Geophysical Research Abstracts
Vol. 14, EGU2012-786, 2012
EGU General Assembly 2012

Open Geoscience Database

A. Bashev
School #192, Moscow, Russia (anton.bashev@gmail.com)

Currently there is an enormous amount of various geoscience databases. Unfortunately the only users of the majority of the databases are their elaborators. There are several reasons for that: incompaitability, specificity of tasks and objects and so on. However the main obstacles for wide usage of geoscience databases are complexity for elaborators and complication for users. The complexity of architecture leads to high costs that block the public access. The complication prevents users from understanding when and how to use the database. Only databases, associated with GoogleMaps don't have these drawbacks, but they could be hardly named "geoscience" Nevertheless, open and simple geoscience database is necessary at least for educational purposes (see our abstract for ESSI20/EOS12). We developed a database and web interface to work with them and now it is accessible at maps.sch192.ru. In this database a result is a value of a parameter (no matter which) in a station with a certain position, associated with metadata: the date when the result was obtained; the type of a station (lake, soil etc); the contributor that sent the result. Each contributor has its own profile, that allows to estimate the reliability of the data. The results can be represented on GoogleMaps space image as a point in a certain position, coloured according to the value of the parameter. There are default colour scales and each registered user can create the own scale. The results can be also extracted in *.csv file. For both types of representation one could select the data by date, object type, parameter type, area and contributor. The data are uploaded in *.csv format: Name of the station; Lattitude(dd.dddddd); Longitude(ddd.dddddd); Station type; Parameter type; Parameter value; Date(yyyy-mm-dd). The contributor is recognised while entering. This is the minimal set of features that is required to connect a value of a parameter with a position and see the results. All the complicated data treatment could be conducted in other programs after extraction the filtered data into *.csv file. It makes the database understandable for non-experts. The database employs open data format (*.csv) and wide spread tools: PHP as the program language, MySQL as database management system, JavaScript for interaction with GoogleMaps and JQueryUI for create user interface. The database is multilingual: there are association tables, which connect with elements of the database. In total the development required about 150 hours.
The database still has several problems. The main problem is the reliability of the data. Actually it needs an expert system for estimation the reliability, but the elaboration of such a system would take more resources than the database itself. The second problem is the problem of stream selection – how to select the stations that are connected with each other (for example, belong to one water stream) and indicate their sequence. Currently the interface is English and Russian. However it can be easily translated to your language.
But some problems we decided. For example problem "the problem of the same station" (sometimes the distance between stations is smaller, than the error of position): when you adding new station to the database our application automatically find station near this place. Also we decided problem of object and parameter type (how to regard "EC" and "electrical conductivity" as the same parameter). This problem has been solved using "associative tables".
If you would like to see the interface on your language, just contact us. We should send you the list of terms and phrases for translation on your language. The main advantage of the database is that it is totally open: everybody can see, extract the data from the database and use them for non-commercial purposes with no charge. Registered users can contribute to the database without getting paid. We hope, that it will be widely used first of all for education purposes, but professional scientists could use it also.