Evolution
Collection of Data

Organization of Data

Development of Data Tools

Delivery of Data

Data Innovation
dā-ta - factual information (as measurements or statistics) used as a basis for reasoning, discussion, or calculation

information - the communication or reception of knowledge or intelligence
Coming to a device near you
Thinks to ponder

Mobile First
HTML5
APPS
INFOGRAPHICS

a visual representation of data or information. Short for 'information graphic'.
HONEY BEES EXTINCTION

Disturbing evidence that honeybees are in terminal decline has emerged from the United States, where for the fourth year in a row, more than a third of colonies have failed to survive the winter. The depopulation of bees could have a huge impact on the environment, which is reliant on the insects for pollination. If the bee population were to collapse, crops, flowers, and therefore livestock — could die off if there are no pollinating insects left.

US & CANADA WINTER COLONY LOSSES

2009-10

NORMAL WINTER COLONY LOSSES

15%

CAUSE

- DIS ECTO PARASITE MITE
- NEW BEEKEEPER QUALITY
- INFECTIOUS BEE DISEASES
- HUMAN CONTACT TO THE APIARY
- BEES LEAVING THE COLONY
- FLOWERS
- CLIMATE
- MANAGEMENT

BEES DEATH

A number of factors contribute to the decline in bee populations, including:

- Varroa Mite: A parasitic mite that causes a decline in colony strength and reproductive ability.
- Pathogens: These can cause diseases, which can be transmitted to the bee colonies.
- Pesticides: Exposure to pesticides can harm bees, reducing their ability to carry out their crucial pollination role.
- Loss of habitat: The destruction of natural habitats, such as forests and fields, reduces the availability of food and shelter for bees.
- Climate change: Changes in temperature and precipitation patterns can disrupt the behaviour and survival of bees.

RECENT WINTER COLONY LOSSES (%)

US COLONIES DECLINE

In the past 50 years, the population of domesticated honeybees has dropped 50 percent. The rate of loss experienced by the industry is unsustainable.
**FISHERIES**

**ECOSYSTEM MANAGEMENT**

**Why preserve fisheries?**

**Food**
Fish are an important part of daily nutrition in many countries.

**Linking Parts of the Ecosystem**
Fish link different parts of the ecosystem via transport of nutrients and energy.

**Recreation**
Recreation and derived medicines are important uses in many areas of the world.

**other services:** Spirituality • Regulation of Populations • Habitat Engineering

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**How important are fish to the average diet?**

**Daily Caloric Availability from all Food Sources (2002)**

<table>
<thead>
<tr>
<th>Country</th>
<th>Calories per Capita</th>
</tr>
</thead>
<tbody>
<tr>
<td>USA</td>
<td>3774</td>
</tr>
<tr>
<td>Brazil</td>
<td>2792</td>
</tr>
<tr>
<td>China</td>
<td>1951</td>
</tr>
<tr>
<td>India</td>
<td>1802</td>
</tr>
<tr>
<td>Russia</td>
<td>1641</td>
</tr>
<tr>
<td>Portugal</td>
<td>1599</td>
</tr>
<tr>
<td>UK</td>
<td>1412</td>
</tr>
</tbody>
</table>

**Fish Consumption per Capita (2003-2005)**

Fish and Fishery Products Supply in kg/year

- Ukraine: 3054 kg
- China: 2954 kg
- South Africa: 2956 kg
- New Zealand: 3219 kg

**What is the current state of world fisheries?**

**State of Fishery Stocks (Percent, average 1997-2004)**

- Unexploited
- Overexploited
- Moderately Exploited
- Fully Exploited

<table>
<thead>
<tr>
<th>Percentage</th>
<th>Unexploited</th>
<th>Overexploited</th>
<th>Moderately Exploited</th>
<th>Fully Exploited</th>
</tr>
</thead>
<tbody>
<tr>
<td>320</td>
<td>52</td>
<td>17</td>
<td>7</td>
<td></td>
</tr>
</tbody>
</table>

**What are some major threats to fisheries?**

- Coral Reef Bleaching
- Mangrove Destruction
- Erosion
- Climate Change
- Bottom Trawling
- Pollution

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**How are fisheries managed sustainably?**

Some basic principles of MSC sustainable fisheries certification:

- **Sustainable fish stocks** - The fishing activity must be at a level which is sustainable for the fish population.

- **Minimising environmental impact** - Fishing operations should be managed to maintain structure, productivity, function and diversity of the ecosystem.

- **Effective management** - The fishery must meet all local, national and international laws.

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**The challenge is to manage fisheries in a sustainable way.**

Look for an eco-label on products to make sure you are purchasing fish from a sustainably-managed fishery. The Marine Stewardship Council is a major, accredited certification body.
STATIC

interactive
http://pbsg.npolar.no/en/dynamic/app/
• **JavaScript / Flash Infographic Tools**
  • **KeyLines** - A JavaScript toolkit for visualizing networks.
  • **d3.js** - Free JavaScript library for manipulating documents based on data.
  • **InfoVis Toolkit** - A JavaScript tool for creating interactive data visualizations.
  • **Flare** - Makes it easy to create interactive data visualizations (ActionScript).
  • **JS Charts** - Free JavaScript charts.
  • **FusionCharts** - JavaScript (HTML5) and Flash charts.
  • **amCharts** - JavaScript and HTML charts.
  • **Highcharts** - Interactive JavaScript charts.
Value of Infographics

- Highly visual
- Represent large amounts of data
- Use graphic representation of size, shape and color to explain what takes paragraphs
- Sharable on the web
- Adopted by media
- Dynamic (can be connected to real databases)
CHALLENGE FOR THE FUTURE

CHANGE THE WAY PEOPLE CONSUME DATA