



Integrated national in-situ observational network

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In order to maximize the potential value, efficiency and benefit of observations from different observational networks, there is a need to integrate the planning, operation, data management, system management, and life cycle support to existing and planned observations. It is a challenge how to improve efficiency and effectiveness for the purpose of optimizing the value of the investments in the observing systems for present and future observations and observing systems.

A key issue for the national observing system is the integration of separate observational networks and data sets with the objective to maximize their utility for various users and different purposes. Profit of the investment in individual observational networks, which is substantial, can be increased by shared exploitation of observational sites, by more cost-efficient integration of data sets, by an integrated data and network management, and by an information delivery system.

Defining and validating requirements is the starting point for an integration activity. It is not always suitable, feasible or acceptable to integrate all aspects of observing systems (existing or future ones). The quality of an observing system can be assessed by comparison of users' requirements and the ability of the system to fulfil them.

Technical systems integration is an inherent part of network integration. It addresses the coordination of observing system technology and data management systems that enable operational and research applications.

Multifunctional management and information system as a supervisor system for data and network management, for dissemination of data, metadata, products and other information is an integral part of an integrated observational network.

The quality assurance system and its standardisation become more important with the introduction of an integrated observational network. The integrated system will apply the same quality assurance procedures for all parts of a new network; it will produce a more uniform, comprehensive data set suitable for a wider range of applications and improve the confidence level of the quality control processed data combined with associated metadata.

The aim of the integration is to minimize development, duplicity and operating costs and maximize the volume, quality, usefulness, availability, and compatibility of observational data; to meet evolving requirements of various users through integration of observations and through integrated data management and system management.

The greatest benefit from an integrated observational network can be realized through the development of an effective data and information management methodology, i.e. the development of effective approaches for the acquisition, processing, dissemination and utilization of above mentioned information.