

Science Overview

- Environmental observatories are flourishing and being funded
- Broad audience enablement
- Often driven by interdisciplinary needs - do they have sufficient disciplinary depth?
- Scientists are still not sure what: “Partner with computer scientists” means and vice-versa
- Scale of science, data, outcomes is bigger (or needs to be)
- Science projects are still underfunding the important data and computing and software infrastructure

CI Architecture

- Common needs:
 - Reliable, robust, scalable data and metadata infrastructure
 - Networked access to on-line resources
 - Simple to sophisticated methods of query, access and use
 - Resource allocation and authorization
 - Reporting, metrics
 - Ways to translate science needs into CI implementation
- Still emerging out of 'systems' approach, ability to federate is still limited (by technologists, not technology)

CI Barriers/ Challenges

- Implementations are being driven by technology not by science
- Many elements of CI architecture are not interoperable nor widely deployable, e.g. security
- User/ community acceptance is rarely built-in from beginning and used as part of the design
- Social, organization and political forces are massively underestimated or ignored (still)
- Workforce is not optimally trained or prepared