The Ocean Observing System 2014

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Hobart, 23 January 2014

Summary

1) **The Software**: The software is now as much the global ocean observing system as the hardware
   Example: biogeographical observations
2) **The Hardware**: Every vessel, every platform, every research project can now be part of “The System”
   Example: Ocean exploration vessels
3) **The Money**: We need to persuade the offshore oil & gas industry to become a big money supporter
Data assimilation frameworks become excellent for science & policy

Example: GBIF’s map site for georeferenced occurrence records of a named organism in nature

- [http://www.gbif.org/occurrence](http://www.gbif.org/occurrence)

Software allows every good observation to become part of the observing system

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Taxonomically reliable biological observations: Global view number of records in OBIS per 5 degree cell

Arctic view: number of records in OBIS per 5d (left) and 1d (right) cell


Pacific view: number of records in OBIS per 5d (left) and 1d (right) cell

The Known & Unknown Ocean:
A slice
Red = many records
Dark blue = none


Interoperability: It is getting much better!

Example:
The Encyclopedia of Life
http://eol.org/

“TraitBank” allows users to search on many biological and environmental traits associated with organisms
Every vessel, every platform, every project can now be part of The Global ocean observing system, in real time if we wish

USA Example

"Exploration NOW"

<table>
<thead>
<tr>
<th>Sector</th>
<th>1972</th>
<th>2002</th>
<th>2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>Feeding &amp; lodging, tourism</td>
<td>&gt;50</td>
<td>51</td>
<td>28</td>
</tr>
<tr>
<td>Shipping goods, info, people</td>
<td>13</td>
<td>23</td>
<td>19</td>
</tr>
<tr>
<td>Pumping &amp; mining, oil &amp; gas</td>
<td>11</td>
<td>13</td>
<td>42</td>
</tr>
<tr>
<td>Building &amp; construction</td>
<td>?</td>
<td>9</td>
<td>9</td>
</tr>
<tr>
<td>Harvesting marine life</td>
<td>&lt;5</td>
<td>4</td>
<td>2.5</td>
</tr>
</tbody>
</table>

Sources: Pontecorvo et al., 1980; Commission on Ocean Policy, 2004; NOEP, 2012
Ausubel, 2013
Biggest ocean industry:
Offshore Oil & Gas

>$10 trillion infrastructure in USA EEZ

• Seismic & drill ships
• Surface production platforms
• Seafloor field facilities
• Subsea tiebacks & pipelines
• Many remotely operated vehicles (ROV’s)
• Landside ports, terminals

4 August 2013 news item
Deepwater potential of the Red Sea

“Saudi Aramco, Saudi Arabia’s state oil firm and the world’s largest oil exporter, recently announced it had discovered a non-associated gas field off the kingdom’s Red Sea coast. The find is 26 kilometres northwest from the port of Duba, and two test wells are already showing promising flows.

Sources in the kingdom say they are confident the area has sufficient oil and gas deposits to sustain a massive development, including offshore platforms, pipelines and onshore processing and bunkering facilities. Conservative estimates suggest the first phase alone would be valued at $25bn…”

Let’s spend more effort in Houston and the Persian Gulf & maybe less in Geneva and Paris
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POGO should focus on big challenges of making it happen soon & well!