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The experience of the Antarctic Seismic Data Library System (SDLS) as a hub for researchers in antarctic crustal studies.

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The SDLS was created in April 1991 under the auspices of the Scientific Committee on Antarctic Research to provide open access to Antarctic multichannel seismic-reflection data (MCS) for use in cooperative research projects.
The SDLS operates under the mandates of the Antarctic Treaty System, by which all institutions that collect MCS data in Antarctica must submit their MCS data to the SDLS.
The SDLS has library branches worldwide at which researchers may view and study the MCS data. MCS data are submitted to the SDLS within 4 years of collection and remain in the library under SDLS guidelines until 8 years after collection. Thereafter, the data go to World Data Centers or equivalents for unrestricted use.
The SDLS offers a clearing house, based at Istituto Nazionale di Oceanografia e di Geofisica Sperimentale (OGS) where data are processed when needed and georeferenced, so that the end user can be provided with usable, although basic, post-stack seismic sections. Re-processing of data is beyond the scope of the SDLS, so that if a researcher is interested in reviewing pre-stack data he/she must resort to the data owner.
So far 228,000 km of seismic data have been made public in all sectors of the Antarctic region.
To augment the concept of physical repositories where data can be accessed by researchers travelling to one of the branches or from where data could be copied to digital media and sent to users, in 2003 it was decided to develop a web interface where data could be searched for and accessed directly. At that moment no previous non-commercial experience was available in this data field, so that the system
was designed from scratch.
Several technologies were introduced, tested, and after a period of use, reviewed and tuned. Particular attention was devoted to the seismic data viewing facility, which was tailored to the needs of a community with specific practices and legacies.
Seismic data are sensitive data that are very important for the E&P industry, so that scientific exploitation of this data type could have economic consequences. At the same time research institutes are interested in using their data to foster their collaborative relations with other scientific institutions, which for them could mean entering new scientific projects.
Therefore it is very important to balance the mental habit to be “open” with the need to control how data is used. In this, the timing of release of data into the public domain, mandated by the Antarctic treaty, allows to a progression in the access to the data in the first 4 and 8 years, that guarantee to the data owner a complete control over their data but also gives visibility within the scientific community of the achievements realised. One of the main tasks of the web based part of the SDLS initiative was to develop and test tools that could be useful in this direction.