

# **Best Practices for Collaborative Data Access and Integration Projects**

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As science and research becomes increasingly global in scope, the requirement for global access to interoperable data is also increasing dramatically. This requirement has led to the establishment of numerous international projects to integrate and provide access to diverse data from multiple sources. This paper will explore current best practice for such projects.

The objectives of these data access and interoperability initiatives are typically to provide access to consistent interoperable data through a single portal from a range of diverse data sources. Although there is considerable diversity of approach to meeting requirements a review of several successful projects identifies some common elements.

In 2009, the International Council for Science (ICSU) established a Strategic Coordinating Committee for Information and data (SCCID). As a part of its work, SCCID reviewed a number of successful data integration initiatives in a range of scientific disciplines. These included, OneGeology, the Ocean Tracking Network, the International Virtual Observatories Alliance, the Intergovernmental Panel on Climate Change, and the Protein Data Bank (PDB).

A review of these successful 5 projects identified some common best practices that are instructive for others designing similar data integration projects. The identified best practices listed below will be elaborated on in the presentation. Successful initiatives established web access to tools, policies, “cookbooks”, standards and support; metadata was required to conforming to international standards such as ISO and OGC; communication and governance were handled in a professional manner; and data were integrated using non-intrusive approaches that focussed on exchange mechanisms and services with defined structure and terminology. Other challenges faced by collaborative ventures are governance and sustainability will also be discussed.