Energy Conservation](#)**  
Energy Use, Fossil Fuel, Solar, Wind ...
- [Applied Science & Technologies](#)**  
Biotechnology, Electronics, Engineering, Transport ...
- [Environment & Environmental Quality](#)**  
Air/Water/Noise Quality, Cleanup, Climate Change ...
- [Astronomy & Space](#)**  
Exploration, Planets, Space Technologies ...
- [Health & Medicine](#)**  
Disease, Health Care, Nutrition, Mental Health ...
- [Biology & Nature](#)**  
Animals & Plants, Ecology, Genetics, Pest Control ...
- [Math, Physics, & Chemistry](#)**  
Astrophysics, Chemicals, Mathematical Modeling ...
- [Computers & Communication](#)**  
Networks, Hardware, Software ...
- [Natural Resources & Conservation](#)**  
Ecosystems, Energy Resources, Forest Science, Mining ...
- [Earth & Ocean Sciences](#)**  
Land, Maps, Natural Disasters, Oceans, Weather ...
- [Science Education](#)**  
Homework Help, Teaching Aids, Science Internships ...

*Featured Web Sites*

- [Ciencia@NASA](#)
- [Inter-American Biodiversity Information Network](#)
- [MedlinePlus Espanol](#)
- [DOE/OSTI](#)
- [USGS](#)
- [INTIS](#)

## **Taking Advantage of Advances**

- Precision searching is improving
  - Boolean searches
  - Fielded searches when metadata is available
- Future advances (yet unknown) will need to be accommodated