

Delta Environmental Data to Understand a California Estuary (DEDUCE): An Estuary-Wide Data Repository

Un centre de données environnementales référencées pour comprendre un estuaire de la Californie (DEDUCE)

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RÉSUMÉ

Le but du projet était de développer l'actuel centre de données régional de la baie de San Francisco (RDC) pour y inclure le Delta de Sacramento-San Joaquin et le marais de Suisun (Delta). Le résultat attendu est la création d'un centre de données référencées à l'échelle de l'estuaire. Les données produites sur le delta, provenant de sources publiques et privées, sont utilisées par les scientifiques, le personnel des programmes environnementaux, les gestionnaires, le public et autres parties prenantes. Le projet vise à harmoniser les différentes données pour garantir leur interopérabilité, et améliorer leur accès et leur échange. Les données de ce centre élargi sont mises à disposition du Réseau d'Echange de Données Environnementales de Californie (CEDEN) et de la Water Quality Exchange (WQX) de l'USEPA, permettant d'accompagner les réformes mandatées par l'état autour des ressources en eau et de la gestion écologique du delta.

ABSTRACT

The purpose of this project was to expand the existing San Francisco Bay Regional Data Center (RDC) to include the Sacramento-San Joaquin Delta and Suisun Marsh (Delta). The anticipated outcome of the project was an estuary-wide data repository where one currently did not exist. The goals were to work with data providers collecting data in the Delta, harmonize data for improved interoperability, and increase access to, and exchange of, high-quality environmental data from public and private sector sources for scientists, environmental program staff, managers, the public and other stakeholders. By contributing the collected data to the California Environmental Data Exchange Network (CEDEN) and in turn USEPA's Water Quality Exchange (WQX), this expanded RDC ensures broad dissemination of data to support the state's mandated reforms to the Delta's water resources and ecological management.

KEYWORDS

Collaborative project, environmental data management, data access, data exchange, data integration

The California Delta has some of the most pressing water supply and natural resource management issues facing California. To navigate such matters comprehensively with transparency and rigor, it is important to ensure broad dissemination of data to support the water resources and ecological management in the Delta. An Environmental Data Summit held in 2014 created a new era in information management and knowledge discoveries, and shed light on challenges associated with the use of disparate datasets.

The Delta Environmental Data to Understand a California Estuary (DEDUCE), a collaborative project building upon the Data Summit vision, initiated a forum to integrate disparate data from multiple sources. DEDUCE addressed management questions by identifying and collecting high-priority data according to rigorous business rules to harmonize the data, improve its interoperability, and increase the access to and exchange of high-quality environmental data.

DEDUCE collected and uploaded legacy toxic contaminant data to the estuary-wide data repository, and established design standards to exchange datasets with other databases in California and with the US Environmental Protection Agency's Water Quality Exchange (WQX). This data integration effort liberated accurate, accessible, and synthesized data for scientists and decision-makers as a foundation to inform management actions with the best available science. Data were made available on several online visualization tools, such as EcoAtlas (ecoatlas.org) that enables habitat restoration managers and agency staff to support ecosystem and habitat planning, assessment, and monitoring within a comprehensive watershed context.

LIST OF REFERENCES

- California Environmental Data Exchange Network (CEDEN) Business Rules, 2017.
http://ceden.org/ceden_datatemplates.shtml
- Environmental Data Summit. Analyzing, visualizing and extracting information from diverse, distributed, and heterogeneous data sets, June 5-6, 2014
- National Environmental Information Exchange Network Grant Program, 2014