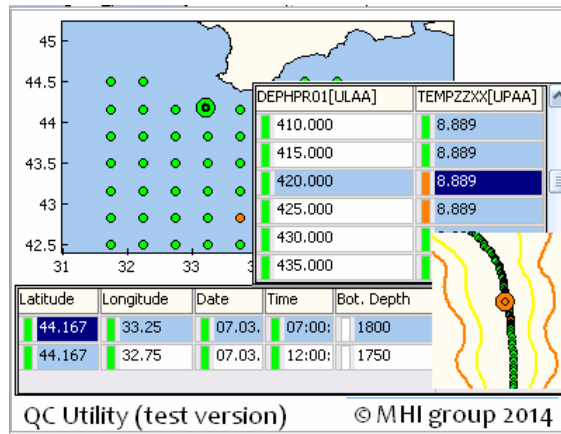


Test Version of the QC Utility

Short Description



The test version of the QC utility processes SDN (SeaDataNet) spreadsheet and ODV spreadsheet files (profiles, time series and traces) and perform a set of metadata and data quality tests.

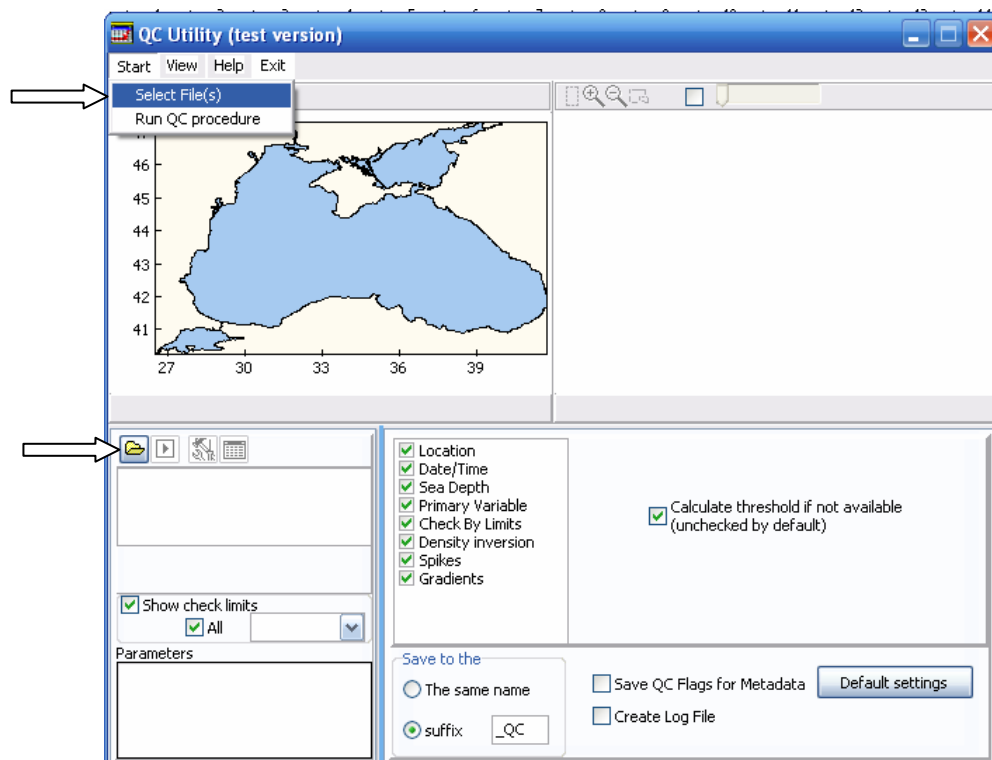
The metadata tests are:

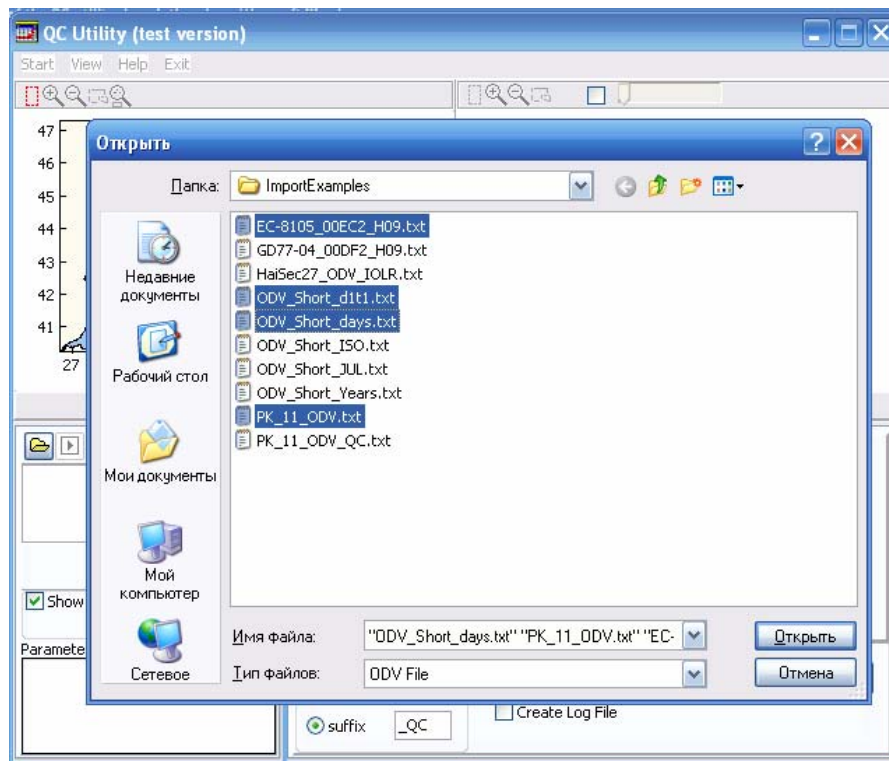
- location test;
- date/time (velocity test);
- sea depth test;

The data tests are

- sounding value (order and values);
- date/time argument for time series (chronology and values);
- climatic check (if climatic arrays for the parameter are available);
- statistic check (if statistic arrays for the parameter are available);
- range test (if ranges for the parameter are available);
- density inversion for hydrological data;
- fixing spikes (if thresholds for the parameter are available);
- checking gradients (if thresholds for the parameter are available).

The first step is files selection (menu Start -> Select Files or click  button)

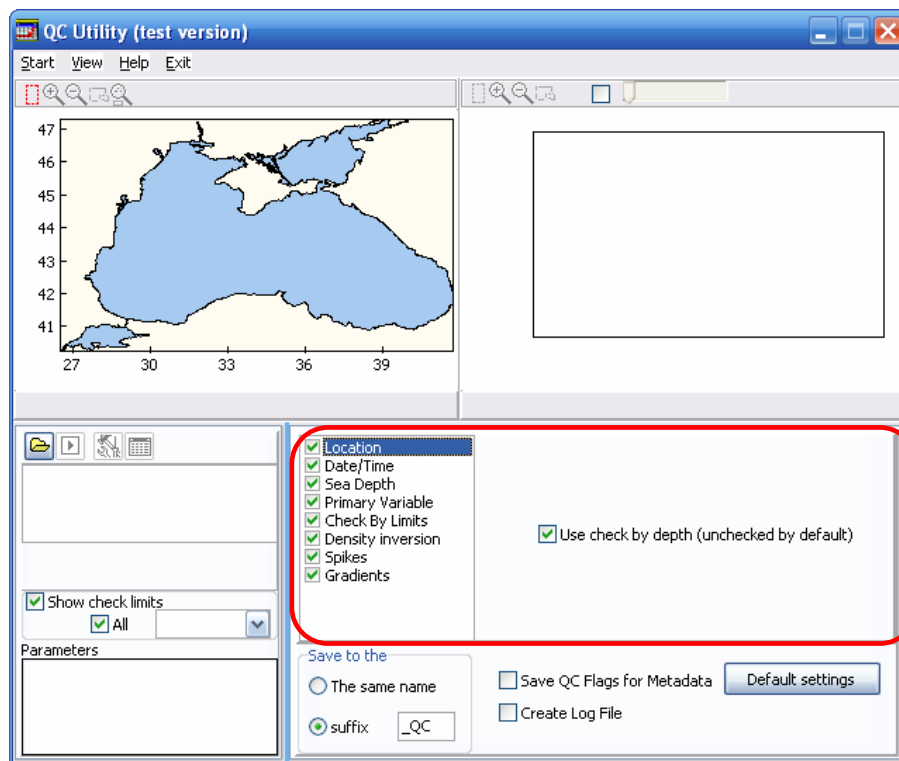




The second step is specifying of QC settings (this step is not necessary – default settings can be used)

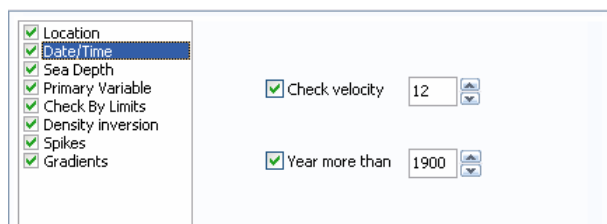
Location check task is fixing stations which are out of the sea basin using shore line information.

If option **use check by depth** is selected than sea depth information takes into consideration as an additional criterion.

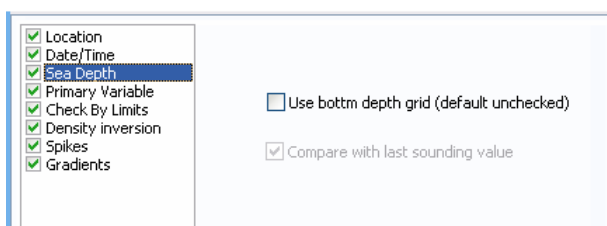


Date/time check includes checking of year, month, day, hour, minutes, seconds values to be within valid limits. Also if **check velocity** option is selected than a value of ship velocity

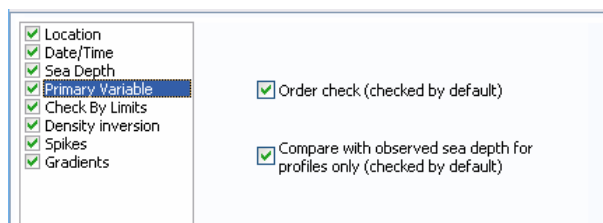
between stations (for cruise data) is checked to be less than specified value. Moreover, if **Year more than** option is selected. The year value is checked to be more than specified value.



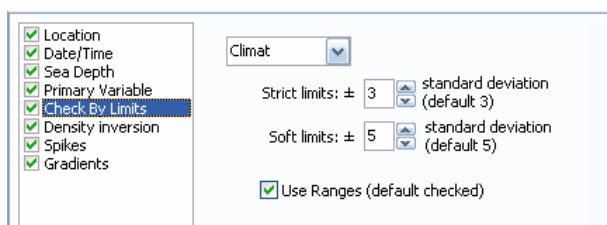
Sea depth check by default is comparison with the last sounding value. If **Use bottom depth grid option** is selected, 1- minute GEBCO depth grid information is used to check an observed sea depth value



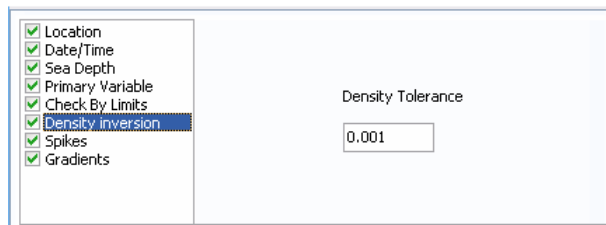
Check of the primary variable (depth or pressure for profiles and date/time for time series) If **Order check option is selected** than increasing of sounding value for profiles and chronology for time series is checked. By default selected 1- minute GEBCO depth grid information is used to check sounding value for the profile data. Additionally if the second option is selected, the sounding value is checked to be less then observed sea depth.



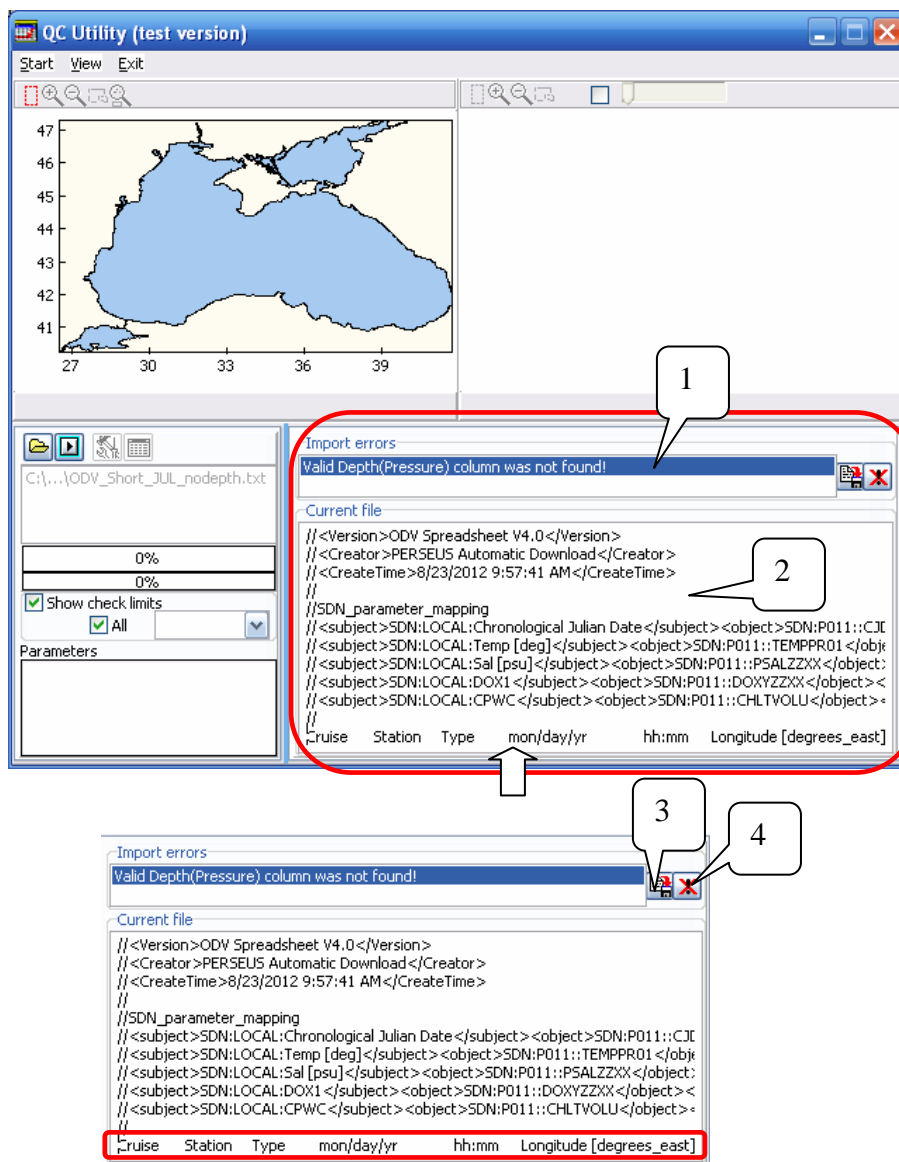
Settings of data quality check by limits allows to set “hard” and “soft limits” for climate and statistics quality check and select (or not) range checking.



Setting for the density inversion allows to set a tolerance value of density difference to avoid fixing of density inversion for too small differences.



If there are some errors in file format (structure of SDN headers, column labels, etc.) they can be corrected in editor 2. Format errors messages are listed in 1. Clicking current error message you'll go to the string containing corresponding format error. After correcting errors click button 3 – correct file will be saved and procedure will be continued. If you want to skip checking of the current file and continue with the next one, click 4 button.

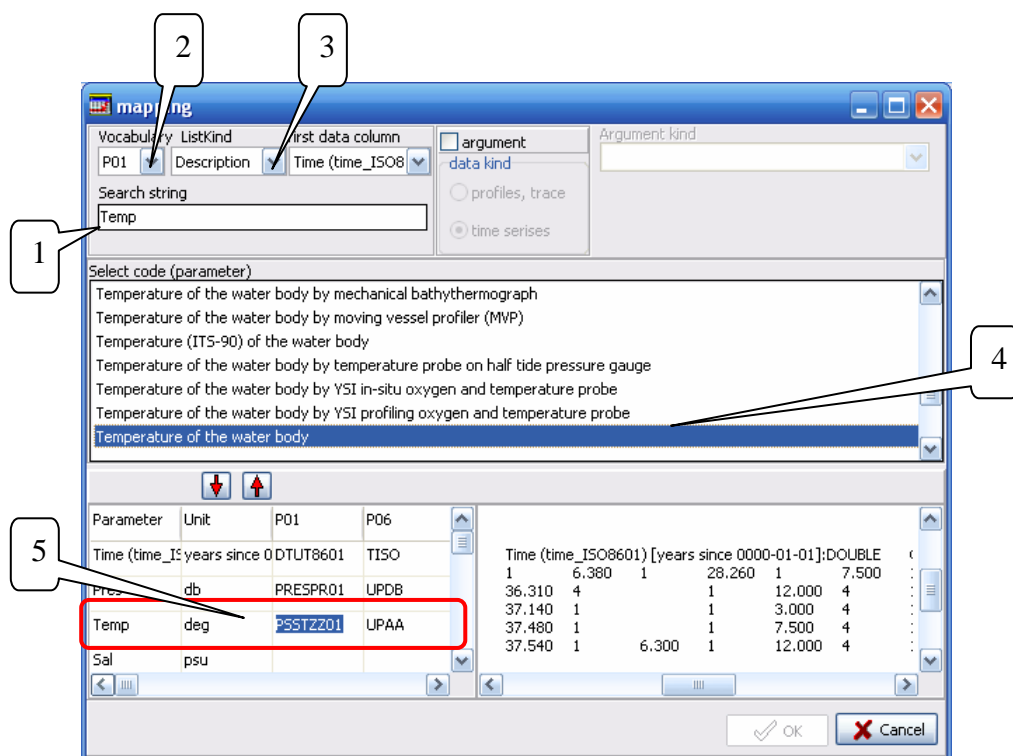


If file is ODV spreadsheet (without SDN header) the mapping dialog will appear to set correspondence between column labels and parameters/units codes according to the BODC

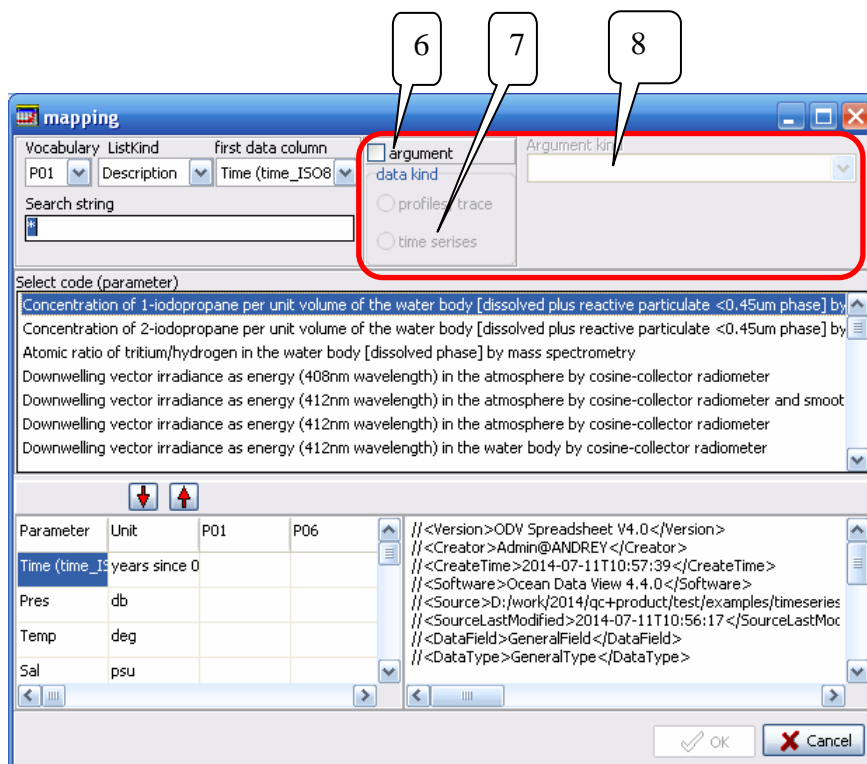
vocabularies. **OK** button becomes active when P01 and P06 columns are filled for all parameters in list (values of P01 and P06 codes should be valid).

Description for arguments – pressure, depth and date/time (for time series) - is given below.

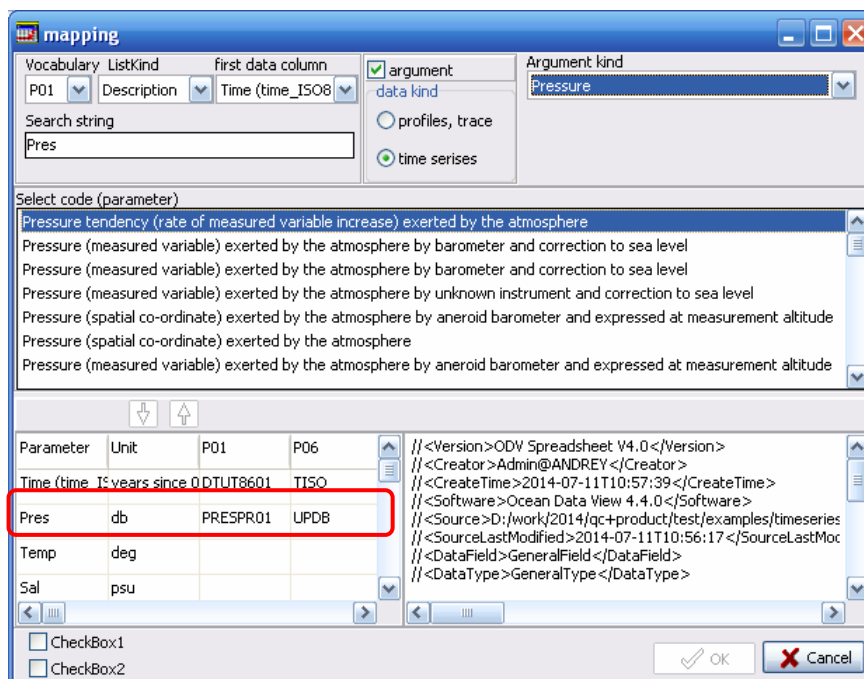
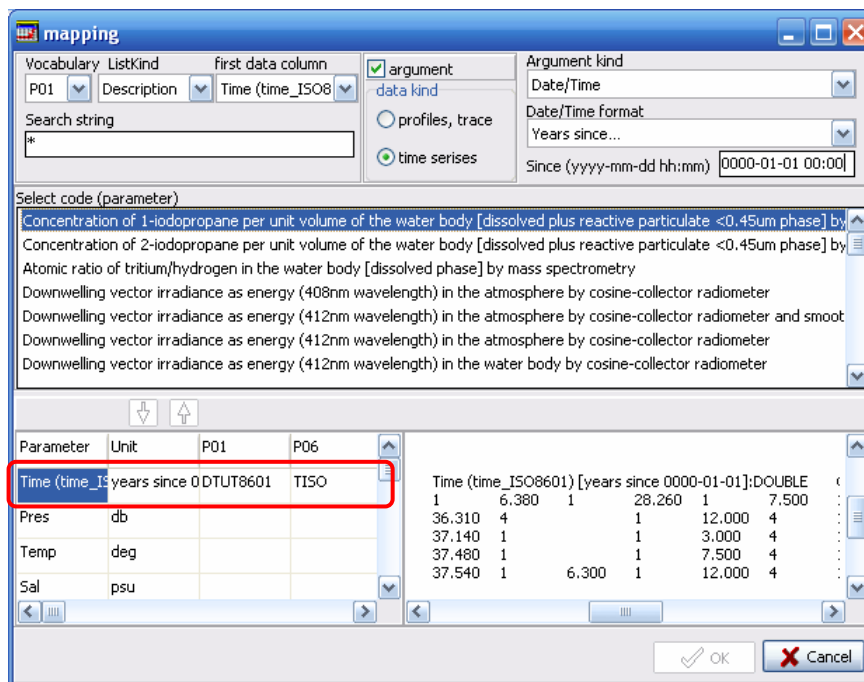
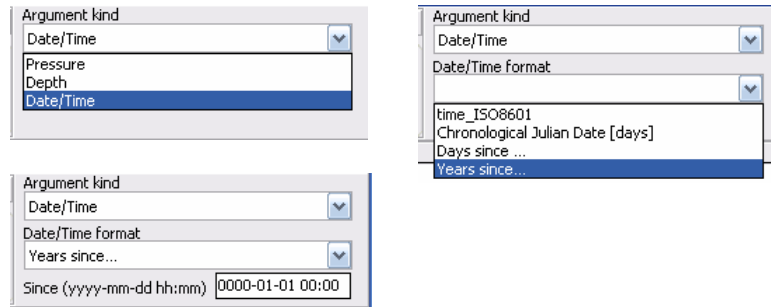
For others – BODC parameters (units) codes can be entered in the table 5 cells manually or from list 4 after search in correspondent vocabulary (P01 – for parameters and P06 for units – drop-down list 2). The search is implemented for substring, entered by user in edit 1. If the first symbol of substring is * then a substring is searching in any position of description (code) otherwise, in the beginning.



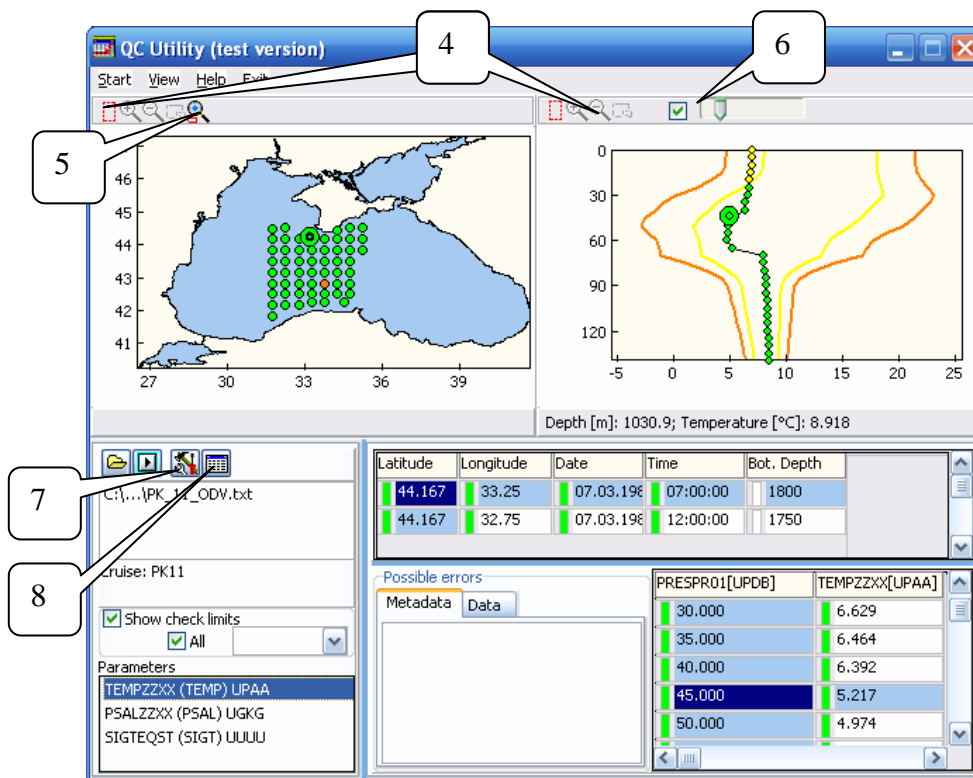
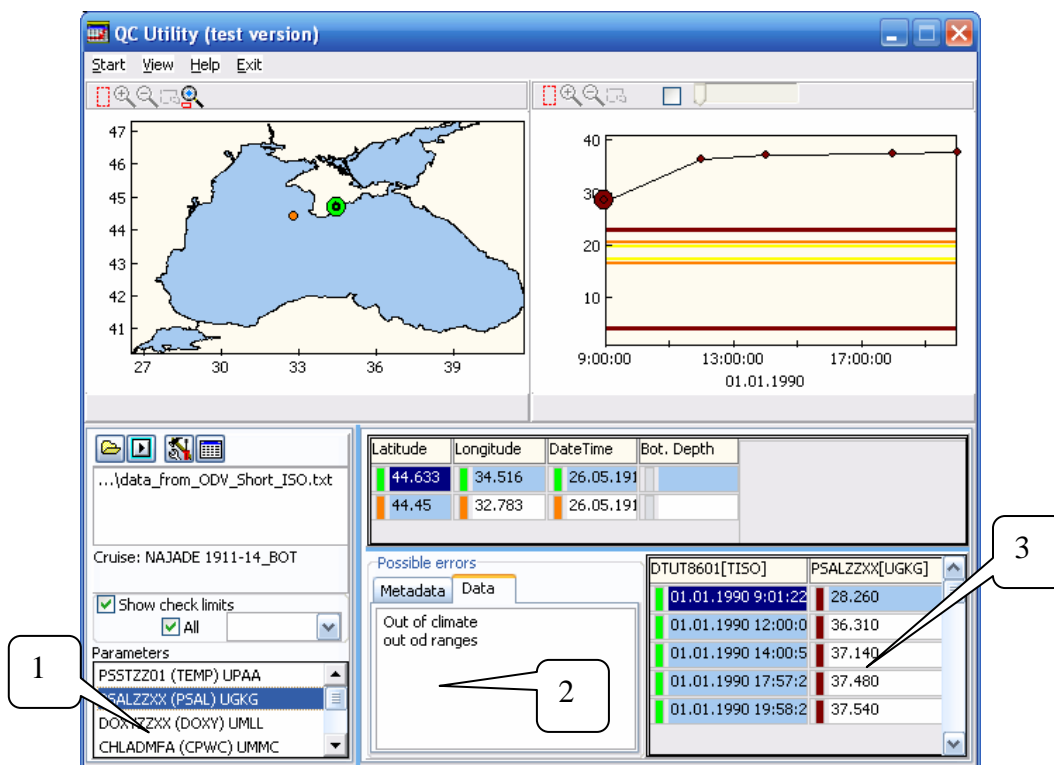
For arguments – pressure, depth and date/time (for time series) – select a row in table 5 with argument and check checkbox 6 (see figure below).



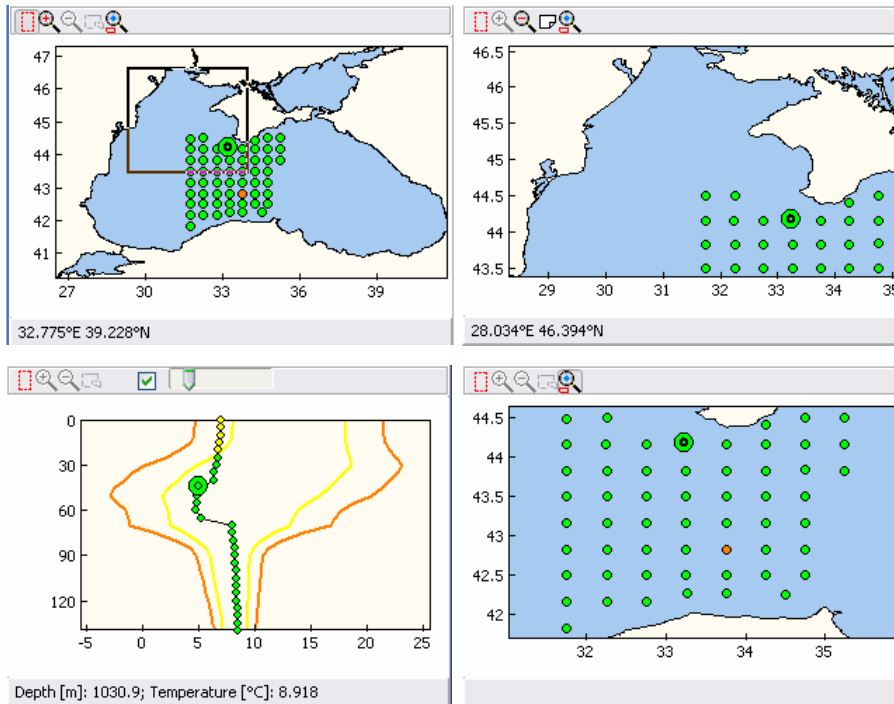
Then select data kind (profiles or time series) in 7. Then drop-down list 8 becomes active, select a kind of argument (examples for one of the kinds of date/time for time series and pressure are given bellow)



The result of QC procedure visualization examples are shown on the figures bellow (for the time series and profile), where **1** – is current file parameter list, **2** – error messages for metadata and data, **3** – table with data 4, 5, 6 – zoom tools 7 – View QC Settings, 8, View Data



Example of zoom **4** (stretching rectangle), **5** for group of stations and **6** –fixing number of viewing points are shown on figures below.



QC Flag Legend

Color	QC flag
[White bar]	0
[Green bar]	1
[Yellow bar]	2
[Orange bar]	3
[Red bar]	4
[Dark red bar]	9