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Meteorology and Space Weather Data Mining Portal

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We will demonstrate an environmental data mining project Environmental Scenario Search Engine (ESSE) including a secure web application portal for interactive searching for events over a grid of environmental data access and mining web services hosted by OGSA-DAI containers. The web services are grid proxies for the database clusters with terabytes of high-resolution meteorological and space weather reanalysis data over the past 20-50 years. The data mining is based on fuzzy logic to make it possible to describe the searching events in natural language terms, such as "very cold day". The ESSE portal allows parallel data mining across disciplines for correlated events in space, atmosphere and ocean. The ESSE data web-services are installed in the USA, Russia, South Africa, Australia, Japan, and China. The EGEE infrastructure facilitates sharing of the environmental data and grid services with the European environmental sciences community. The work is done in cooperation with the National Geophysical Data Center NOAA and supported by the grant from the Microsoft Research Ltd.

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