

**The National Oceanographic Data Centre
Managed by OGS (OGS-NODC)**

Data Steward Profiles



OGS
Istituto Nazionale
di Oceanografia
e di Geofisica
Sperimentale

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APPROVAL				
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0 Introduction

The description of the various Data Steward (DS) profiles operating within OGS-NODC is included in the Data Centre's Organisational Manual (OM). The OM is an internal strategic management tool of OGS-NODC. This document provides a description of the Data Steward role, the main responsibilities and activities the minimum requirements for the role, including education and experience (background) competencies, defined as Knowledge (what they should know), Skills (what they should be able to do in practice) and Abilities (how they are expected to behave and operate cognitively and professionally).

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1 Data Steward

1.1 Role Description

Data stewardship refers to the responsible planning and execution of all actions concerning digital data before, during and after a research project, with the aim of maximising the usability, reusability and reproducibility of the resulting data.

Within the oceanographic sector, a Data Steward is the professional responsible for the management and quality control of marine and environmental data collected from a variety of sources (e.g. oceanographic campaigns, buoys, satellites, numerical models).

They ensure that such data comply with the FAIR principles (Findable, Accessible, Interoperable, Reusable), thereby enhancing the value of marine information assets.

1.2 Organisational Position

Reports to the Head of OGS-NODC.

1.3 Classification of Data Stewards

1.3.1 Functional Categories

Data Steward functions are typically classified into three roles: Policy, Research and Infrastructure (Table 1.1).

This model is widely adopted in research data management. It helps clearly define areas of expertise, responsibilities and scope of intervention, thereby supporting specialisation and professionalisation in data stewardship. Although these roles may overlap, each has a distinct focus.

Together, these areas constitute the data management landscape ([a] [Jetten et al. \(2021\)](#); [b] [Scholtens et al. \(2019\)](#)).

Table 1.1 – Synthetic description of the functional categories of the Data Stewards as defined by ([b] [Scholtens et al. \(2019\)](#)) and their main stakeholders, modified to fit NODC peculiarities.

Functional category	Synthetic description	Stakeholders[1]
Data Steward Policy	Manages regulatory, legal, and governance aspects of data, including standards, FAIR principles, licensing, access, and sharing policies.	Policy makers, funders, business leaders, professors, researchers as well as other data stewards policy, research, and infrastructure.
Data Steward Research	Manages and organises scientific data generated by marine research projects.	Researchers, data scientists, principal investigators as well as other data stewards policy, research, and infrastructure.
Data Steward Infrastructure	Manages the data services and infrastructure that enable the collection, control, storage, security, and access of data.	IT staff, OGS staff responsible for the installation and maintenance of marine observation systems operated by OGS as well as other data stewards policy, research, and infrastructure.

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There are clear overlaps between these fields. Data management is considered an interdisciplinary profession that builds bridges between different disciplines.

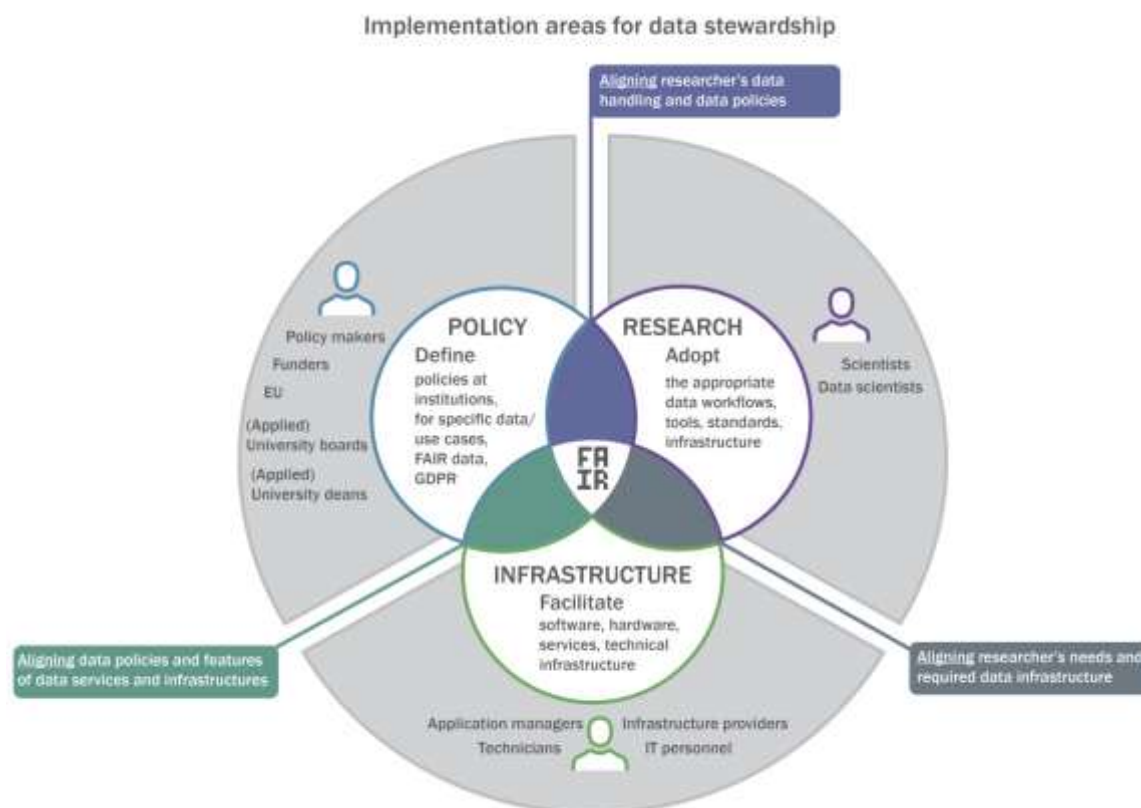


Figure 1.1 Specialisations within the datastewardship ([[c](#)] [Staiger et al. \(2019\)](#)).

1.3.2 Areas of Competence

Each description of a Data Steward role includes responsibilities, activities and requirements. Responsibilities and activities are divided in eight areas of competence, which are described in Table 1.2. Requirements include 'Education and experience' and 'Knowledge, Skills and Abilities (KSA)'.

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Competence area	Description
1 - Policy/Strategy	Development, implementation, and monitoring of the marine research data management policy and strategy.
2 - Compliance	Compliance with the Institution's Code of Ethics, the General Data Protection Regulation (GDPR), and other relevant legal and ethical standards.
3 - Alignment with FAIR Data Principles	Alignment with the FAIR principles for data and the principles of Open Science.
4 - Services	Provision of support for research data management, including personnel and services.
5 - Infrastructure	Provision of adequate data infrastructure for research data management.
6 - Knowledge Management	Ensuring an adequate level of knowledge and expertise in research data management within and outside the institution.
7 - Network	Acquisition and maintenance of a stakeholder network within and outside the institution.
8 - Data Storage	Adequate support and data infrastructure for FAIR and long-term data archiving

Table 1.2 – Data Steward areas of competence ([b] [Scholtens et al. \(2019\)](#))

Figure 1.2 illustrates the basic components of a data steward's professional profile within the organisational context and highlights the three overlapping roles of the data manager: policy, research, and infrastructure.



Figure 1.2 Components of the DS profile ([a] [Jetten et al. \(2021\)](#))

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1.3.3 Seniority Levels

Seniority is determined by a combination of:

- Years and type of work experience,
- Demonstrated technical and transversal skills,
- Level of autonomy,
- Strategic or managerial contribution,
- Leadership capability.

In marine science, these factors are closely related to:

- Work on European or international projects
- Mastery of FAIR, ISO, SeaDataNet, INSPIRE, and similar standards
- Interaction with scientific communities, IT, and policymakers
- Impact on decision-making processes and data quality

Table 1.3 – Criteria to define the DS seniority

Criterion	Junior DS	Senior DS
Work experience in the role	None	> 5 years, Consolidated experience in multiple projects and contexts, including international ones.
Autonomy	Works under supervision, performs defined tasks	He/She is autonomous in making operational decisions. He is able to manage critical and complex issues.
Responsibility	Executive or support role	Coordination, leadership, or direct responsibility role for tasks or teams
Leadership	No leadership role, receives mentoring	He/She acts as a technical or functional contact, trains or guides colleagues
Liaising	Interaction with internal stakeholders from OGS	Recognized in the scientific/technical community and/or in strategic projects
Strategic contribution	Limited, not involved in policy/process definition	Actively contributes to policy, standards, architecture, and design decisions.
KS including technical competencies	Basic	Advanced as defined in the specific profiles

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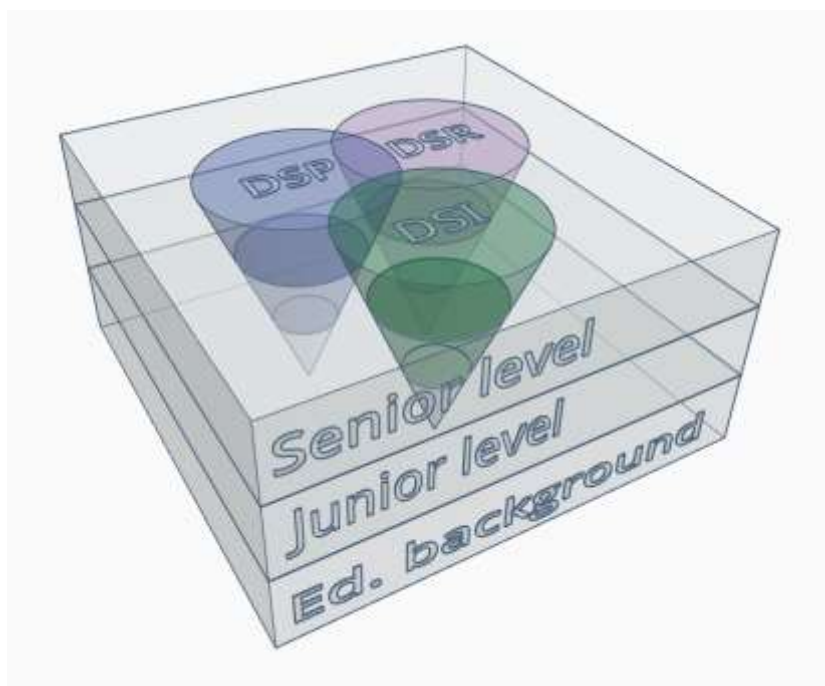


Figure 1.2 Gradual overlapping of the knowledge of the three data steward profiles occurs with professional maturity, despite starting from very different educational backgrounds.

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2 Data Steward - Policy

2.1 Description

The Data Steward – Policy is responsible for defining, implementing, and monitoring data management and sharing policies in the oceanographic field. They collaborate with researchers, technicians, legal representatives, and management to ensure data compliance with the FAIR principles, national and international regulations (e.g. GDPR, PSI Directive, EOSC, INSPIRE), and project guidelines. They oversee the development of data management plans (DMPs), licensing guidelines, access, security, and reuse policies, promoting ethical and responsible data use. The description of the role and its implications, provided below, is based on the work of Scholtens et al. (2019), revised by NODC based on its own experience to better meet its needs.

2.2 Responsabilità e attività

2.2.1 Policy / Strategy

- Develop, update, and implement policies for the management, sharing, and preservation of scientific data, in accordance with national and European strategies (e.g., Open Science, EOSC).
- Coordinate the integration of FAIR and Open Data policies into the institution's overall strategy.
- Ensure compliance with applicable regulations (e.g., GDPR, Open Data Directive, Copyright).
- Develop internal guidelines for researchers, data managers, and stakeholders.
- Define data classification criteria (e.g., open, sensitive, confidential).
- Keep regulatory documentation and internal authorisation procedures up to date.

2.2.2 Compliance

- Ensure that all data management policies comply with national and international regulations (e.g., GDPR, INSPIRE, Horizon Europe requirements).
- Monitor and ensure legal compliance in data sharing, publication, and retention processes.
- Manage licensing, usage rights, privacy, and intellectual property issues.

2.2.3 Alignment with FAIR data principles

- Provides advice on the FAIR principles and the appropriate tools and services available for their implementation.
- Defines minimum FAIR compliance requirements for datasets produced by the organization.
- Monitors the level of adoption of the FAIR principles in projects through indicators and self-assessment tools (e.g., FAIR assessment tools).
- Promotes the standardization of formats, metadata, and processes in line with the FAIR principles through the development of guidelines for data documentation and metadata.
- Promotes the use of standard and shared languages and ontologies.

2.2.4 Services

- Define and coordinate data management support services for scientific and technical staff, such as assistance with drafting Data Management Plans and using data sharing tools.

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- Collaborate with IT, library, legal, and project management departments to provide integrated and consistent services.

- Implement mechanisms to evaluate the impact of data management services.

2.2.5 Infrastructure

- Collaborate with technical functions to ensure that the IT infrastructure supports regulatory-compliant data storage, sharing, and access control.
- Contribute to defining requirements for FAIR-compliant infrastructures (repositories, archives, metadata systems).
- Facilitate participation in national and international data infrastructures (e.g., EOSC, GO FAIR implementation networks).

2.2.6 Knowledge

- Promote institutional documentation of data policies, guidelines, operational manuals, and best practices.
- Coordinate training and awareness-raising activities on data management, the FAIR principles, open science, and relevant regulations.
- Create and maintain an up-to-date internal knowledge base for staff on all data governance issues.

2.2.7 Networking

- Represent the organisation in consortia, technical forums, and international communities on data management and open science.
- Collaborate with public and private entities to harmonise data management policies and practices.
- Participate in advocacy initiatives for the adoption of common standards and recognition of the role of data manager

2.2.8 Data archiving

- Establish policies and guidelines for long-term data archiving, including retention, versioning, and decommissioning plans.
- Evaluate and select trusted repositories that comply with FAIR principles and open data standards.
- Ensure that archiving solutions meet legally mandated security, accessibility, and retention requirements.

2.3 Requirements

2.3.1 Education and Experience

Data Steward with a degree in scientific, legal, or information disciplines and at least 3 years of experience in the role of Research or Infrastructure Data Steward (Junior), and at least 5 years of experience in the role of Data Steward Policy (Senior).

2.3.2 Competencies (KSA)

Knowledge

- FAIR Principles (Junior)

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- European regulations on open data and data protection (GDPR, PSI Directive, Open Data Directive) (Junior)
- Data sharing licenses (Creative Commons, Open Database License, etc.) (Junior)
- International metadata and interoperability standards (DCAT-AP, ISO 19115, INSPIRE, SeaDataNet) (Junior)
- European data policy initiatives: EOSC, GO FAIR, RDA (Junior)
- Basic concepts of intellectual property, research ethics, data governance (Junior)
- English language (written and spoken) (Junior)

Skills

- Writing and evaluating Data Management Plans (Junior)
- Effective technical-scientific communication (oral and written) (Junior)
- Drafting policies and guidelines (Senior)
- Regulatory analysis and adaptation of policies to specific contexts (Senior)
- Coordination of interdisciplinary working groups (Senior)

Abilities

- Critical thinking and systems-level perspective
- Precision and attention to regulatory and technical detail
- Ability to mediate between scientific, technical, and legal needs
- Initiative and proactivity in proposing policies
- Aptitude for training and internal dissemination
- Ability to adapt to international and multicultural environments
- multicultural

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3 Data Steward – Research

3.1 Description

The Research Data Steward in oceanography is responsible for the management, curation, and quality of scientific data collected during marine and oceanographic research activities. They work closely with researchers, technicians, and IT specialists to ensure that data are well documented, easily accessible, reusable according to FAIR principles, and compliant with international standards. The role description and related content below are derived from the work of Scholtens et al., 2019, reviewed by NODC based on its experience and organizational needs.

3.2 Responsibility and activity

3.2.1 Policy / Strategy

- Contribute to the development of institutional data management policies.
- Support the adoption of national and international data standards and guidelines.
- Participate in defining project/Centre data management strategies.
- Collaborate with the NODC Manager in defining long-term plans.

3.2.2 Compliance

- Ensure data management complies with current regulations (e.g. GDPR, copyright, licenses).
- Verify that datasets meet ethical and legal requirements.
- Support researchers with documentation required by funders and institutions.
- Document and maintain data dictionaries, acquisition guidelines, and normalization rules for marine data.
- Harmonize incoming data and resolve formatting or quality issues, in collaboration with data providers.
- Integrate data into national and European systems (e.g. EMODnet, Copernicus Marine Service), working with data managers, IT staff, and researchers.
- Verify, validate, and perform quality control (QC) on oceanographic datasets from multiple sources (in situ instruments, models, satellites, automated sensors).

3.2.3 Alignment with FAIR Data Principles

- Assist in the creation and validation of metadata according to FAIR standards.
- Ensure datasets are indexed and accessible through appropriate repositories.
- Promote the use of open and standardized formats.
- Enhance data reusability through clear descriptions, licenses, and provenance.

3.2.4 Services

- Provide support and consultancy to researchers during data creation, publication, and archiving.
- Plan, develop, and maintain toolkits, practical guides, or FAQs on data management.
- Deliver tailored training or workshops on data management topics.

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- Drafting and updating Data Management Plans (DMPs).

3.2.5 Infrastructure

- Critically analyze and use the technical infrastructure supporting data management, developed and maintained by Infrastructure Data Stewards.
- Promote adoption of interoperable systems (e.g. CRIS, FAIR repositories, data catalogs).

3.2.6 Knowledge

- Facilitate documentation and sharing of data management practices.
- Ensure traceability, provenance, and versioning of data/metadata.
- Promote data culture within the organization.

3.2.7 Networking

- Participate in national and international data management working groups (e.g. RDA, EOSC, CODATA, IODE).
- Facilitate connections between data providers, researchers, and external stakeholders.
- Share experiences, resources, and best practices with other data stewards.
- Promote synergies and interoperability among institutions.

3.2.8 Data archiving

- Support selection of the most appropriate repositories for data/metadata archiving (disciplinary, institutional, thematic).
- Collaborate in data migration and updates within repositories.
- Metadata management: ensure each dataset is properly described according to standards (e.g. SeaDataNet CDI).
- Support data publication on open data portals and repositories, ensuring appropriate licensing and FAIR compliance.

3.3 Requirements

3.3.1 Education and Experience

Master's degree in marine scientific disciplines. Preferably with a master's course, postgraduate training, or PhD oriented toward data, or 3 years of experience (Junior). At least 5 years of experience in the role (Senior).

3.3.2 Competencies (KSA)

Knowledge

- Knowledge of scientific data to be managed (Junior)
- Knowledge of FAIR principles (Junior)
- English language proficiency, written and spoken (Junior)
- Knowledge of standards for data and metadata management (Senior)
- Familiarity with platforms such as Zenodo and SeaDataNet for use and critical evaluation (Senior)
- Creation and maintenance of a Data Management Plan (DMP) (Senior)
- Familiarity with programming languages and tools such as spreadsheets, Python, R, SQL, RDF query languages, etc., for use and critical analysis (Senior)

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- Knowledge of data licenses and rights (Senior)
- Familiarity with FAIR assessment tools (e.g. F-UJI, FAIR-Aware) for use and critical analysis (Senior)

Skills

- Ability to assess data quality, consistency, and structure (Junior)
- Translate technical concepts in an understandable way for researchers and decision-makers (Junior)
- Ability to stay up to date with standards, tools, and policies (Junior)
- Work with IT specialists, researchers, librarians, and administrative staff (Senior)
- Resolve practical issues related to licensing, metadata, and accessibility (Senior)

Abilities

- Ability to understand the role of data in the broader context of research, policy, and society
- Attention to detail and accuracy in documentation and metadata curation
- Ability to interact with Infrastructure Data Stewards to address technical or management issues related to formats, versions, access, or sharing
- Aptitude for working in interdisciplinary teams (researchers, technicians, IT staff)
- Ability to quickly learn new technologies, standards, or regulations
- Sensitivity to responsible, transparent, and sustainable management of research data.

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4 Data Steward - Infrastructure

4.1 Description

The Infrastructure Data Steward is responsible for the hardware/software tools and methods used for collecting, processing, sharing, and preserving data. These methods and tools include coding, programming, storage systems, search and retrieval, analysis, visualization, and the NODC Centre's websites. They work closely with data management teams and internal and external software/hardware development and maintenance teams at OGS to ensure efficiency, security, and interoperability of digital systems, with particular attention to the preservation, sharing, and accessibility of oceanographic data according to international standards. This role description is derived from Scholtens et al., 2019, revised by NODC to align with its experience and needs.

4.2 Position

It depends on the NODC manager

4.3 Responsibility and activity

4.3.1 Polity / Strategy

- Support development of infrastructure strategies for data management aligned with FAIR, Open Science, and EOSC policies.
- Collaborate with management to plan infrastructure investments (repositories, storage, computing environments).
- Align technical infrastructures with research needs and institutional directives.

4.3.2 Compliance

- Ensure infrastructures comply with technical and legal requirements (e.g. security, privacy, certifications, GDPR).
- Implement and monitor cybersecurity, traceability, and access control measures.
- Support technical audits and document compliance with infrastructure standards (e.g. ISO 27001, CoreTrustSeal).

4.3.3 Alignment with FAIR Data Principles

- Design infrastructures that facilitate FAIR principles:
- Findable: integration with persistent identifier systems (e.g. DOI)
- Accessible: interoperable repositories accessible via standard protocols
- Interoperable: use of standard formats and vocabularies, open APIs
- Reusable: rich metadata management, versioning, and traceability

4.3.4 Services

- Identify, develop, and maintain data management tools (e.g. data portals, cloud services, repositories) aligned with the Data Centre's needs.
- Support the creation of collaborative environments for researchers (e.g. JupyterHub, Virtual Research Environments – VRE).

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4.3.5 Infrastructure

- Use tools for maintaining the Centre's technological infrastructure (e.g. physical and virtual servers, network systems).
- Coordinate connections with European federated infrastructures (e.g. SeaDataNet, EMODnet, EOSC, Copernicus).

4.3.6 Knowledge

- Document system architectures and data flows (data pipelines, schemas, APIs).
- Draft and update technical manuals, guides, and knowledge bases for users and operators.
- Translate functional needs into clear technical specifications in collaboration with scientific teams.

4.3.7 Networking

- Interact with vendors, partner organizations, and European infrastructure consortia (e.g. EOSC, EUDAT, GEOSS).
- Participate in working groups on technology standards, interoperability, and open-source software development.
- Promote federation of data infrastructures with other organizations, in compliance with shared standards.
- Collaborate with the OGS ICT Centre to adopt shared solutions.

4.3.8 Data archiving

- Use secure, scalable, and sustainable storage solutions (e.g. object storage, NAS/SAN systems, hybrid cloud).
- Use tools for versioning, storage, backup, and disaster recovery of datasets.
- Support compliance with international requirements for long-term data preservation in certified repositories (e.g. CoreTrustSeal).

4.4 Requirements

4.4.1 Education and Experience

Higher school diploma in ICT (Junior). At least 5 years of experience in the role. Preferably a degree in Computer Science, Computer Engineering, Computational Sciences, or related disciplines (Senior).

4.4.2 Competencies (KSA)

Knowledge

- IT infrastructures: client-server architectures, virtualization, TCP/IP networks, operating systems (especially Linux) (Junior)
- Data lake concepts, relational (e.g. PostgreSQL/PostGIS) and non-relational databases (Junior)
- Cybersecurity: familiarity with access management, encryption, firewalls, backup, disaster recovery, GDPR regulations (Junior)
- Web technologies and open-source tools such as HTML/CSS, JavaScript, Python, GeoServer, ERDDAP, and software for geospatial data management (GeoServer, THREDDS, OPeNDAP, ERDDAP) (Junior)
- English language proficiency, written and spoken (Junior)

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- International standards and protocols for environmental/oceanographic data such as ISO 19115, SeaDataNet, OGC (WMS, WFS, SOS), CF Conventions (Senior)
- Data Governance and FAIR Principles: best practices for Findable, Accessible, Interoperable, Reusable data (Senior)
- Basic knowledge of environmental/oceanographic data (Senior)

Skills

- Systems and network management: use of server systems, storage, VPN, DNS tools (Junior)
- Software development and maintenance: scripting (e.g. Python, Bash), REST API management, version control (e.g. Git) (Junior)
- Monitoring and security: use of network and system monitoring tools, incident and vulnerability management (Junior)
- Support and troubleshooting: resolving hardware/software issues related to data management (Junior)
- Monitoring and security: use of network and system monitoring tools, incident and vulnerability management (Junior)
- Data management and publication: configuration of data servers, metadata creation, implementation of interoperable services (Senior)
- Technical documentation: drafting manuals, operational guides, and project reports (Senior)

Abilities

- Ability to work in teams
- Ability to learn new tools and technologies quickly

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5 Appendix A – References

[a] Mijke Jetten, Marjan Grootveld, Annemie Mordant, Mascha Jansen, Margreet Bloemers, Margriet Miedema, & Celia W.G. van Gelder. (2021). Professionalising data stewardship in the Netherlands. Competences, training and education. Dutch roadmap towards national implementation of FAIR data stewardship. Zenodo.

<https://doi.org/10.5281/zenodo.4320504>

[b] S. Scholtens, M. Jetten, J. Böhmer, C. Staiger, I. Slouwerhof, M. van der Geest, C.W.G van Gelder (2019, October 5). Towards FAIR data steward as profession for the lifesciences. Report of a ZonMw funded collaborative approach built on existing expertise. Zenodo.

<http://doi.org/10.5281/zenodo.3471708>

[c] Staiger, C., Jetten, M., Böhmer, J., Slouwerhof, I., Van der Geest, M., Van Gelder, C.W.G., Scholtens, S. (2019). Data stewards function landscape and its stakeholders.

<https://doi.org/10.5281/zenodo.3243909>

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