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Collana	Information Systems and Applications, incl. Internet/Web, and HCI ; ; 12003
Disciplina	004
Soggetti	Application software Environment Special purpose computers Computers Software engineering Geography Computer Applications Environment, general Special Purpose and Application-Based Systems Information Systems and Communication Service Software Engineering/Programming and Operating Systems Geography, general
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	Supporting cross-domain system-level environmental and earth science -- ICT infrastructure for environmental and earth sciences -- Common challenges and requirements -- ENVRI reference model -- Reference model guided engineering -- Semantic and knowledge engineering using ENVRI RM -- Data curation and preservation -- Data cataloguing -- Data identification and citation -- Data processing --

Virtual infrastructure optimization -- Data provenance -- Metadata, semantic linking -- Authentication, Authorization, and Accounting -- Virtual research environment -- Case study: e.g., data subscriptions using elastic Cloud service -- Case study: e.g., D4Science: a VRE solution for RI -- Case study: LifeWatch -- Sustainability -- Future challenges.

Sommario/riassunto

This open access book summarises the latest developments on data management in the EU H2020 ENVRIplus project, which brought together more than 20 environmental and Earth science research infrastructures into a single community. It provides readers with a systematic overview of the common challenges faced by research infrastructures and how a ‘reference model guided’ engineering approach can be used to achieve greater interoperability among such infrastructures in the environmental and Earth sciences. The 20 contributions in this book are structured in 5 parts on the design, development, deployment, operation and use of research infrastructures. Part one provides an overview of the state of the art of research infrastructure and relevant e-Infrastructure technologies, part two discusses the reference model guided engineering approach, the third part presents the software and tools developed for common data management challenges, the fourth part demonstrates the software via several use cases, and the last part discusses the sustainability and future directions.