# SeaDataCloud – further developing the pan-European SeaDataNet infrastructure for marine and ocean data management

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SeaDataCloud marks the third phase of developing the pan-European SeaDataNet infrastructure for marine and ocean data management. The SeaDataCloud project is funded by EU and runs for 4 years from 1st November 2016. It succeeds the successful SeaDataNet II (2011 – 2015) and SeaDataNet (2006 – 2011) projects.

SeaDataNet has set up and operates a pan-European infrastructure for managing marine and ocean data and is undertaken by National Oceanographic Data Centres (NODC's) and oceanographic data focal points from 34 coastal states in Europe. The infrastructure comprises a network of interconnected data centres and central SeaDataNet portal. The portal provides users a harmonised set of metadata directories and controlled access to the large collections of datasets, managed by the interconnected data centres. The population of directories has increased considerably in cooperation with and involvement in many associated EU projects and initiatives such as EMODnet. SeaDataNet at present gives overview and access to more than 1.9 million data sets for physical oceanography, chemistry, geology, geophysics, bathymetry and biology from more than 100 connected data centres from 34 countries riparian to European seas. SeaDataNet is also active in setting and governing marine data standards, and exploring and establishing interoperability solutions to connect to other e-infrastructures on the basis of standards of ISO (19115, 19139), and OGC (WMS, WFS, CS-W and SWE). Standards and associated SeaDataNet tools are made available at the SeaDataNet portal for wide uptake by data handling and managing organisations.

SeaDataCloud aims at further developing standards, innovating services & products, adopting new technologies, and giving more attention to users. Moreover, it is about implementing a cooperation between the SeaDataNet consortium of marine data centres and the EUDAT consortium of e-infrastructure service providers.

SeaDataCloud aims at considerably advancing services and increasing their usage by adopting cloud and High Performance Computing technology. SeaDataCloud will empower researchers with a packaged collection of services and tools, tailored to their specific needs, supporting research and enabling generation of added-value products from marine and ocean data. Substantial activities will be focused on developing added-value services, such as data subsetting, analysis, visualisation, and publishing workflows for users, both regular and advanced users, as part of a Virtual Research Environment (VRE).

SeaDataCloud aims at a number of leading user communities that have new challenges for upgrading and expanding the SeaDataNet standards and services: Science, EMODnet, Copernicus Marine Environmental Monitoring Service (CMEMS) and EuroGOOS, and International scientific programmes.

The presentation will give information on present services of the SeaDataNet infrastructure and services, and the new challenges in SeaDataCloud, and will highlight a number of key achievements in SeaDataCloud so far.