

GCOOS-RA Systems Architect Position Description and Performance Indicators

A GCOOS-RA Systems Architect (SA) is a member of the GCOOS Data Management Team and reports directly to the GCOOS Data manager. The primary task of the SA is to design, build and maintain the GCOOS Data Portal. As needed the SA will work directly with the technical staff of external organizations for the purpose of making their data systems and those of the Data Portal interoperable (i.e., automated, standards-based, machine-to-machine exchanges of data and metadata without loss of information).

The primary function of the GCOOS Data Portal is to aggregate near real-time and historical data and metadata from the region's non-federal, state and federal observing systems and make those data accessible to both machines and people in preferred forms and formats. To the maximum degree possible the data systems that comprise the Data Portal are automated and largely-unattended. The service interfaces for data exchange and the metadata content standards employed conform to community standards that have been recommended by the U.S. IOOS Data Management and Communications (DMAC) group. In addition to aggregating and serving data, the Data Portal maintains services that monitor the performance of the Data Portal and support management's need to report on the status of the observing subsystem (data providers, parameters, number of sensors, platform locations, uptime, etc.) and Portal usage.

The SA will work with the GCOOS Data Management Team to support their efforts to import additional data, provide data-based products and develop tailored Decision Support Systems. The SA will support the GCOOS Outreach and Education Coordinator's efforts by providing custom data access interfaces to the Data Portal holdings, as needed. The SA will produce statistical summaries of Data Portal acquisitions, holdings and usage.

Note: The SA may have and direct the activities of subordinate programming staff.

Responsibilities:

1. Respond to Directives from the GCOOS Data Manager
The GCOOS Data Manager is responsible for the overall activities and direction of the Data and Product Portals staff. The SA will keep the Data Manager apprised of significant events and issues related to the development and maintenance of GCOOS Data Portal.
2. Design, build, maintain and enhance the GCOOS Data Portal.
The SA and the Data Manager will work with multiple stakeholders to determine the evolving functional requirements of the Data Portal. The SA will consider design alternatives for the hardware and software systems needed to produce a functional, reliable, adaptable Data Portal with safeguards against downtime, loss of information and obsolescence. The SA will build, test, document, deploy monitor and maintain the Data Portal system. The SA will enhance the system

over time in response to new stakeholder needs and evolving U.S. IOOS DMAC requirements.

3. Maintain the computer hardware and software systems of the Data Portal.
The GCOOS Data Portal and the services it offers may be hosted on a number of local computer platforms. The SA is responsible for system administration (backup, software licensing, updates, etc.) for those machines that are used solely by the SA. The SA may solicit assistance from local sources of technical help as needed. The SA is responsible for monitoring the system availability of GCOOS Data Portal and responding appropriately to any interruptions.
3. Work with technical staff to enhance interoperability and use of the Data Portal.
As needed, the SA will work with the technical staff of data provider organizations with the goal of achieving reliable and efficient insertions of data into the Data Portal. As needed, the SA will work with software contractors and vendors to achieve or improve interoperability. The SA will work with data consumers to facilitate the use of data extracted from the Data Portal; data consumers include GCOOS staff, GCOOS-RA Members, and the general public.
4. Keep abreast of technology and techniques used in information systems.
The SA is encouraged to engage in scholarly pursuits in the areas of computing technologies as applied to the engineering of information systems such as: publishing, presenting talks and posters at technical conferences and attending relevant technical workshops.

Key Performance Indicators:

The performance of the GCOOS System Architect should be judged by the following measures.

1. The percent of time during a reporting period in which the Data Portal is aggregating near real-time data and responding to outside request for data.
2. The degree to which the Data Portal is in compliance with the standards and best practices for service interfaces (e.g., 52°N SOS), QA/QC (e.g., QARTOD) and metadata content standards (e.g., Open Geospatial Consortium and ISO).
3. The consensus opinion of the regional data providers as to how well the SA is meeting their needs for advice and guidance on establishing data exchanges.
4. The consensus opinion of the GCOOS Data Manager and Executive Director as to the performance and responsiveness of the GCOOS Data Portal.