
EGI Call for use cases

Survey response 1

Response ID
97
Date submitted
1980-01-01 00:00:00
Last page
1
Start language
en
Seed
1297959813

EGI Call for use cases

Title of the use case
Sustainable Environmental Modeling for Climate Resilience
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Objectives of the use case (scientific and computing objectives separately)
Scientific Objectives: Investigate the impact of climate change on biodiversity in amazon region. Computing Objectives: Develop and run complex ecological models to simulate climate scenarios.

Beneficiaries* of the use case and expected impact, (incl. contribution to Open Access and FAIR) and estimated number of users of the setup. *Who will use or benefit from the envisaged compute setup? A specific team, or a broader group of users? Researchers, policy makers? From which countries and institutes? - Please characterise and estimate the number of these beneficiaries.

Beneficiaries and Impact:

Central University Research Team:

Access to advanced computing for impactful environmental research.

Central University Policy Unit:

Data-driven insights for informed environmental policy decisions.

Central University Environmental Science Department:

Hands-on experience with computational tools for enhanced learning.

Collaborative Research Opportunities:

Strengthening global research partnerships for Central University.

Environmental Conservation at Central University:

Integrating computational modeling for effective conservation planning.

Expected Impact:

Contribution to Open Access and FAIR Principles:

Open Access sharing within Central University.

FAIR data practices for efficient reuse within the university.

Estimated Users:

Approximately 5 active users .

Description of the technical environment that is already used (institutional cluster, grid, cloud computing, HPC, data storage, data repositories, data management systems, data discovery services, etc...)

Institutional Cluster: A functional but aging cluster with moderate computational power.

Data Storage: Adequate but slightly outdated systems with limited capacity.

Data Repositories: Decentralized repositories exist, impacting collaborative efforts.

Data Management: A basic system in place, though improvements are needed for data integrity.

Data Discovery: Existing services are somewhat effective, but room for enhancement.

Cloud Computing or HPC: Currently unavailable

Description of the requested EGI services, technical support and training required with as many details as possible - topics, functionalities, capacity (number of nodes, CPU, RAM, storage), location, etc...

Compute Resources:

Number of Nodes: Requesting 100 nodes.

CPU: Each node with 128 cores.

RAM: 1 TB RAM per node.

Storage Capacity:

High-Performance Storage: 20 TB.

Long-Term Storage: 50 TB.

Scientific applications, platforms and datasets to be used in the context of the use case

Ecosystem Modeling Applications: Python-based models for environmental simulations.

Spatial Analyses: Utilizing ArcGIS for geographical analyses.

Climate Datasets: Integration of datasets from specified sources.

Expected timeline for implementation and use of the EGI services

Compute Resources:

100 nodes with 128 cores each.

1 TB RAM per node.

Storage Capacity:

20 TB high-performance storage.

50 TB long-term storage.

Additional requirements and comments

Adaptable Resources:

Need the option to adjust resources as our workload varies.

Smooth Integration:

Ensure seamless compatibility with our existing data systems.

Top-Notch Security:

Priority on robust security measures for sensitive environmental data.
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Relevant websites and/or social media channels
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