Clidata Java Application Manual

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Content

1 Installation

Clidata application is distributed in self extracting archives.

Contact developers for the new version available

Main application archive is:

Clidata-install.exe

For the upgrade scalability the libraries and binary files are separated from the main application archive. They are:

bin-install.exe

jre-install.exe

lib-install.exe

This archives are installed usually only 1x. These archives are updated seldom.

Put all archives into any directory and unpack these self extract archives.

After unpacking you will find two executable files in the directory:

Clidata.bat … main application starter

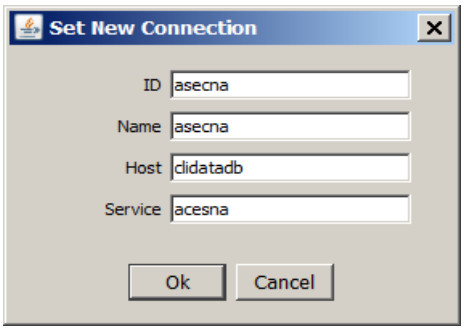
Clidata_debug.bat … starter with DEBUG console. Into this console the error and information messages are written.

2 Running and Connecting into the system

Run the „Clidata.bat“ file. The following dialog will appear:

Here you can fill the username, password and target server.

During the first run you can configure the server by pressing + button. The configuration dilaog will appear:



It is necessary to fill the correct connection information

- ID – the id of the connection. Put any text string and remember
- Name – the description of the connection id. Put any name and remember.
- Host – the name of the server machine to which you are connecting.
- Service – the name of the database service.

The host and service names are provided by database administrator.

During the first run the system asks for the creation of the desktop link. We recommend to create the desktop link. If you **don't want** the link to be created, in that case, choose in main menu of the program **File**/**Settings** and check **Create shortcut**. The link is created as follows:

3 Main menu

After connection into the system the main menu is displayed:

The main menu options are as follows:

Stations … manage the station and geography information

Metadata … manage the static list of values

Kef … different key entry forms

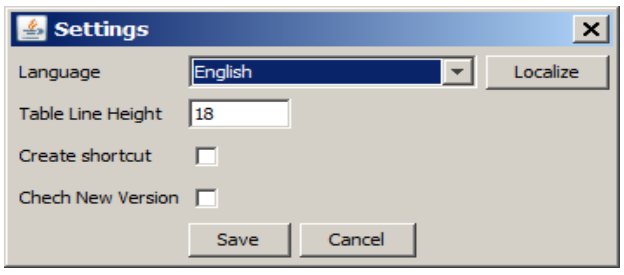
ROM … Preparation and export of the data for run-off model

Products … different data reports

Administration … manage the localizations, system, users and rights

File – Settings … main settings of the system. You can choose:

- the different language
- the height of the table row – necessary for windows systems with different magnifying ratio, If the lines of the tables in the application are too narrow try to set this value. The usual value is 18.
- Application shortcut – if checked the shortcut is not created in the future



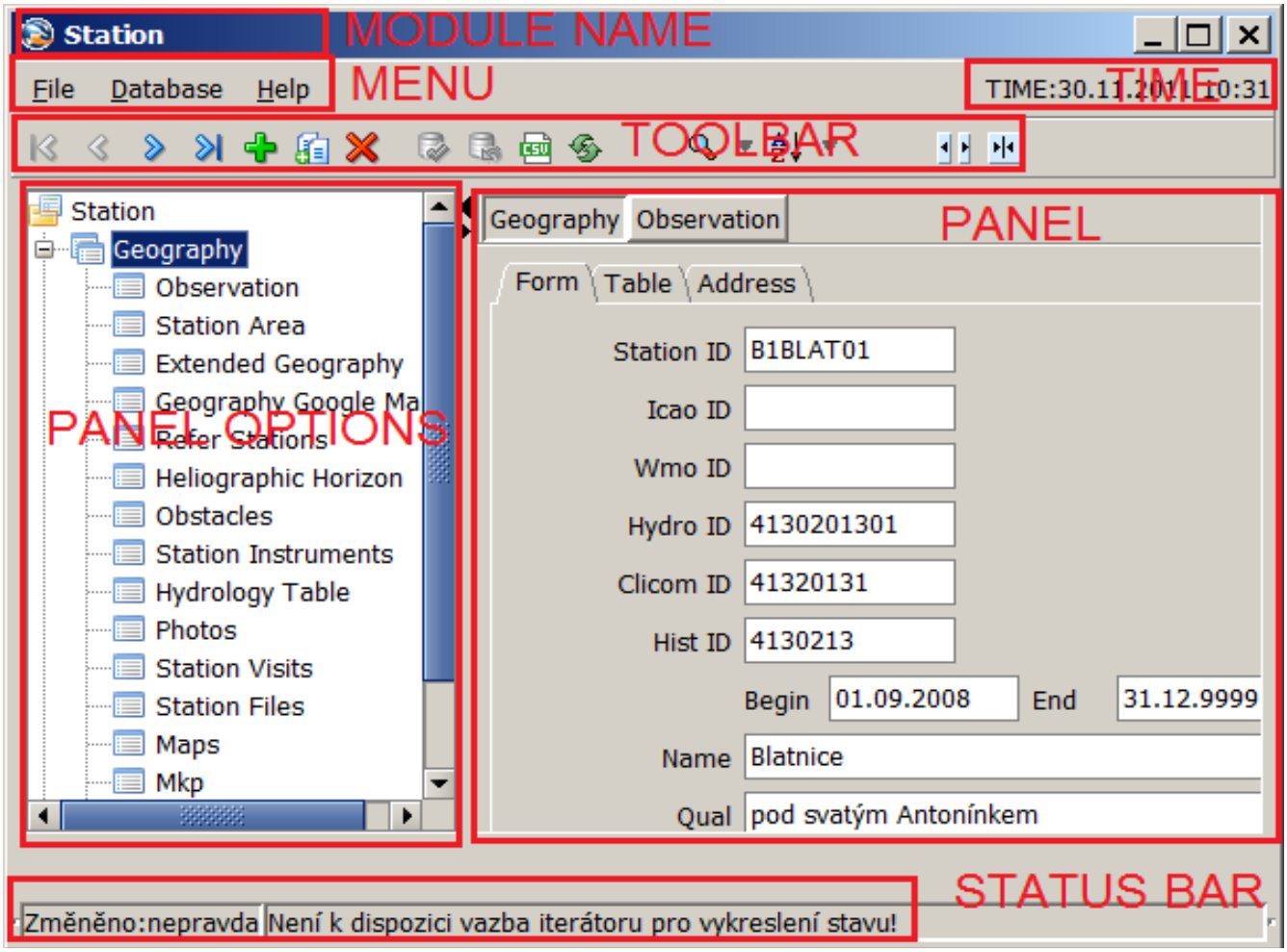
- Check new version – if checked the system is not looking for the new version in the internet. If you experience the slow system start up, it can be because the system is checking for the new

version and is not able to find the upgrade server.

The „Localize“ button reads the current localization messages from the database. This is usually not necessary to press. Only if you are doing the self translation of the system this button can be useful.

4 Working with the application

4.1 The screen



The module application menu consists of several parts:

Module name … informs which module is currently running. Actually the module “Station: is running

Panel Options – select any panel from the menu. Click only 1x to select the panel from the tree menu.

Time … informs of the actual database time. This time can be different from the computer time!

Panel … The part where the selected panel is opened from the menu.

Status bar … informs about he current focused item field.

Menu … the options described in the following text.

Toolbar … displays icons for working with the object in the panel. Icons are described in the following text.

4.2 Menu

File → Exit … terminates the application or the current module

Database → Insert (Insert Key) … inserts a new record into the table. Be aware of the current focus. The record is inserted into the table where the focus is located.

Database → Duplicate (F4 Key) … insert new record into the table and copy the values from the record where the focus is located. The key attributes are not copied. They must be entered manually.

Database → Delete (F5 Key)… delete the record where the focus is located.

Database → Commit (F12 Key) … save all changes into the database. When records are changed/inserted or updated they are not saved into database immediately. You must select Commit to apply the changes into the database.

Database → RollBack (F11 Key) … the changes are not applied. The state is returned to last committed values.

Database → Search (F7 Key) … display the search dialog for the table where the focus is located.

Help → About application … the actual information on the application.

Help → Help … displays the application help.

4.3 Toolbar

 The navigation between the records in the table. This is useful mainly in form view where only one record of the table is visible.

 Insert new record

 duplicate record

 delete record

 Commit changes into the database

 Rollback changes

 export focused table values int the CSV file. Export is explained in the following text.

 refresh data, reread the data from database. This option is useful when the changes in the database are not visible. For example when the changes has been made by different user.

 Show the search dialog. The searching is explained in the following text.

 The sorting of the data. This is explained in the following text.

For some modules the other icons can be displayd. This icons are useful only in these modules. These icons are e.g.:

 Split the geography or observation record.

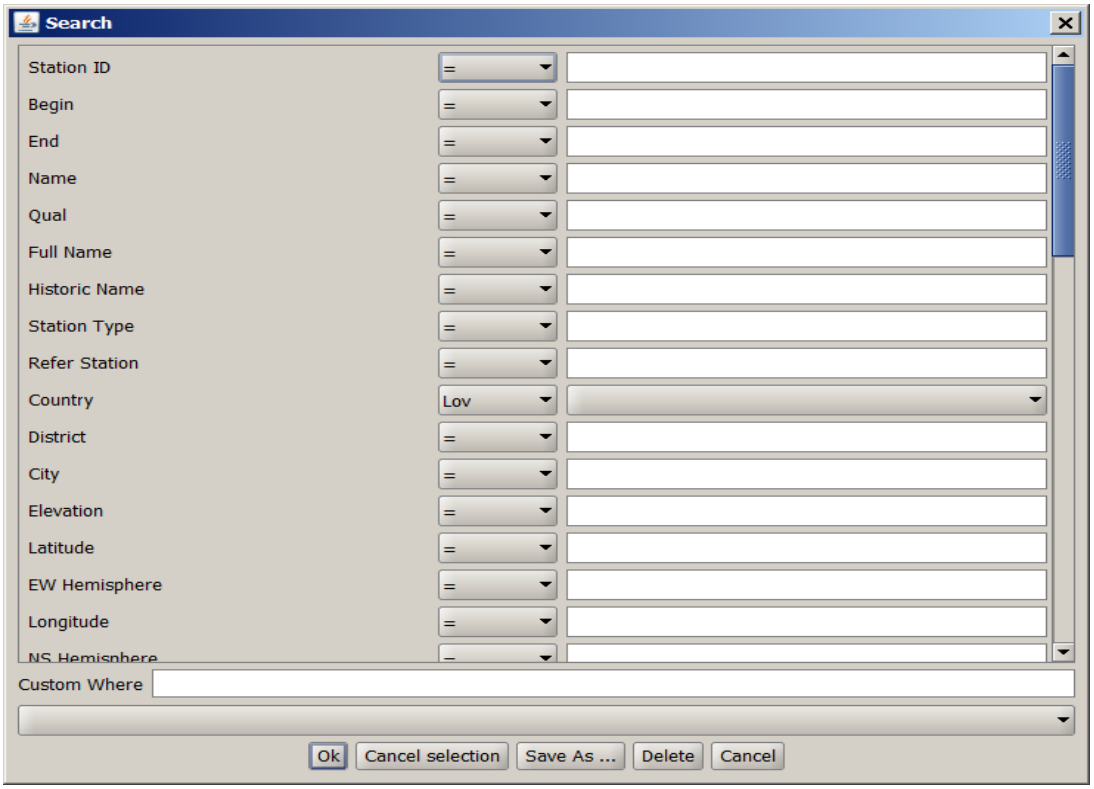
 Merge the geography or observation record

 If the cross table is used this icon navigates the cursor into underlying sequence table.

4.4 Searching for the record

The searching is carried out by pressing the following icon  or by the menu selection Database → Search or by pressing the F7 key.

The Search Dialog look as follows::



In the left part of the dialog the field names are displayed. The user can search according these fields. In the middle there is the selection of the operator and in the right part the values are entered.

The search operators are as follows:

=, <, >, <=, >= … the comparison with the entered value

Like, Not Like … comparison with value entered in the template form. The template is defined by means of the special symbols % and _. The % symbol means any character sequence. The _ symbol means any character. E.g. Os% will search for the value of Ostrava as well as for the value of Osaka.

In, Not In … expect more than value and this is the set delimited by comma (,). The text values needs to be enclosed in apostrophes ('). E.g. 'O1PORU01','O1MOSN01' is the set of two strings.

Is Null, Is Not Null … compares the empty and not empty value

Between … Expect the range from and to

Lov … The selection of the value from the predefined list. This selection is available only for some values.

At the bottom of the dialog there is additional fields with the AND and OR operators. Also if the user knows the real underlying table structure he/she can use direct WHERE condition for the selection of the values.

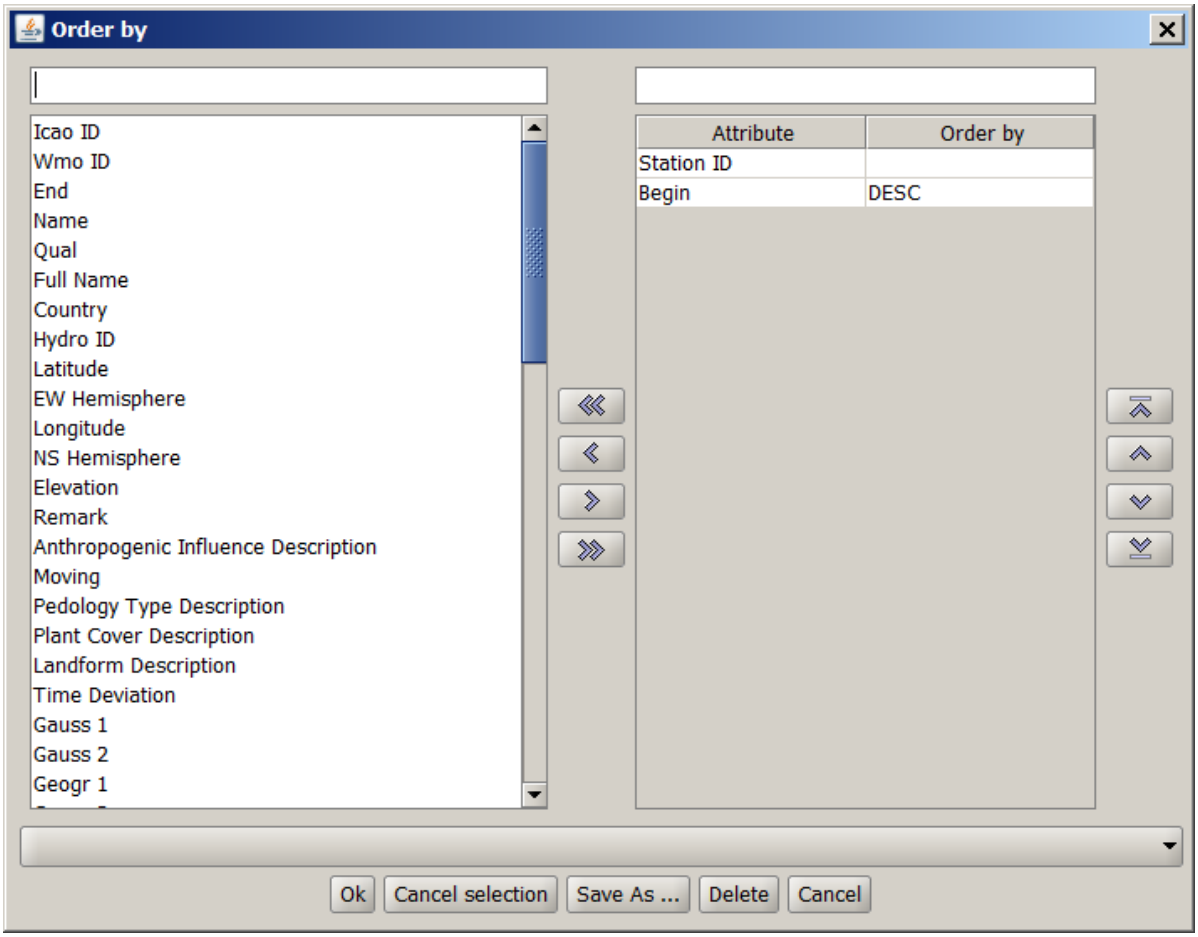
Once the search condition is created this condition can be saved for the later use. The condition can be saved by the „Save as“ button. The saved configuration will appear right beside the  icon if you press the small triangle.

All saved configurations can be accesd after you press this  listbox.

After selection of the saved condition you can delete the condition by pressing delete button.

4.5 Sorting of the data

The sorting dialog will appear after pressing  icon.



You can easily add or remove the columns for the sorting. Use the followng icons  . The sorting priority can be changed by  icons.

The sorting can be saved in the same way like the searching

There is additional options for the sorting:

ASC … sort the fields ascending

DESC … sort the fields descending

ASC NULLS FIRST … sort the fields ascending but place the empty fields first

ASC NULLS LAST … sort the fields ascending but place the empty fields last

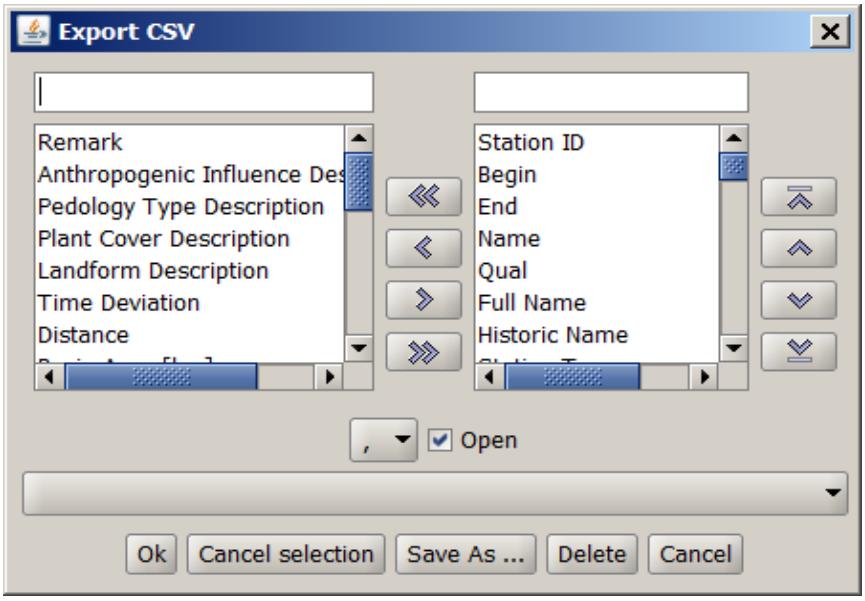
DESC NULLS FIRST … sort the fields descending but place the empty fields first

DESC NULLS LAST … sort the fields descending but place the empty fields last

4.6 Export to CSV

Export is available after pressing  button. It is necessary to set the focus to the field of the table for which the export is processed. Exported are all data from the current selection. If you want to export only part of the data you need to specify the search condition (see previous chapters).

After pressing  button the following dialog will appear:



You can add or remove fields by  buttons. The order of the columns can be changed by  buttons.

The selection can be saved for later used.

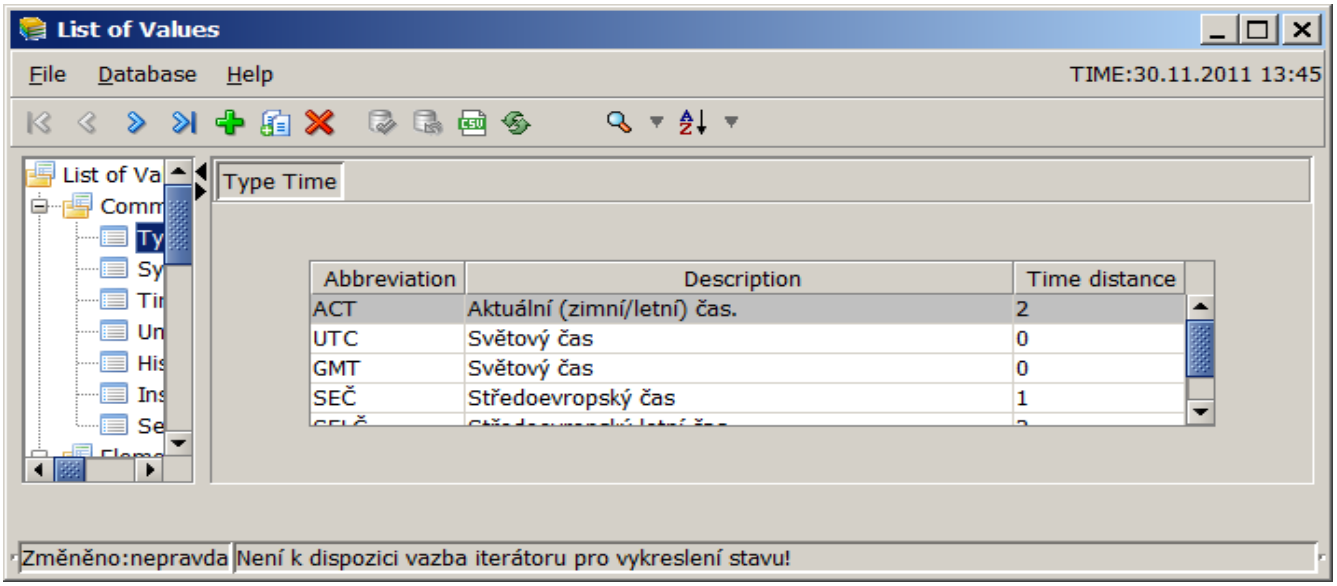
By „Open“ selection you can set that after export the file is directly opened by the application associated with “csv” extension (Excel, Open Office Scalc, etc...)

The field separator can be either comma(,) or semicolon (;). The selection depends on operating system national settings.

5 Metadata

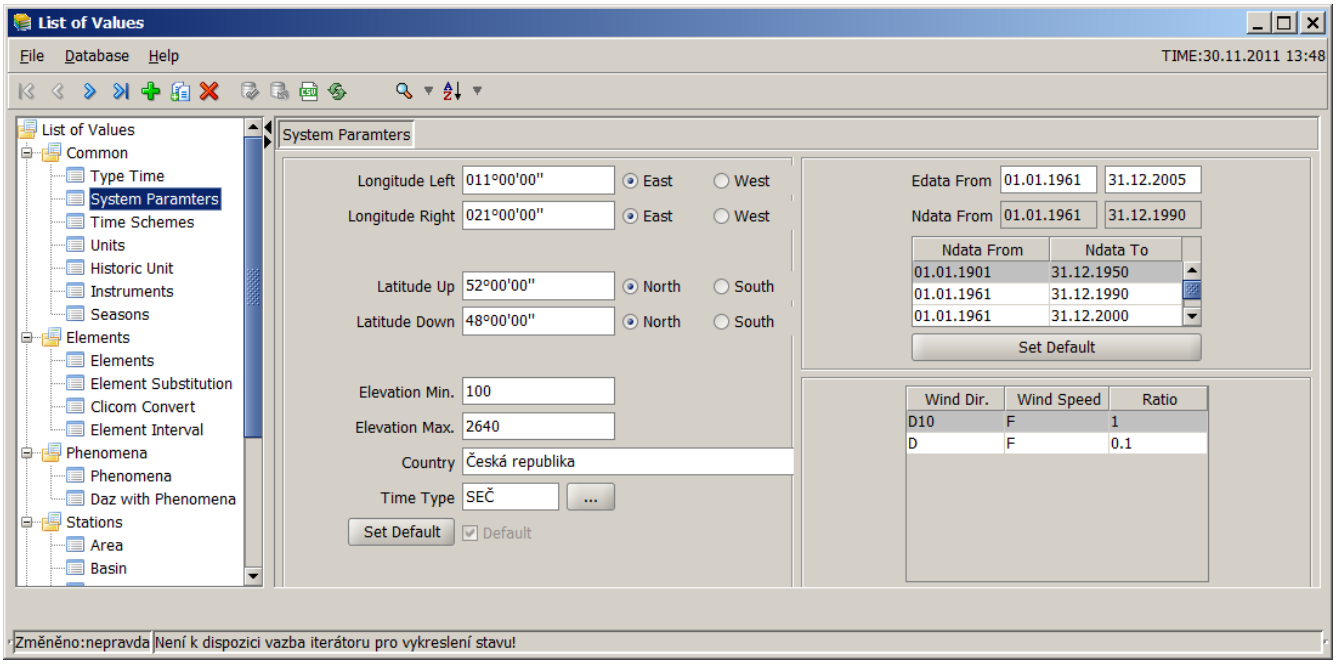
The part of the application used for the definition of different lists of values.

5.1 Type of time



The form is used for the definition of different times used by the system. Specify the abbreviation of the time, its description and time distance from the GMT.

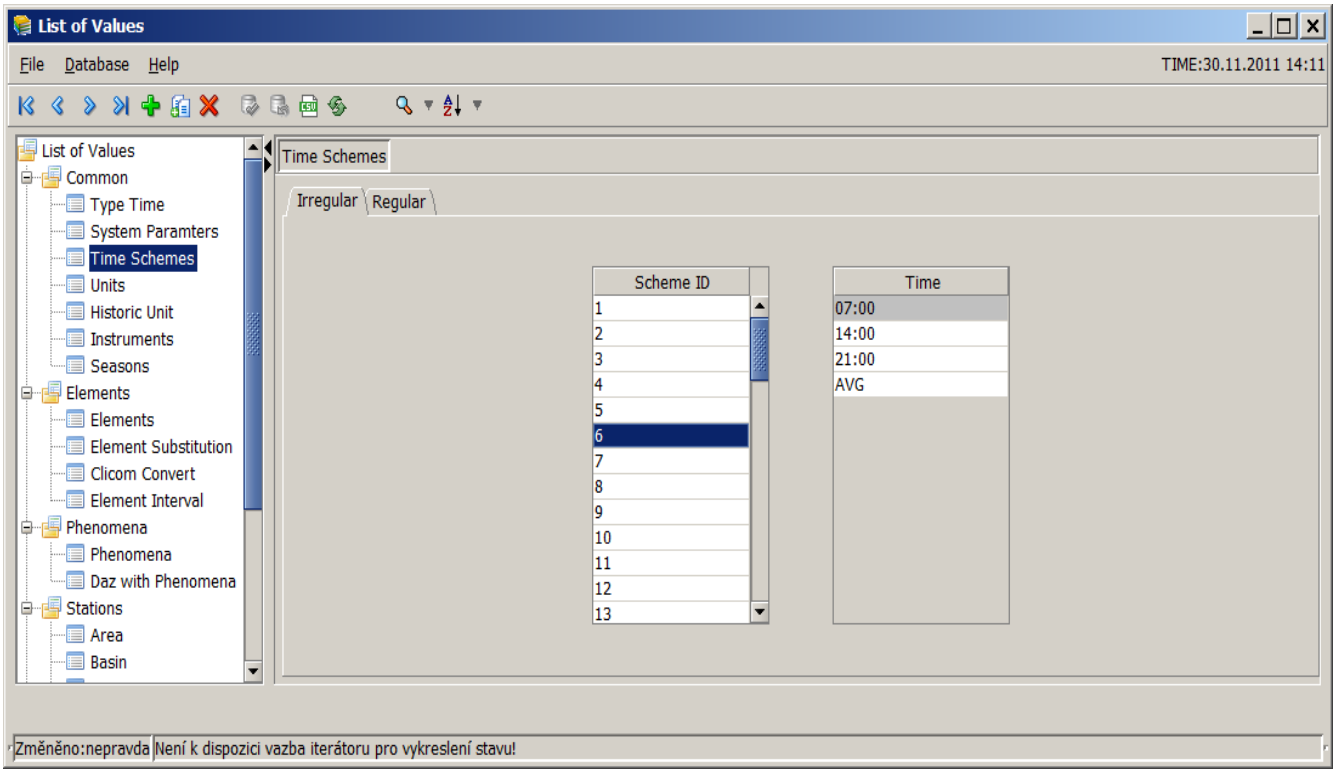
5.2 System parameters



The settings of the system and countries. Here you will define the name of the country and the country borders.

- Longitude left/right, Latitude left/right – these values define square of the country. Each station of the country must lay within this square
- Elevation min and max – these values maximum and minimum elevation of the country. Each station of the country must lay within this range
- Country – the name of the country
- Type time – default database time. It is selected from the list of times
- Default – defines which information is default for all data in the database.
- Edata – defines the **standard** period for the calculation of extremes. Besides this standard period also the extremes for all data are calculated.
- Ndata – different periods for the calculation of normal values. Only one period is selected as the default from the list
- Wind direction and wind speed – this defines the pairs of the elements for the wind direction and wind speed. Use ratio:
  - 1 for wind direction values 1-36
  - 0.1 for the wind direction values 1-360.
  - 1.125 for the wind direction 1-32

5.3 Time schemes



This form is used for the definition of time schemes used in the database. We define 2 basic types of the time schemes:

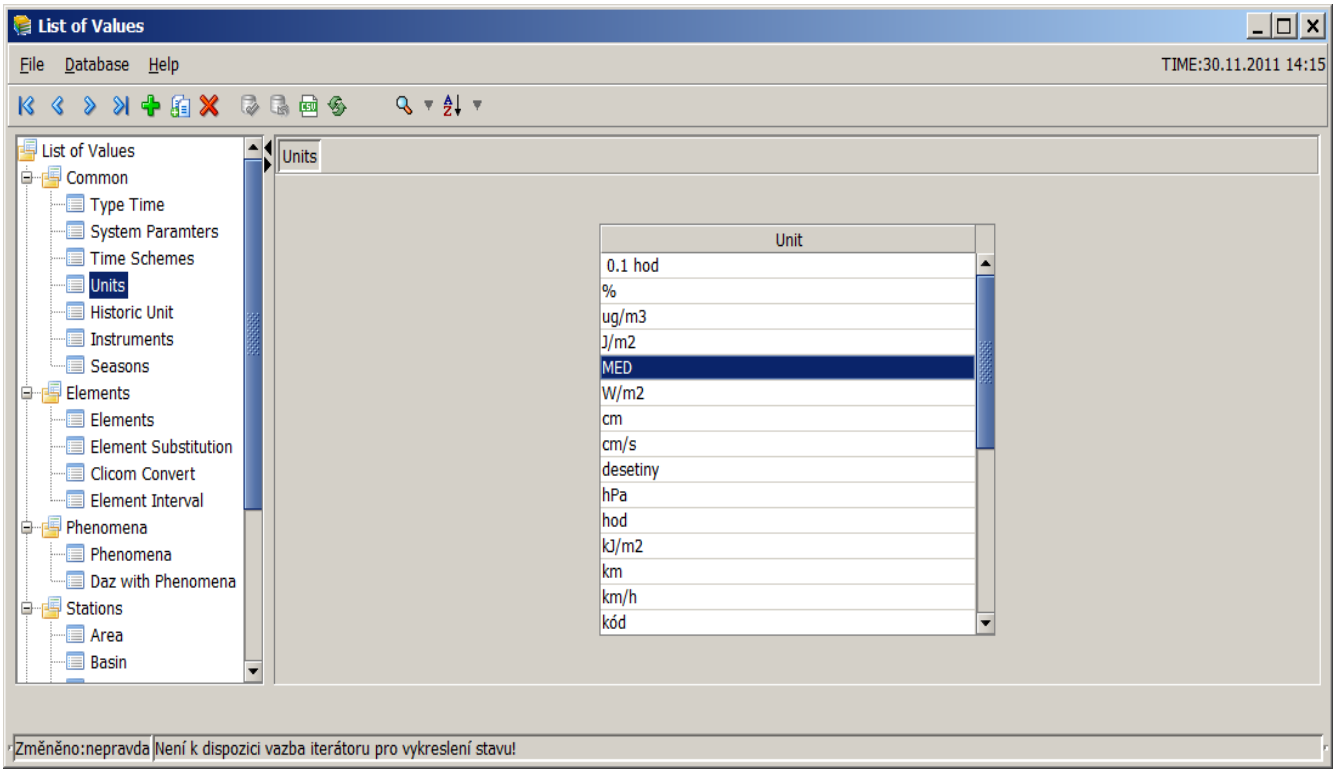
- **Irregular** – this scheme is used usually for manual measurement. It is also called climatological

scheme sometimes. It is used for elements measured by observers in specific times during a day. For irregular scheme you can specify time in the HH:MM format. Also you can use one of 'MAX', 'MIN', 'AVG', 'SUM' functions. Examples:

- E.g. The temperature is measured three times a day at 7,14 and 21. We define scheme number 1. We add 3 times: '07:00', '14:00' and '21:00'
- Temperature maximum is measured once a day at 21. We define scheme number 2. We add one time '21:00'
- The monthly data is calculated for 7,14 and 21 (times) and daily average (daily function). We define scheme number 3. We add 4 values: '07:00', '14:00', '21:00' and 'AVG' (see picture).

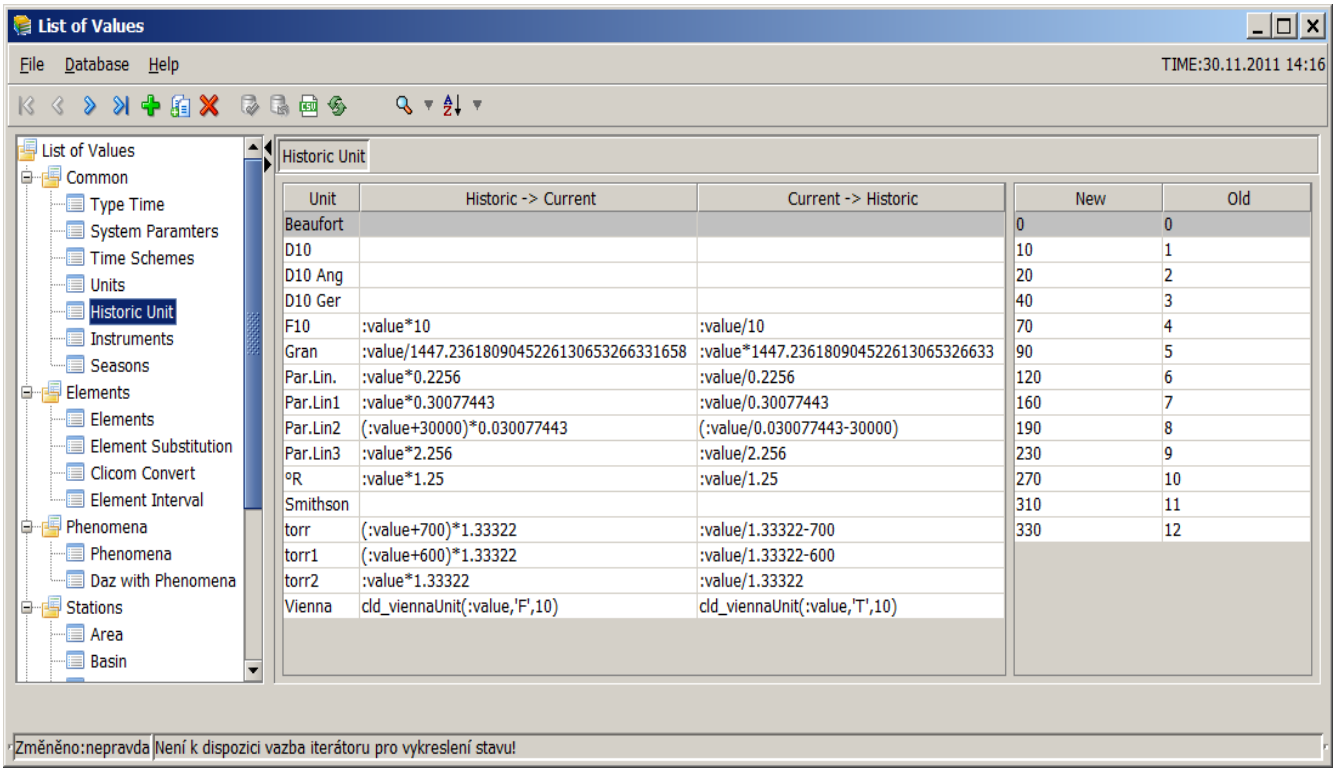
- **Regular scheme** – this scheme is used for automatic weather stations. The element is measured in specific time intervals. For this scheme we only define here the intervals. The maximal interval is '24:00' (day) and minimum '00:01' (one minute).

5.4 Units



Definition of all units used in the definition of the station observation.

5.5 Historical units

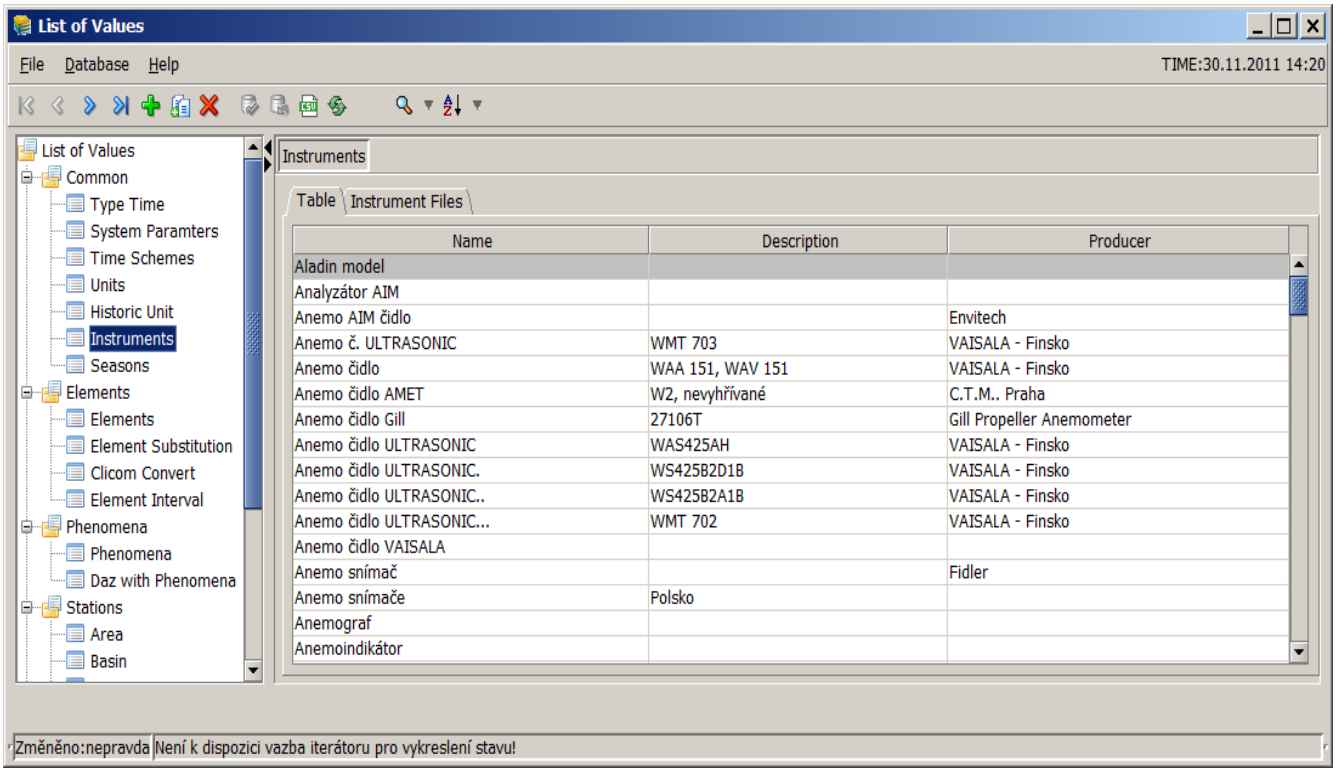


The historical units define the translation table between the unit values. The translation can be defined either by table or by formula.

By table – in the right side of the form specify the old and new value. The nu value must by always number. The old value can be also the character string

By formula – you can use the general translation formula. In the formula use **:value** variable for the specification of the value to transfer. After that specify the formulas for the both directions. In the formula you can use any arithmetic operators and brackets.

5.6 Instruments



Definition of all instruments used in definition of station observation.

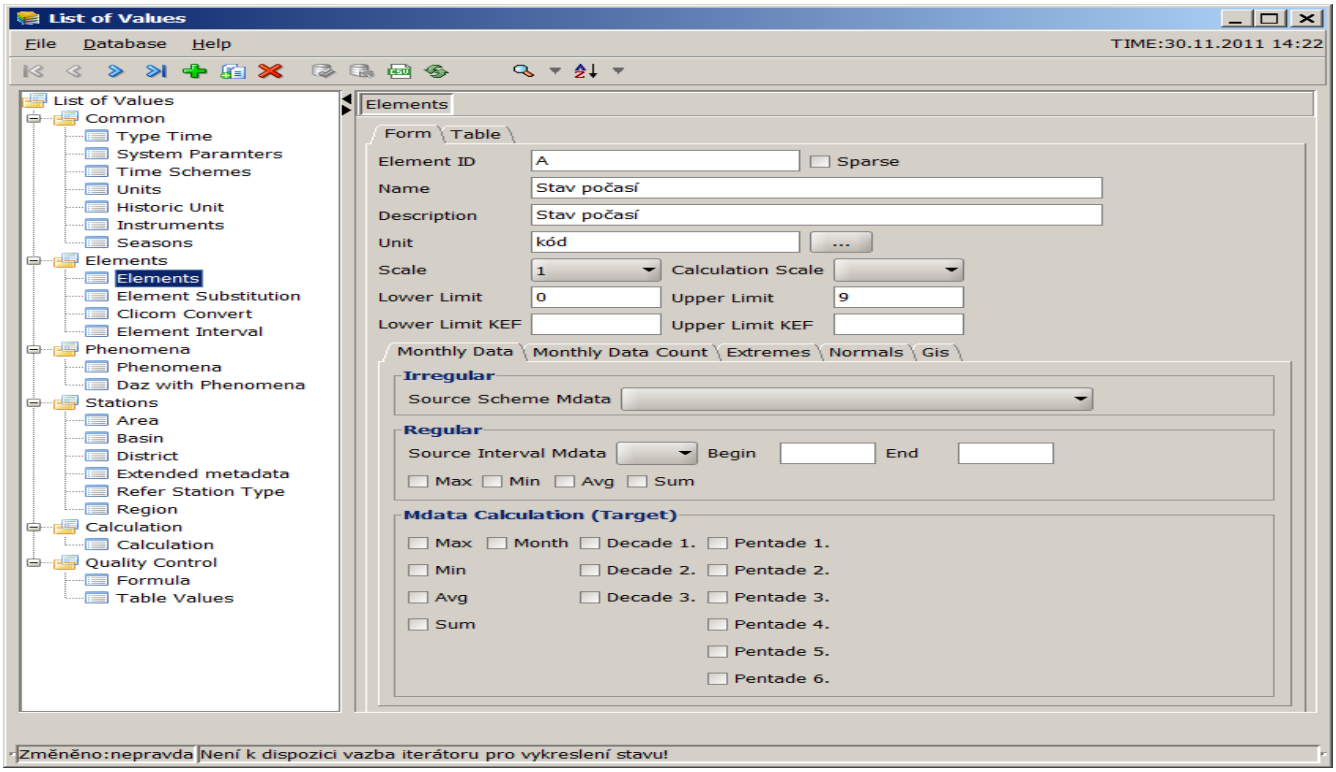
Name – unique identifier of the instrument

Description – description of the instrument

Producer – produced name

Instrument files – in this table you can add any file from the file system for the instrument. (e.g. documentation)

5.7 Elements



Definition of all measured elements/parameters.

Element id – the unique identifier of the element. We use 6 characters for the identifier

Name – is the short name of the element. Use maximally 15 characters. This is usefull for the table reports when we not need very long names

Description – long name of the element. Use maximally 35 characters.

Limits – We recognise 2 types of limits. The limits are optional. It not need to be filled. Also you can specify only upper or lower limit and the other limit can be opended.

- **Hard limits (lower limit,upper limit)** – the limits when the value outside these limits is not stored into the database.
- **Soft limits (lower limit KEF ,upper limit KEF)** – warning limits. Used during the key entry process for the checking of these limits. Value is stored into database. In Key entry form the value is displayed with different color.
-

Sparse element – When the element is measured seldom or the element has a lot of missing values check this tick. For sparse elements the limits for the calculation of monthly , normal and extreme data not applied.

Calculation limits applied when the sparse is not ticked:

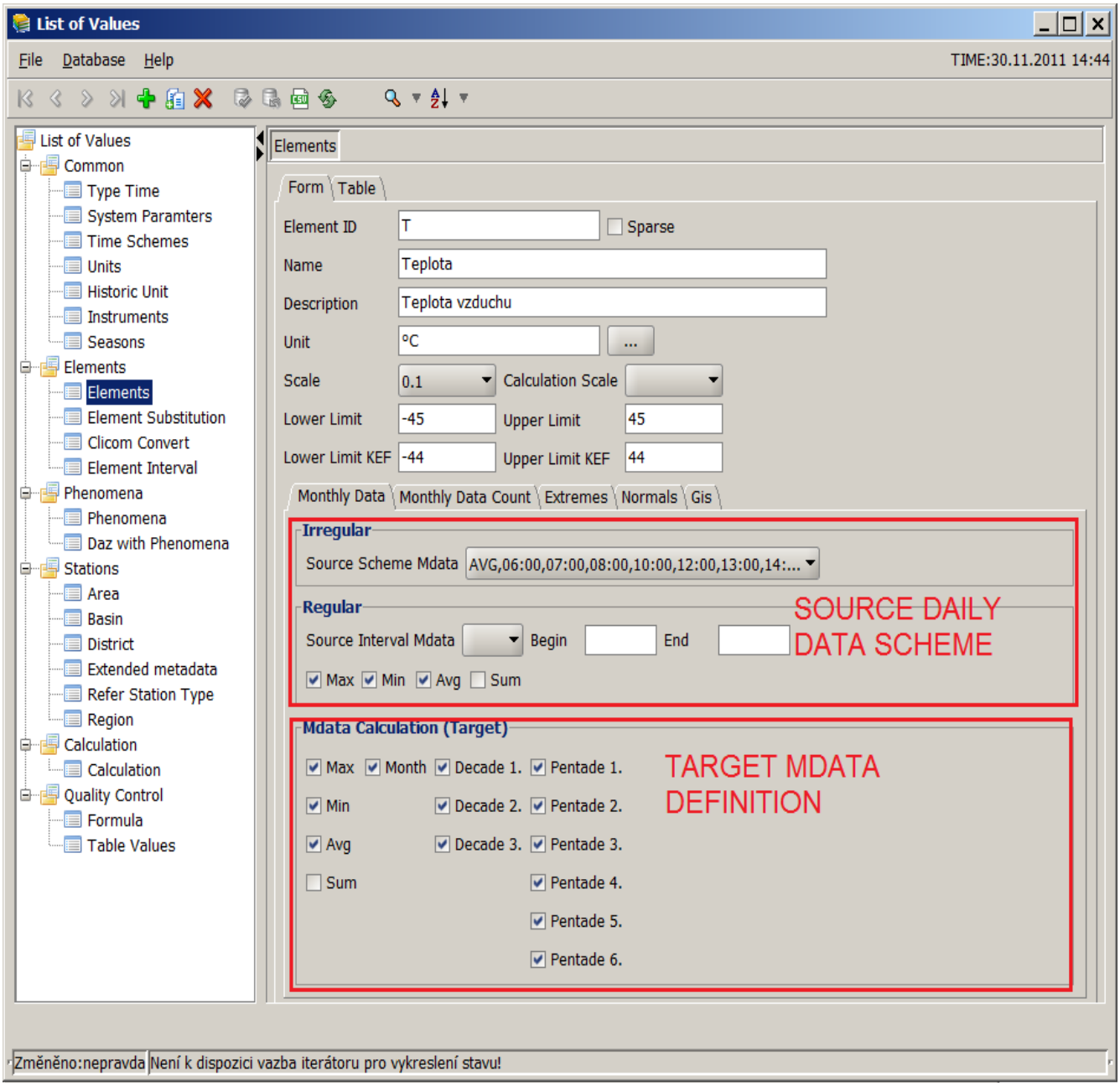
For the calculation of Monthly data there is a limit 3/5 meaning that maximally 5 values is missing in month and maximally 3 consecutive missing values.

For the calculation of Extremes data there is a limit that at least 10 years must be present.

For the calculation of Normal values there is a limit that at least 10 years must be present.

5.7.1 Monthly data calculation

The definition is at the bottom of the screen.



At the upper part set the **source** daily data for the calculation:

- The source can be either **regular** or the **irregular** time scheme.
- The irregular scheme can use a function in the list (see picture). In the picture the T element is calculated for several times as well as for the **daily** average!
- For regular time scheme the monthly data is calculated for **daily** maximum, minimum and average.

At the bottom part set the **target** for monthly data calculation:

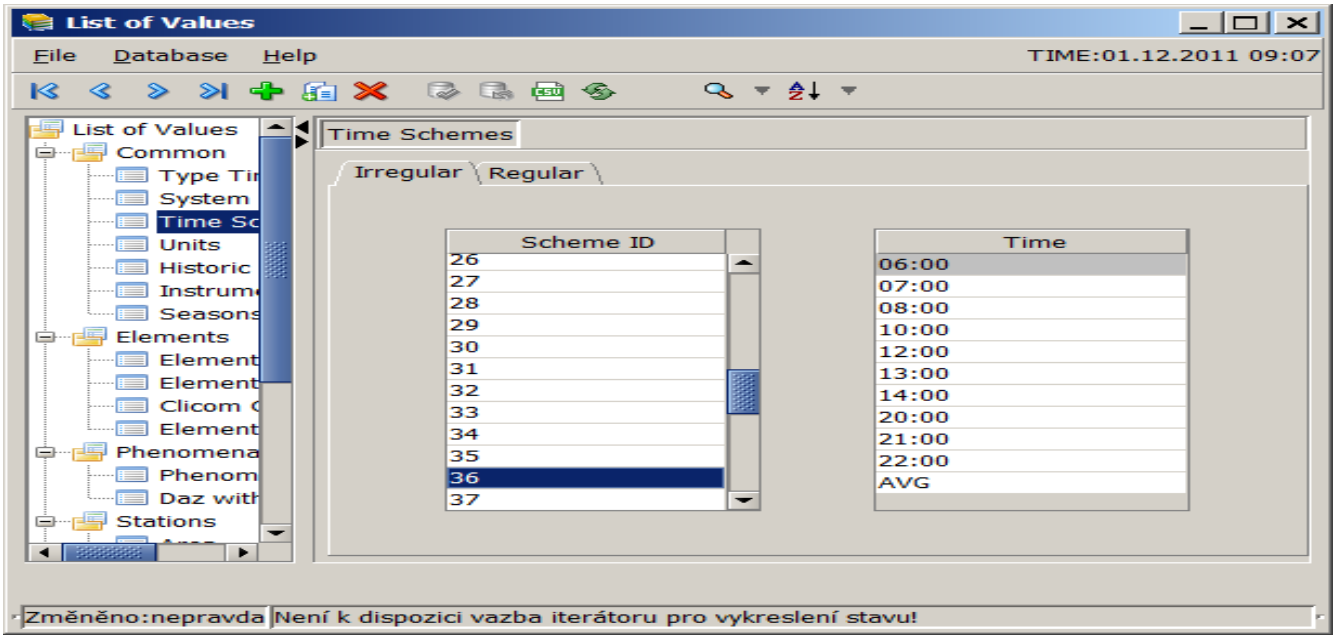
- The functions min, max, avg and sum specifies the **monthly** maximum, minimum, average and summary.
- Select always **month** option. Additionally you can select any **decade**(10-days) or any **pentade**(5-days). The **year** is calculated for month option automatically!

The result of this calculation is stored into MDATA table.

Note:

- For the calculation of monthly data the data must satisfy 3/5 condition. Not 5 days in month is missing. Not 3 subsequent days is missing in month. If the condition is not satisfied. The monthly data is not calculated
- In you need to calculate the monthly data even when the condition is not satisfied, use **sparse** element tick.

In the following picture you can see the definition of time scheme 36 for the definition of daily average and other times during day. This scheme is used for the calculation of monthly data in the example picture.

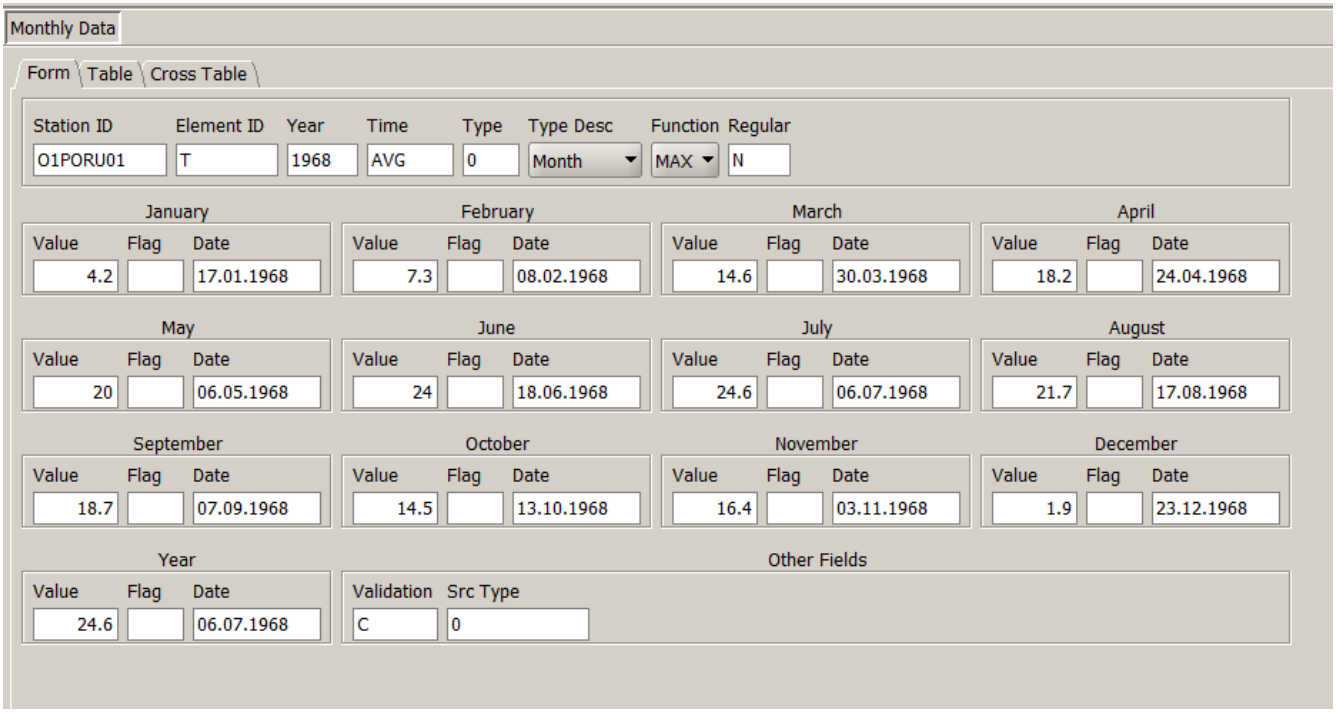


Note: the calculation of daily average(or sum or max or min) is defined in station observation for each particular station!

Example 1:

For the calculation of monthly maximum of daily averages for irregular time scheme. You need to set:

- **source** in irregular part is time scheme containing the 'AVG' (daily average)
- **target**, tick the **Max** function and also tick the **Month** option

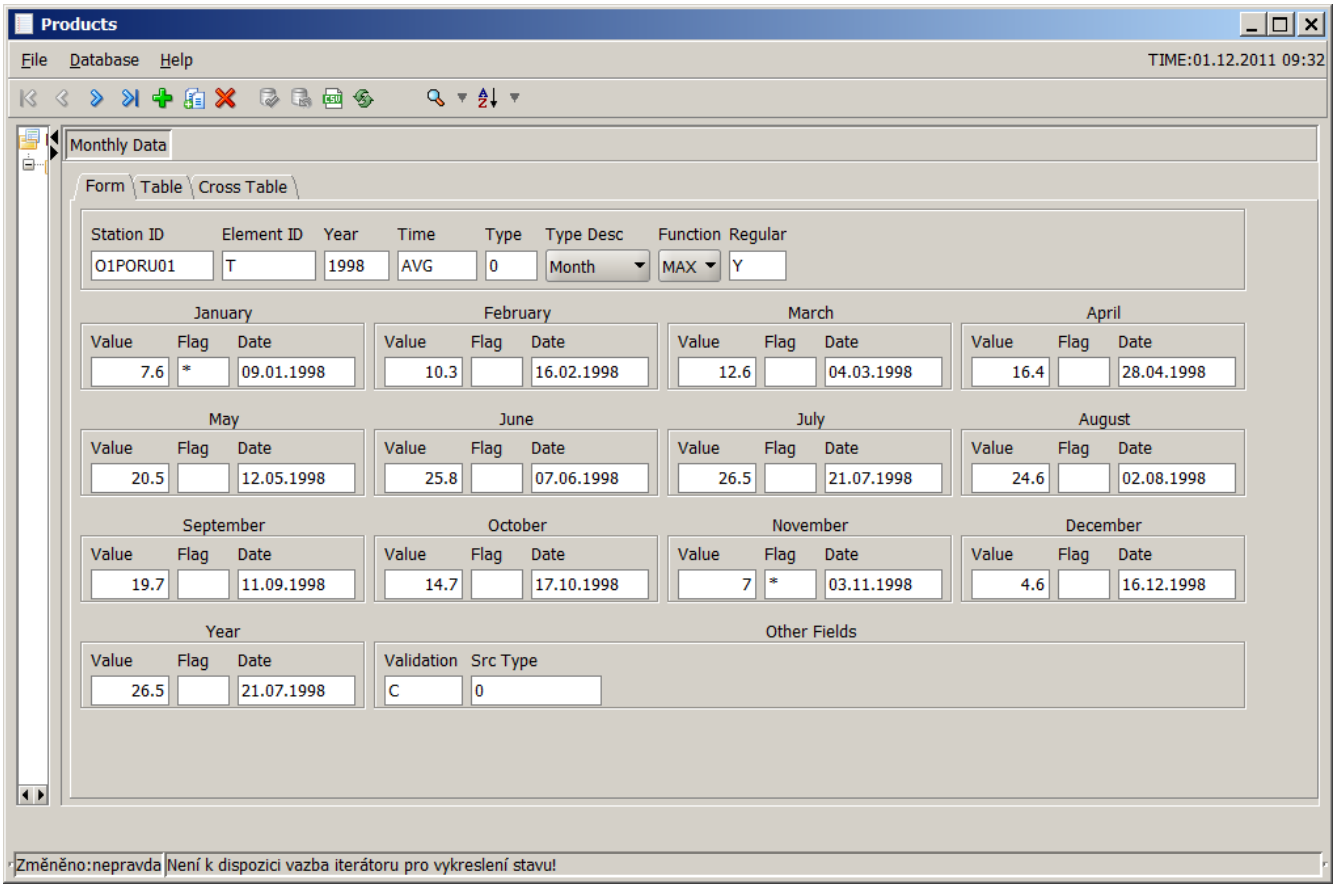


See the above picture. In MDATA table we can read that for the station O1PORU01 in year 1968 for irregular data the maximum of daily average for January is 4.2 on January 17th. Also there is the yearly maximum of daily average 24.5 degrees. This maximum was on 6th of July. See products for more information on data.

Example 2:

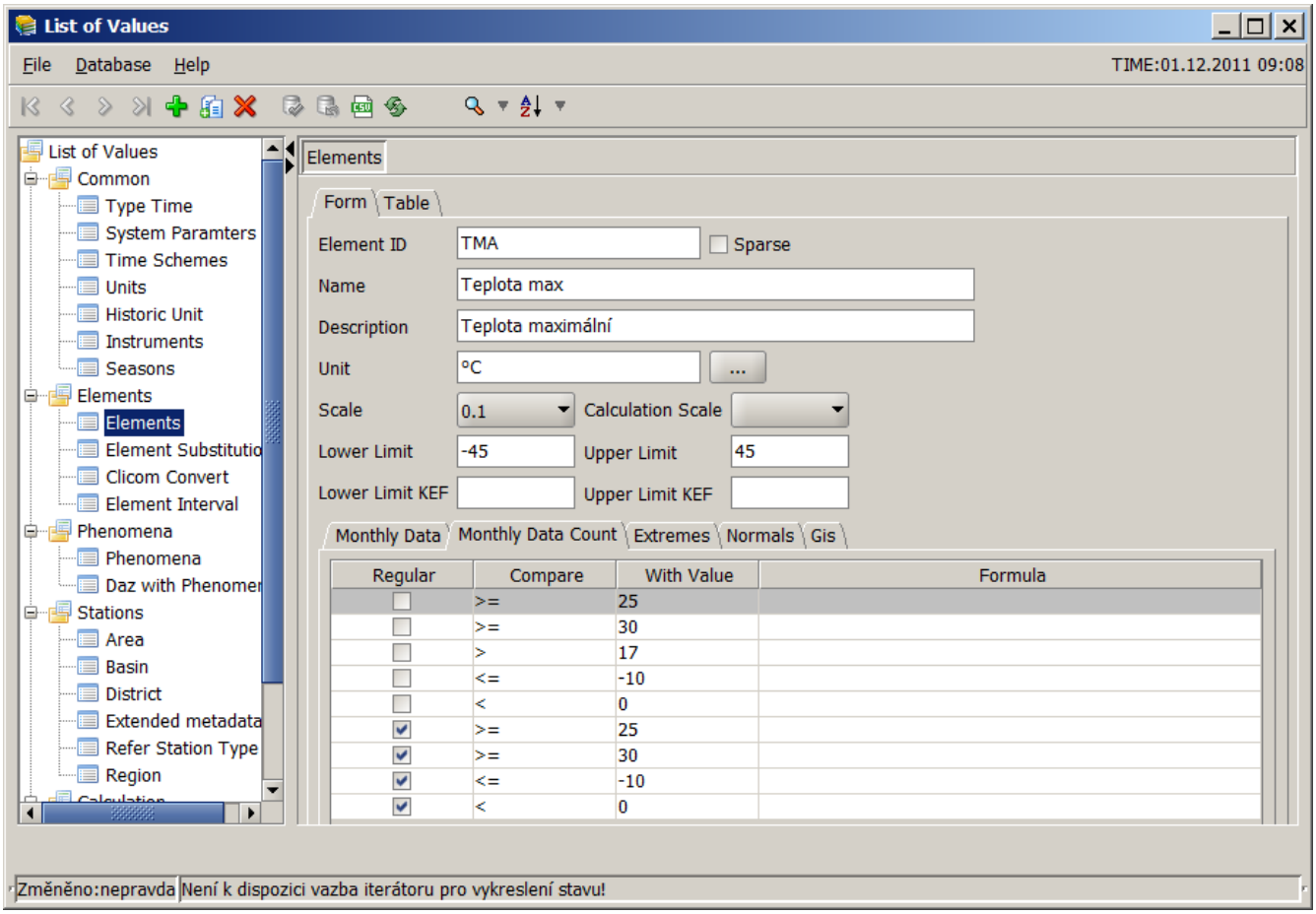
For the calculation of monthly maximum of daily averages for regular daily data 1 hour measurement. You need to set:

- **source** in regular part tick the **Avg** option (daily average)
- **target**, tick the **Max** function and also tick the **Month** option



See the above picture. In MDATA table we can read that for the station O1PORU01 in year 1998 for regular data the maximum of daily average for January is 7.6 on January 9th. Also there is the yearly maximum of daily average 26.5 degrees. This maximum was on 21th of July. See products for more information on data.

5.7.2 Monthly data count



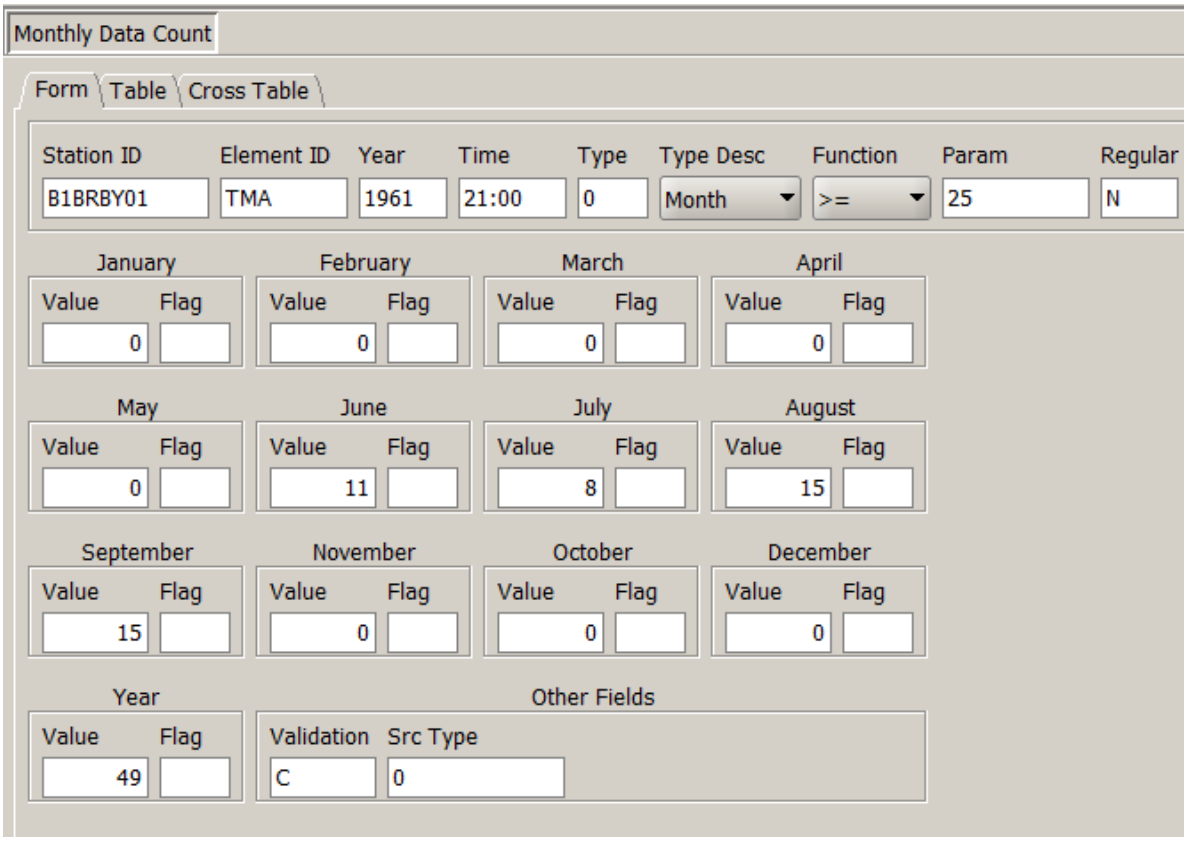
The other option in element definition is for the calculation of monthly count values. By this definition you can calculate the number of days satisfying some condition. E.g. the number of days when the temperature is grater than 30 °C.

The result of this calculation is stored into MDATA_COUNT table. There is also application of condition 3/5. Use sparse element if the condition is not satisfied for your data.

In the table you only need to fill the condition:

- **Basic condition, for all users:**
  - Regular – tick, define if the condition I applied to regular(selected) or irregular data(not selected)
  - compare, with value – select the function for the comparison. Select one of <,<=,>,=>. After that write the value you want to compare

  Example: see the above picture. The element is TMA (temperature maximum). The definition of monthly data count is defined for several limits. See the first line with condition TMA >= 25. When the value of TMA is grater than 25, this day is considered as summer day in Czech Republic. In MDATA_COUNT table we can read the number of summer days in Czech republic.

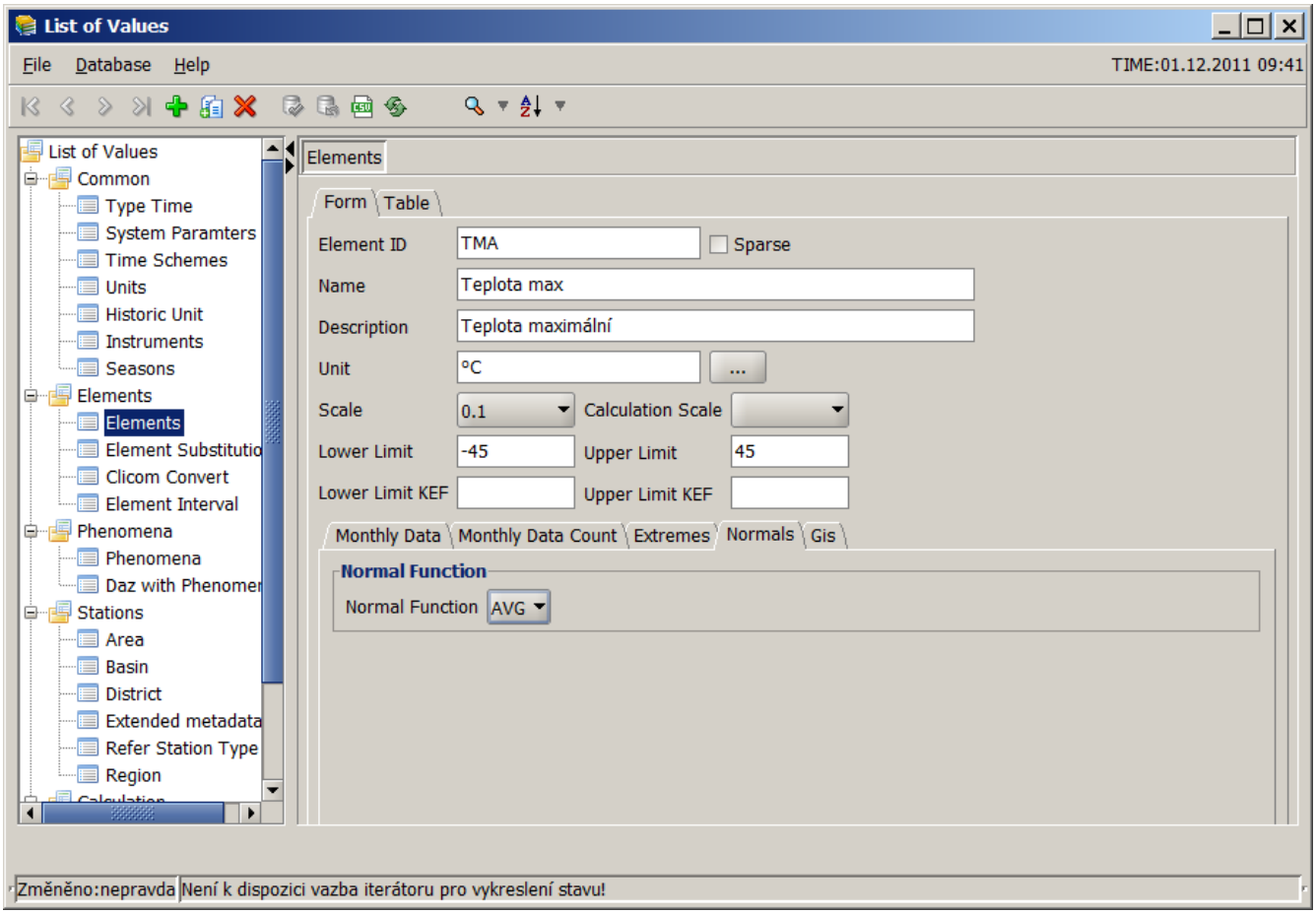


See the above picture with the results from MDATA_COUNT table. You can read that at the station B1BRBY01 there is in year 1961 11 summer days in June. In the whole year 1961 there is 49 summer days for this station. See products for more information on data.

- **Advanced option, for experienced users only:** Also you can select the Function. If this option is specified, write into the value field the number and into formula field write the general formula. Use VALUE variable in the formula.

  E.g. write number 1 and into formula field write text:VALUE>10 and VALUE<20

5.7.3 Normal data calculation



The Normals tab in element definition is used for the definition of monthly function used for the normal calculation. The normal function can be either AVG or SUM. It is obvious that for the temperature we use monthly average for normal calculation and for the precipitation we use monthly summary for the rainfall.

The result of the calculation is written into NDATA table.

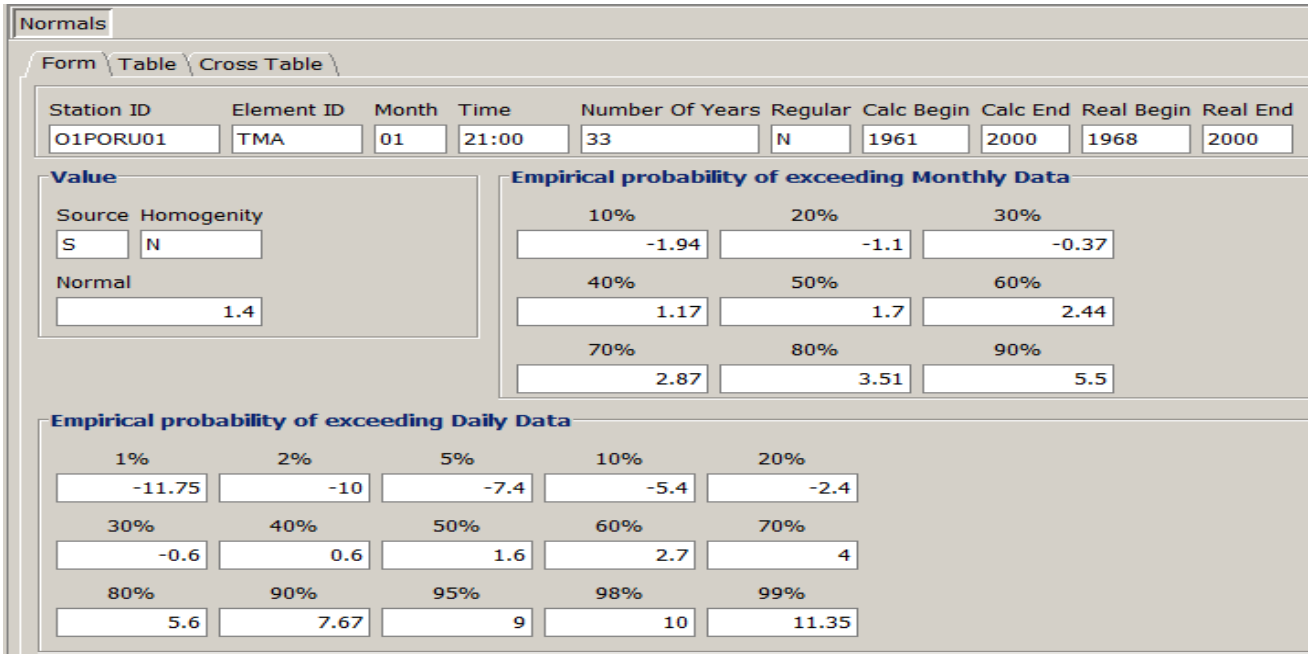
The whole year is saved as month number 13!

Note:

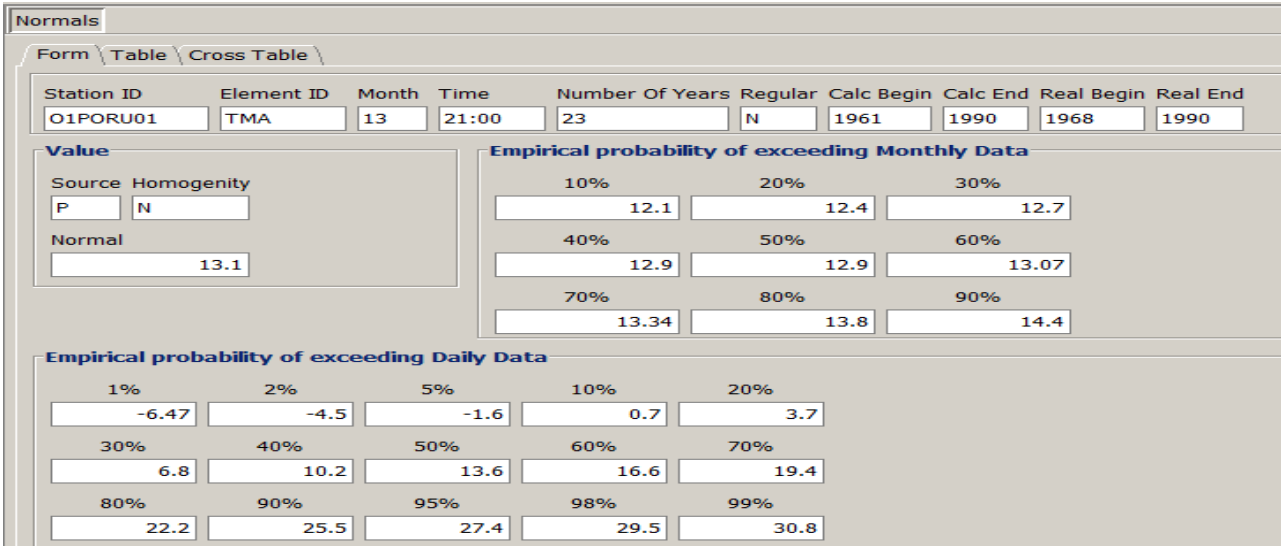
- The periods for the normal calculation is defined in system parameters!
- There needs to be at least **10** year of monthly data for the calculation of the normal. This is regarded as interim normal.
- There needs to be at least **25** year of monthly data for the calculation of the standard normal.
- If you need to get the results even when you do not have enough data use **sparse** option for the element.

Example:

At the picture above you can see the definition of monthly average normal for TMA element (temperature maximum).

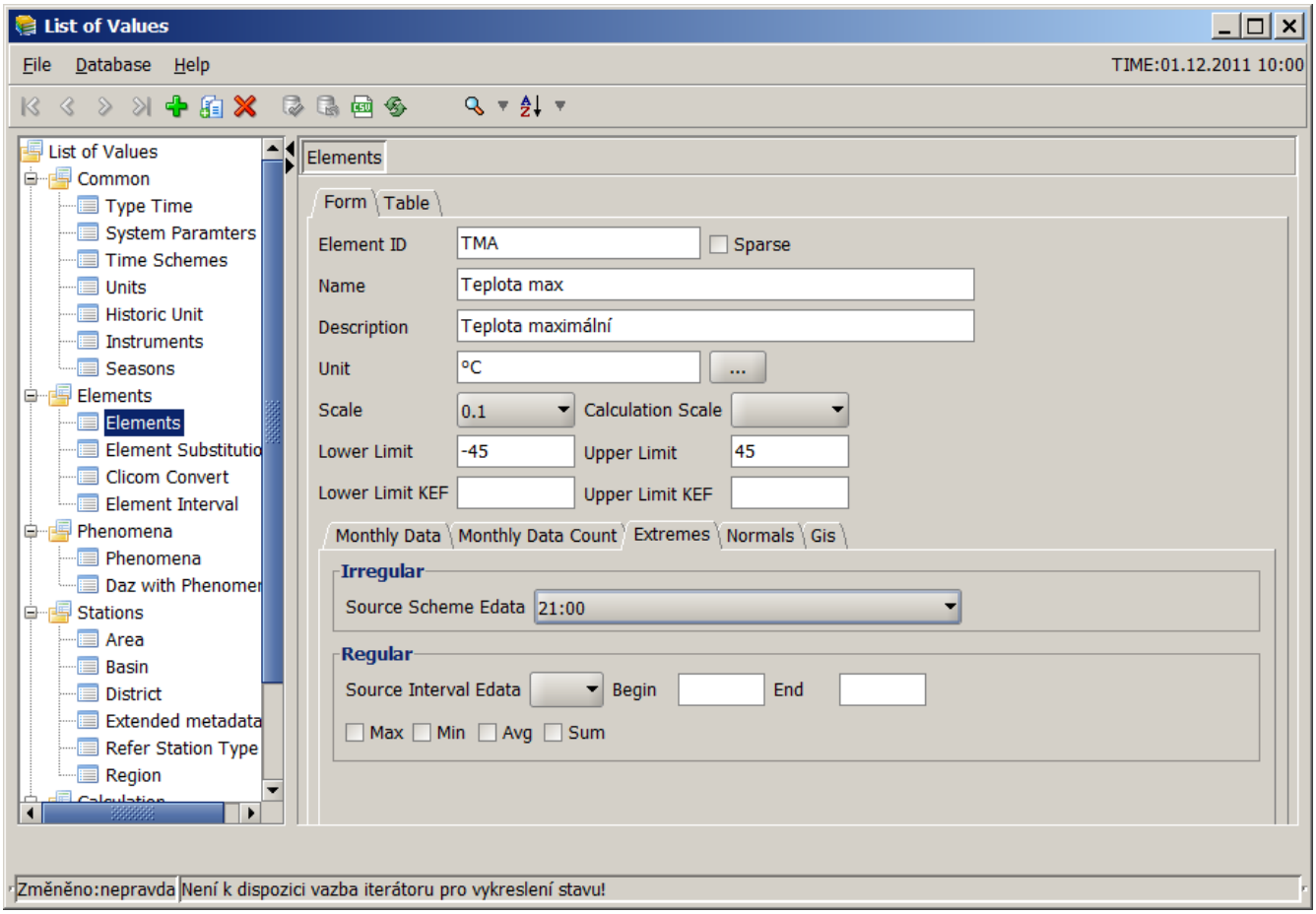


In the picture you can see the result of the calculation for irregular data. For the station O1PORU01 and TMA (temperature maximum) the is normal value 1.4 for the 1st month (January). This normal was calculated for the period 1961-200 but data are present in database from 1968-2000. It is 33 years of data therefore the normal is standard and the field source is S. See products for more information on data.



In the other picture you see whole year normal. The field month is 13! The whole year normal for temperature maximum on station O1PORU01 is 13.1. This normal is interim because there is only 23 years of data. Therefore the source flag is P.

5.7.4 Extreme data calculation



The Extreme tab in element definition is used for the definition of source for extremes calculation The source can be either regular or irregular. See the definition of monthly data source. This definition is similar.

The result of the calculation is written into EDATA table.

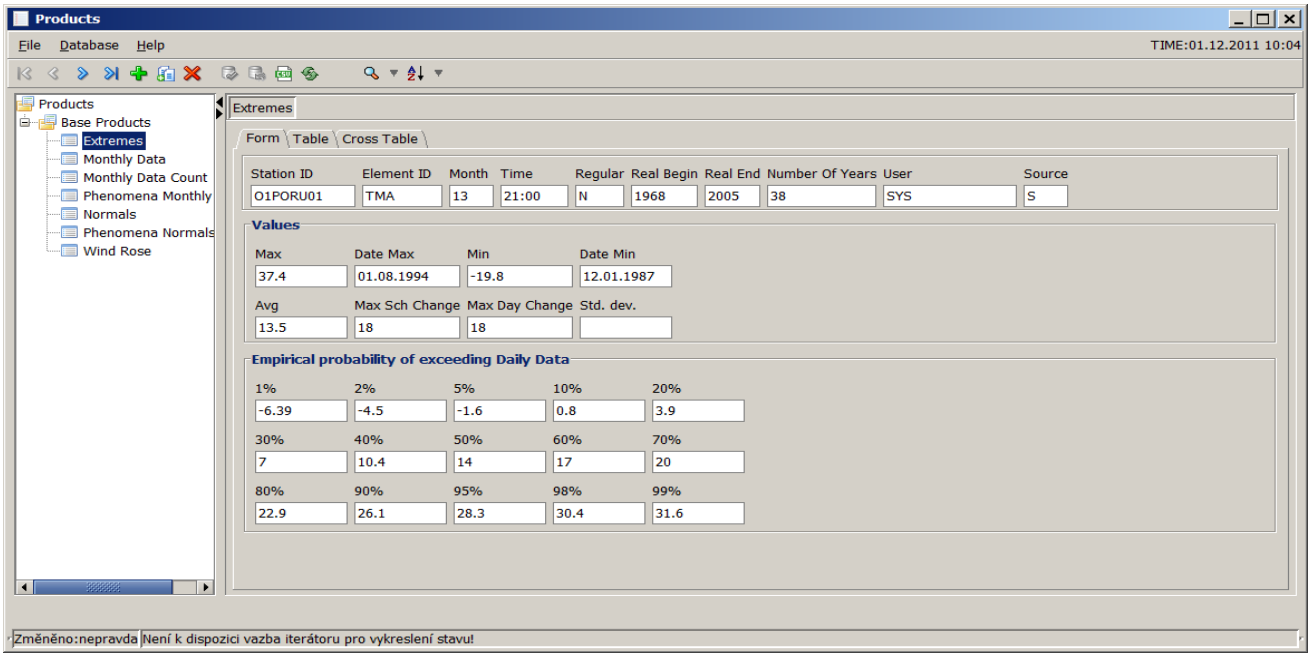
The whole year is saved as month number 13!

Note:

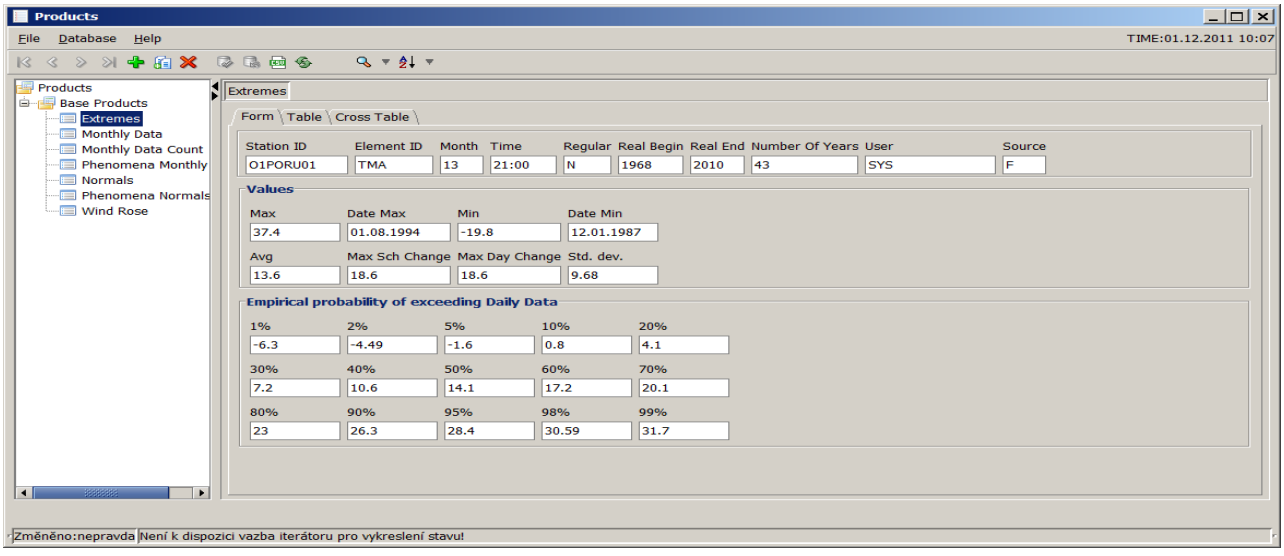
- The periods for the normal calculation is defined in system parameters! You not need to specify the period for the whole data in database.
- There needs to be at least **10** year of daily data for the calculation of the extremes.
- If you need to get the results even when you do not have enough data use **sparse** option for the element.

Example:

At the picture above you can see the definition of source irregular daily data for extremes calculation. The daily temperature maximum in Czech republic is measured at 21:00.

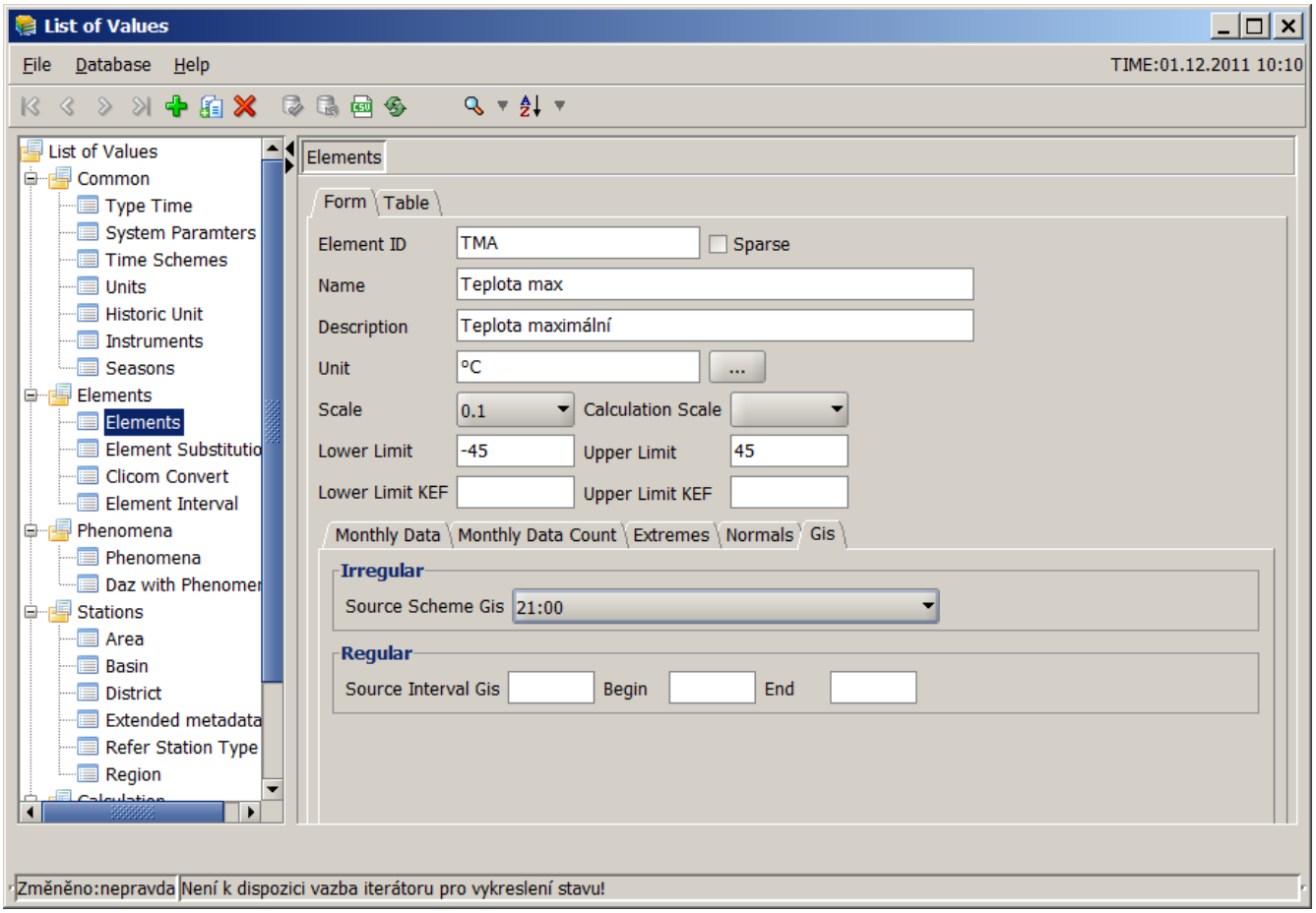


In the picture you can see the result of the calculation for irregular data. For the station O1PORU01 and TMA (temperature maximum) the is extremes: maximum 37.4 on 1st of August 1994 and minimum -19.8 on January the 12th 1987. The data for extreme is from the period 1968-2005. It is 38 years of data. This is the extreme calculated for standard period defined in system parameters. Therefore the source flag is S. Mention that the month is 13. It is for whole year.



In the other picture you see extremes calculated for whole data in database. There is data period 1968-2010. The source flag is F it indicated that the normal is calculated for whole data.

5.7.5 Gis periods

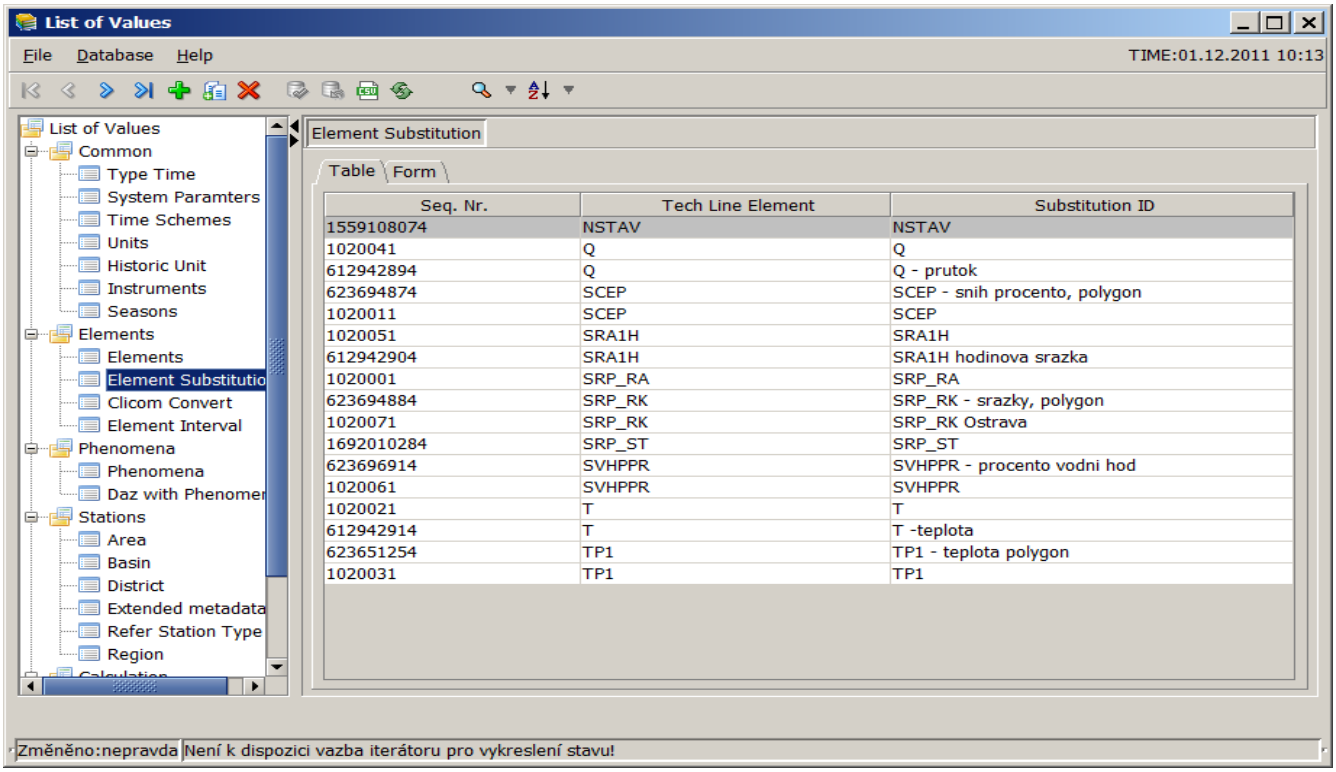


In the last tab GIS there is definition of the source time scheme for the area quality control.

Example:

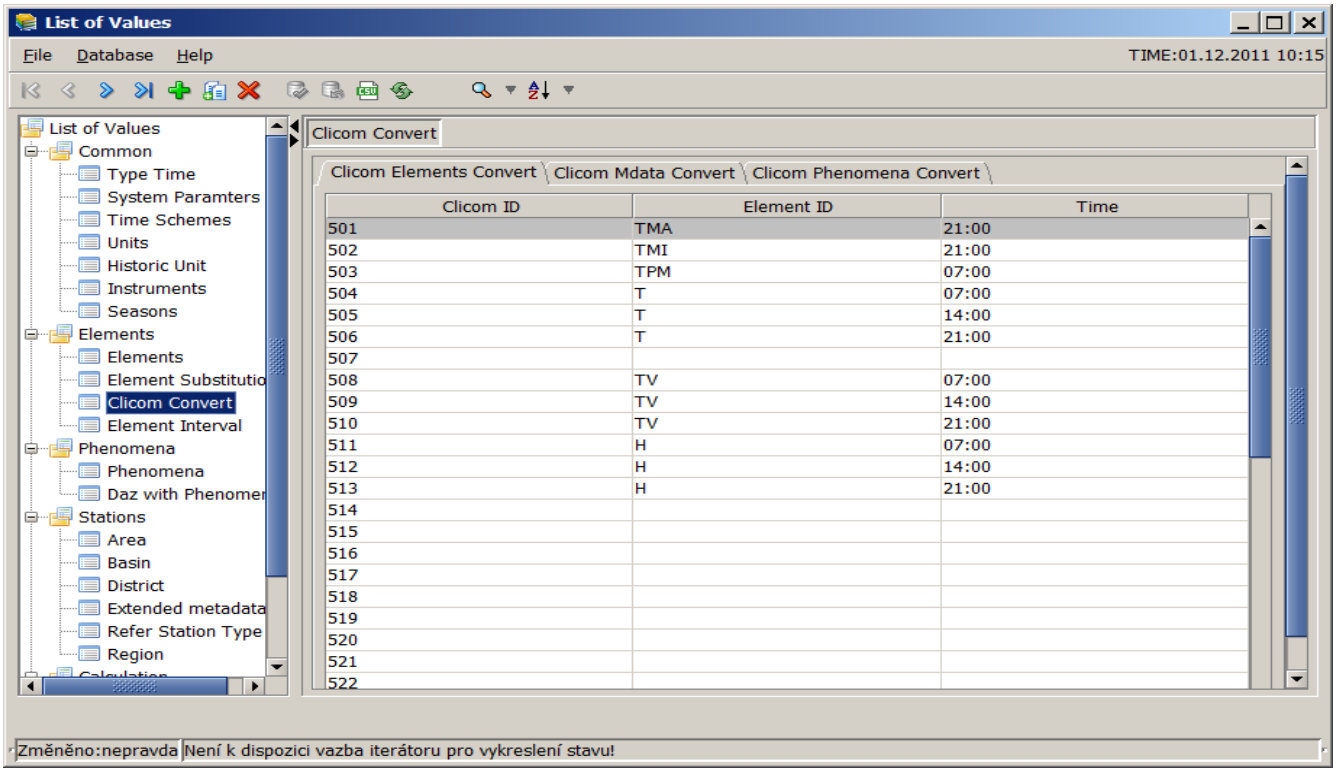
In the picture above you see the definition that the TMA element will be controlled in GIS by area quality control.

5.8 Elements substitution



This form is used for the definition of time lines complementary process in Run-off model.

5.9 Clicom conversion



In this form the translation between the Clicom element and Clidata element is defined.

Irregular daily data define:

Clicom ID – id of the elemet used in Clicom

Element ID, Time – define always the pair of element id and time for the Clidata system. Several Clicom elements is stored into clidata in one lement but in other time

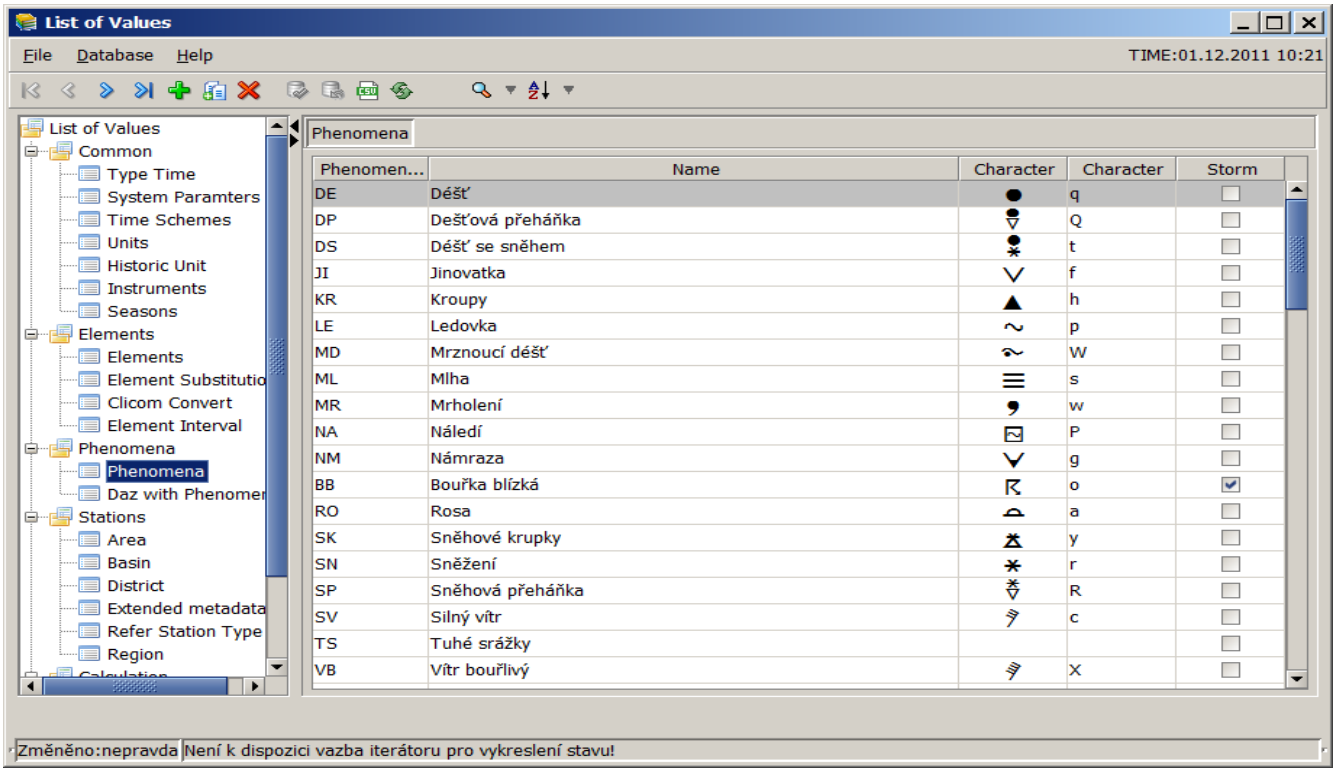
Regular daily data define:

Clicom ID – id of the element used in Clicom

Element ID – define only the element id. The time is determined from the Clicom file.

Clicom Mdata and Clicom Phenomena is used in case the daily data is not present but only monthly data or phenomena is present. Consult this options always with the Clidata application developers.

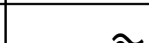
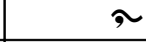
5.10 Phenomena



This is definition of the list of all phenomena. Each phenomenon is marked with 2 character abbreviation. After that there is a picture symbol. This picture is taken from true type font. This font name is **jevy.ttf**. If the option storm is ticked than during key entry process you can add additional information on the storm.

Bellow is the table of all symbols defined.

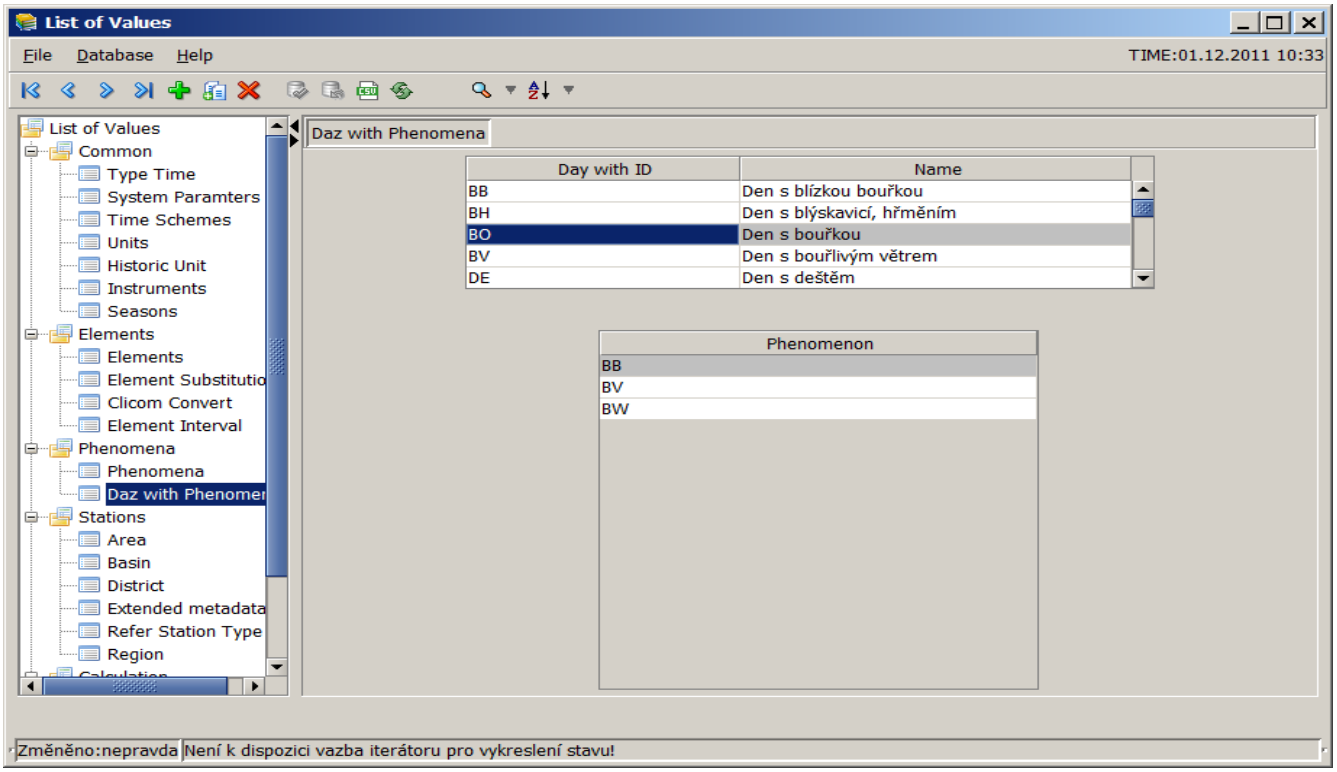
Abbreviation	Name	Symbol	Font
RO	Dew		a
ZR	White dew		A
ML	Fog		s
KO	Mist		S
PM	Ground fog		d
ZM	Ice fog		D
JI	Soft rime		f
JM	Hoar-frost		F
NM	Hard rime		g
PN	Clear ice		G

Abbreviation	Name	Symbol	Font
LE, L2	Glaze		p
NA, ZZ	Ground ice		P
DE	Rain		q
DP, D2	Rain shower		Q
MR	Drizzle		w
MD	Freezing rain		W
ZD	Ice pellets		e
MM	Freezing drizzle		E
SN	Snowfall		r
SP, S2	Snow shower		R
DS, SD	Rain with snow		t
PD, PS	Rain with snow in showers		T
SK	Snow pellets		y
SR	Snow pellets in showers		Y
LJ	Ice prisms		u
SZ	Snow grains		U
NS	Discontinuous snow cover		i
SS	Snow cover		I
KR	Hail		h
KP	Hail in showers		H
NK			j
NR			J
VN	Gusty wind 2 (10 – 14 mps)		z
V3	Gusty wind 3 (14 – 17 mps)		Z
V4	Gusty wind 4 (17 – 20 mps)		x
VB	Gale (17 – 20 mps)		X
SV	Strong wind (14 – 17 mps)		c
P2	Variable wind 2 (10 – 14 mps)		C
P3	Variable wind 3 (14 – 17 mps)		v

Abbreviation	Name	Symbol	Font
P4	Variable wind 4 (17 – 20 mps)		V
HU	Squall 2 (10 – 14 mps)		b
H3	Squall 3 (14 – 17 mps)		B
H4	Squall 4 (17 – 20 mps)		n
ZS	Drifting snow		1
ZN	Blowing snow		2
ZP	Drifting dust or sand		3
ZI	Blowing dust or sand		4
PR	Dust or sand whirl		5
PV	Dust storm or sandstorm		6
VD	Excellent visibility		k
PZ	Dust haze		K
KU	Smoke		l
ZA	Haze		L
DB	White rainbow		7
DU	Rainbow		8
GL	Glory		9
IR	Irization		0 – zero
KM	Corona round the Moon		;
KS	Corona round the Sun		:
SH	Halo round the Sun		<
MH	Halo round the Moon		.
OE	St. Elmo’s fire		>
ZC	Mirage		/
PO	Aurora		?
TR	Spout, tornado		\
VT	Spray		=

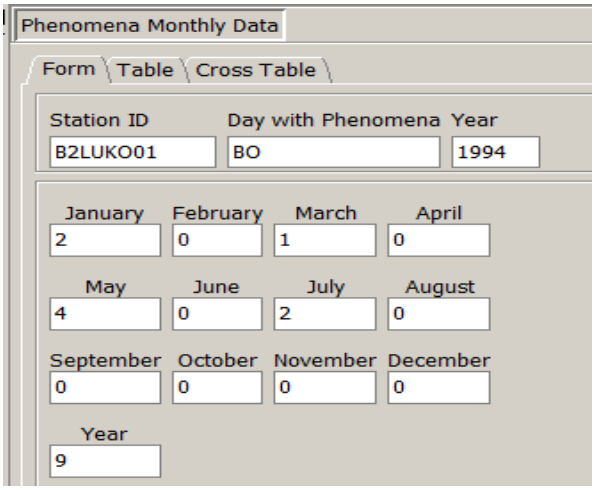
Abbreviation	Name	Symbol	Font
BB	Storm		o
BV	Distant storm		O
BL	Lightning		m
BW	Very distant storm		M
HR	Thunder		,

5.11 Day with Phenomena



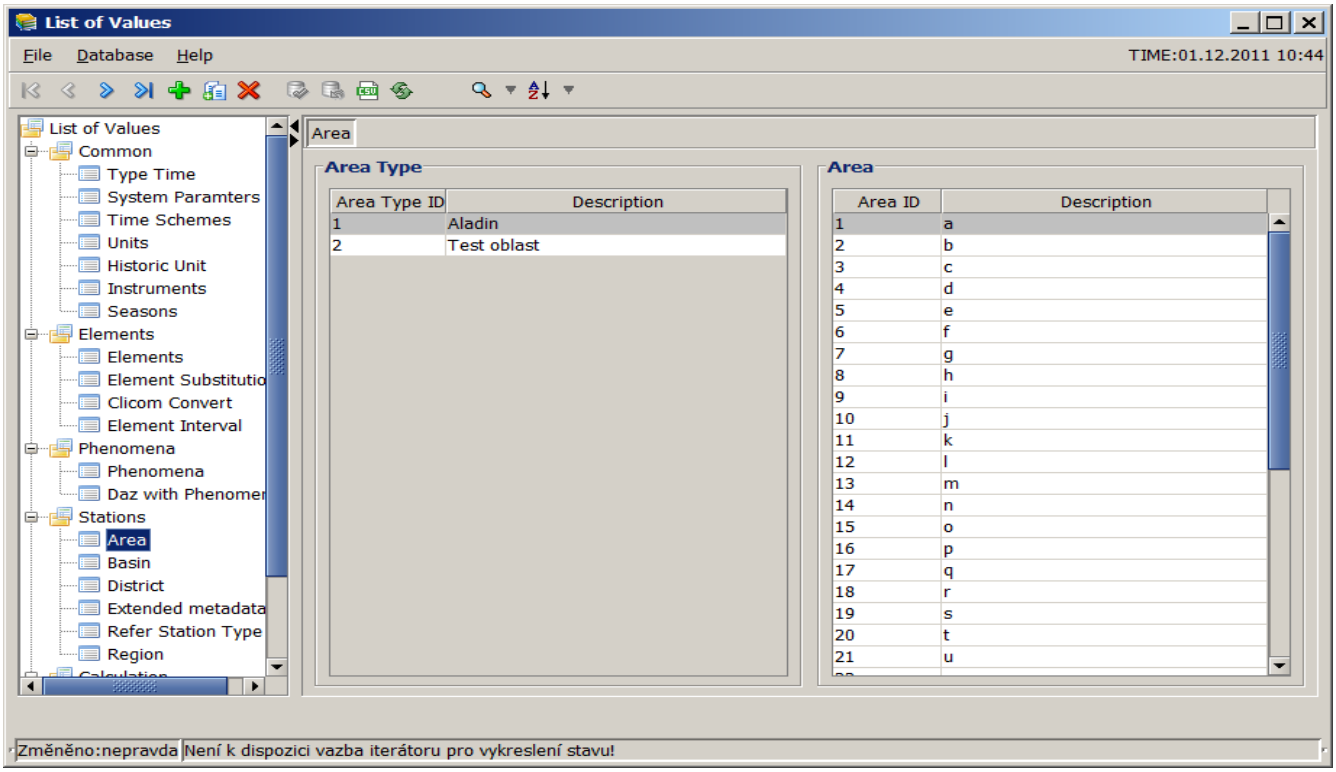
This form puts several phenomena into logical groups. Each group consists of related phenomena. (e.g. there is several phenomena for the precipitation: rain, rain shower, etc ...). When these phenomena are grouped they form so called day with phenomena (e.g. day with rain). We can calculate the number of days with the occurrence of the phenomena (e.g. days with rain).

Example:



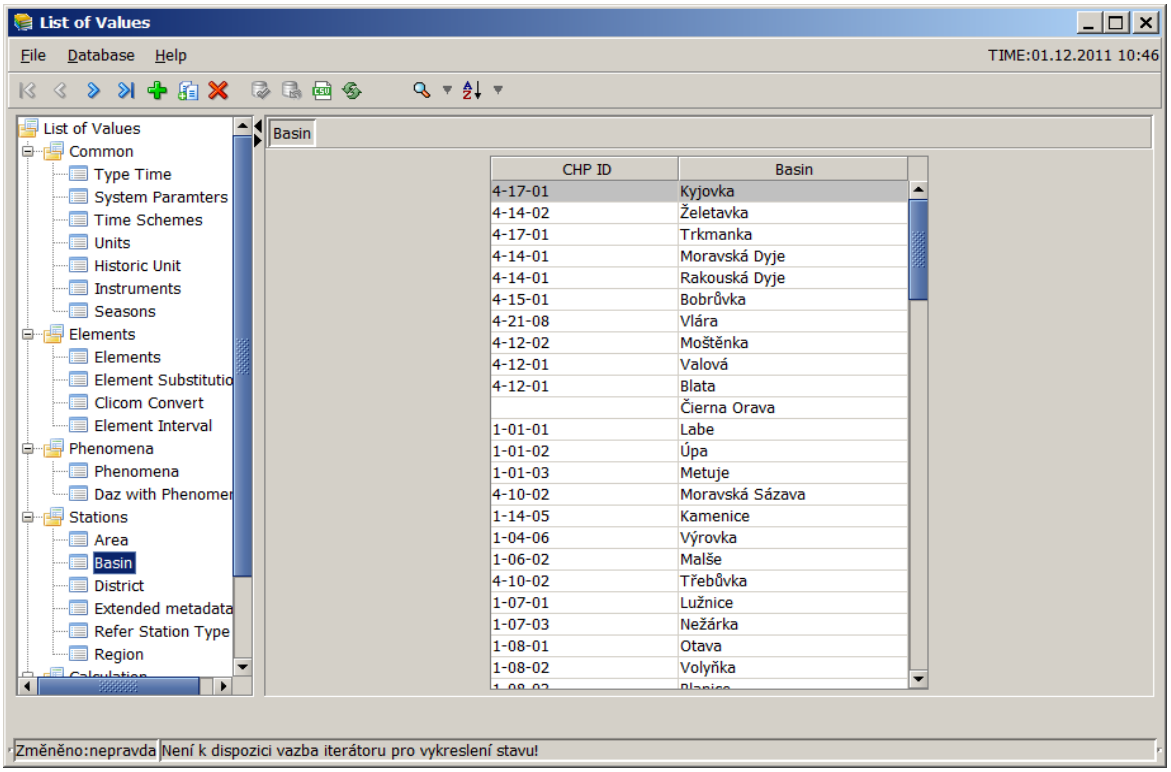
In picture above there is definition of day with storm (BO) it consist of 3 phenomena near storm, far storm and very far storm (BB, BV, BW). In the other picture you see the result value. Where at the January 1994 there were 2 days with storm and in whole year there were 9 storms.

5.12 Area



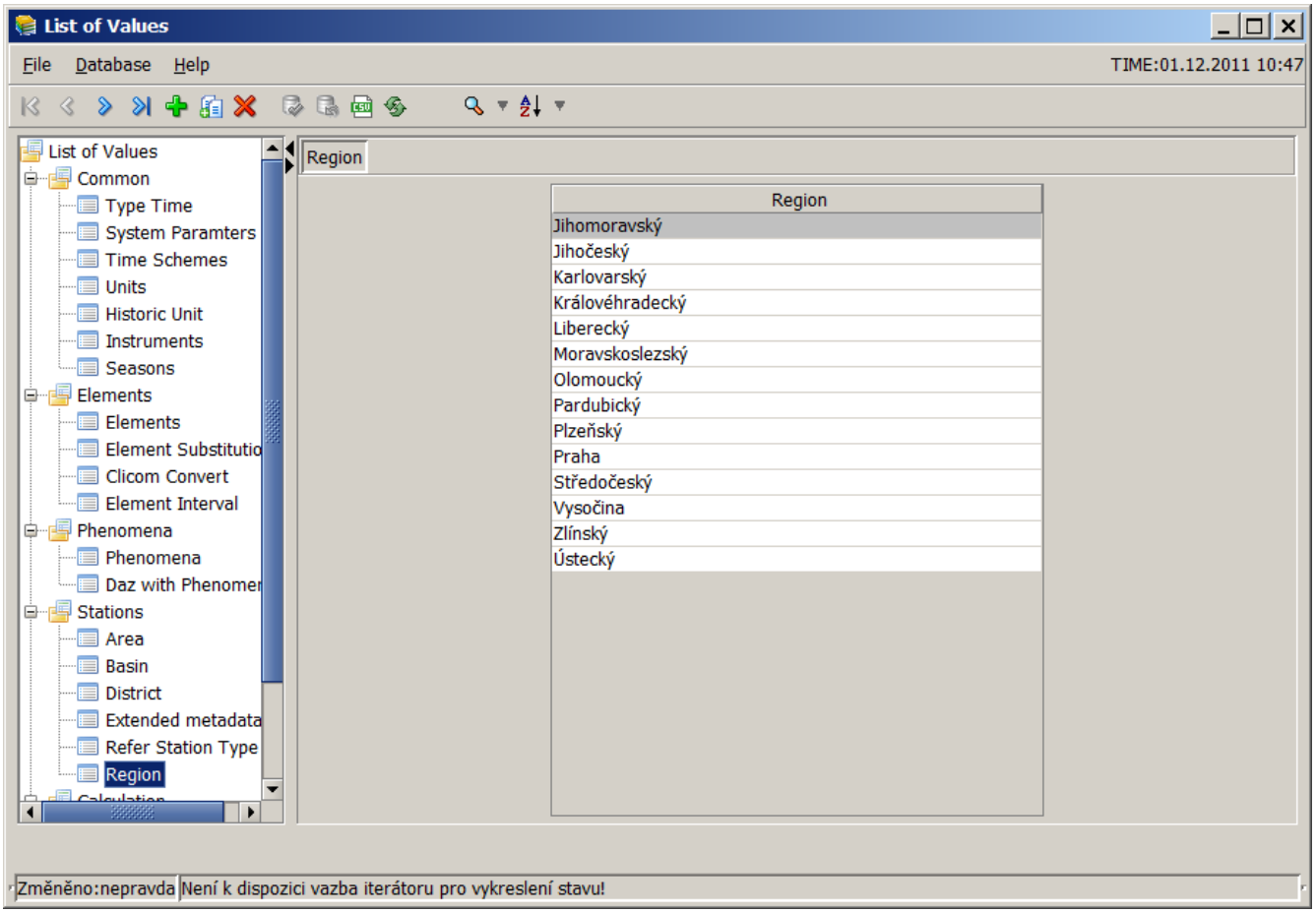
This is the definition of several areas. This is only list of the areas and later each particular station can be assigned to any of the areas. At the left there is the area definition and at right is the list of area members.

5.13 Basin



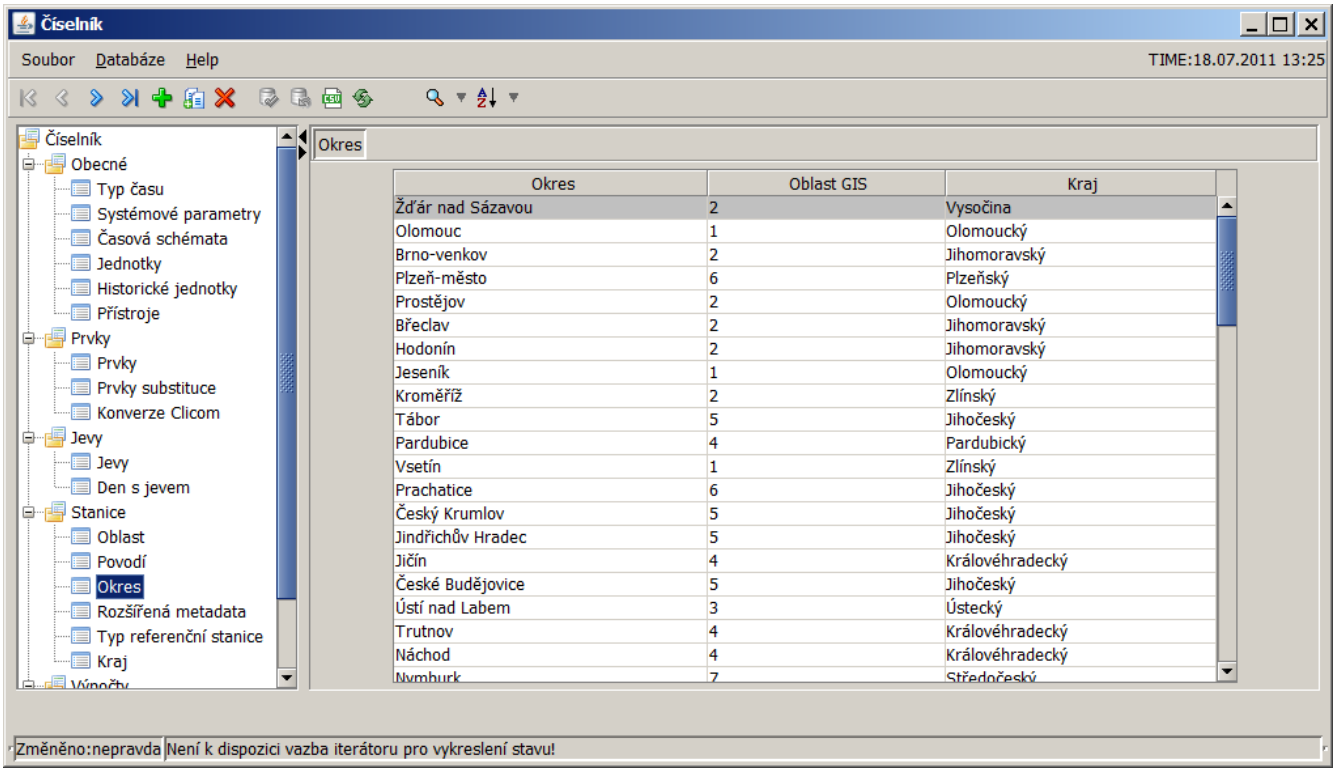
Definition of the river basins. Set the hydrological number CHP-ID for each basin and the name of the basin.

5.14 Region – 1. level of country subdivision



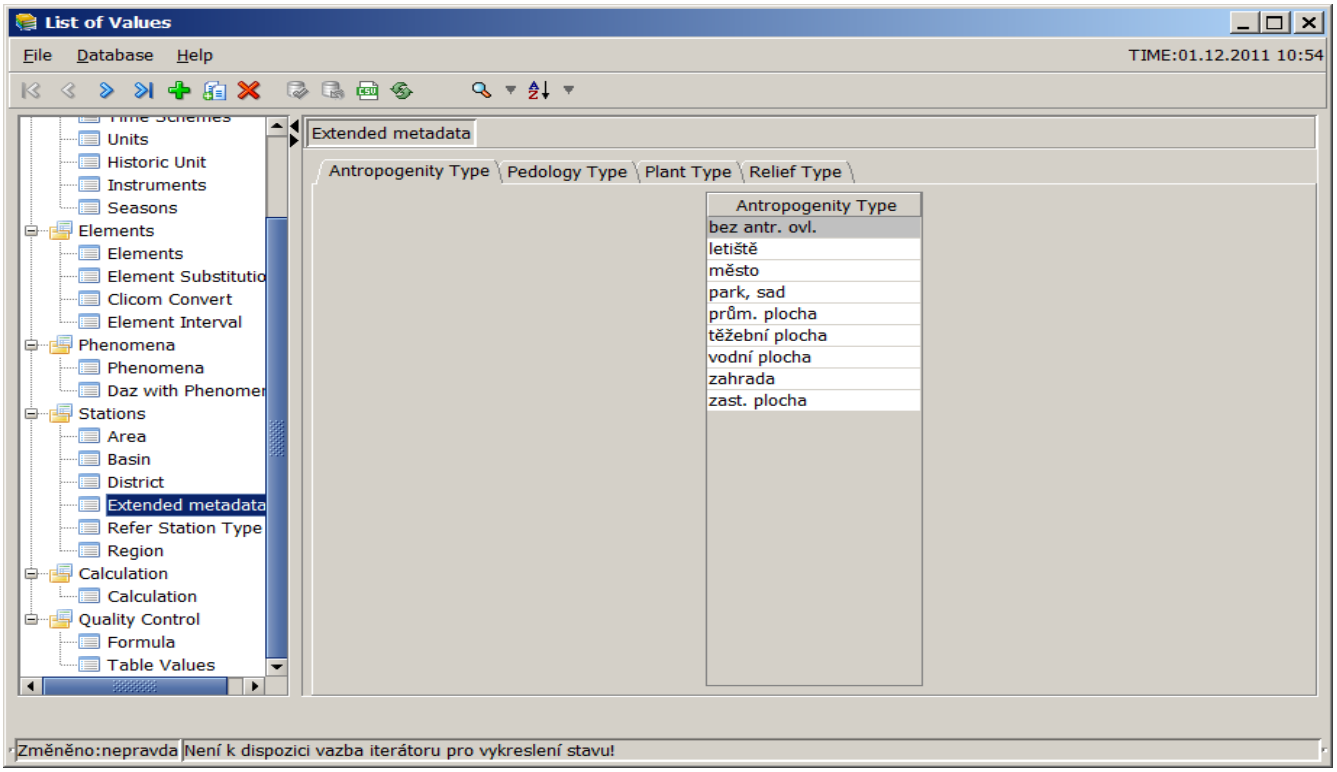
Define the subdivision of the countries.

5.15 District – 2. level of country subdivision



Definition of subdivision lists. Each District must be assigned to region. The GIS region can is other subdivision used in GIS.

5.16 Extended metadata



Definition of lists for extended station information.

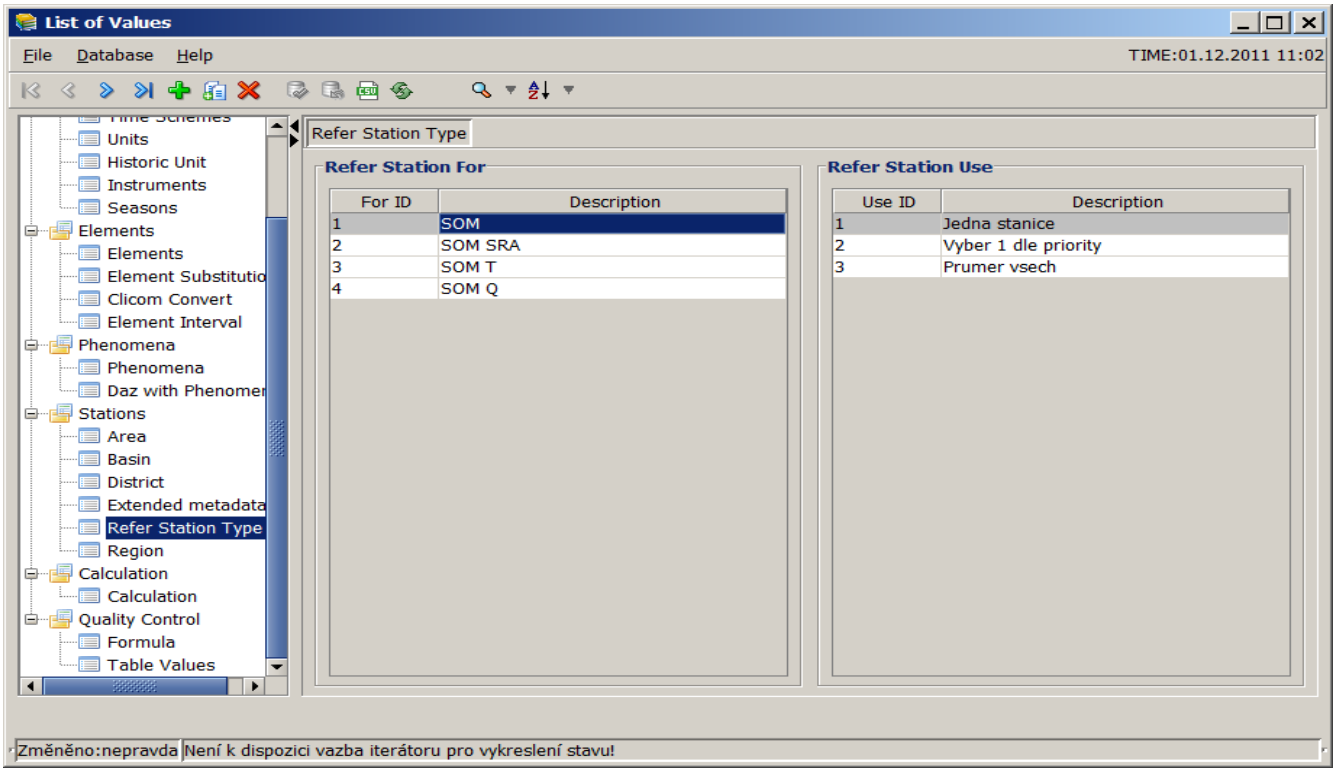
Anthropogenic type – the list of influence of the humans to the station, it means: Airport, Town, Park, Water reservoir, Garden etc ..

Pedology type – the type of soil at the station: Blackland, Brownland, Peat, Sand, etc...

Plant cover – vegetation surroundings: Forest, Grass, Steppe, etc …

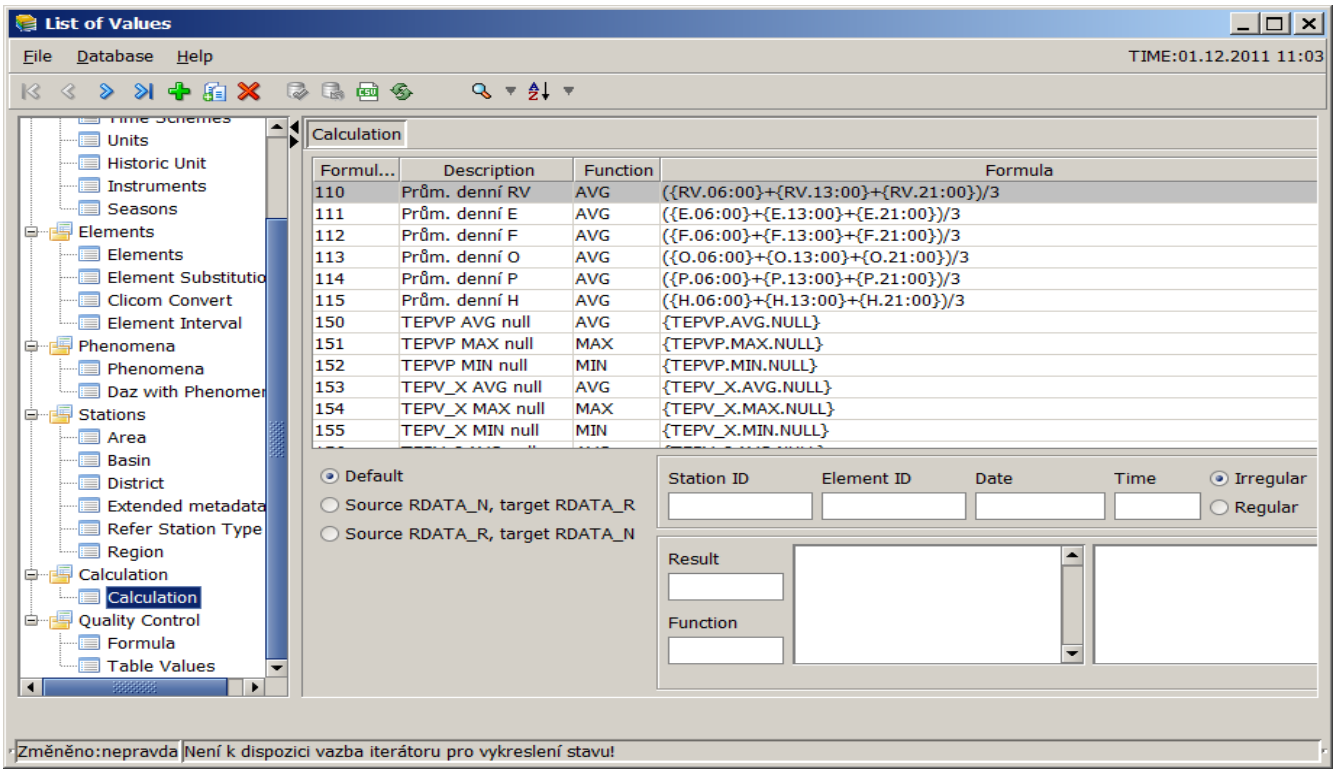
Relief type – the country relief at the station surroundings: Flat land, Mountains, Valley

5.17 Type of reference station



Definition of reference station type. This is used in Run-off model. At the left there is the list of different reference types. At the right is the usage. Do not feel the right side.

5.18 Calculation



Define the formula:

- Formula ID, the unique number of the formula
- Function is the main target time
  - MAX,MIN,AVG,SUM – group function for day, typically daily maximum or average
  - XX:XX – daily time calculation, from one element calculate the other element
- In description write any text
- In formula write the definition of the formula.
  - Use variables in curly brackets form {ELEMENT.TIME}, see bellow for more variables.
  - Use any operators like *,/,+,-
  - Use parenthesis () for priority specification
  - Use any Oracle function see SQL Functions in oracle documentation

Test the formula:

- Write the station, target element, day, and time
- Choose the data target table (Regular/ Irregular)
- Press button and check the result if it is OK.
- The calling command is displayed and the value should appear in result field. You can check also how the formula is filled with real values in right bottom field.

Variable	Description
{ELEMENT.TIME}	Set **ELEMENT** in defined **TIME**. The **TIME** is in **HH:MM** format or one of **AVG**, **MAX**, **MIN**, **SUM** functions. Special time ***XX:XX*** is replaced with real time from the element observation schedule.
{ELEMENT.anything-X}	**X**-days back
{ELEMENT.cokoli-XM}	**X**-minutes back
{ELEMENT.FUNC}	Replace **FUNC** with one of **AVG**, **MAX**, **MIN** or **SUM** to calculate the daily summary, average, minimum or maximum. There must be all values in the day to calculate the result.
{ELEMENT.FUNC.NULL}	The same as above. Some values can miss
{ELEMENT.FUNC.VALMIN(X)}	The same as above **AVG**, **MAX**, **MIN** or **SUM** Define a minimum values present for the calculation
{ELEMENT.FUNC.NULLMAX(X)}	The same as above. Define the maximum number of missing values.
{ELEMENT.TIME.FLAG1}, {ELEMENT.TIME.FLAG2}	Select the value flag 1 of flag 2
{ELEMENT.FUNC.INTERVAL.COUNT}	Summary of the time sub-interval. The aggregate function is one of **MAX**, **MIN**, **AVG** **SUM**. The INTERVAL defines the source time interval for the calculation, The COUNT defines the number of times from the source interval to

	group.
{SPEC.ELEV}	Station elevation defined in station geography.
{SPEC.ELEMENT.HEIG}	Height of the instrument measuring the element above ground. The value defined in station observation.
{SPEC.TIME}	The time of the value calculation
{anything.REFER}	Any variable. But the value is not taken from current station but from reference station.
{ELEMENT.FUNC.DETAIL(DETAIL_ELEMENT)	Calculate **MAX** or **MIN** value of the element in day. The result is not the value but the value of the DETAIL element in corresponding time. This is useful e.g. for the calculation of direction of maximal wind speed.
{DWPHENO.DW_ABBREVIATION.TIME_SHIFT.COUNT}	Calculate the number of phenomena occurrence from ***MET_PHENOMENA*** table for defined day with phenomena. Use shift when the interval is not starting in 00:00. Shift is in minutes. The shift 0 means 00:00 - 23:59. Shift -60 means 23:00prev day-23:00current day
{DWPHENO.DW_ABBREVIATION.TIME_SHIFT.OCCUR}	Select 1 or 0 in case the phenomenon occurred.

Examples:
{T.07:00} … temperature at 7 am
{T.AVG} … average daily temperature
{T.XX:XX}… temperature in time according to observation time schedule
{T.07:00-1} … temperature at 7 am previous day
{SRA1H.SUM.01:00.3} ... 3-hour summary of precipitation calculated from 1 hour precipitation
{T.07:00.REFER} … temperature at 7 at reference station

{SPEC.T.HEIG} … height of instrument measuring temperature
{SPEC.ELEV} … elevation of the station
{Fmax.MAX.DETAIL(Dmax)} … direction of wind (Dmax -direction, Fmax speed)
{DWPHENO.DR.-300.COUNT} ... count of precipitation phenomena from 19:00 in previous day to 18:59 today
{DWPHENO.DR.-300.OCCUR} ... 1 if there was precipitation and 0 if there wasn't precipitation from 19:00 previous day to 18:59 today

Calculation formulas used in the Czech Republic:

Type, Function and Description	
AVG	({T.07:00}+{T.14:00}+(2*{T.21:00}))/4
Average daily temperature	
AVG	({F.07:00}+{F.14:00}+{F.21:00})/3
Daily average wind speed	

Type, Function and Description	
AVG	({O.07:00}+{O.14:00}+{O.21:00})/3
Average daily cloud amount	
AVG	({P.07:00}+{P.14:00}+{P.21:00})/3
Average daily pressure	
AVG	({H.07:00}+{H.14:00}+{H.21:00})/3
Average daily humidity of the air	
XX:XX	{SRA15M.SUM.00:15.4}
One hour precipitation total calculated from the 15-minutes precipitation	
XX:XX	100*{E.XX:XX} / cld_killzero(round(power(10, 10.79574*(1-273.16/({T.XX:XX}+273.16)) -5.028*log(10,({T.XX:XX}+273.15)/273.16) +1.50475e-4*(1-power(10,-8.2969*(({T.XX:XX} +273.16)/273.16-1))) +0.42873e-3*(power(10,4.76955*(1-273.16/({T.XX:XX} +273.16)))-1) +0.78614),1))
Relative humidity.	

The formula uses the function:
CREATE OR REPLACE function cld_killzero(n number) return number
is
begin
  if n=0 then
  return null;
  else
  return n;
  end if;
end;
/	

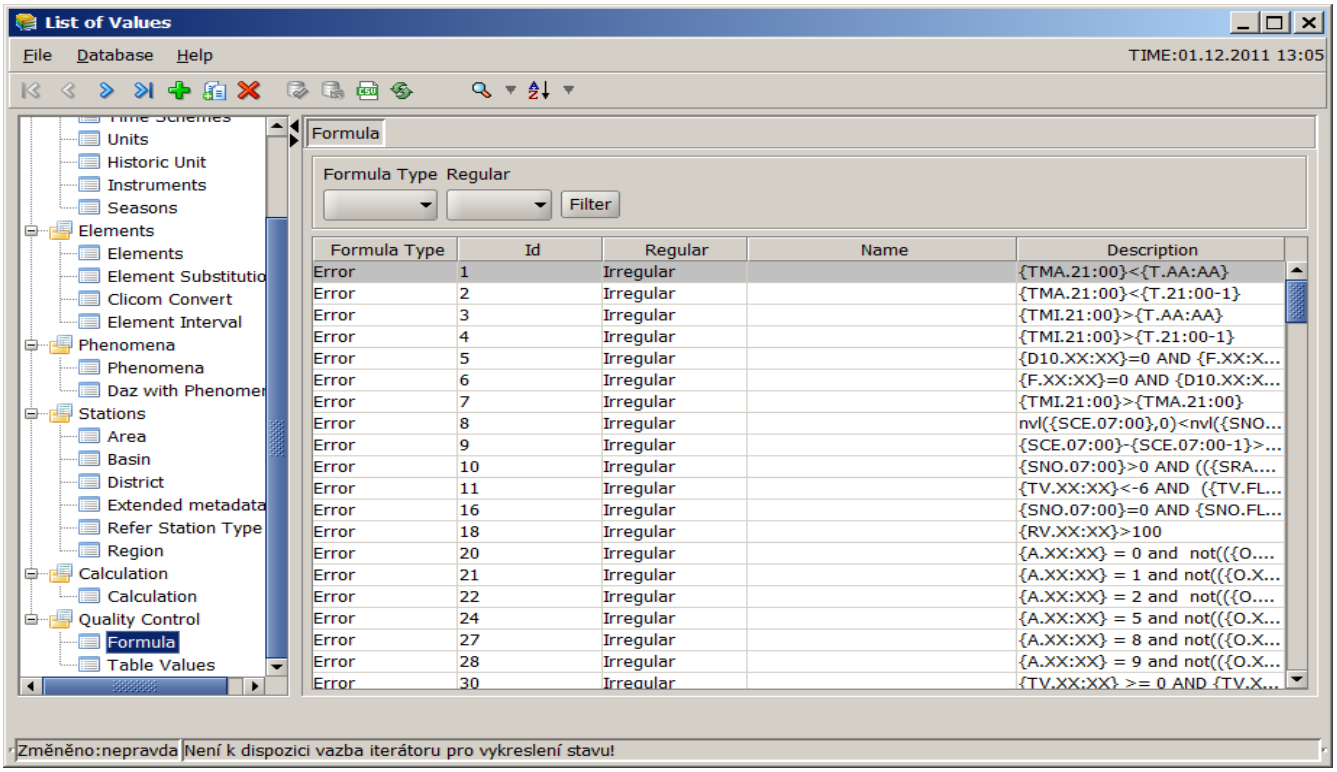
XX:XX	round(decode({TV.XX:XX.FLAG1},'L', power(10, -9.09685*(273.16/({TV.XX:XX}+273.16)-1) -3.56654*log(10,273.16/({TV.XX:XX}+273.16)) +0.87682*(1- ({TV.XX:XX}+273.16)/273.16) +0.78614) , power(10, 10.79574*(1-273.16/({TV.XX:XX}+273.16)) -5.028*log(10,({TV.XX:XX}+273.16)/273.16) +1.50475e-4*(1-power(10,-8.2969*(({TV.XX:XX} +273.16)/273.16-1))) +0.42873e-3*(power(10,4.76955*(1-273.16/({TV.XX:XX} +273.16)))-1) +0.78614

Type, Function and Description	
	)) - 1e- 6*decode({F.XX:XX},0,1110,1,985,2,834,3,783,4,750,5,730,6, 715,7,700,8,691,9,684,10,679,11, 675,12,672,13,669,14,667,665) *({T.XX:XX}- {TV.XX:XX}) *power(10, log(10,{P.XX:XX.REFER}) +({SPEC.ELEV}+nvl({SPEC.P.HEIG},0)- {SPEC.ELEV.REFER}- {SPEC.P.HEIG.REFER}) /(18400+67.53*({T.XX:XX}- {T.XX:XX.REFER})/2+0.003*({SPEC.ELEV} +nvl({SPEC.P.HEIG},0)- {SPEC.ELEV.REFER}- {SPEC.P.HEIG.REFER}))) * decode({TV.XX:XX.FLAG1},'L', (1+1.1e-6*{TV.XX:XX}/0.0008)*0.8821 , (1+1.4e-6*({TV.XX:XX}-10)/0.0008)),1)
Vapour pressure	
XX:XX	{SRA1H.SUM.01:00.3}
Three hour precipitation total calculated from one hour precipitation	
XX:XX	{SRA3H.SUM.03:00.2}
Six hour precipitation total calculated from three hour precipitation	
AVG	({RV.07:00}+{RV.14:00}+{RV.21:00})/3
Average daily relative humidity of the air	
XX:XX	{SRA30M.SUM.00:30.2}
One hour precipitation total calculated from 30-minutes precipitation	
AVG	({P.00:00}+{P.01:00}+{P.02:00}+{P.03:00}+{P.04:00}+ {P.05:00}+{P.06:00}+{P.07:00}+{P.08:00}+{P.09:00}+ {P.10:00}+{P.11:00}+{P.12:00}+{P.13:00}+{P.14:00}+ {P.15:00}+{P.16:00}+{P.17:00}+{P.18:00}+{P.19:00}+ {P.20:00}+{P.21:00}+{P.22:00}+{P.23:00})/24
Average pressure of the air.	
AVG	({S-P.00:00}+{S-P.01:00}+{S-P.02:00}+{S-P.03:00}+{S- P.04:00}+{S-P.05:00}+{S-P.06:00}+{S-P.07:00}+{S-P.08:00}+ {S-P.09:00}+{S-P.10:00}+{S-P.11:00}+{S-P.12:00}+{S- P.13:00}+{S-P.14:00}+{S-P.15:00}+{S-P.16:00}+{S-P.17:00}+ {S-P.18:00}+{S-P.19:00}+{S-P.20:00}+{S-P.21:00}+{S- P.22:00}+{S-P.23:00})/24
Average pressure of the air recalculated to the see level	
AVG	({T05.07:00}+{T05.14:00}+{T05.21:00})/3
AVG	({T10.07:00}+{T10.14:00}+{T10.21:00})/3

Type, Function and Description	
AVG	({T20.07:00}+{T20.14:00}+{T20.21:00})/3
AVG	({T50.07:00}+{T50.14:00}+{T50.21:00})/3
AVG	({T100.07:00}+{T100.14:00}+{T100.21:00})/3
Average daily temperature of the soil in 5, 10, 20, 50 and 100 cm, climatic	
AVG	{HPU1.AVG}
AVG	{HPU2.AVG}
AVG	{HPU3.AVG}
Relative humidity of the soil	
AVG	{T05.AVG}
AVG	{T10.AVG}
AVG	{T20.AVG}
AVG	{T50.AVG}
AVG	{T100.AVG}
Average daily temperature of the soil in 5, 10, 20, 50 and 100 cm, regular	
XX:XX	decode(sign({T.XX:XX}+5),-1, -- < -5 ({H.XX:XX}/100)*power(10,-9.09685*(273.16/({T.XX:XX} +273.16)-1) -3.56654*log(10,273.16/({T.XX:XX}+273.16))+0.87682*(1- ({T.XX:XX}+273.16)/273.16) +0.78614) , -- >= -5 ({H.XX:XX}/100)*power(10,10.79574*(1-273.16/({T.XX:XX} +273.16)) -5.028*log(10,({T.XX:XX}+273.16)/273.16) +1.50475e-4*(1-power(10,-8.2969*(({T.XX:XX} +273.16)/273.16-1))) +0.42873e-3*(power(10,4.76955*(1-273.16/({T.XX:XX} +273.16)))-1) +0.78614))
Vapour pressure from the Automatic station	
XX:XX	round({SSV15M.SUM.00:15.4}/60/6,0)
One hour amount of sunshine calculated from the 15-minutes sunshine	
AVG	(({S-P.00:00}+{S-P.01:00}+{S-P.02:00}+{S-P.03:00}+{S- P.04:00}+{S-P.05:00}+{S-P.06:00}+{S-P.07:00}+{S-P.08:00}+ {S-P.09:00}+{S-P.10:00}+{S-P.11:00}+{S-P.12:00}+{S- P.13:00}+{S-P.14:00}+{S-P.15:00}+{S-P.16:00}+{S-P.17:00}+ {S-P.18:00}+{S-P.19:00}+{S-P.20:00}+{S-P.21:00}+{S- P.22:00}+{S-P.23:00})-192000)/24
Geographical potential at 850hPa	
AVG	({T.00:00}+{T.01:00}+{T.02:00}+{T.03:00}+{T.04:00}+ {T.05:00}+{T.06:00}+{T.07:00}+{T.08:00}+{T.09:00}+

Type, Function and Description	
	{T.10:00}+{T.11:00}+{T.12:00}+{T.13:00}+{T.14:00}+ {T.15:00}+{T.16:00}+{T.17:00}+{T.18:00}+{T.19:00}+ {T.20:00}+{T.21:00}+{T.22:00}+{T.23:00})/24
Average daily temperature, regular	
XX:XX	({E.00:00}+{E.01:00}+{E.02:00}+{E.03:00}+{E.04:00}+ {E.05:00}+{E.06:00}+{E.07:00}+{E.08:00}+{E.09:00}+ {E.10:00}+{E.11:00}+{E.12:00}+{E.13:00}+{E.14:00}+ {E.15:00}+{E.16:00}+{E.17:00}+{E.18:00}+{E.19:00}+ {E.20:00}+{E.21:00}+{E.22:00}+{E.23:00})/24
Average daily vapour pressure, regular	
AVG	({E.07:00}+{E.14:00}+{E.21:00})/3
Average daily vapour pressure, climatic	

5.19 Quality control formula



Definition of quality control formulas. The formula can be error or warning and is specified separately for regular and irregular data. If the formula **is satisfied**, then the formula indicate **error** or **warning**!

The warning formula is during quality process displayed by green color. Error formula is displayed with red color. The user must repair error formula.

The values passed quality control are validated.

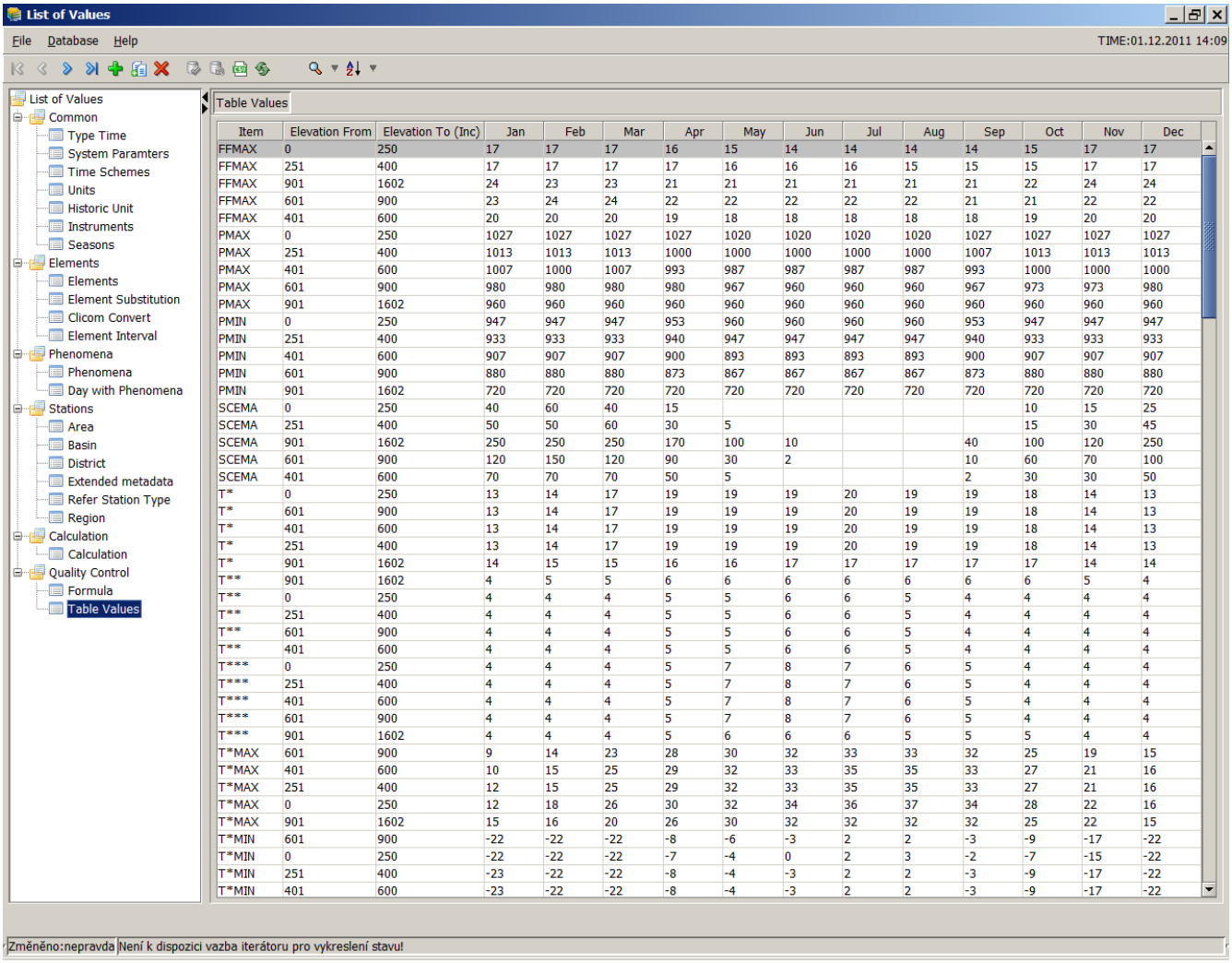
The list of variables used:

Variable	Description
`{ELEMENT.TIME}`	Element in specified time in format `HH:MM`
`{ELEMENT.XX:XX}`	Element in time according time schedule
`{ELEMENT.AA:AA}`	Element in all times according time schedule
`{ELEMENT.??.FLAG1}`, `{ELEMENT.??.FLAG2}`	Element flag
`{ELEMENT.anything-X}`	Shift by X-days back
`{ELEMENT.anything-XM}`	Shift by X-minutes back
`{$ELEMENT}`	Select value from tabulate values
`{SPEC.DT}`	Date and time of controlled value
`{?.REFER}`	Select anything but from reference station

Examples:

Control formula with description
{TMA.21:00}<{T.AA:AA}
Temperature maximal (TMA) is less than all any temperature during day. You must use AA:AA here. Note: Using XX:XX here is wrong because if you change the TMA value (in 21:00) than you are not able to control all other times
{TMA.21:00}<{T.21:00-1}
Temperature maximal (TMA) is less than temperature in previous day in 21:00
{D10.XX:XX}=0 AND {F.XX:XX}<>0
Wind speed (F) is not zero and wind direction (D10) is zero. XX:XX here is correct because you are comparing the same times!

5.20 Table values



In this form the limits for variable are defined. The limits in this table depends on elevation and on month of the year. These variables are used in control formulas. The control formula variable is defined with curly brackets and dollar sign.

Example:
We use warning formula (F.XX:XX}>{$FFMAX} in quality control.

The wind speed (F) in January 15 at 07:00 is 18 m/s at the O1PORU01 station with elevation 242 meters above sea.

The system looks at the table at limit 0-250 into Jan column. There is 17 m/s.

The Formula is 18>17 therefore formula is satisfied and the system indicates an warning.

6 Station geography information

This part of the application covers all station information definitions. Station name, location, address, station surroundings, files pictures etc.

6.1 Station

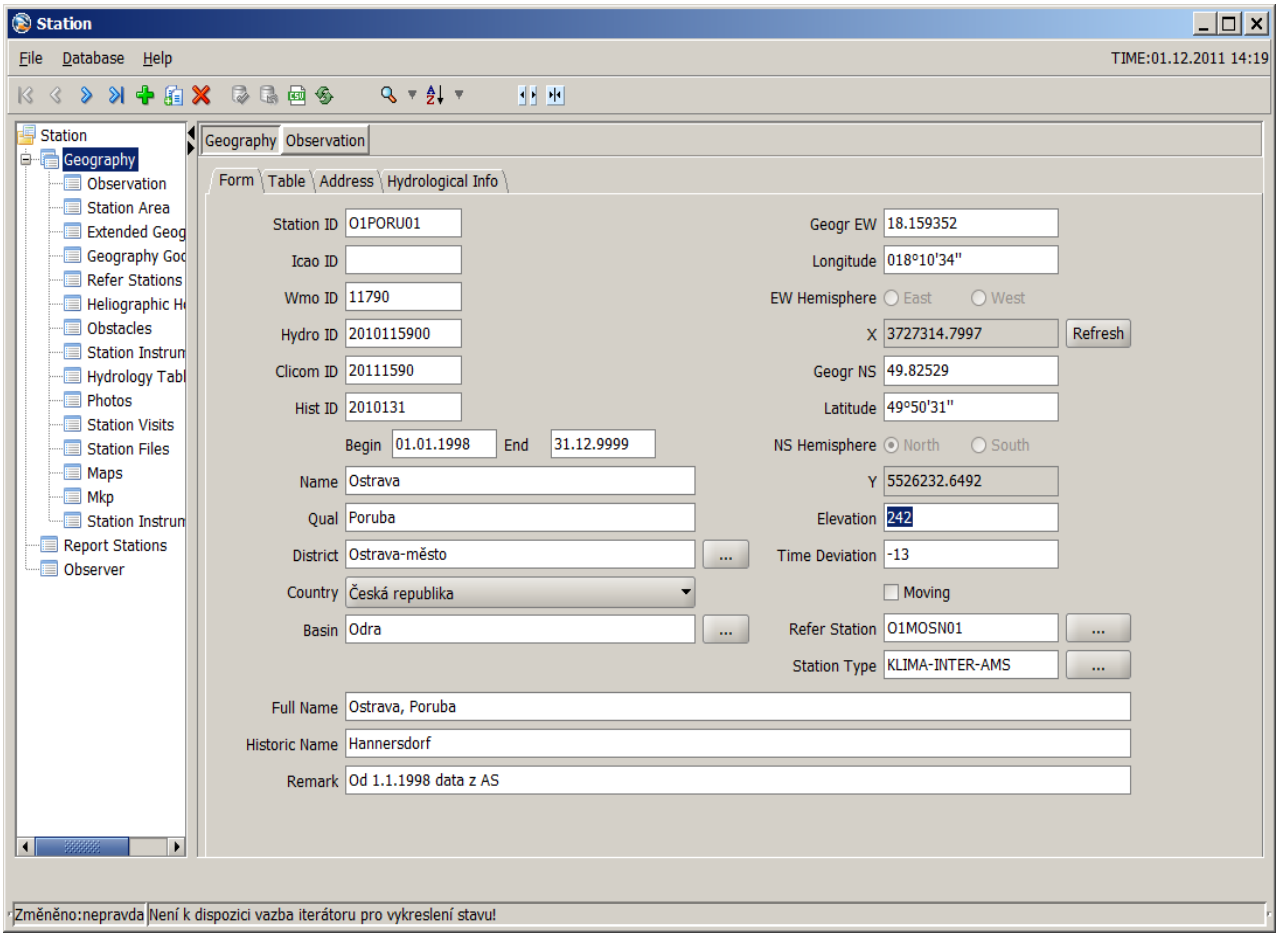
Form – form view of the geography information

Table – table view of geography records

Address -station address

Hydrological info – hydrological information on station

6.1.1 Form



In this form the basic information on station is entered. The most important is the **station identifier**. The station identifier has 8 alfa-numeric characters. The letters are capital.

In Czech republic the identifier is constructed according the following template OTNNNNXX, where:

O – geographical area

T – the part of the river basin

NNNN – The part of the station name

XX – order of the station in the same location. In one location there can be more than one station. There can be for example in one place synoptic, rainfall, upper air and automatic weather station in one place.

Next important information is the period of station observation. The period is defined by **Begin** and **end** dates. If some important information is changed on the basic station definition than the record is split into more lines with different time periods.

Name of the station is the short station name(25 characters). You can put additional information for station name this additional information is put into **Qual** field(25 characters). **Full Name** is the long name of the station(50 characters). The short name is useful for table reports.

The station location can be entered either by **Geogr EW** and **Geogr NS** fields in fraction of degrees. In that case the negative value means South and West while positive North and East and longitude and latitude is calculated.

Other option is to use **Longitude** and **Latitude** fields. In that case Geogr NS and Geogr EW are calculated.

The refresh button calculates the GIS coordinates.

Note: In Czech republic we use the EPSG:28403(Gauss Krüger) coordinate system. In Africa they use EPSG:4326 (Geographical coordinate system). This coordinate system is defined in system parameters in variable EPSG.

The **elevation** is the value in meters.

The time deviation sets the difference of two places in minutes in so called solar time. In the solar time the sun is in the same place in the sky in all places. This deviation is different for each Longitude and has no difference in latitude.

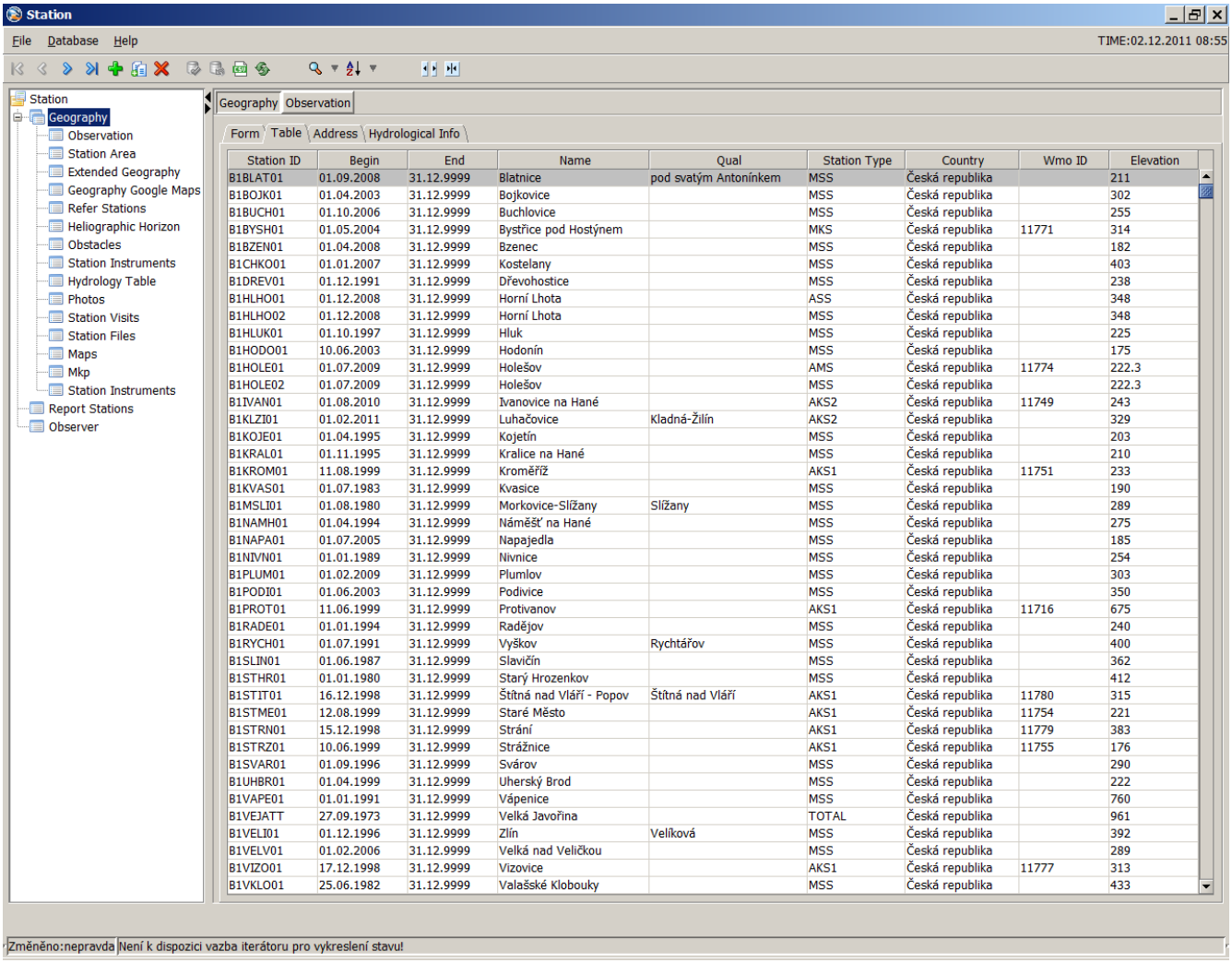
You can enter various station identifiers: **Wmo Id, Icao Id, Hydro Id, Clicom Id, Hist Id**.

District – country subdivision, select from the predefined list.

Basin – set to which river basin the station belongs

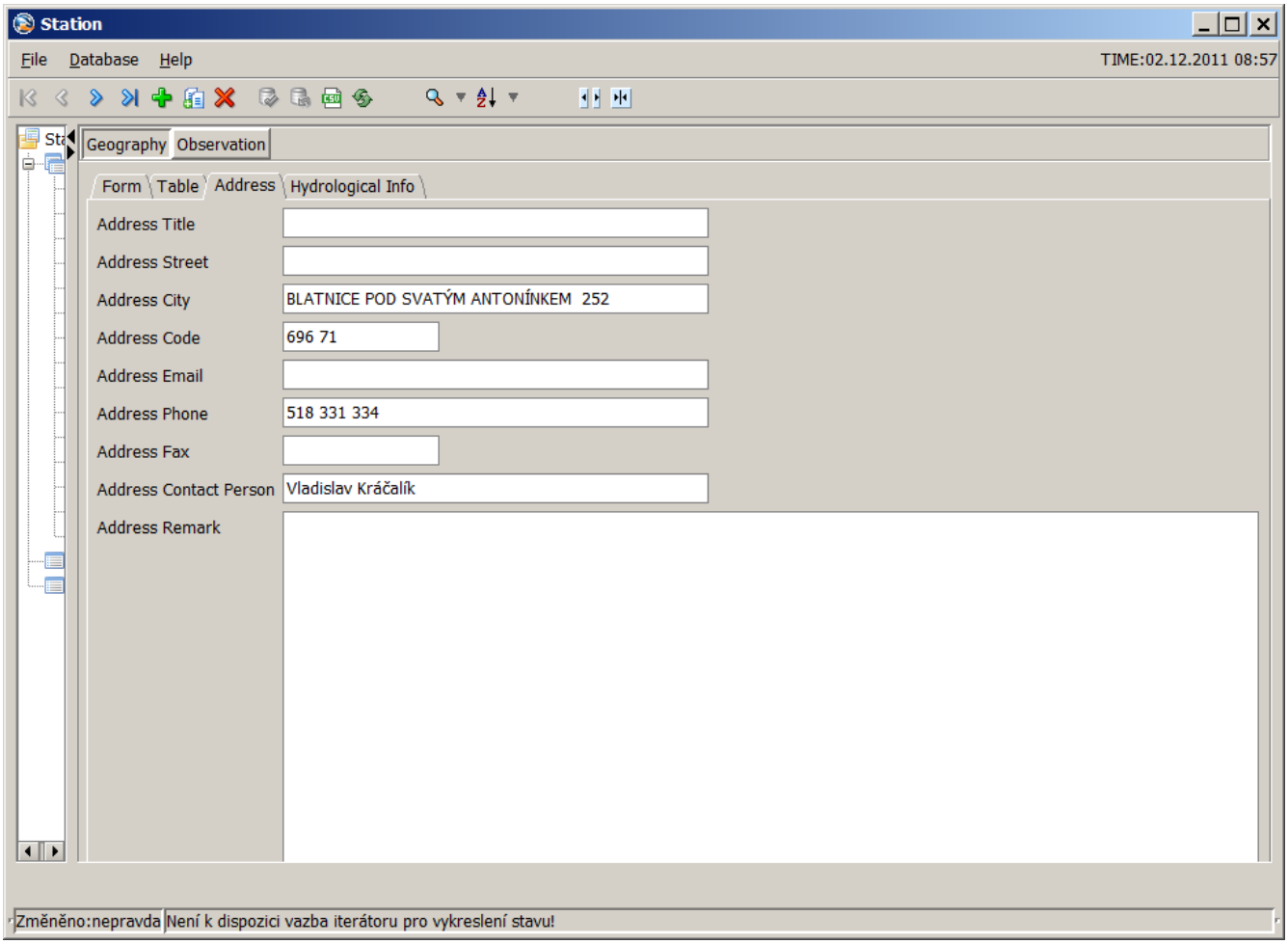
Refer station – the station near the current station. Usually station measuring pressure. The reference station is used in calculation in formulas with the REFER identifier. See calculation definition part of the manual.

6.2 Table



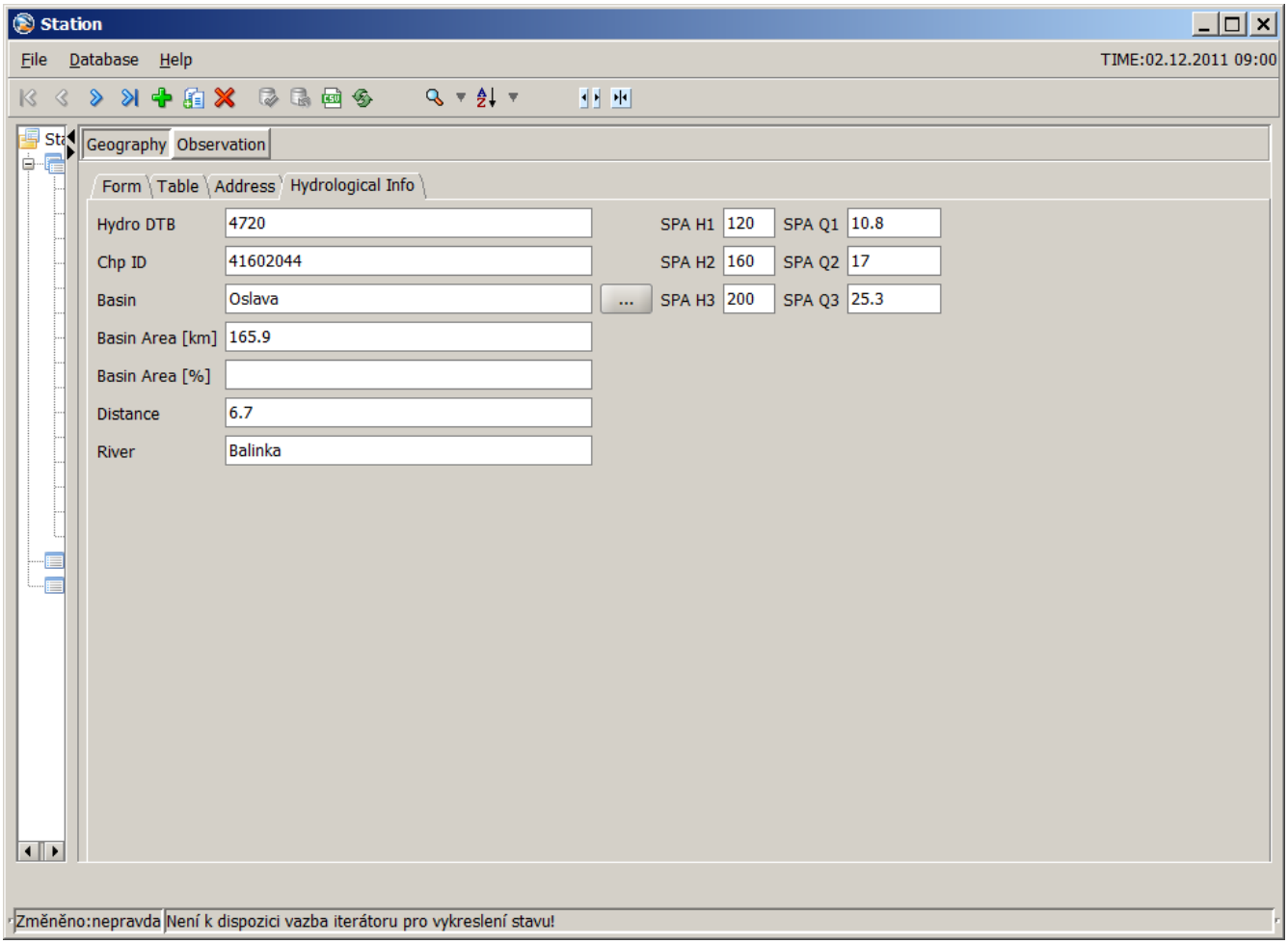
The view of records is displayed as table. This is more useful for the navigation between the records. In table view only some of the fields are visible. Select the station and switch into form view for more details on station.

6.3 Address



In station address fill the information on station contact. It is usually used for voluntary stations where one person is responsible for station operations.

6.4 Hydrological information



Other hydrology information are stored in separate tab view.

Hydro DTB – hydrological id

Chp Id – hydrological river order

Basin – river basin

Basin Area [km] – size of the river basin in km2

Basin Area [%] – size of the river basin in percentages

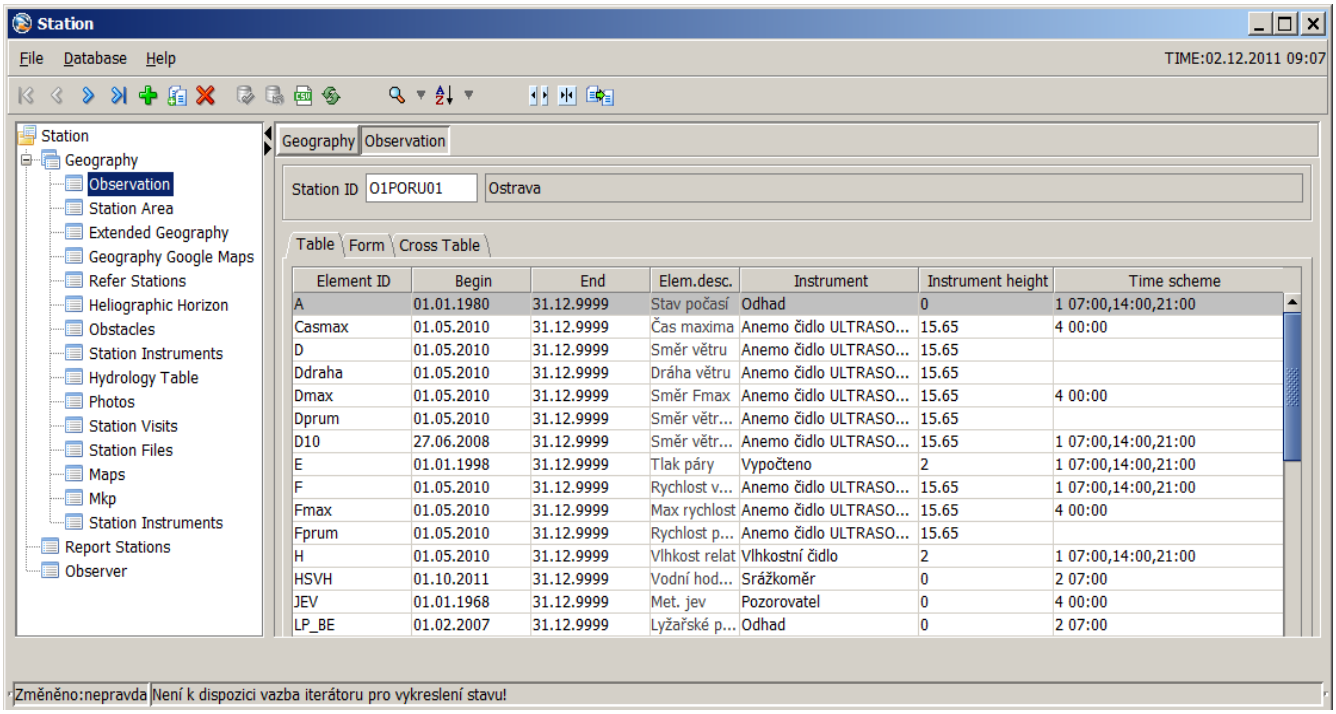
Distance – distance of the station location from the beginning of the river

River – station river

SPA H1-H3 – hydrological limits of water height

SPA Q1-Q3 – hydrological limits of water flow

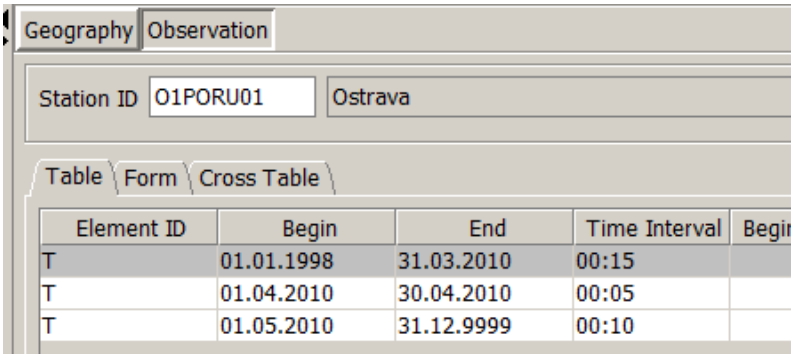
6.5 Station observation



Station observation is the list of all measured elements/parameters. For each parameter you must set the following information:

Element ID – element id selected from the list of values defined in metadata section of the application

Begin and **End** – the period of the measurement. For each element you can have more records. These records differ in period. You use more periods usually when the observation scheme changes.



See the example in the picture. The T element is measured for 3 different periods in different times. The 00:05 minutes measurement is used because there was simultaneous 10 minutes and 15 minutes measurement.

- **Element description** – is the name associated with the Element Id. It is filled automatically after Element id is entered.
- **Instrument** – is the name of the instrument selected from the list. The list is defined in metadata part of the application.

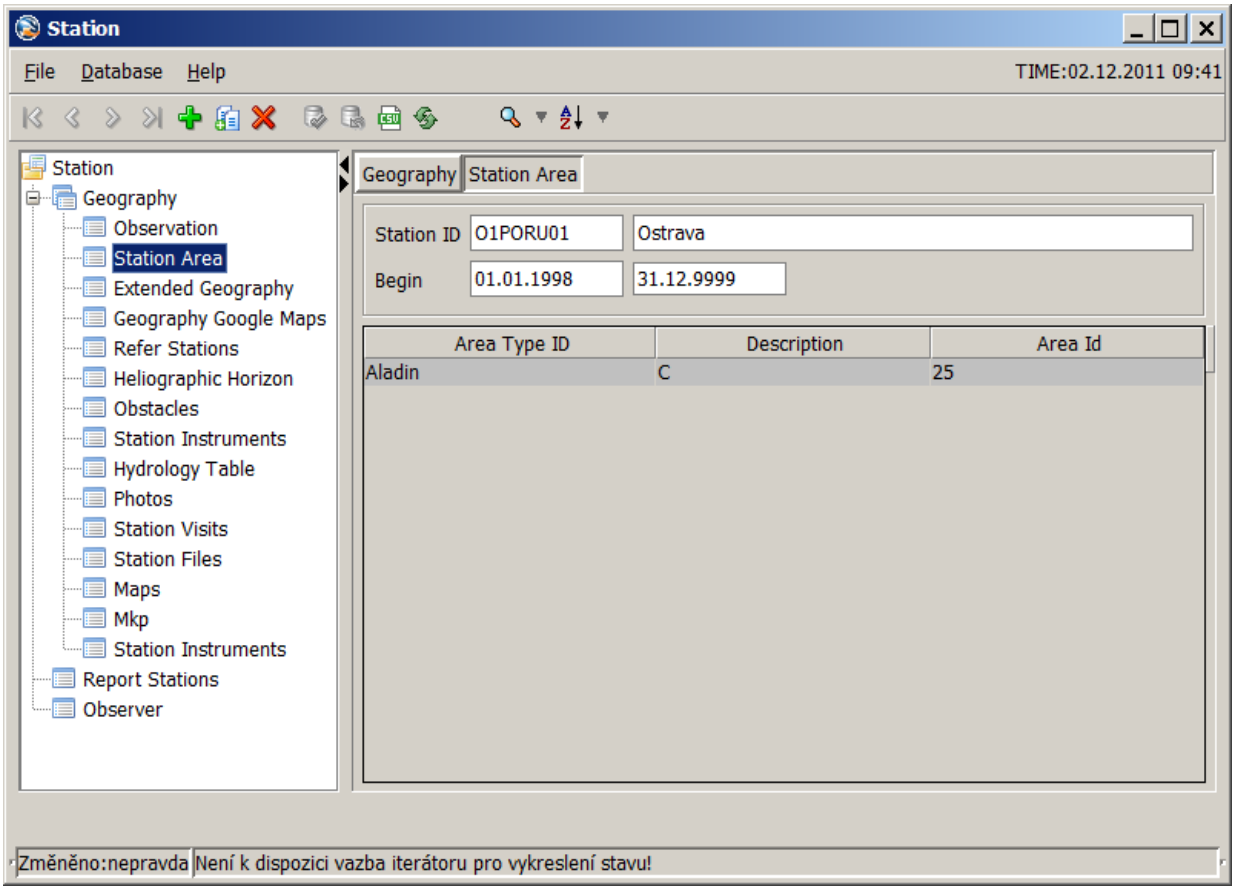
  Note: special instrument is **Calculated** and **Observer**.

- **Instrument height** – is the height of the instrument above ground in meters. If you do not know the height set the value to 0.
- (**Time scheme**) vs. (**Interval, Begin Time, End Time**) – for each of the elements you must set the time scheme of the measurement.
    - **Time scheme** = **Irregular measurement**. It is measured manually by **observer** in predefined times according to some schedule. E.g. Temperature maximum is measured 1x per day at 21:00. Or temperature 3x per day at 07:00, 14:00, 21:00.

      The values of irregular measurement are stored into RDATA_N table
    - **Interval, Begin Time, End Time = Regular scheme**. It is measured in predefined time intervals. E.g. each hour, each 10 minutes. It is measured usually by **automatic weather station**. The begin time and end time is **optional**. It is used for example for sunshine when this element is measured only from 05:00 to 22:00.

      The values of regular measurement are stored into RDATA_R table
- **Calc XX:XX N** – is the place for the order number of the formula for the element daily data calculation. The number is selected from the list defined **in metadata in Calculation module**. The result of the calculation is stored into RDATA_N table (irregular measurement). The time attribute of the calculation result is from 00:00 to 23:59 according to time schedule specified in **Time Scheme** column.
- **Calc XX:XX R** – is the same as above but the result of the calculation is stored into RDATA_R table (regular measurement). The time attribute of the calculation result is from 00:00 to 23:59 according to definition in **(Interval, Begin Time, End Time)** columns.
- **Calc Avg N** – is the place for daily average formula. The formula is selected from the list defined **in metadata in Calculation module**. The result is stored into RDATA_N table (irregular measurement). The time attribute in RDATA_N table is set to 'AVG'. The time 'AVG' is **NOT** defined in Time Scheme column.
- **Calc Max N, Calc Min N, Calc Sum N** – the same as above but the daily maximum, minimum and summary is calculated for irregular measurement, respectively. The time attribute of RDATA_N table is set to 'MAX', 'MIN' and 'SUM' values, respectively.
- **Calc Avg R** – is the place for daily average formula. The formula is selected from the list defined **in metadata in Calculation module**. The result is stored into RDATA_R table (regular measurement). The time attribute in RDATA_R table is set to 'AVG'.
- **Calc Max R, Calc Min R, Calc Sum R** – the same as above but the daily maximum, minimum and summary is calculated for regular measurement, respectively. The time attribute of RDATA_R table is set to 'MAX', 'MIN' and 'SUM' values, respectively.
- **Interpolate** – this option is useful only for regular measurement. If you tick this option the missing values are calculated by interpolation process. Only small gaps can be filled. The size of the gap is maximally 4 consequent missing values for 1 hour, 15 minutes or 10 minutes measurement.
- **Historical unit** – during key entry process you can use this alternative historical unit. The historical unit and its conversion is defined in system metadata.
- **Remark** – put any text remark for the observation line definition.

6.6 Station area

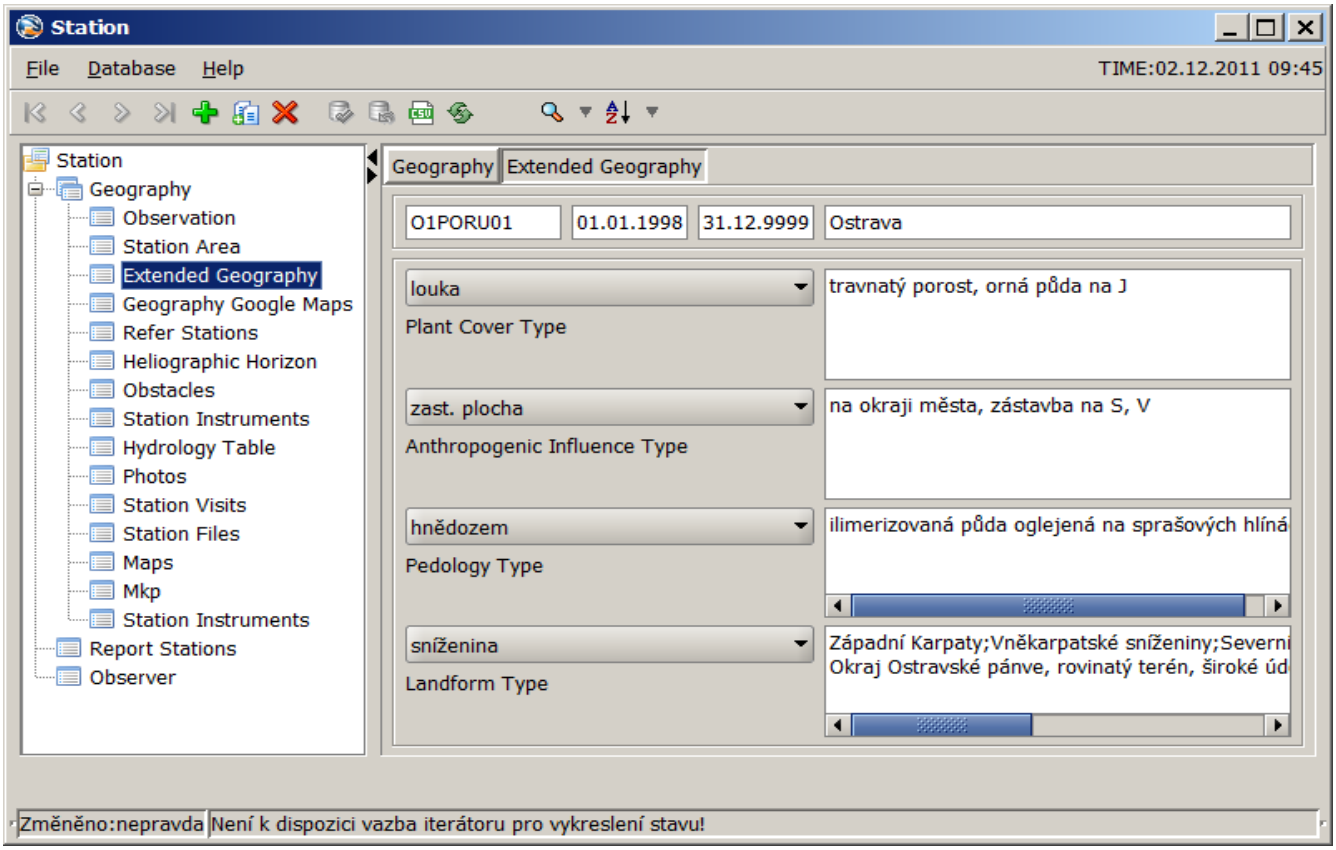


In this form you can assign some of the area to the station.

- **Area type id** – is the area type selected from the list of predefined areas in system metadata
- Description, Area ID – is the area value also selected from the predefined list in metadata part.

In the example there is the Station O1PORU01 belongs to C area of the Aladin subdivision of the country. Aladin is the forecasting model and the forecasts are created for some parts of the Czech republic.

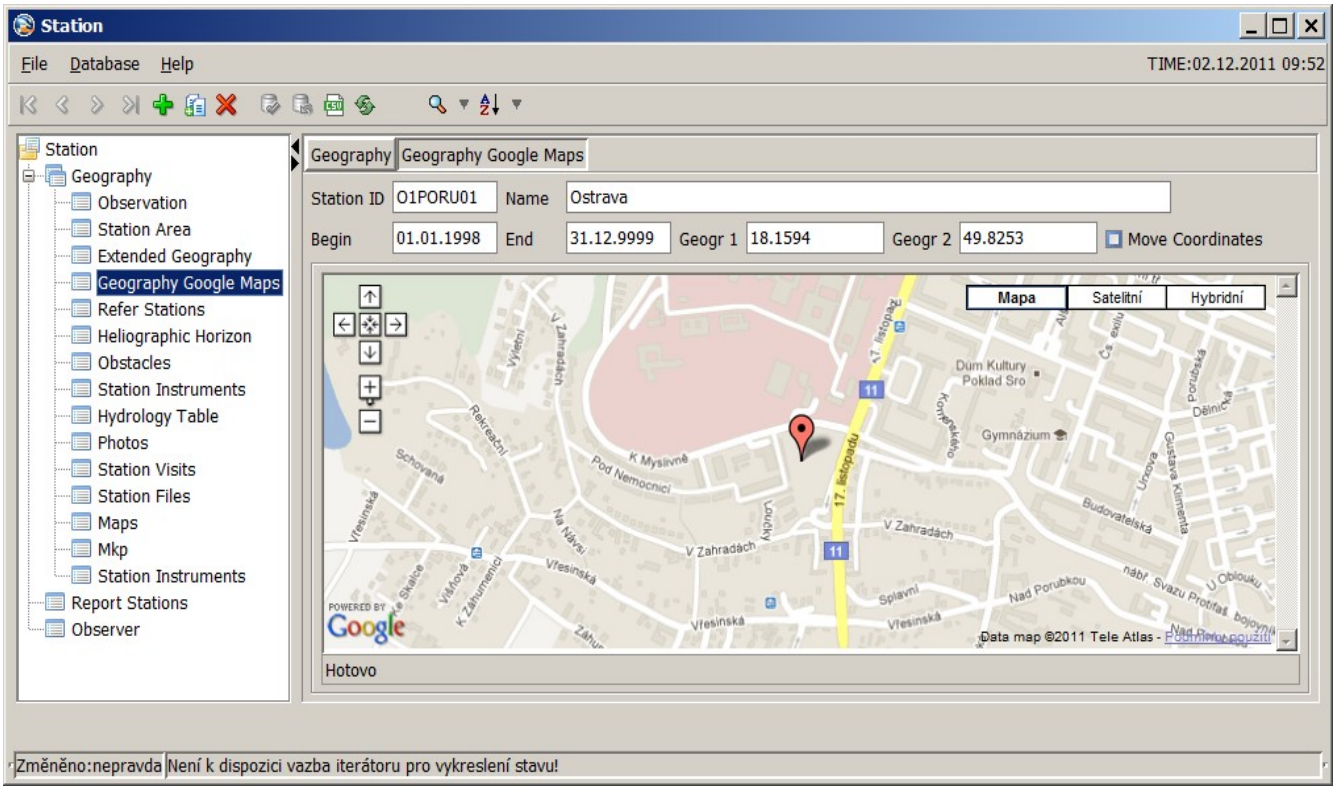
6.7 Extended geography



This is the additional information to the station geography. Fill the Plant Cover type, Anthropogenic influence Type Pedology type and Landform types from the list prepared in the metadata part of the application. For each value selected from the list you can also store some additional text information.

In the Example in the first option there is in Czech language information that he Plant Cover of the station O1PORU01 is meadow. In the text field there is additional description (persistent grass ground cover, arable soil in the south)

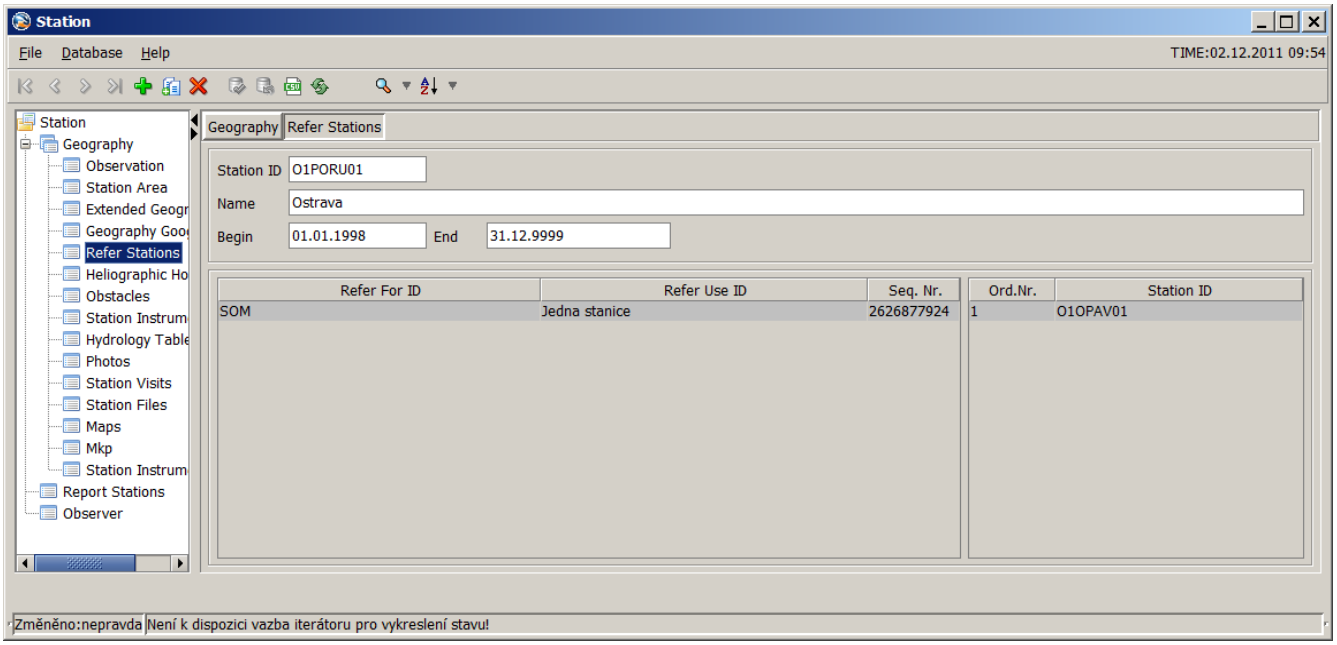
6.8 Station Google maps



This form shows the station location in the Google maps. The location is displayed by the red marker.

If you tick the checkbox **Move coordinates** you can move the marker and the geographical coordinates of the station will change to new coordinates read from the Google map.

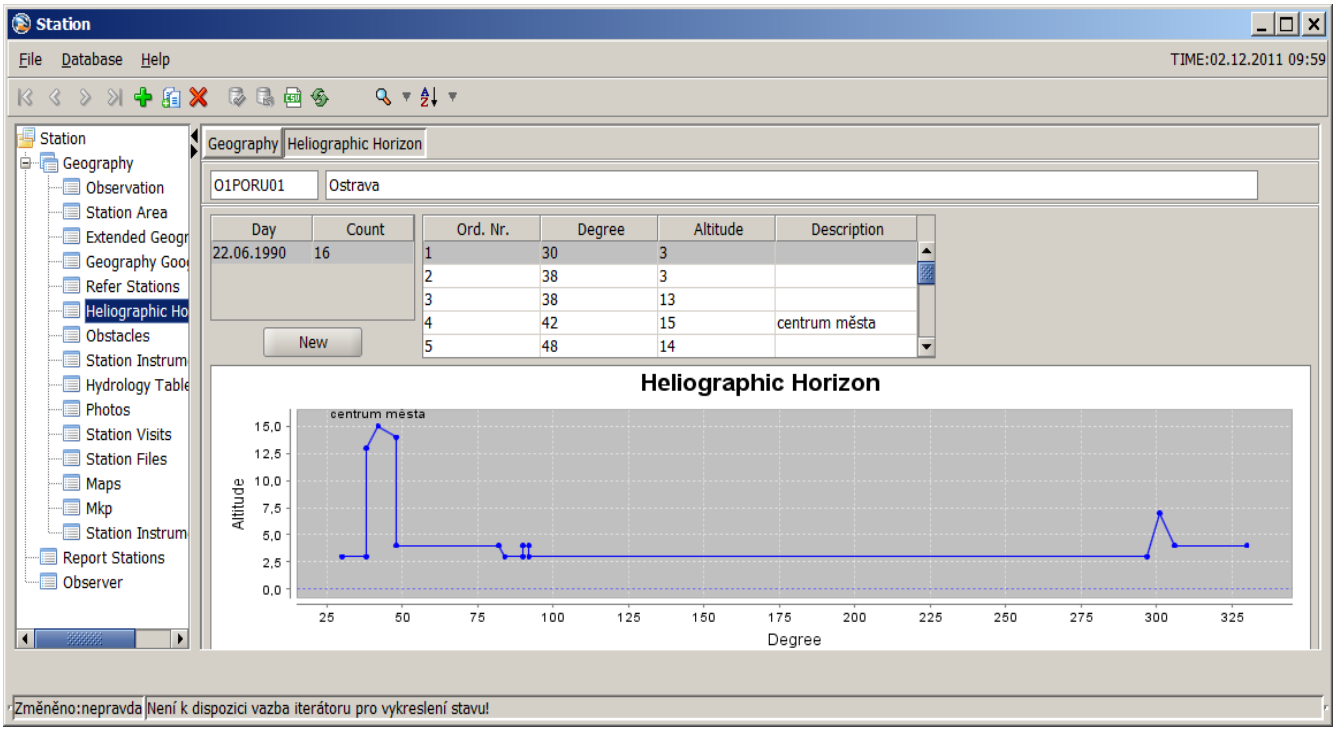
6.9 Reference station



You can enter the reference stations in this form. **Refer for** and **refer use** is selected from the

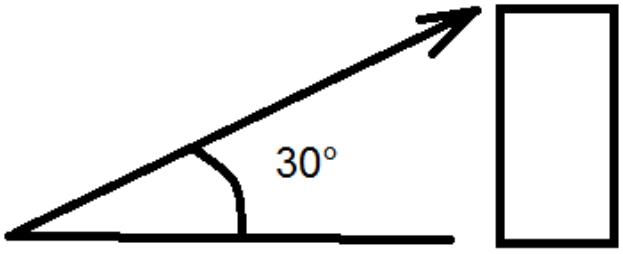
predefined lists in metadata. **Reref for** is the information for the reference station **purpose**. **Refer use** is the information **how** this reference information **is used**. In the right part of the screen you set the reference stations from the list of all stations.

6.10 Heliographic/Sun horizon

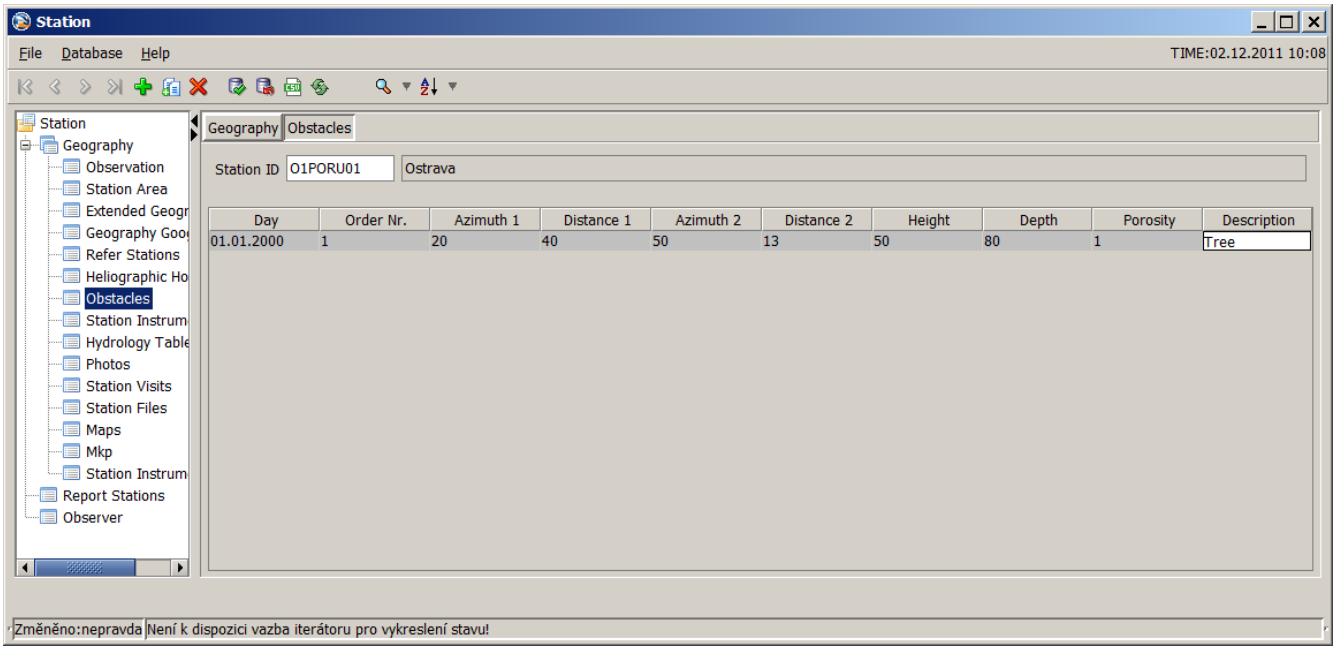


This form defines the shape of the sun horizon. The shape is set in 0 till 360 degrees and by the altitude. The altitude is in degrees (0-90). In the picture you can see that there is in 42° some building. In 300° there is some tree.

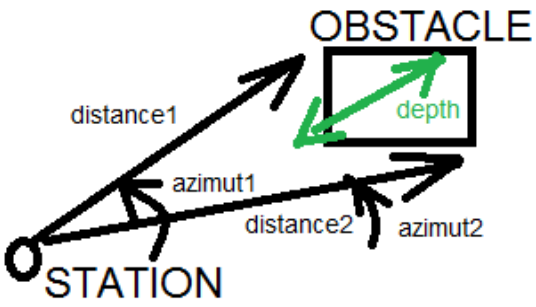
In the picture bellow you see how the altitude is measured in 0-90 degrees.



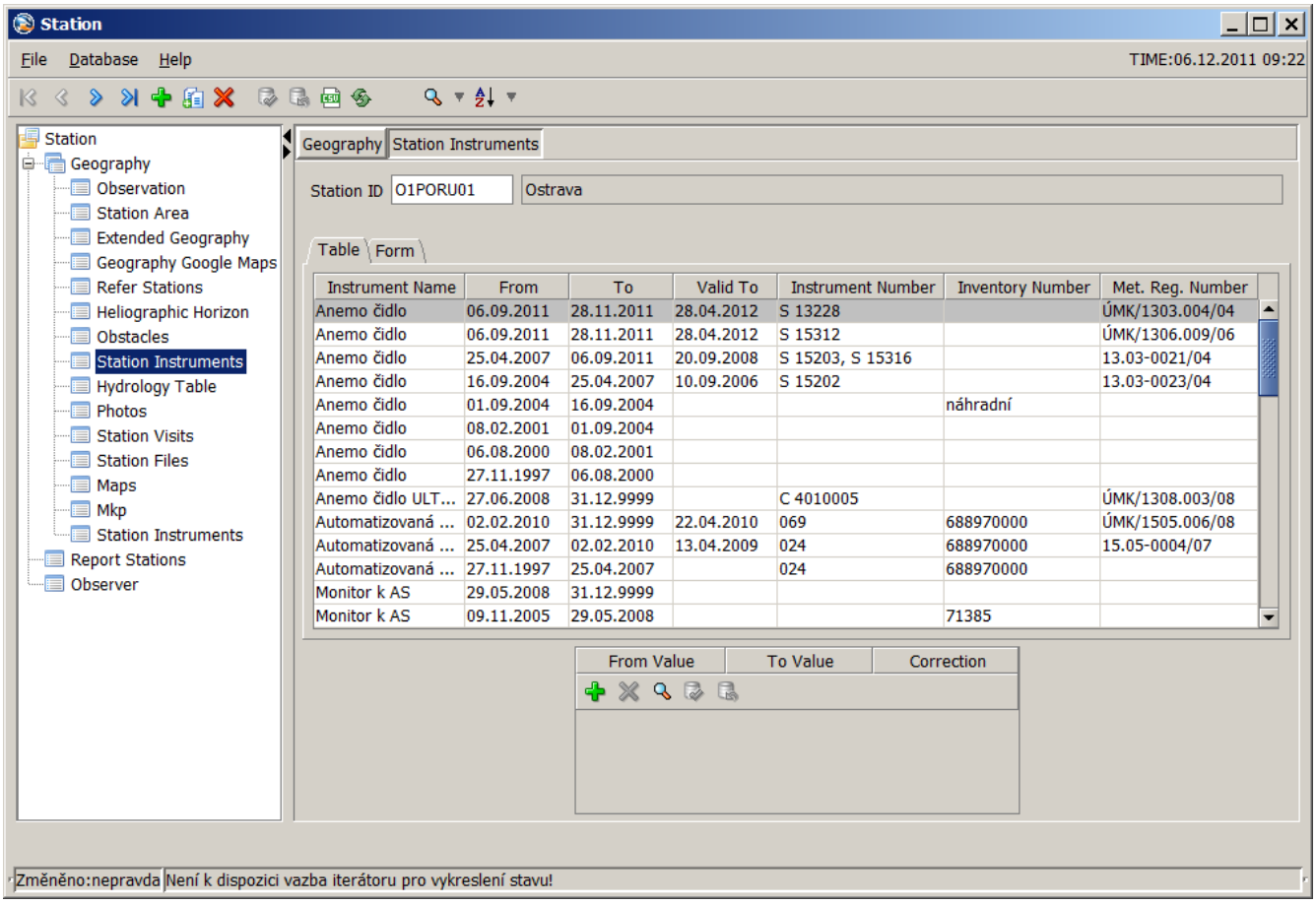
6.11 Obstacles

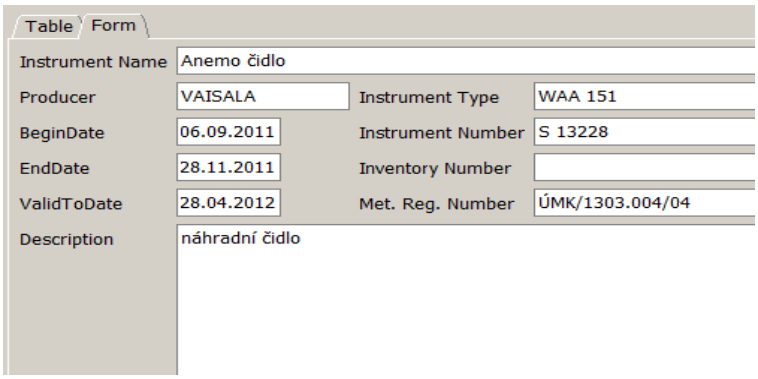


This is another definition of station surroundings. It defines the obstacles as displayed in the picture. The picture shows some ground plan of a building.



6.12 Station instruments



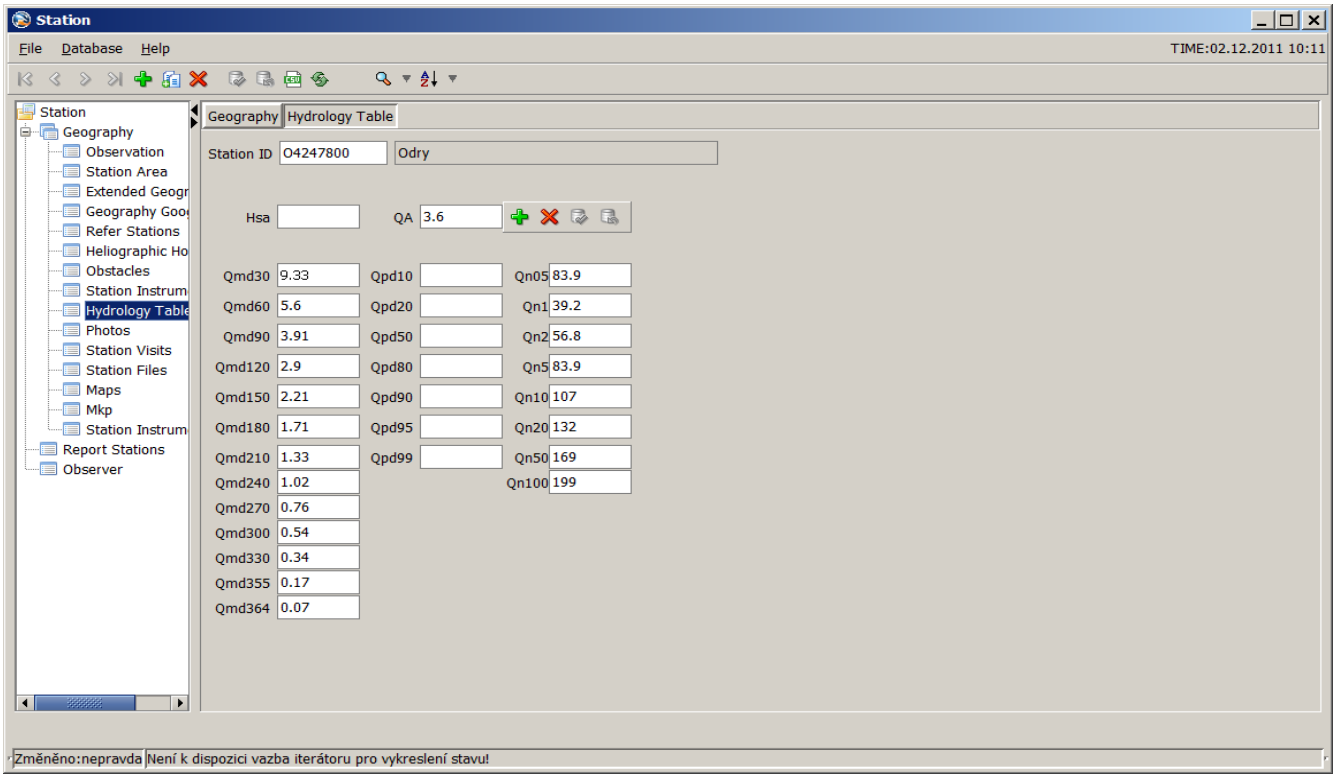


This form and table is used to store information on all station instruments. This serves as the instrument inventory.

- Instrument name – character field with the name of the instrument on the station
- Producer – name of the instrument producer
- Instrument Type – manufacture code or type of the instrument
- Begin and End Date – period of instrument usage
- Valid To Date – date to next instrument revision/calibration
- Instrument number – production number

- Inventory number, Meteorological registration number – sets by meteorological organization for inventory purposes
- Description – any information text for the instrument

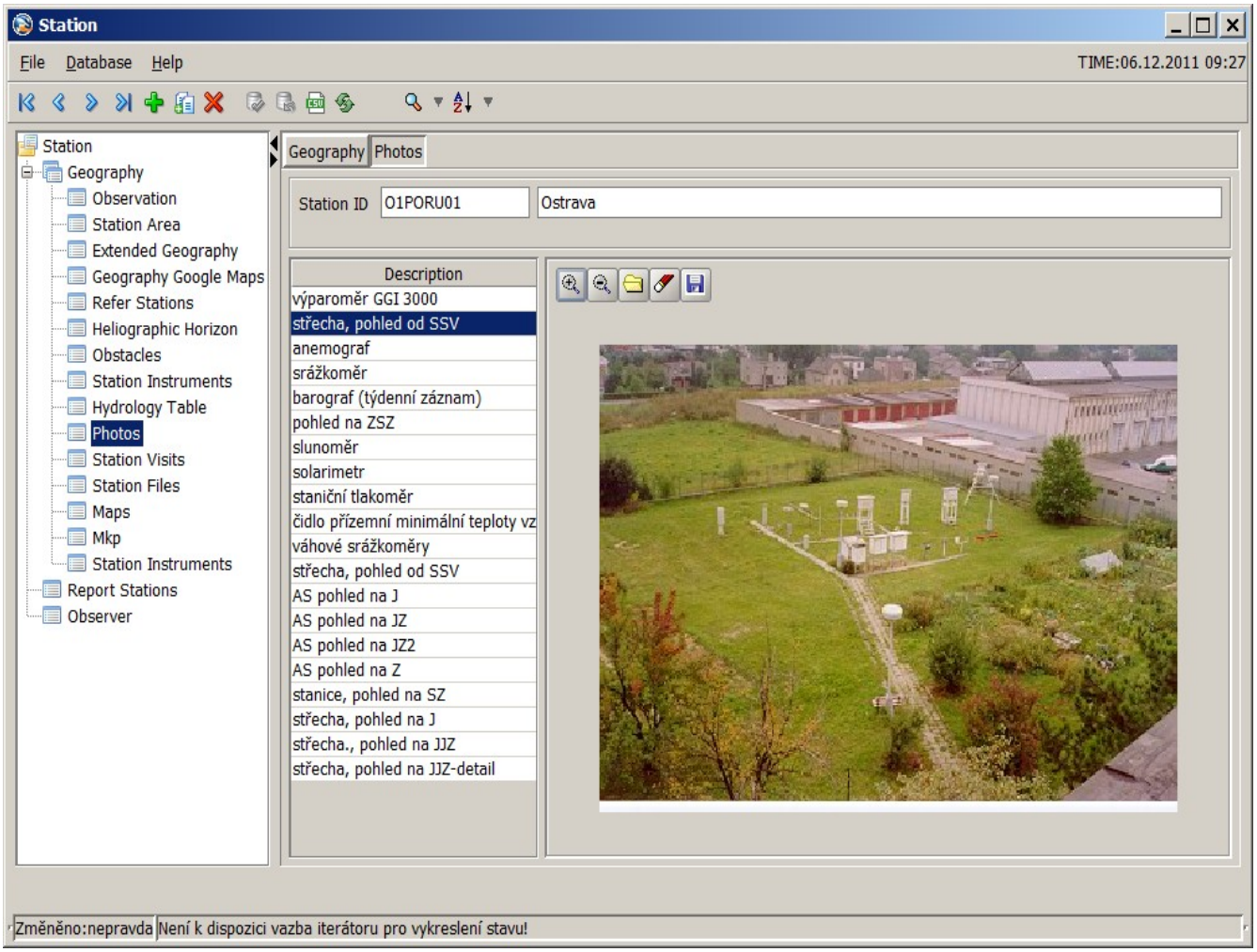
6.13 Hydrological table



This form is used for entering the hydrological characteristics of the station. An example of a hydrological table definition is in picture. For new record press "+" icon.
Fill in the following characteristics:

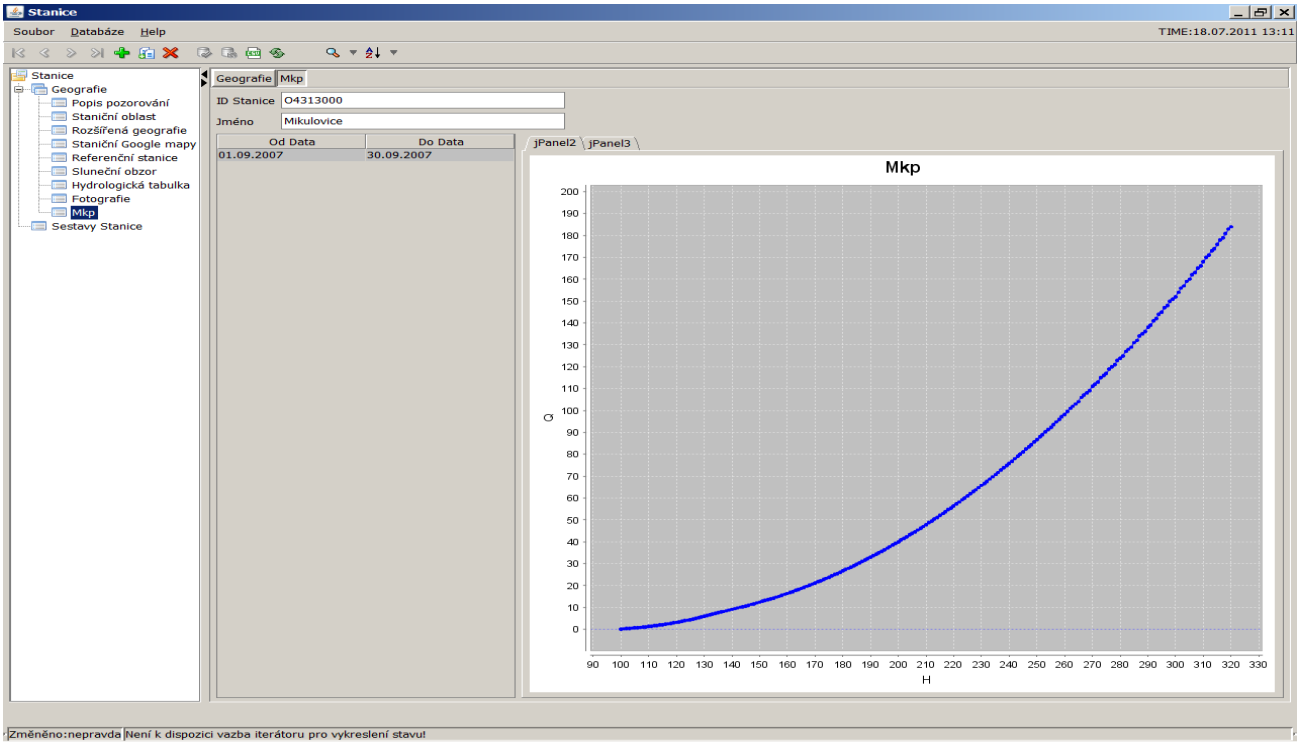
- ***HSA*** … precipitation volume on the drainage basin
- ***QA*** … mean discharge
- ***QMD_X*** … X-day discharge
- ***QPD_X*** … X-percentage-mean daily discharge
- ***QN_X*** … X-year-flood discharge

6.14 Photos



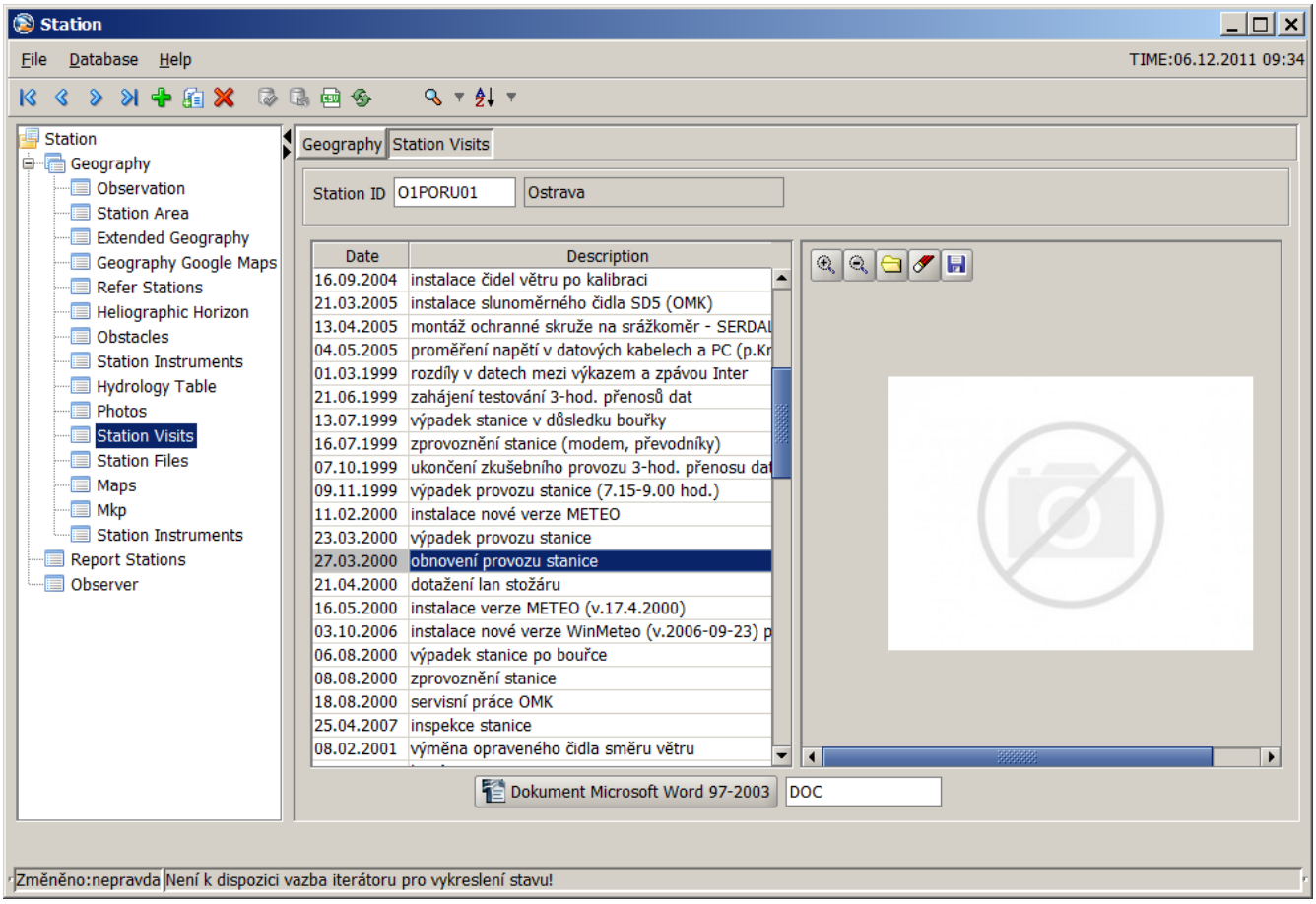
Station photos. Put the name of the photography and upload the photo from computer to database by  icon. The photo can be later downloaded from database to computer by  icon. Using the  icons you can zoom in and out the picture. By  icon you can delete the photo from database.

6.15 Mkp - River Profile Curve



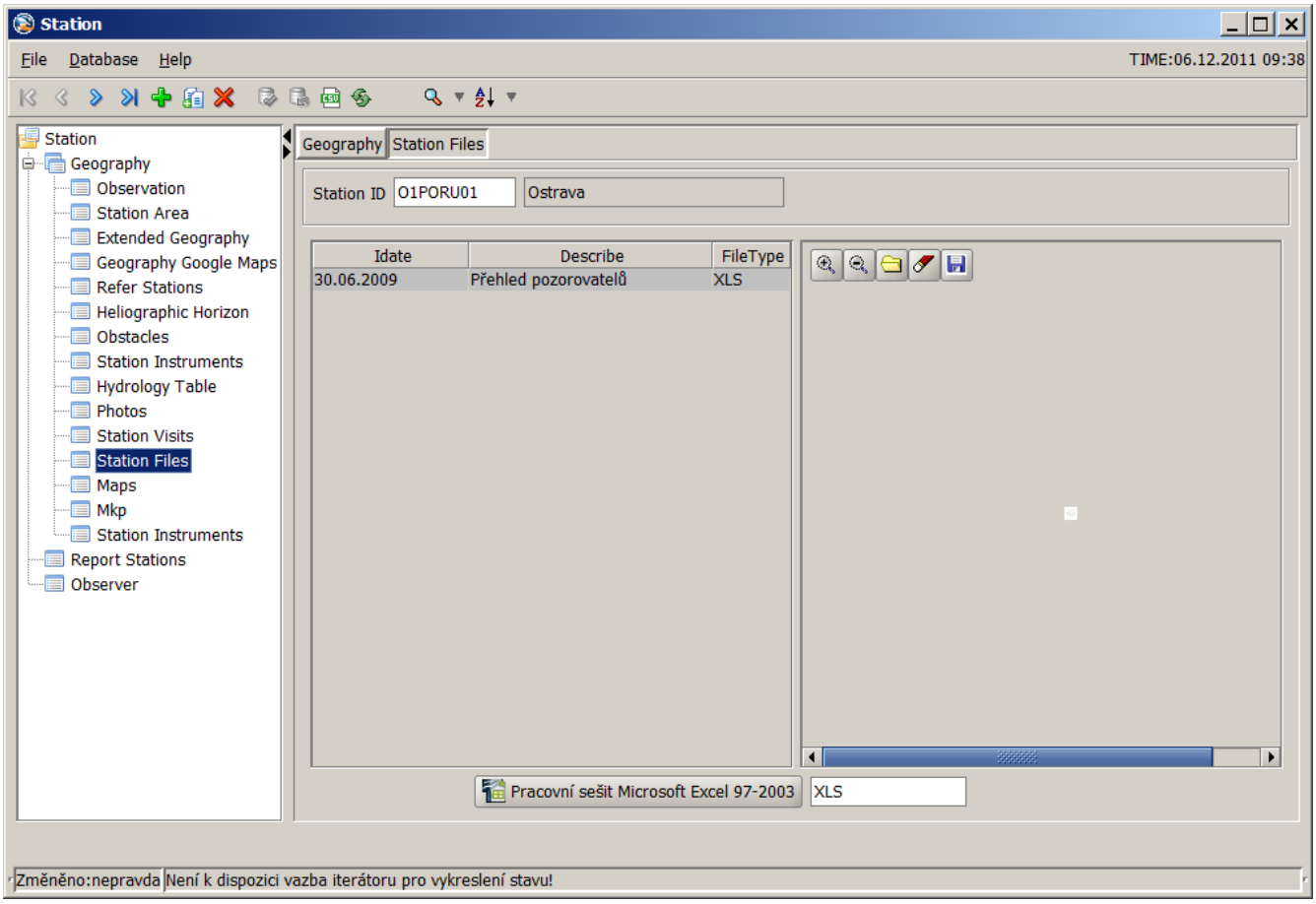
You can enter the river profile curve for hydrological purposes. The curve is valid for some period entered at the left part of the screen.

6.16 Station visits



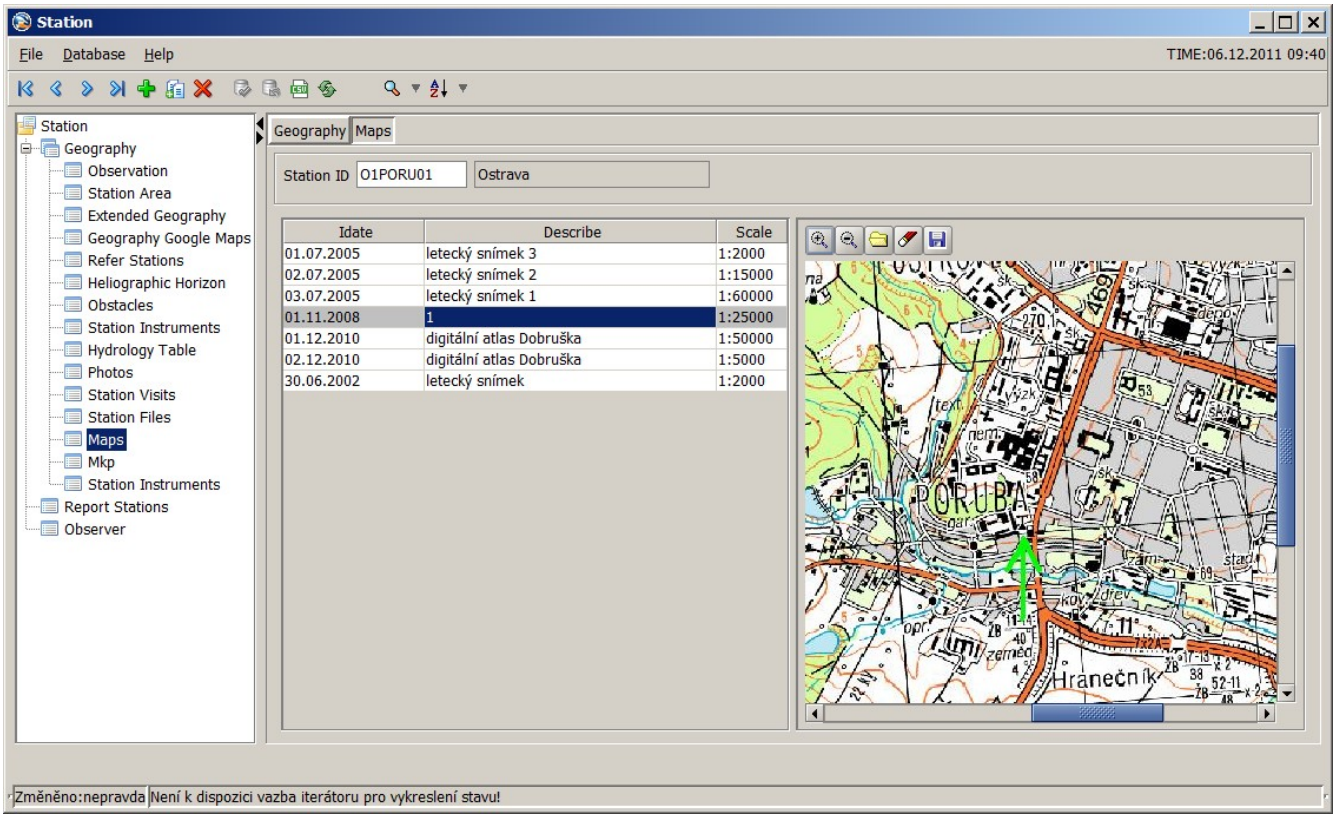
Form used for entering files or notes for station visits. Enter the date of the visit into **Date** column. After that enter the description of the visit. Optionally you can upload the file by  icon. The extension of the file is at the field right from the button. The extension is automatically associated with MS Windows program. If you press the button the file is opened in associated application. You can back download the file from database to computer by  icon.

6.17 Station Files



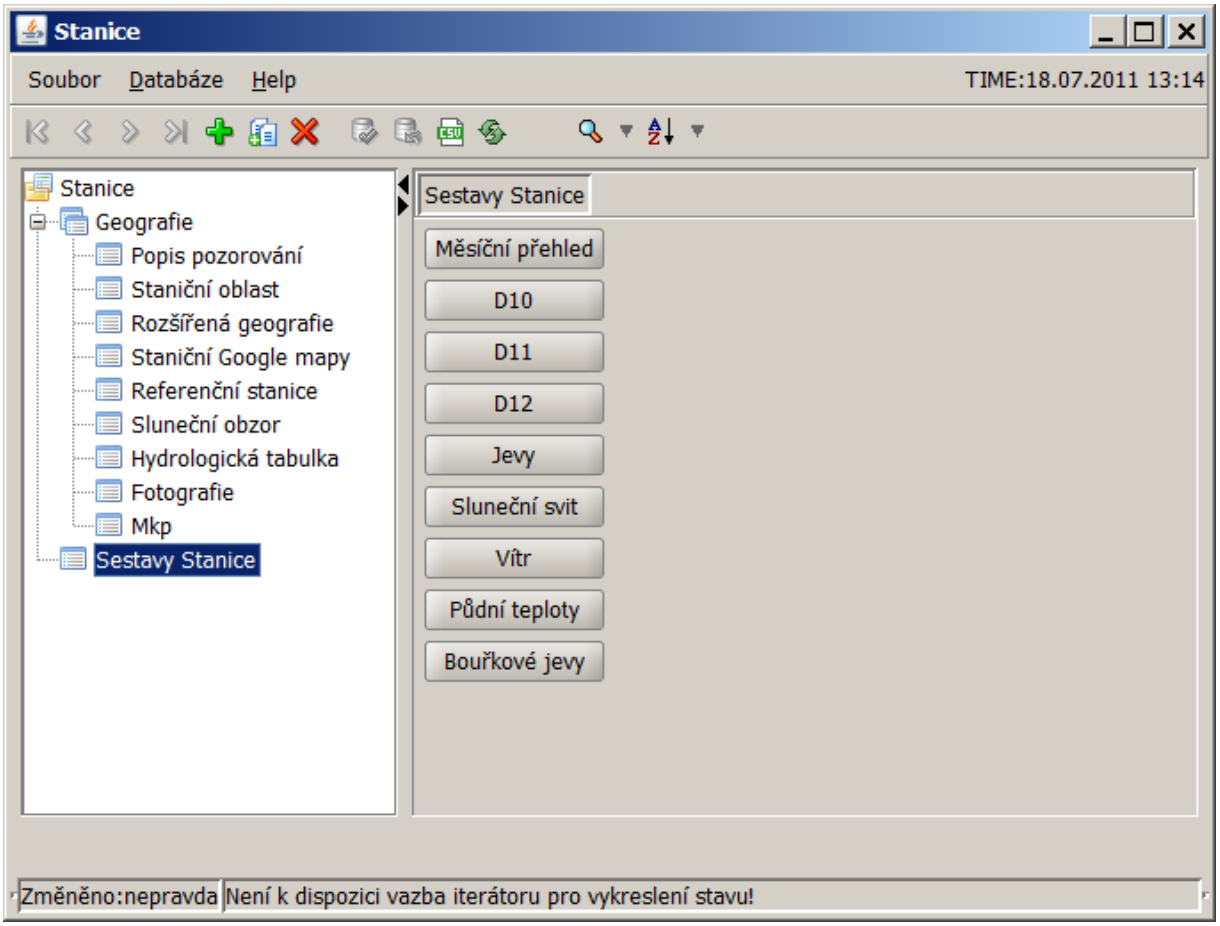
Form used for entering any files for. Enter the date of the visit into **Date** column. After that enter the description of the visit. Optionally you can upload the file by  icon. The extension of the file is at the **File type** field. The extension is automatically associated with MS Windows program. If you press the button the file is opened in associated application. You can back download the file from database to computer by  icon.

6.18 Station maps



The form used for storing scanned map pictures. The map is saved as a binary picture file. Put he information of the date of the map description and the map scale.

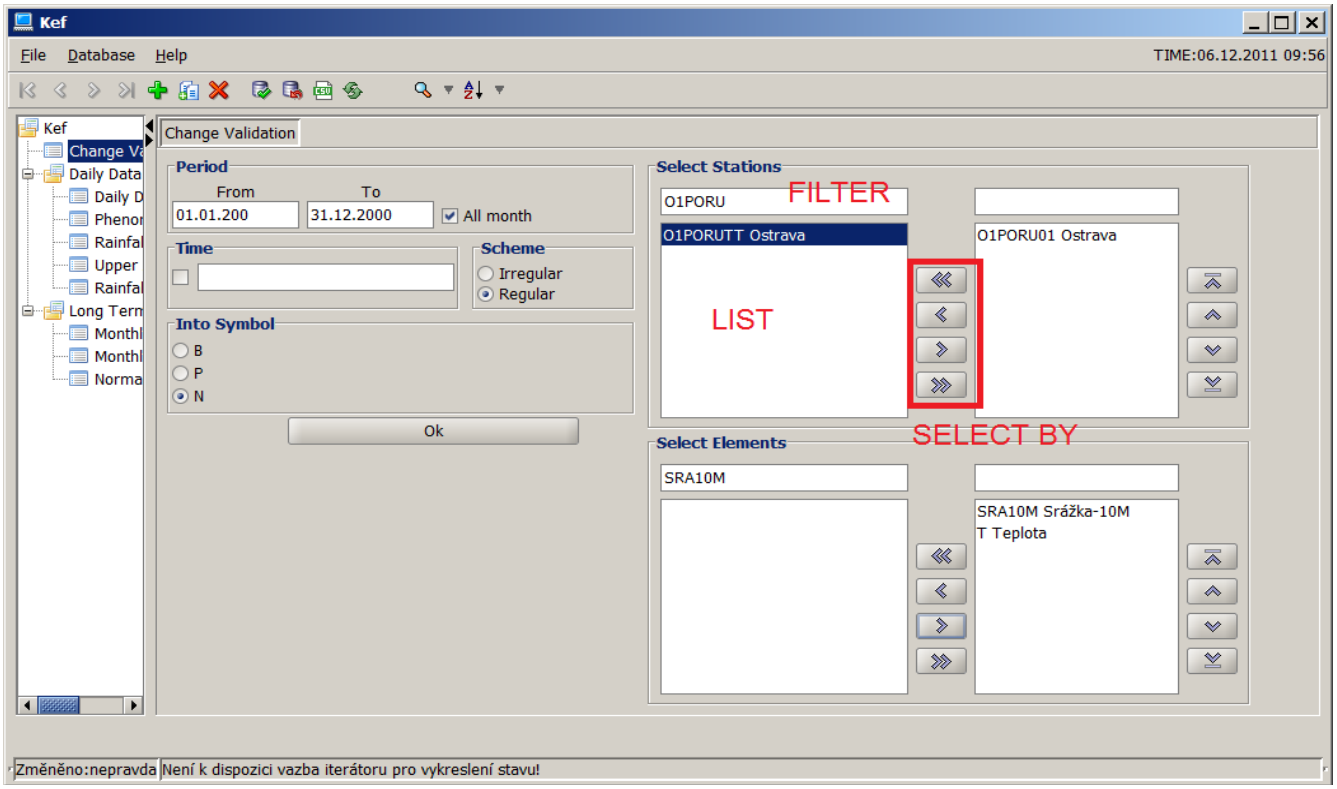
6.19 Station reports



This prints special station reports. Ask the developers for the availability of report for your country. Each report is country specific and must be developed separately for each country. Special funding is required for the reports.

7 Key entry forms

7.1 Validation change



This form is for the changing of the validation symbols. In system each value receives some validation flags when it pass some quality control process. We recognize the following validation symbols:

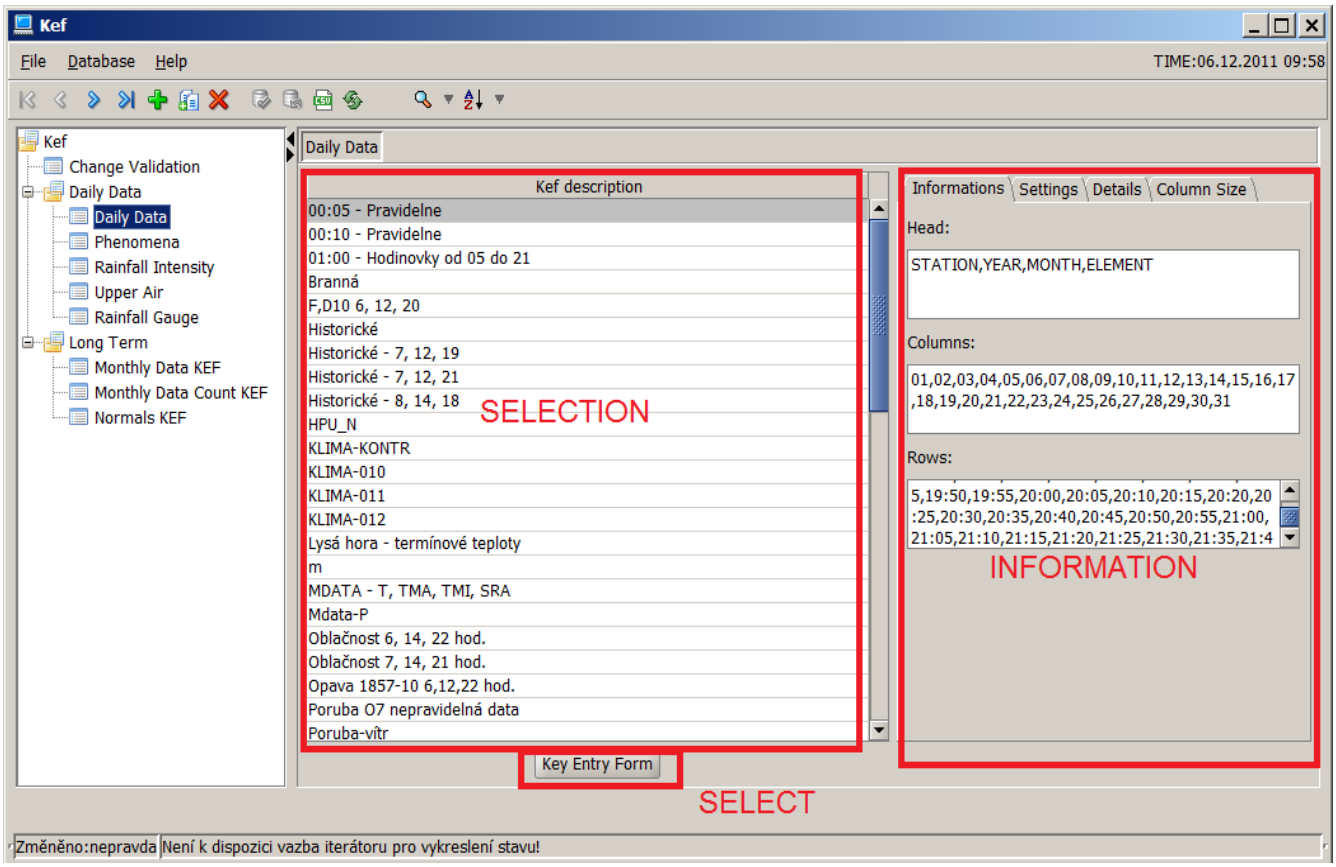
Flag	Value
N	New value. This value is not validated and can be changed
P,W	Value passed **formula quality control**. The value can pass the quality control with W warning symbol (This value can be correct). P and W has the same quality control level. This value can be changed only in quality control form! Before changing in other part except quality control you must change the validation symbol for the value.
A	Value passed area quality control in GIS. This value cannot be changed. This value cannot be changed. Before changing you must change the validation symbol for the value.
B	Manually validated value. This value cannot be changed. Before changing you must change the validation symbol for the value.
C	Calculated value. This value cannot be changed

To change the validation symbol for the value select the period **From-To**. By ticking **All month** the period is extended to whole months. Optionally you can change the validation symbol for one time. In that case tick the **time checkbox** and **fill the time** in format HH:MM. If the time is not specified in that case all the times according time schedule are changed. Select the scheme for the data. It can be either regular or irregular.

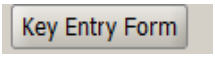
Finally set the **target** validation symbol (the source symbol is not set). At the right side select the station(s) and element(s). The fields above the list are used as filters for the lists.

By pressing **Ok** button you change the validation symbol for specified data.

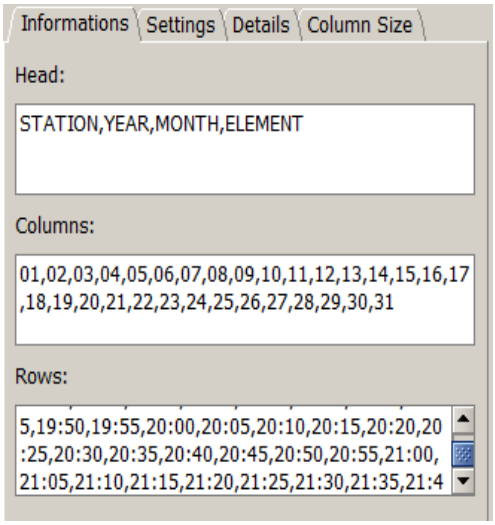
7.2 Selection of key entry form

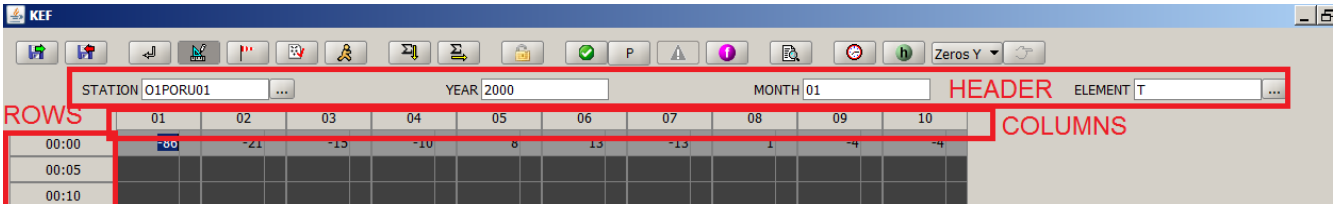


In the left part select the key entry form. In the right part there is an information on selected key entry form. In other tabs you can change/create new key entry form.

Form is executed by pressing  button.

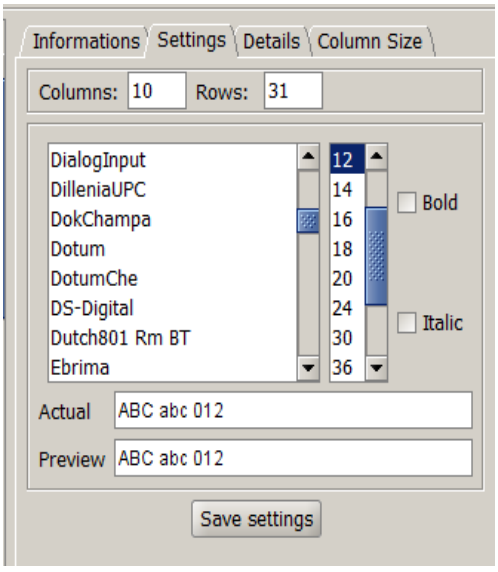
7.2.1 Key entry form information





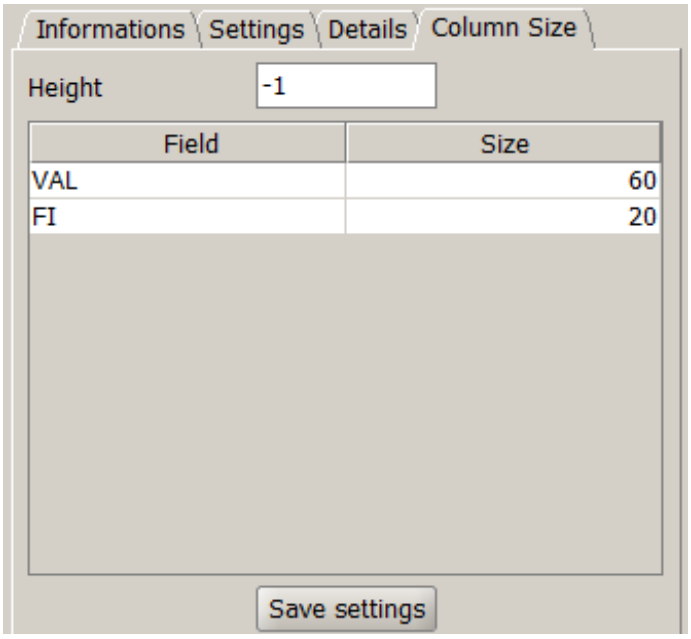
Information panel displays the information on currently selected key entry form. You see the information of the key entry form header columns and row.

7.2.2 Key entry form Settings



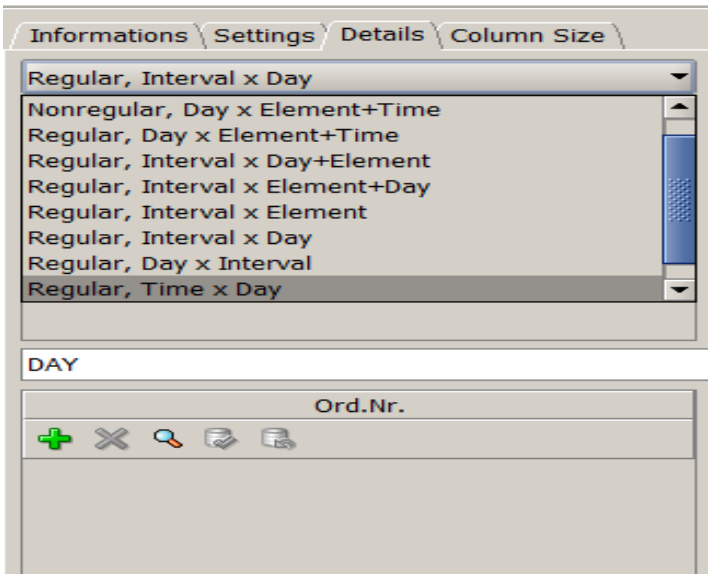
In Settings you can change the number of displayed rows and columns at the top. At the bottom you can change the font.

7.2.3 Column Size



Set the width of each column. Also you can change the height of one row.

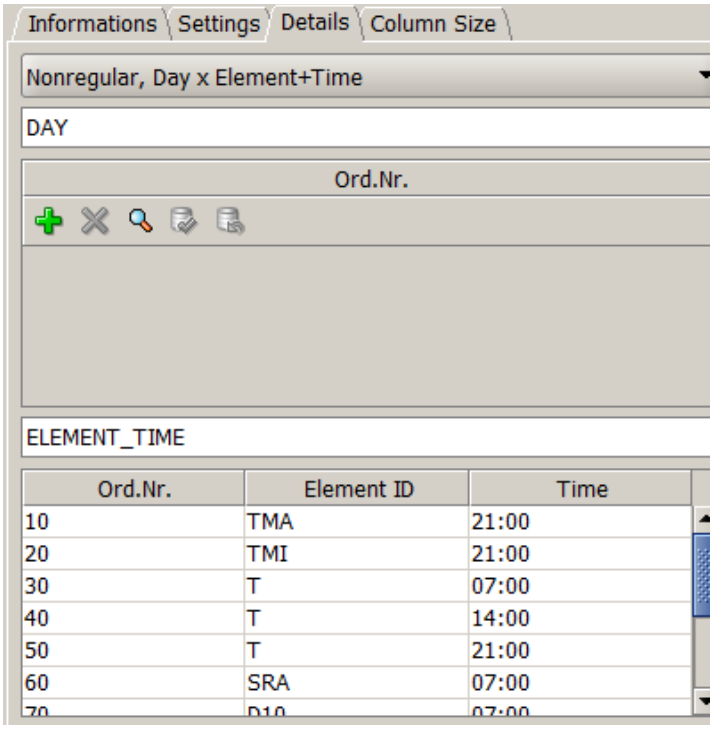
7.2.4 Key entry form Details



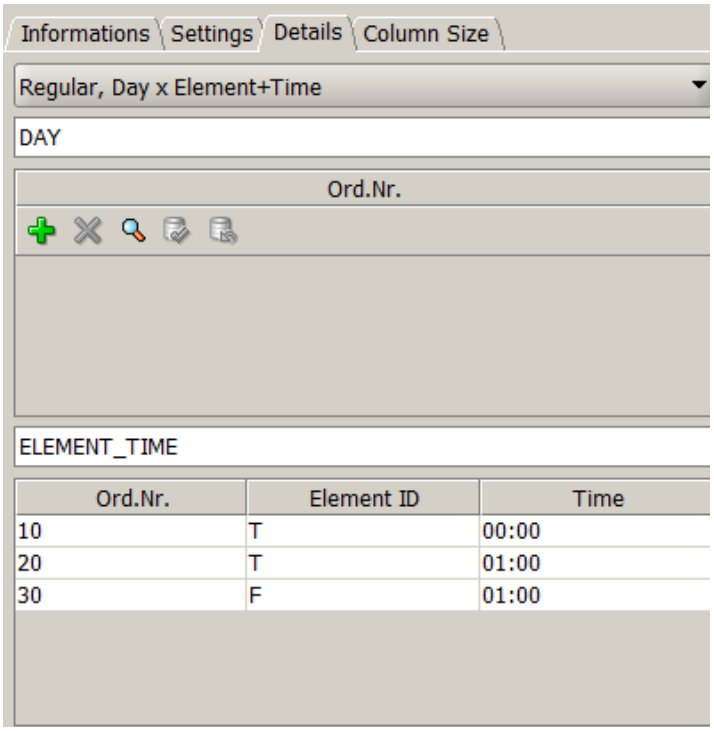
Settings of the information displayed in the key entry form. It is a specification of the key entry form layout.

In the list box you can select from many options:

- **Nonregular, Day X Element+Time – the layout for irregular data.**
    - Header: Station, Year, Month
    - Columns: Element +time (E.G. T 07:00, T14:00, T 21:00, TMA 21:00, TMI 07:00...)
    - Rows: days of the month

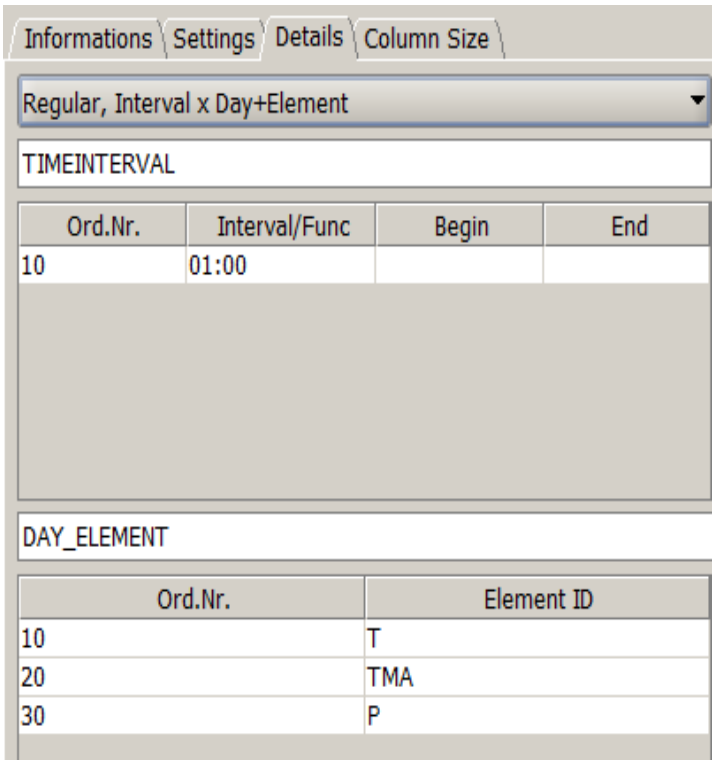
- 

- **Regular, Day x Element+Time**
  - Header: Station, Year, Month
  - Columns: Element +time (E.G. T 07:00, T14:00, T 21:00, TMA 21:00, TMI 07:00...)
  - Rows: days of the month

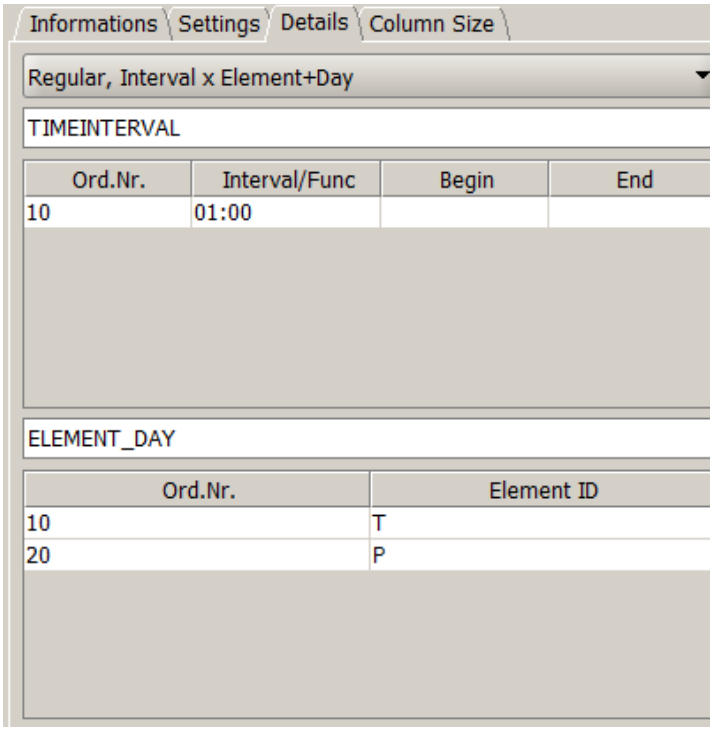


- **Regular, Interval x Day+Element**
  - Header: Station, Year, Month

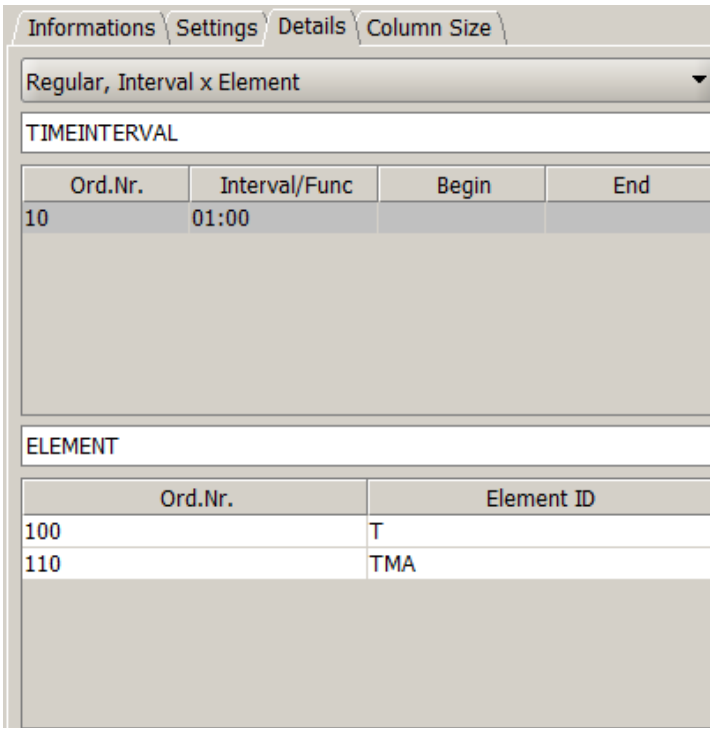
- Columns: Element + day, the element is first (T 01, TMA 01, P 01, T 02, TMA 02, P 02,.., T 31, TMA 31, P 31)
- Rows: Times according to interval specification. Bellow is interval 01:00 it means times 00:00, 01:00, 02:00, … , 23:00



- **Regular, Interval x Element+Day**
  - Header: Station, Year, Month
  - Columns: Element + day, the day is first (01 T, 02 T, … 31 T, 01 P, 02 P, …, 31 P)
  - Rows: Times according to interval specification. Bellow is interval 01:00 it means times 00:00, 01:00, 02:00, … , 23:00

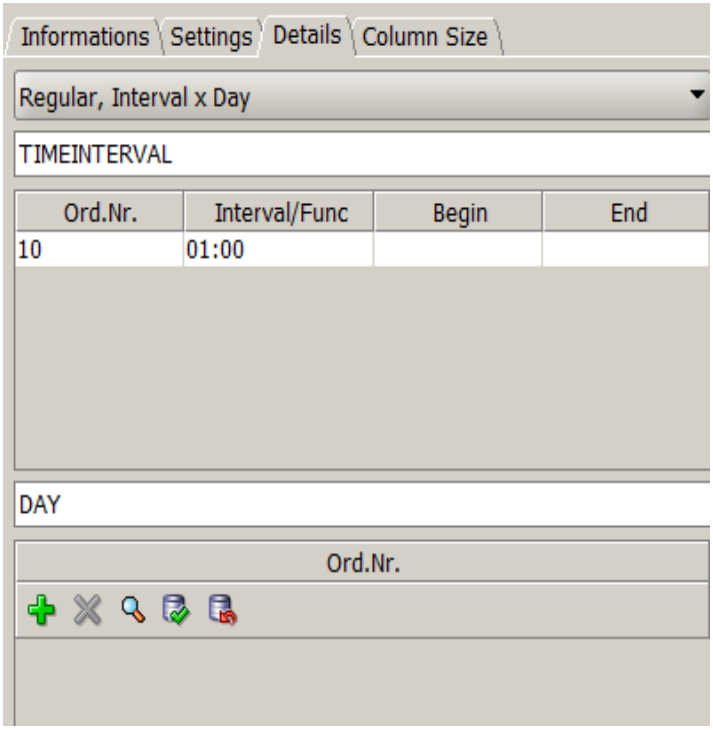


- **Regular, Interval x Element**
  - Header: Station, Year, Month, Day
  - Columns: Element (T, TMA,...)
  - Rows: Times according to interval specification. Bellow is interval 01:00 it means times 00:00, 01:00, 02:00, … , 23:00

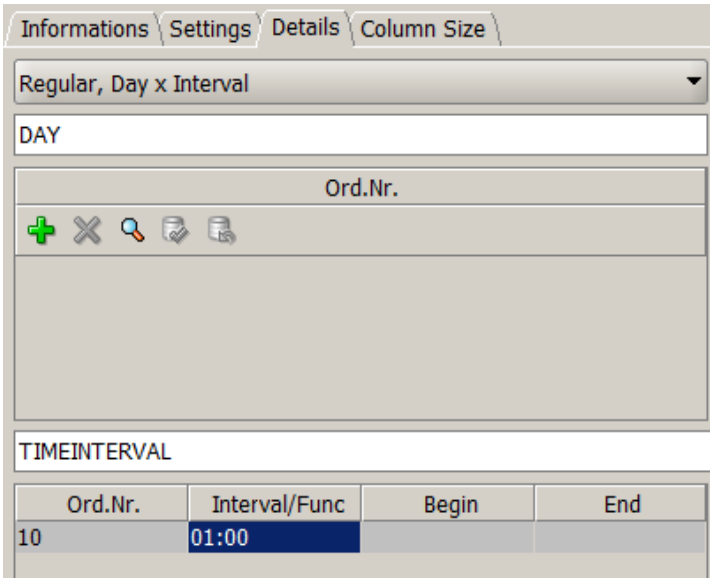


- **Regular, Interval x Day**

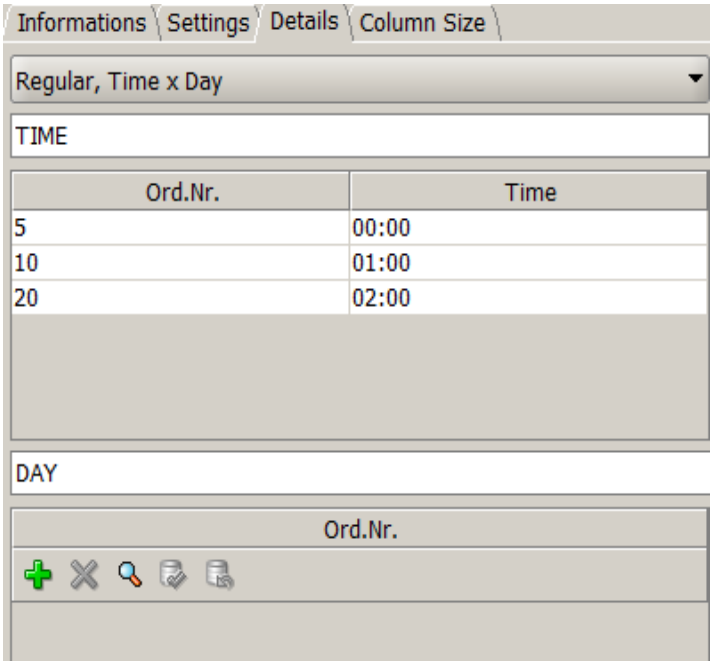
- Header: Station, Year, Month, Element
- Columns: Day (01, 02, … 31)
- Rows: Times according to interval specification. Bellow is interval 01:00 it means times 00:00, 01:00, 02:00, … , 23:00



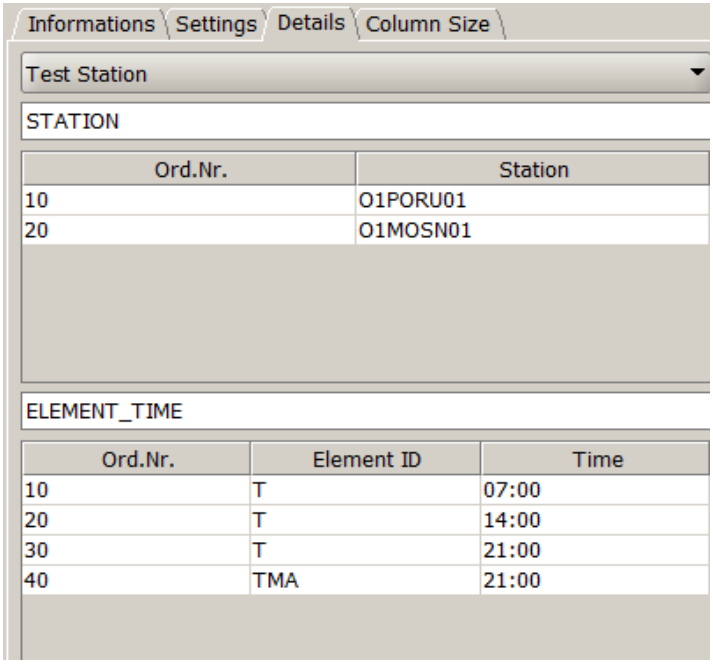
- **Regular, Day x Interval**
  - Header: Station, Year, Month, Element
  - Columns: Times according to interval specification. Bellow is interval 01:00 it means times 00:00, 01:00, 02:00, … , 23:00
  - Rows: Day (01, 02, … 31)



- **Regular, Time x Day**
    - Header: Station, Year, Month, Element
    - Columns: Times specified 00:00, 01:00, 02:00
    - Rows: Day (01, 02, … 31)



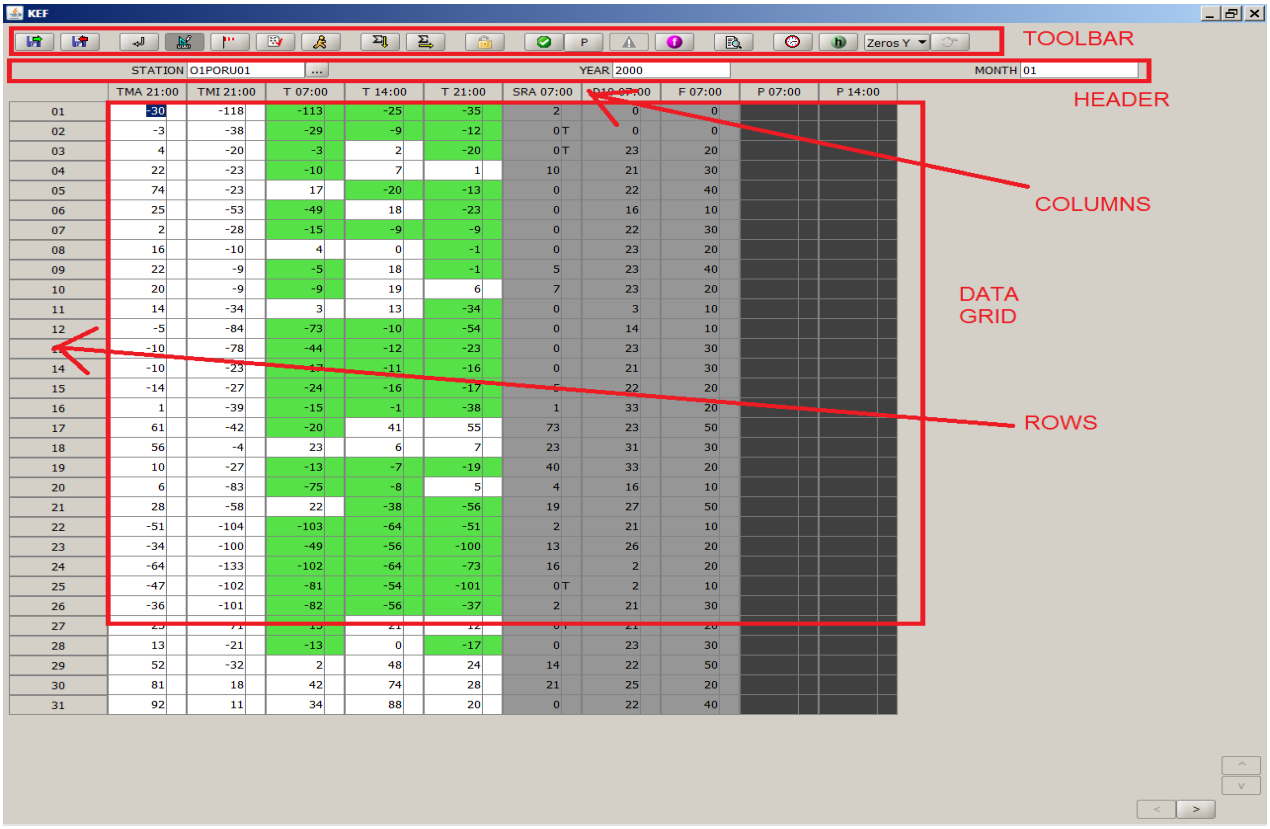
- **Station**
    - Header: Year, Month, Day
    - Columns: Elements and times specified T 07:00, T 14:00, T21:00,TMA 21:00, ...)
    - Rows: Stations specified (O1PORU01, O1MOSN01,...)



7.3 Key entry in data grid

The key entry form is a grid view of the database data. The form has several parts:

- toolbar – control the key entry and quality control data grid
- Header – enter the data header/key for the selection of the grid
- Grid – enter the data belonging to selected header
- Columns/Rows – specifies in the Key Entry Form Details (see in previous chapters)



	TMA 21:00	TMI 21:00	T 07:00	T 14:00	T 21:00	SRA 07:00	[illegible]	F 07:00	P 07:00	P 14:00
01	-30	-118	-113	-25	-35	2		0		
02	-3	-38	-29	-9	-12	0 T		0		
03	4	-20	-3	2	-20	0 T		23	20	
04	22	-23	-10	7	1	10		21	30	
05	74	-23	17	-20	-13	0		22	40	
06	25	-53	-49	18	-23	0		16	10	
07	2	-28	-15	-9	-9	0		22	30	
08	16	-10	4	0	-1	0		23	20	
09	22	-9	-5	18	-1	5		23	40	
10	20	-9	-9	19	6	7		23	20	
11	14	-34	3	13	-34	0		3	10	
12	-5	-84	-73	-10	-54	0		14	10	
[illegible]	-10	-78	-44	-12	-23	0		23	30	
14	-10	-23	-17	-11	-16	0		21	30	
15	-14	-27	-24	-16	-17	5		22	20	
16	1	-39	-15	-1	-38	1		33	20	
17	61	-42	-20	41	55	73		23	50	
18	56	-4	23	6	7	23		31	30	
19	10	-27	-13	-7	-19	40		33	20	
20	6	-83	-75	-8	5	4		16	10	
21	28	-58	22	-38	-56	19		27	50	
22	-51	-104	-103	-64	-51	2		21	10	
23	-34	-100	-49	-56	-100	13		26	20	
24	-64	-133	-102	-64	-73	16		2	20	
25	-47	-102	-81	-54	-101	0 T		2	10	
26	-36	-101	-82	-56	-37	2		21	30	
27	[illegible]									
28	13	-21	-13	0	-17	0		23	30	
29	52	-32	2	48	24	14		22	50	
30	81	18	42	74	28	21		25	20	
31	92	11	34	88	20	0		22	40	

7.3.1 Toolbar

In the top of the grid there is a tool bar with several icons. This icons control the key entry form. The icons meaning is as follows:

 Load data into key entry form. The data are loaded only when complete header is specified. When data are not present in database the grid is empty.

 Save data into database.

 Specification of ENTER key behavior:

Not selected – Move from top to bottom

Selected – Move to from left to right

 Key entry with or without decimal character

Not selected – key entry with decimal point

Selected – key entry without decimal point. The data are displayed according to definition of the element scale. When the scale is 0.1 it means that the value of temperature 15.4 is displayed as 154. The value of 16 is displayed as 160.

 Use historical unit

Not selected – key entry in current units

Selected – key entry in historical units

 Jump to next allowed field

Not selected – jump to available fields only (invalidated)

Selected – jump to any values (even validated and calculated)

 Jum to field of the same type

Not selected – jump to field of the same type only (value, value, value, ... navigation, not flags)

Selected – jump to all fields (value, flag, value, flag nvaigation)

 Show control summary at the bottom and at the left

 Change of validation (invalidate/validate). This button opens the change validation panel. In the panel the current field information is selected. You can adjust the selection and after pressing Ok button close the change validation flag dialog. (see more in change validation flag chapter)

 Data control. After pressing this button the grid is switched into **quality control mode**. The button at the right validates only one value in position of cursor in key entry mode. This button is used to lock/protect the value during the current month,.

Not selected – key entry mode

Selected – quality control mode

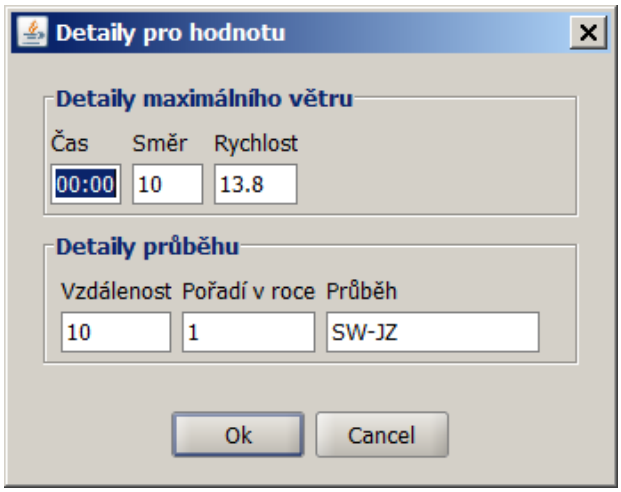
 Show the formula in quality control where the error or warning is indicated.

 Show or hide validation symbols

Not selected – validation flags are hidden

Selected – validation flag are displayed

Show value details. It displays the storm details in meteorological phenomena key entry form.:



There is a shortcut key combination CTRL+ENTER to do the same as the press of this button.

Show the change history. The table displays all changes of the value. In the changes by mouse double-click you can return to previous value before the change.

Show changes flags

Not selected – the historical changes flag is hidden
Selected – the historical changes flag is shown

Nuly Y a menu for filling the copy or nulls into row or column

7.3.2 Colors – Key entry mode

34 New value, not validated

150 Validated value or calculated value

-250 Value outside limits specified in elements specification. (See Elements definition)

Field is not available

7.3.3 Colors – quality control mode

150 The value is validated by area quality control

-250 Warning, a value can be ok, see details by pressing icon

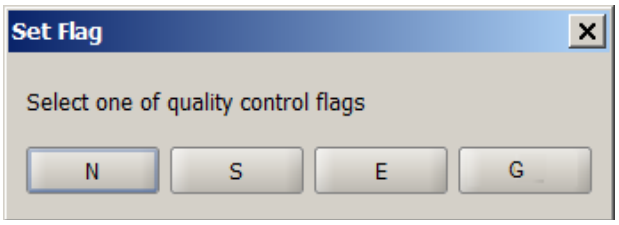
95 Error, value must be corrected, see details by pressing icon

94 Validated value, value is ok

Missing value

7.3.4 Correction of the value in quality control

Repair a value



Select one of the value flags:

N - null value, empty field

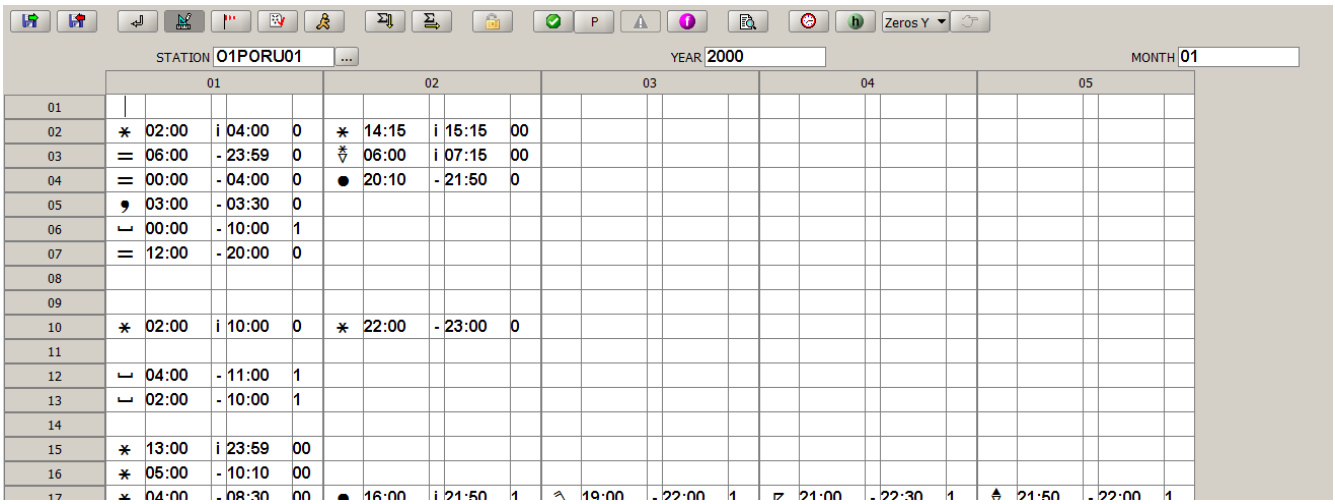
S – standard correct value, no any flag is assigned

E – estimated value, flag E is assigned to value

G – guessed value, flag G is assigned to value

7.4 Key entry form of Phenomena

We recommend to set the Settings: 5 columns, 31 rows, Arial 16 bold font.



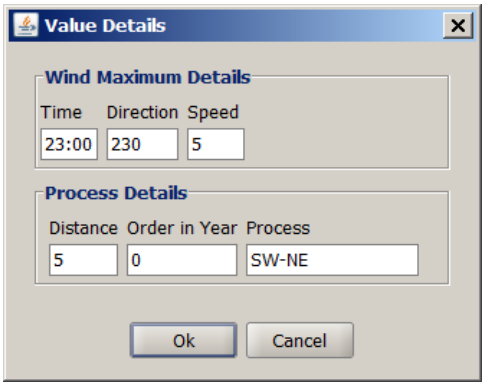
Enter the phenomenon symbol. The **symbol** key is defined in the phenomena part in metadata.

After that enter the phenomena **begin** and **end**.

You must set if the phenomenon is **continuous** by (**-**) minus sign or **interrupted** by (**i**) sign into the field between times.

Set the intensity of phenomenon in last field. The intensity is one of 00,0,1,...,9 values and combination of intervals using minus (-) sign. E.g. 0-1, 3-0. The 0-1 means that intensity at beginning is 0 and 1 at the end of the phenomenon

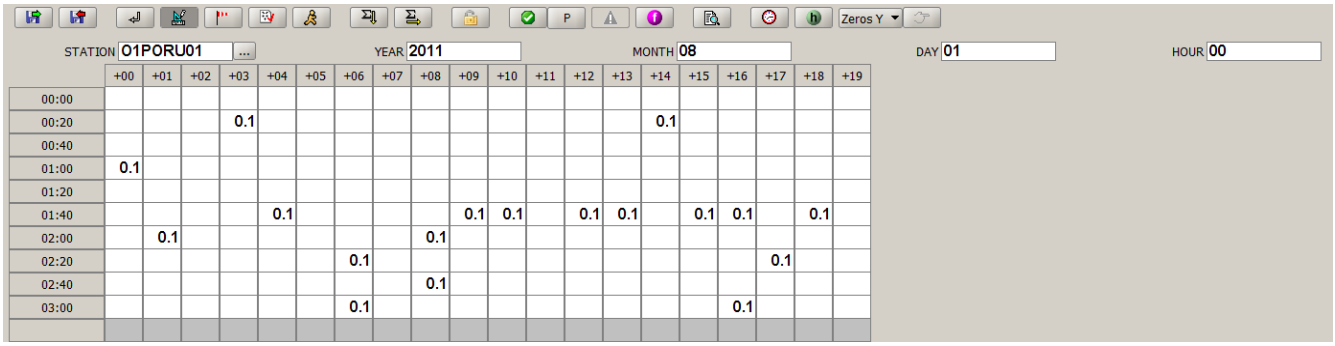
For storms you can set details by pressing CTRL-ENTER key combination,



Here you specify the time of the maximum wind speed its speed and direction.

Also you can specify the distance of the storm in Km order of the storm in year and the process,

7.5 Intensity rainfall key entry

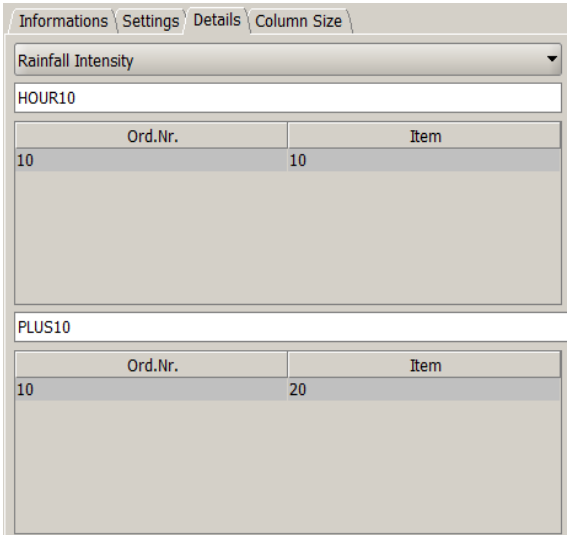


It is possible to key entry 1 minute precipitation data. This form settings is:

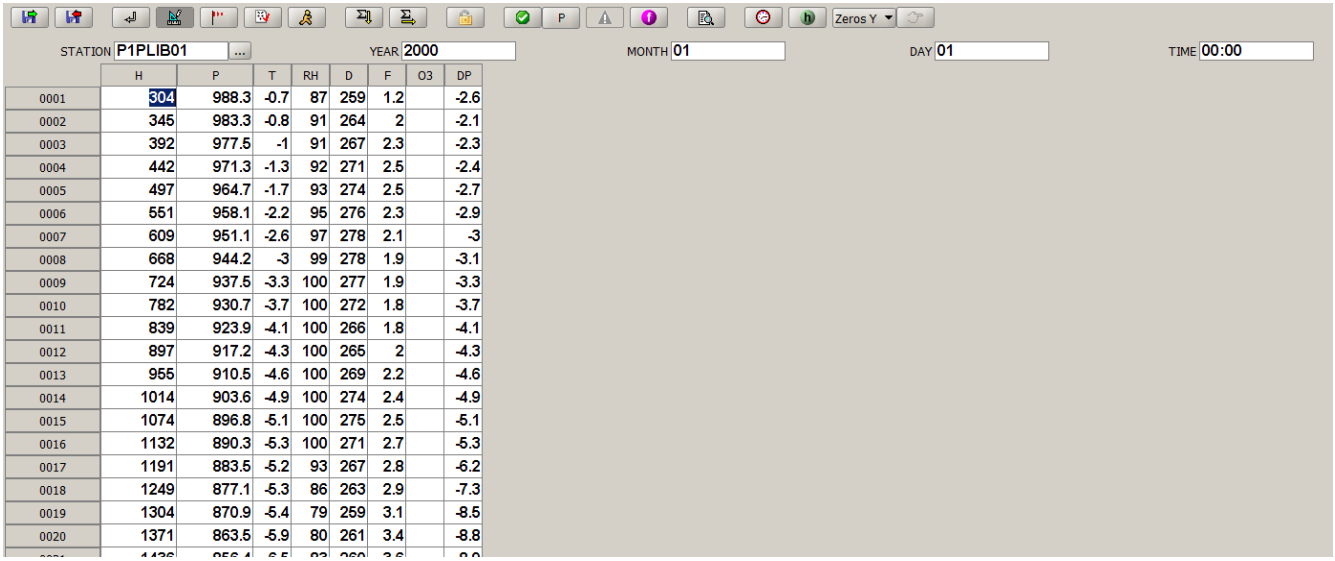
rows:10

columns 20

details:



7.6 Upper air data key entry



STATION P1PLIB01 ... YEAR 2000 MONTH 01 DAY 01 TIME 00:00

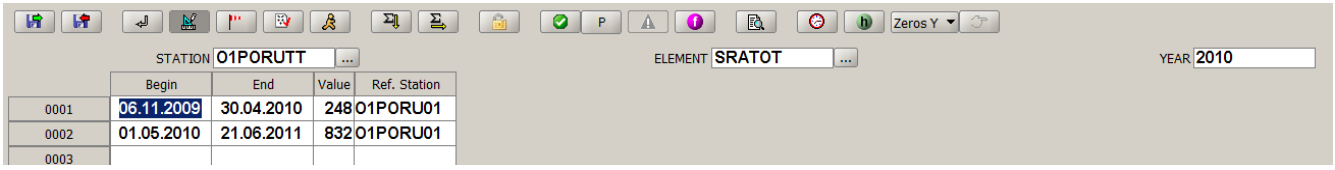
	H	P	T	RH	D	F	O3	DP
0001	304	988.3	-0.7	87	259	1.2		-2.6
0002	345	983.3	-0.8	91	264	2		-2.1
0003	392	977.5	-1	91	267	2.3		-2.3
0004	442	971.3	-1.3	92	271	2.5		-2.4
0005	497	964.7	-1.7	93	274	2.5		-2.7
0006	551	958.1	-2.2	95	276	2.3		-2.9
0007	609	951.1	-2.6	97	278	2.1		-3
0008	668	944.2	-3	99	278	1.9		-3.1
0009	724	937.5	-3.3	100	277	1.9		-3.3
0010	782	930.7	-3.7	100	272	1.8		-3.7
0011	839	923.9	-4.1	100	266	1.8		-4.1
0012	897	917.2	-4.3	100	265	2		-4.3
0013	955	910.5	-4.6	100	269	2.2		-4.6
0014	1014	903.6	-4.9	100	274	2.4		-4.9
0015	1074	896.8	-5.1	100	275	2.5		-5.1
0016	1132	890.3	-5.3	100	271	2.7		-5.3
0017	1191	883.5	-5.2	93	267	2.8		-6.2
0018	1249	877.1	-5.3	86	263	2.9		-7.3
0019	1304	870.9	-5.4	79	259	3.1		-8.5
0020	1371	863.5	-5.9	80	261	3.4		-8.8

You enter the height pressure an other characteristics into columns.

Each measurement is identified by:

Station Id, Year, month day and time.

7.7 Rainfall gauge, totalizator

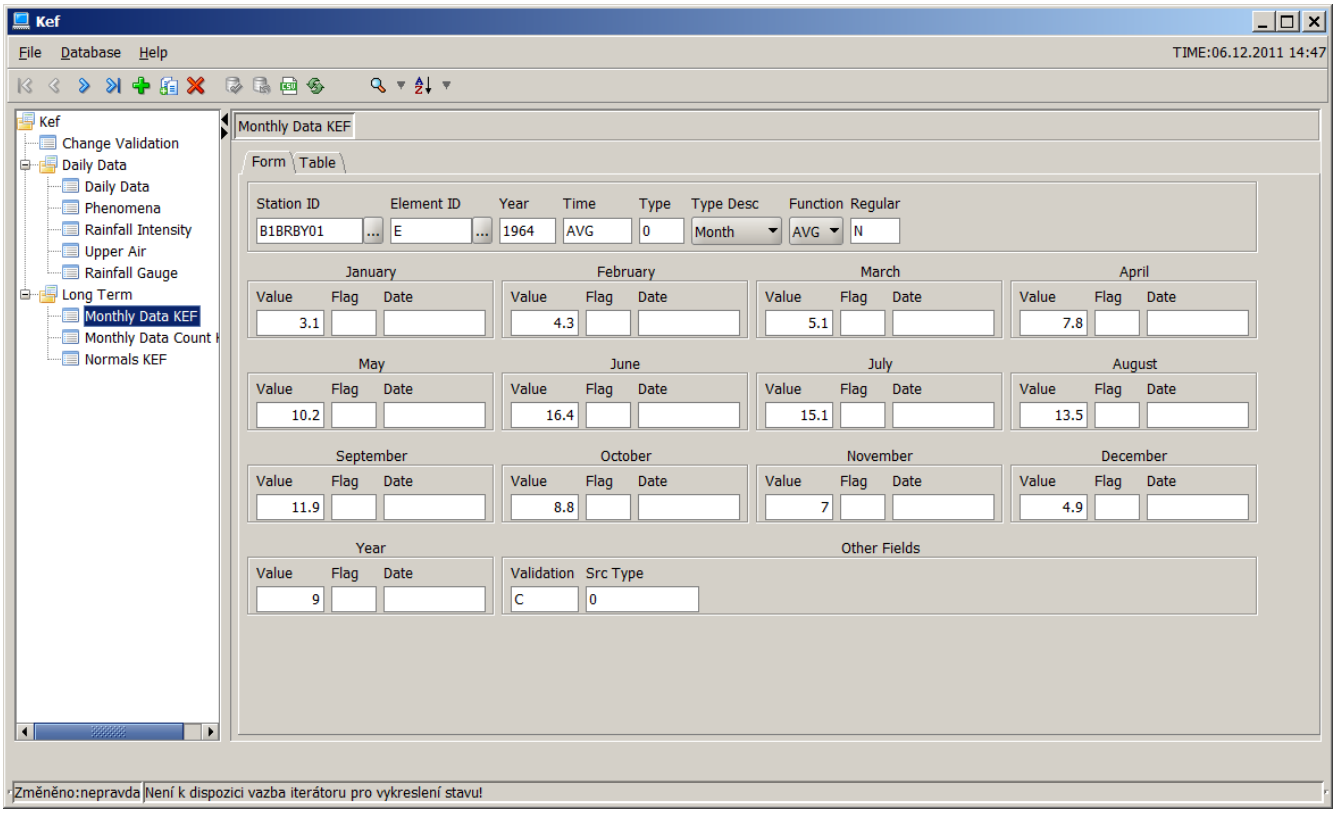


STATION 01PORUTT ... ELEMENT SRATOT ... YEAR 2010

	Begin	End	Value	Ref. Station
0001	06.11.2009	30.04.2010	248	01PORU01
0002	01.05.2010	21.06.2011	832	01PORU01
0003				

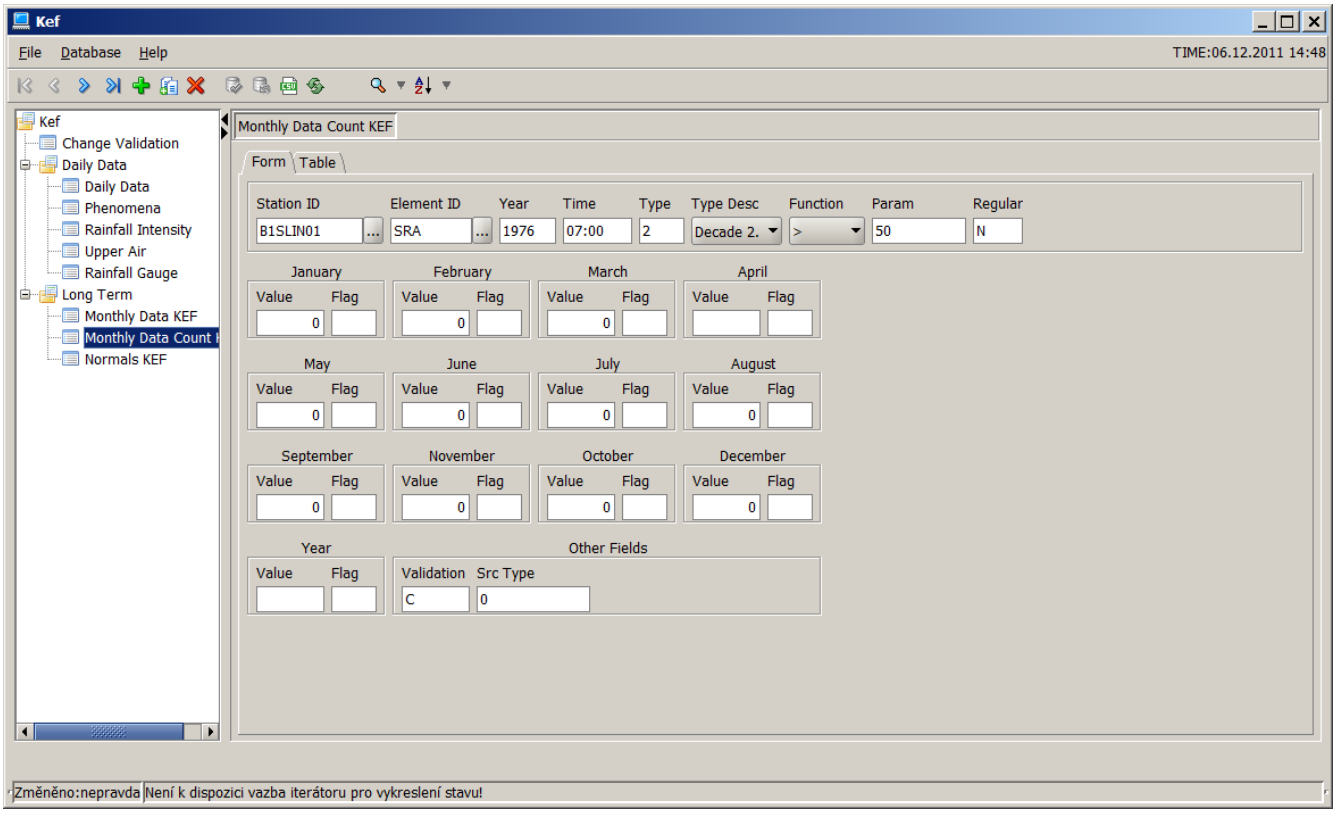
Key entry of log term precipitation data. Usually at the mountains. You enter the period of the measurement amount of precipitation and reference station. The reference station is any station measuring the precipitation each day.

7.8 Monthly data key entry



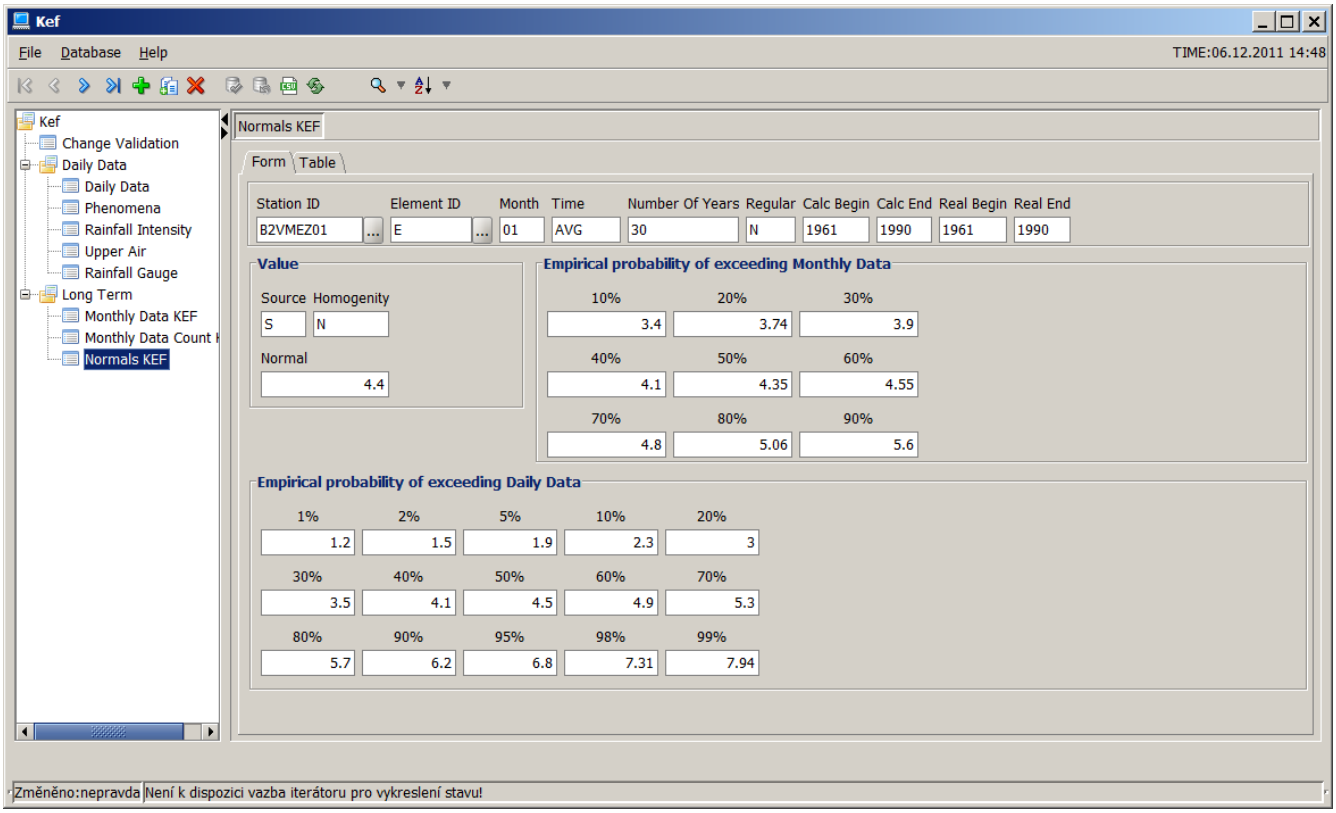
In this form the monthly data are key entered. You fill the information like in monthly data report (see monthly data report for more information)

7.9 Monthly data count key entry



In this form the count of days exceeding some condition is input. You fill the information like in monthly data count report (see monthly data count report for more information)

7.10 Normal data key entry



You enter normals. See normal data report for the meaning of the fields.

8 Products

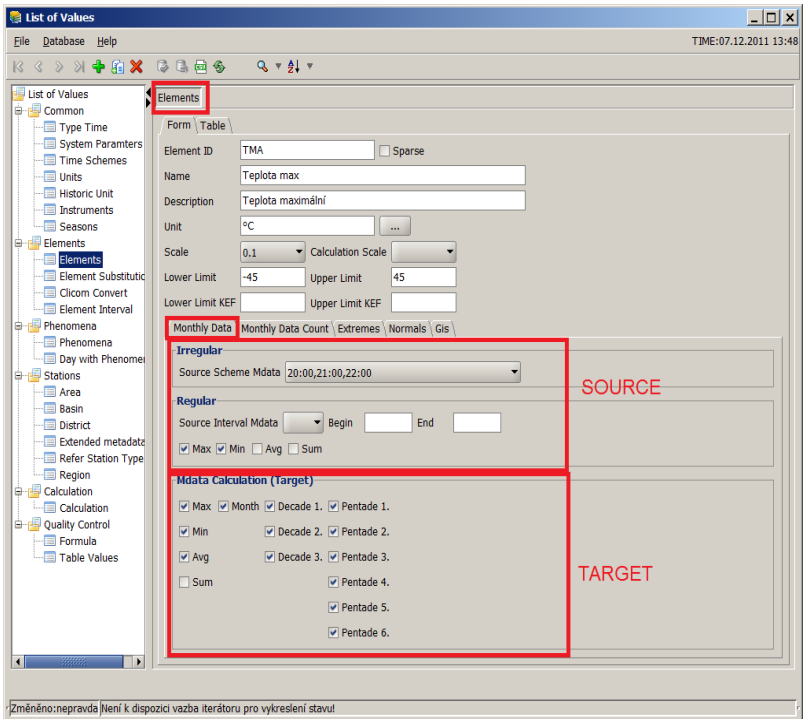
In product part the user can access derived data. He is able to view:

- Monthly data
- Monthly data count
- Extremes
- Normals
- Phenomena monthly data
- Phenomena normals
- Wind rose

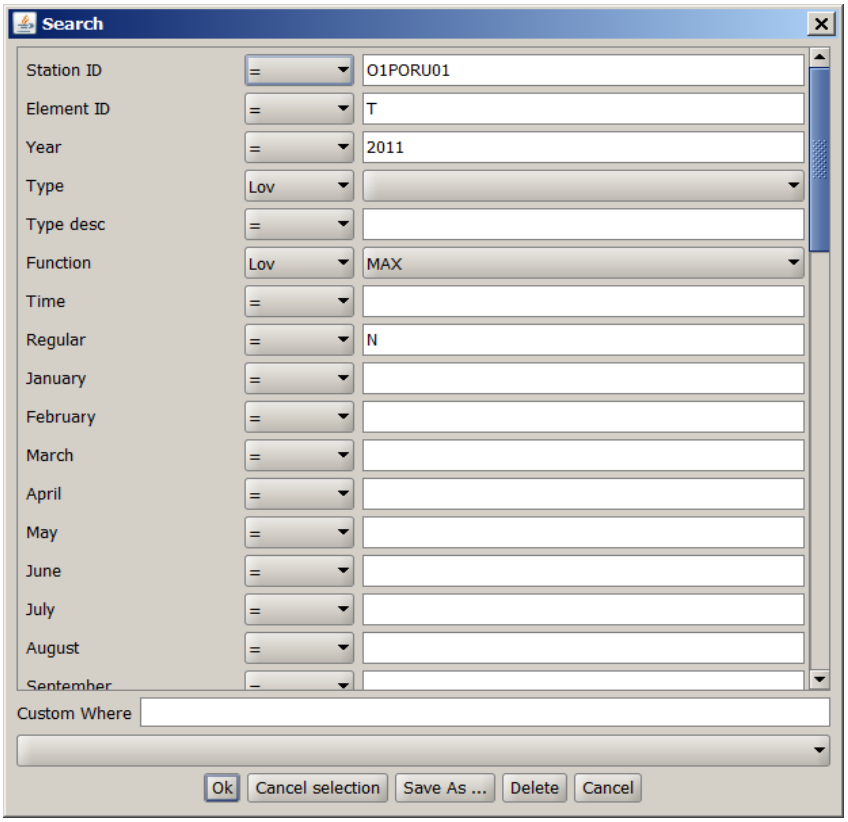
8.1 Monthly data

The display of calculated monthly data. To be able to receive the monthly data the monthly data calculation must be defined.

See the definition of monthly data calculation in **Elements** page of Metadata module for more details. In picture is an example of monthly data definition:

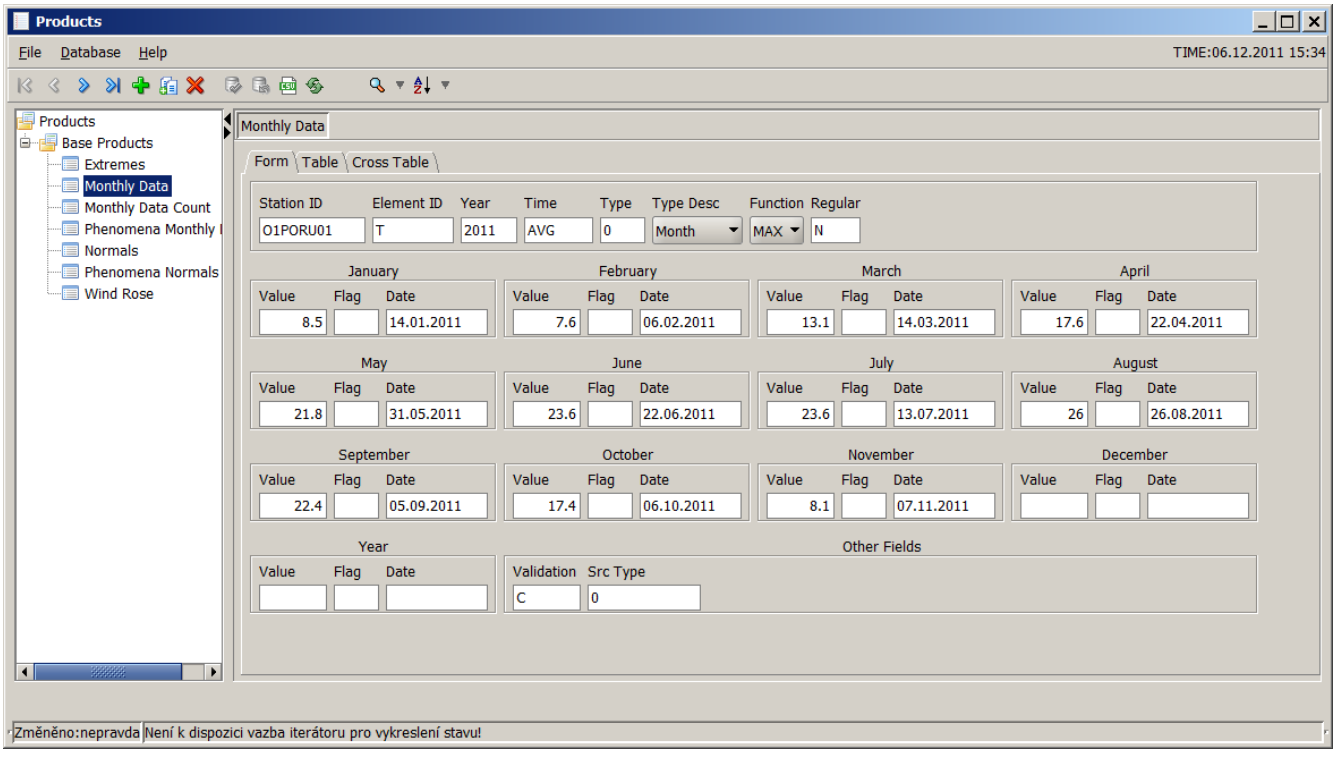


It is highly recommended to fill the search condition before displaying any data in monthly data report:



In the screen you see the example of the select condition. We require daily irregular data from station O1PORU01. We want to see only temperature (T) for the year 2011 and monthly maximum

8.1.1 Form view



In this form we see the monthly data information.

Station Id is the identifier of the station

Element Id is the id of measured element

Year is the year for which the line was obtained

Time specifies the **daily data** time of the **source**. There can be:

HH:MM source time of the daily data measurement (HH hour 00-23, MM minute 00-59)

AVG source daily data average

MAX source daily data maximum

MIN source daily data minimum

SUM source daily data summary

Type is one of 0-9 numbers. The number meaning is as follows:

0 – whole month

1 – 1st decade (1st 10-days)

2 – 2nd decade (2nd 10-days)

3 – 3rd decade (3rd 10-days)

4 – 1st pentade (1st 5-days)

5 – 2nd pentade (2nd 5-days)

6 – 3rd pentade (3rd 5-days)

7 - 4th pentade (4th 5-days)

8 - 4th pentade (4th 5-days)

9 - 4th pentade (4th 5-days)

Type description is the description of Type number field as defined in previous paragraph.

Function is monthly calculation function. It can be one of:

MAX – target monthly maximum

MIN – target monthly minimum

AVG – target monthly average

SUM – target monthly summary

Regular specifies the source time scheme resp. source table. Ti can be as follows:

N – irregular data, source data is stored in RDATA_N table

Y – regular data, source data is stored in RDATA_R table

January -December is result monthly data individually displayed for each month

Year is whole year characteristic

For each result there is 3 fields:

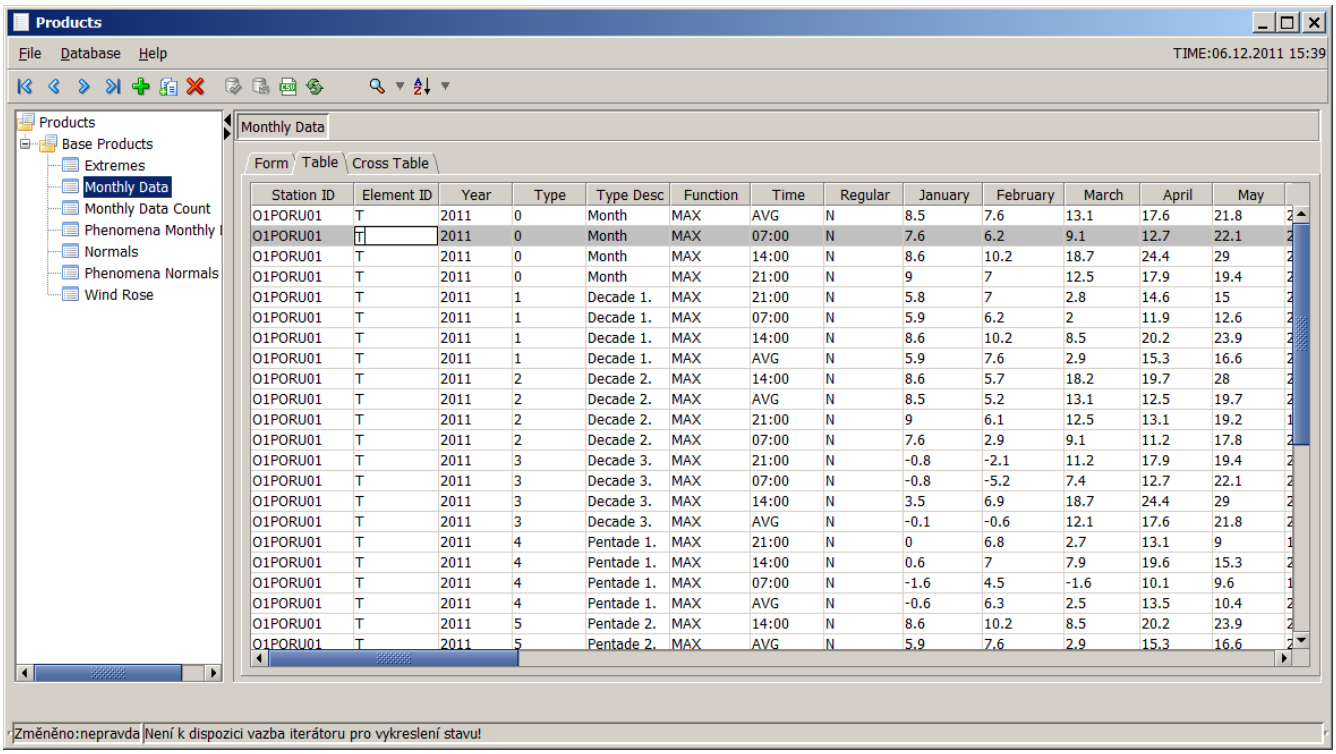
Value – value of monthly characteristic. In the picture you can see monthly information for irregular data from station O1PORU01. The temperature (T) element is displayed for the year 2011 and monthly maximum of daily average is 8.5 in January. In whole year there is not value

yet.

Flag – flag for the value. The flag can be * meaning that the maximum or minimum occurred more than once and I meaning that the daily data source is interrupted (not complete)

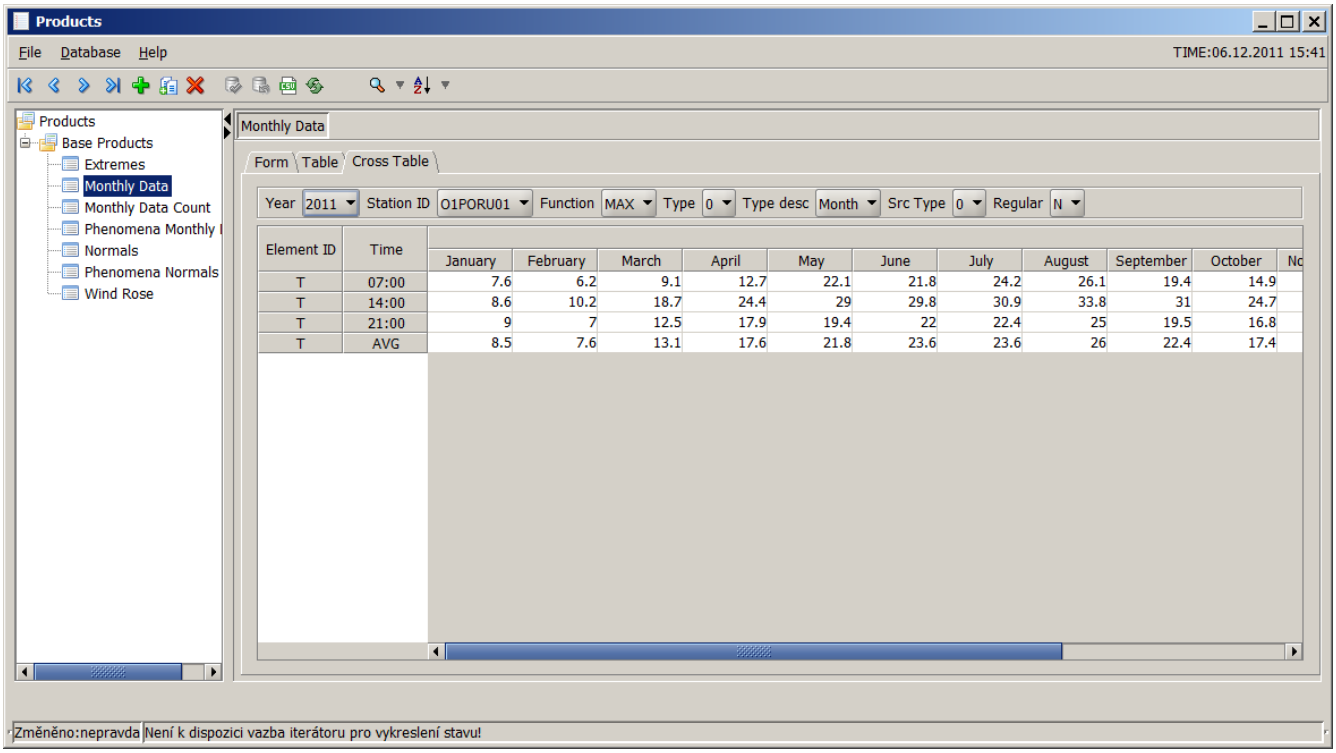
Date - is the data of the maximum or the minimum value

8.1.2 Table view

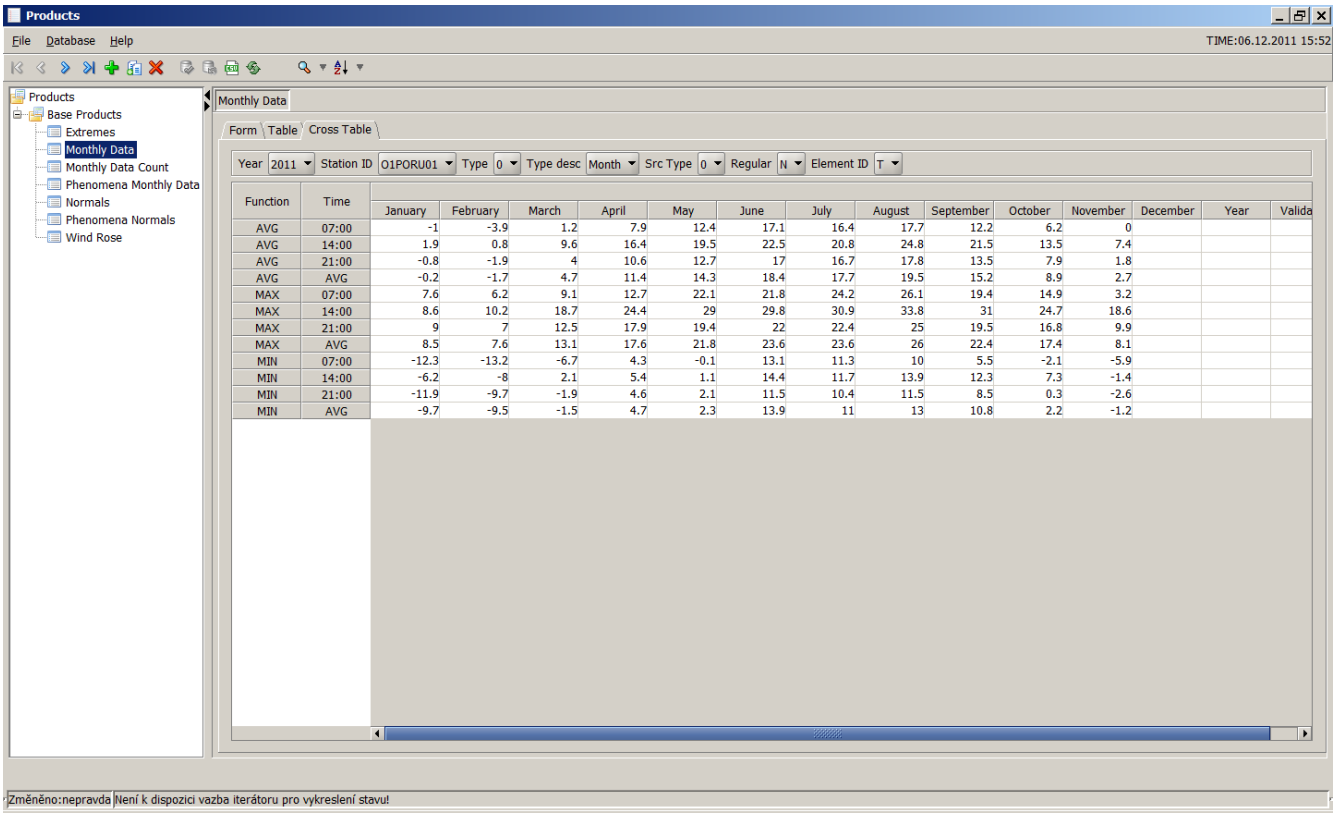


In table view you can see all records satisfying the select criteria. You see that for the criteria specified above many records are selected. Navigate to any of these records and switch to form view for details.

8.1.3 Cross table

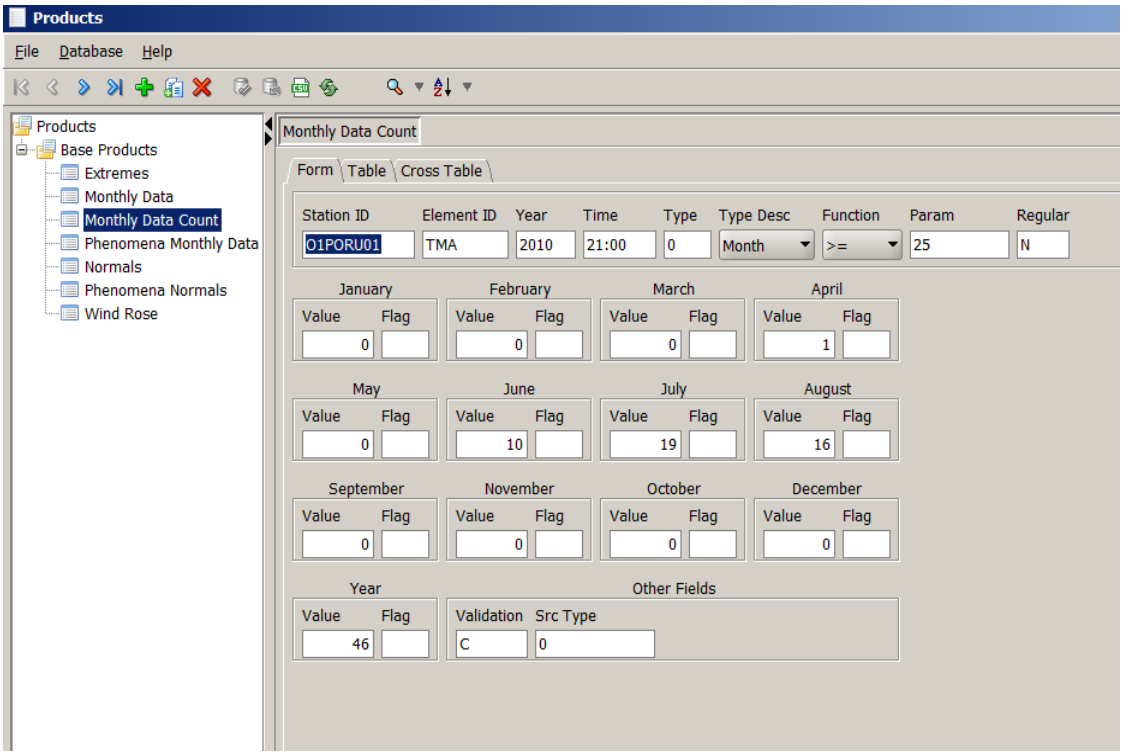


This displays the same records like in table view but you can use the filters at the top.Also you can use drag and drop functions to manipulate the view to display the desired information in other form. Eg if we move the Element ID into top and Function to the left we obtain the following view:

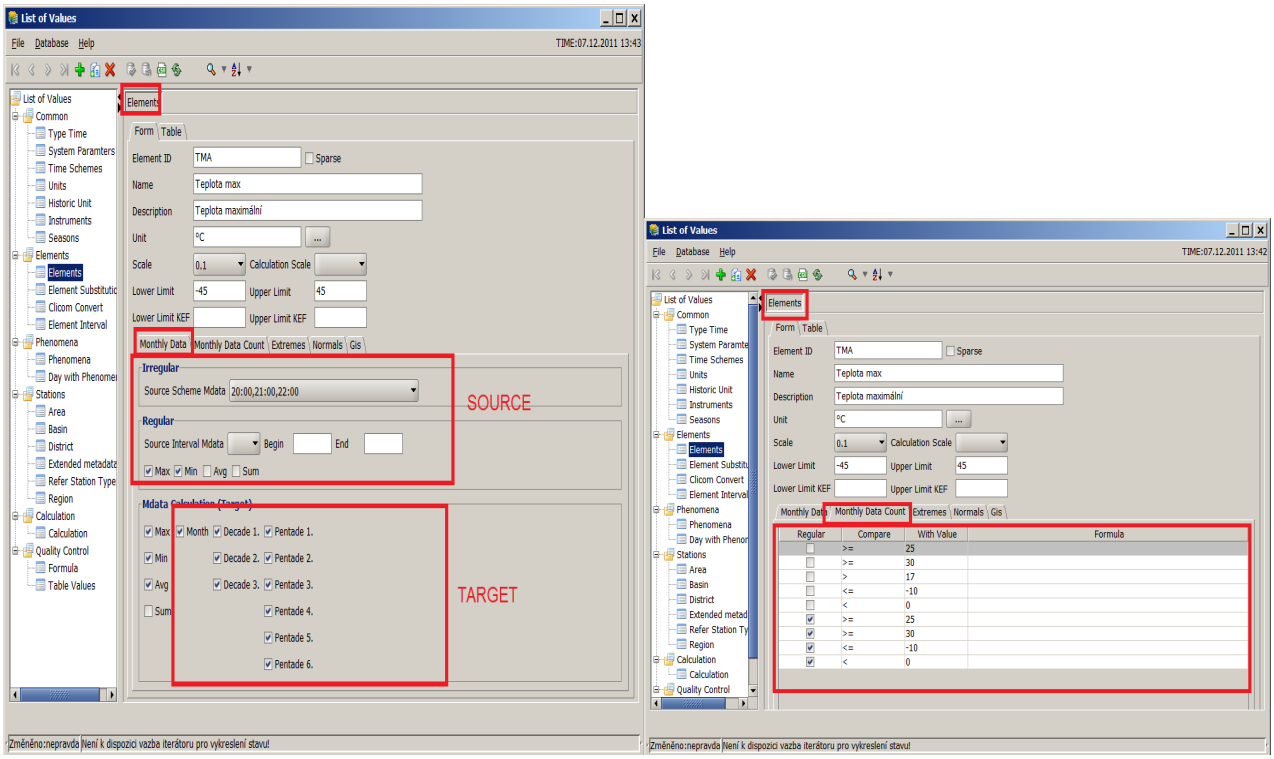


Selecting any value in cross table and pressing  button we navigate to record in underlying table/form view.

8.2 Monthly Data Count



This displays the information on number of days satisfying predefined condition. The condition is defined in Elements panel in Metadata module (See the definition of Elements Count for more details). In picture is an example of definition



The meaning of the fields:

Station Id is the identifier of the station

Element Id is the id of measured element

Year is the year for which the line was obtained

Time specifies the **daily data** time of the **source**. There can be:

HH:MM source time of the daily data measurement (HH hour 00-23, MM minute 00-59)

AVG source daily data average

MAX source daily data maximum

MIN source daily data minimum

SUM source daily data summary

Type is one of 0-9 numbers. The number meaning is as follows:

0 – whole month

1 – 1st decade (1st 10-days)

2 – 2nd decade (2nd 10-days)

3 – 3rd decade (3rd 10-days)

4 – 1st pentade (1st 5-days)

5 – 2nd pentade (2nd 5-days)

6 – 3rd pentade (3rd 5-days)

7 - 4th pentade (4th 5-days)

8 - 4th pentade (4th 5-days)

9 - 4th pentade (4th 5-days)

Type description is the description of Type number field as defined in previous paragraph.

Function, Param is daily data condition for comparison. It can be one of:

> value in month is grater than **Param**

>= value in month is grater or equal to **Param**

<= value in month is less or equal lo **Param**

< value in month is less than **Param**

Regular specifies the source time scheme resp. source table. Ti can be as follows:

N – irregular data, source data is stored in RDATA_N table

Y – regular data, source data is stored in RDATA_R table

January -December is result monthly data individually displayed for each month. The picture above displays the result where for station O1PORU01 and element TMA (temperature maximum) there were 19 days in July where temperature maximum is grater or equal to 25 degrees. The data are taken from irregular measurement.

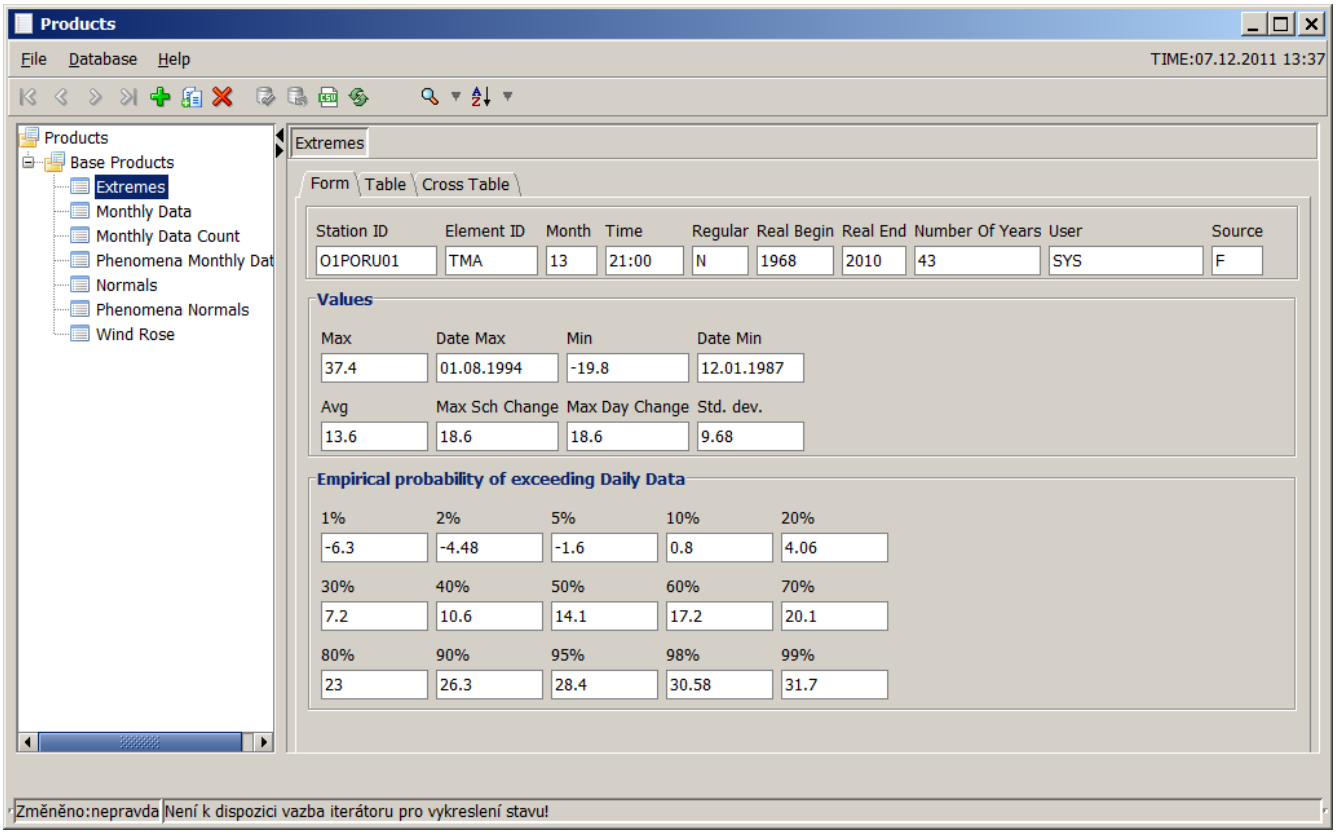
Year is whole year characteristic

For each result there is 3 fields:

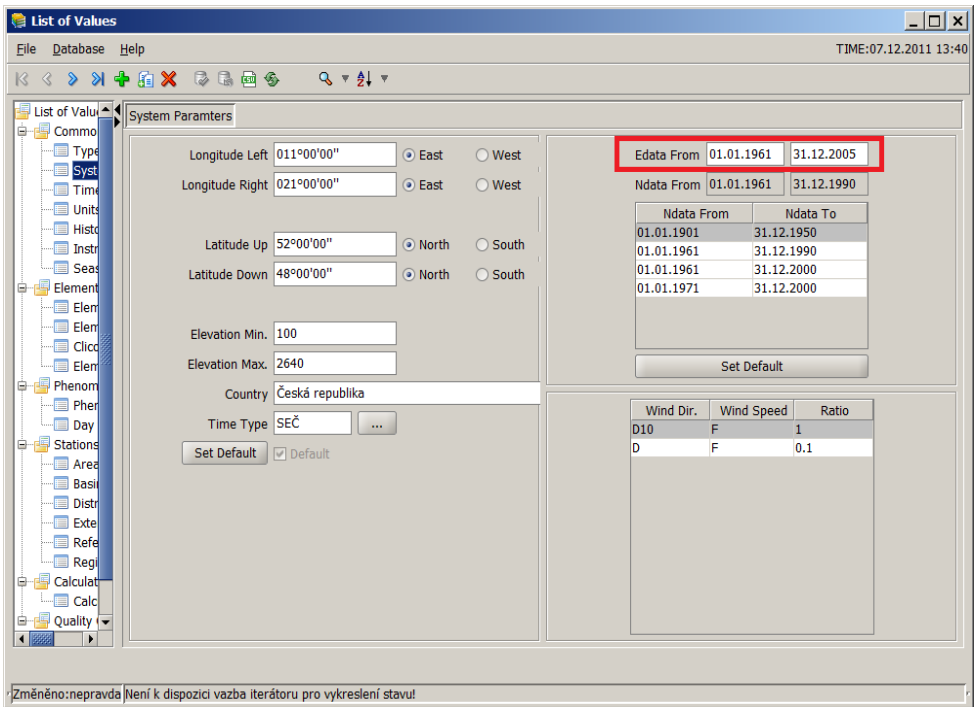
Value – value of number of days satisfying the condition.

Flag – flag for the value. The flag can be I meaning that the daily data source is interrupted (not complete)

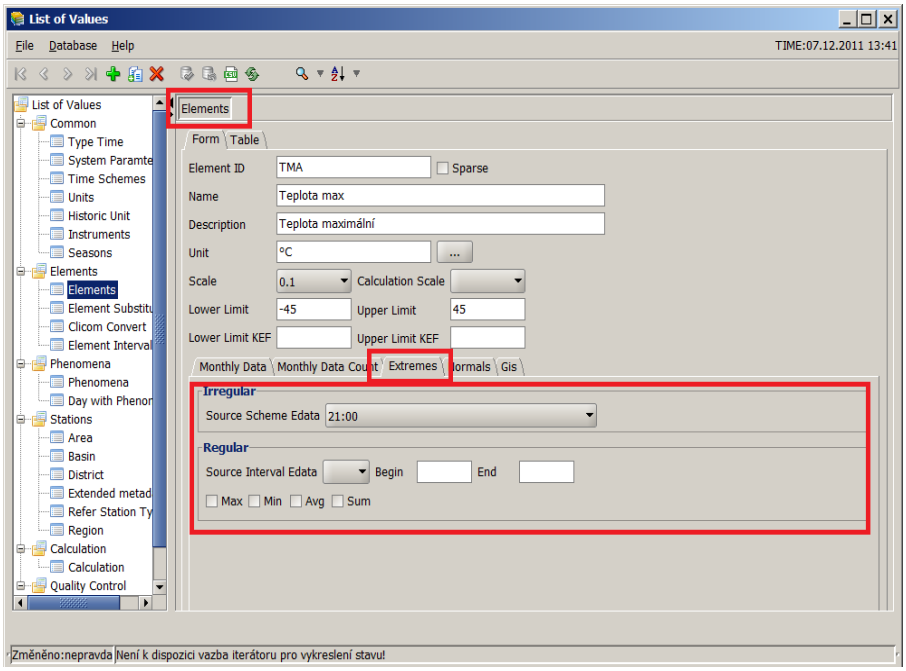
8.3 Extremes



This forms shows the report on extreme values. The extreme values are calculated according the definition of period in **System parameters** in metadata (See system parameters for more details).



and according the definition of source data in **Elements** in metadata(see elements definition for more details):



The extremes are calculated for the period specified in system parameters and for all data in the database. This two calculations are distinguished in **Source** column.

Meaning of the fields:

Station Id is the identifier of the station

Element Id is the id of measured element

Month is the the month order from 01 to 12. **The value of 13 is for the year!**

Time specifies the **daily data** time of the **source**. There can be:

HH:MM source time of the daily data measurement (HH hour 00-23, MM minute 00-59)

AVG source daily data average

MAX source daily data maximum

MIN source daily data minimum

SUM source daily data summary

Regular specifies the source time scheme resp. source table. Ti can be as follows:

N – irregular data, source data is stored in RDATA_N table

Y – regular data, source data is stored in RDATA_R table

Real Begin and End is the period with data in database. This period can be shorter than period specified in system parameters.

Number of Years is the real count of years used for the calculation

User is the username of the user responsible for the calculation. If the calculations is caried out by system the SYS user is displayed.

Source is one of the following:

S .. data calculated for standard period defined in system parameters

F .. data calculated for all data present in database

T .. temporary data not calculated by system automatically but by the user

Max, Date Max, Min Date Min, Avg are the characteristics for the long term period. In dates there is a data of maximum or minimum.

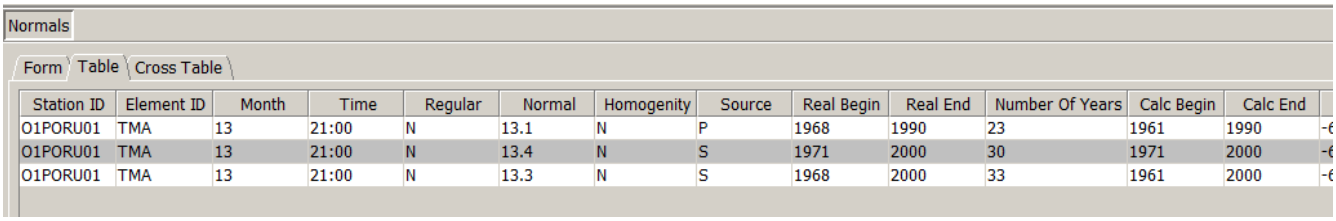
Max Sch change – is maximal change of the value between two consecutive times

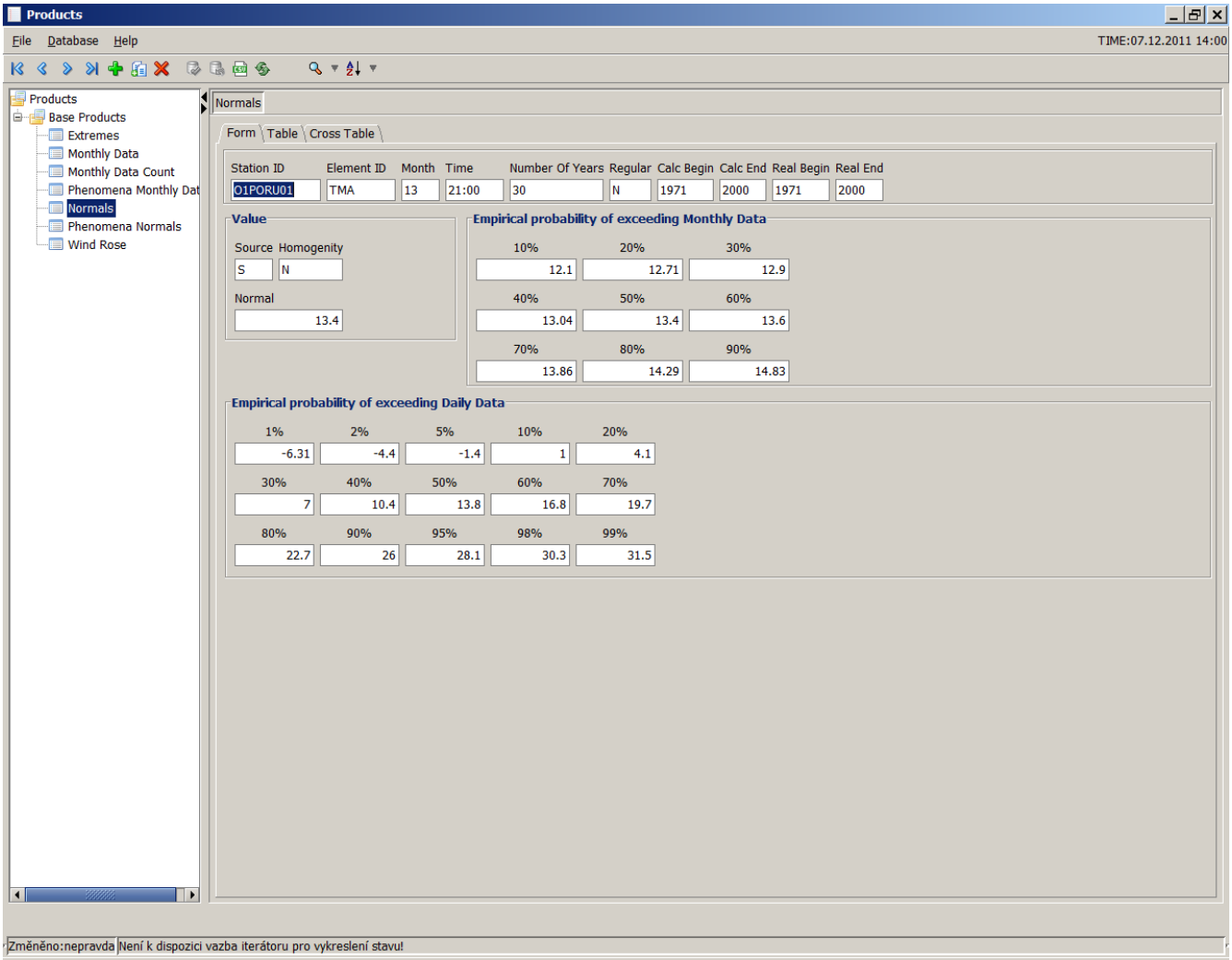
Max day change – is maximal change of the value between two consecutive days in the same time

Std. Dev is standard deviation for the data.

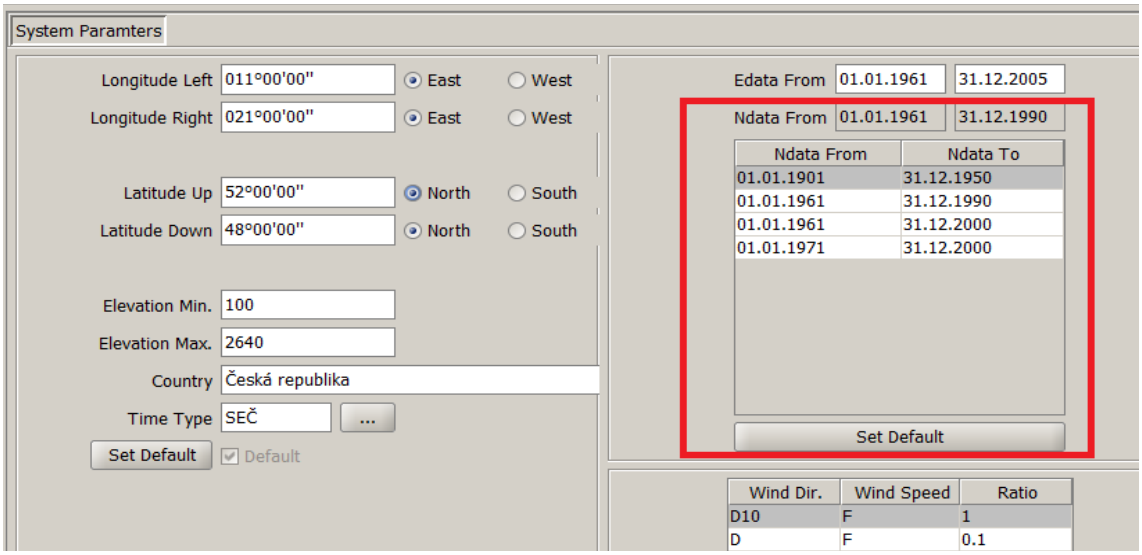
Empirical probabilities are percentile values read from the probability distribution chart

8.4 Normals





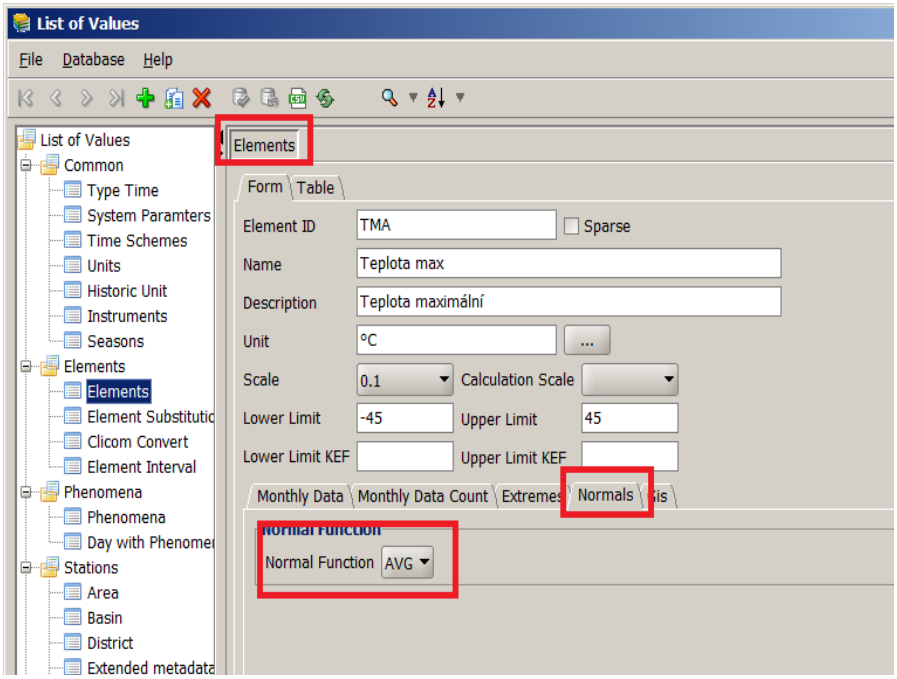
The normals are calculated for the several periods specified in system parameters:



One of these periods is specified as default period.

In the picture above with results you can see the values calculated for 3 different periods.

The normals are calculated from monthly averages or summaries. The definition is in Elements in metadata module:



The fields in report are as follows:

Station Id is the identifier of the station

Element Id is the id of measured element

Month is the the month order from 01 to 12. **The value of 13 is for the year!**

Time specifies the **daily data** time of the **source**. There can be:

HH:MM source time of the daily data measurement (HH hour 00-23, MM minute 00-59)

AVG source daily data average

MAX source daily data maximum

MIN source daily data minimum

SUM source daily data summary

Regular specifies the source time scheme resp. source table. Ti can be as follows:

N – irregular data, source data is stored in RDATA_N table

Y – regular data, source data is stored in RDATA_R table

Real Begin and End is the period with data in database. This period can be shorter than period specified in system parameters.

Calc Begin and End is the period definition in system parameters.

Number of Years is the real count of years used for the calculation

Source is one of the following:

S .. standard normal. There is at least 25 years in data

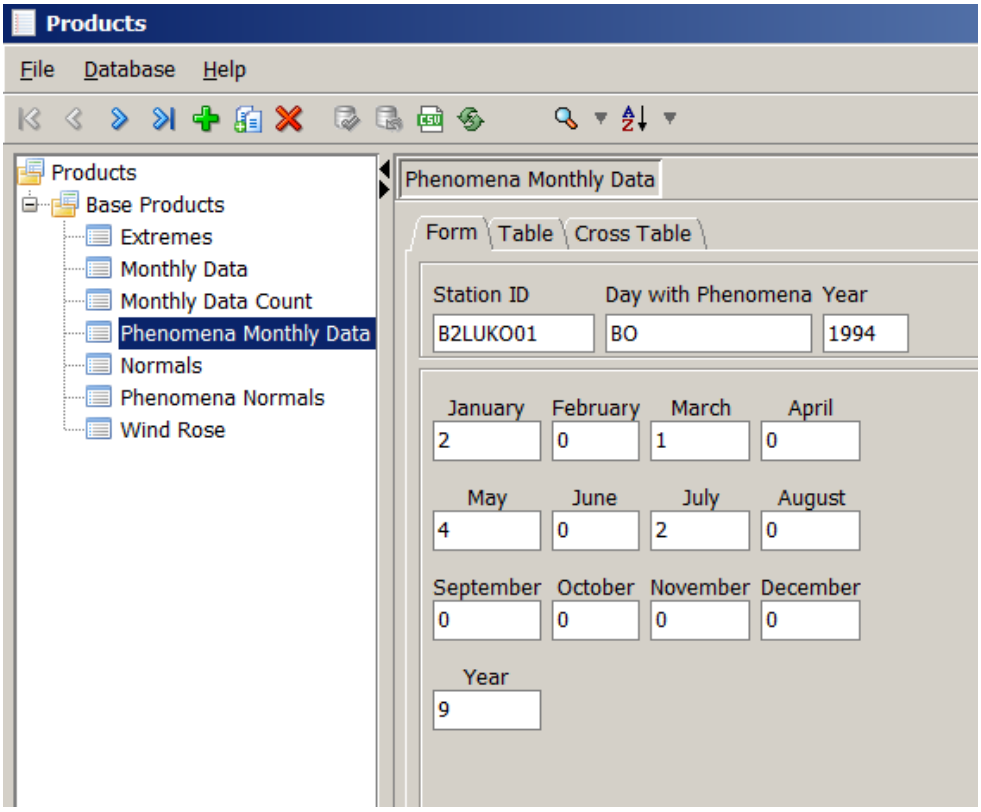
P .. interim normal for at least 10 years of data

Value is the value of normal

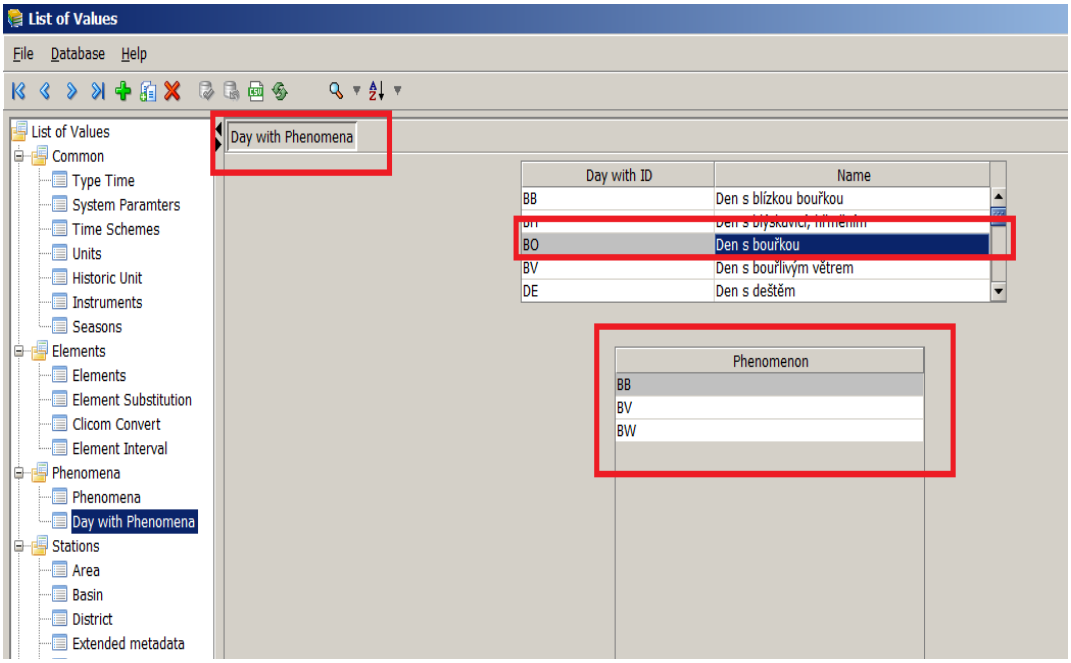
Homogenity can be either N or H. The values calculated by system receives the N flag always. Manually you can enter normals with H flag.

Empirical probabilities are percentile values read from the probability distribution chart. There are two groups. The Rdata group are values taken from daily data distribution and Mdata is from monthly data distribution.

8.5 Phenomena monthly data

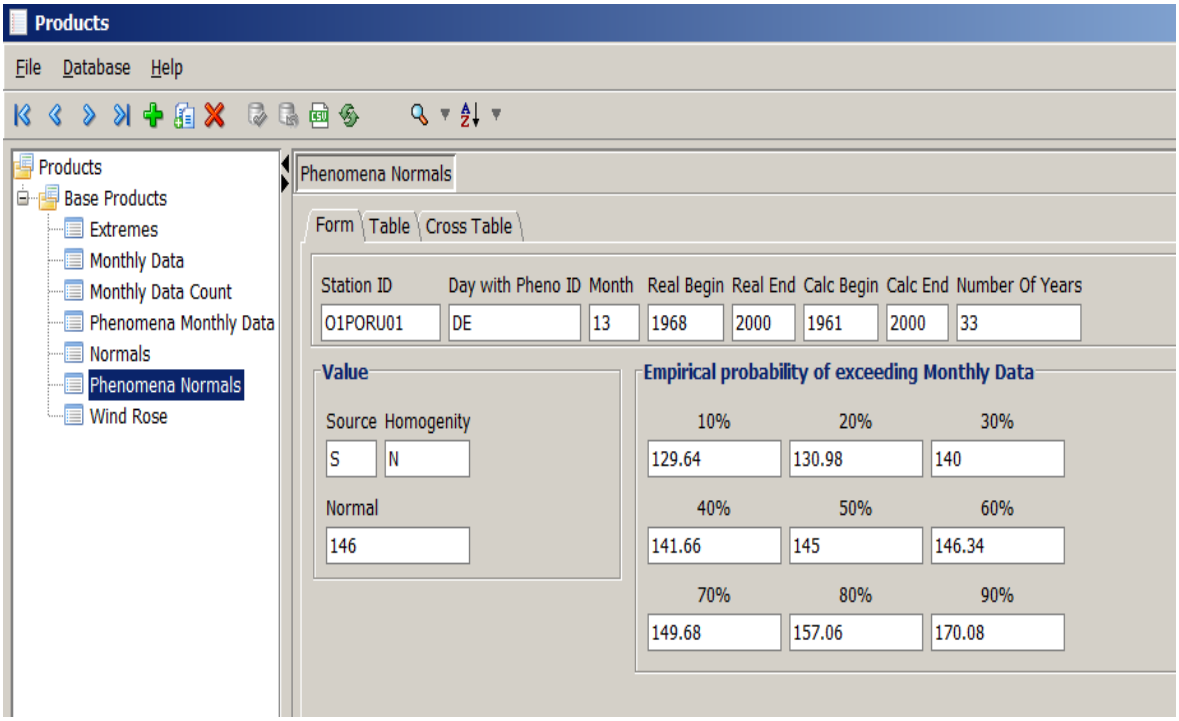


This report shows the number of days in month with some phenomena occurrence. To be able to receive this value the day with phenomena must be defined in metadata. In the picture you can see some definition for day with storm:



In result report you can see that there were 2 storms in january1994 in station B2LUKO01.

8.6 Phenomena Normals



The value of normals of phenomenon occurrence. The periods are the same like in normals of daily data definition. The phenomena normals are calculate from phenomena monthly data.

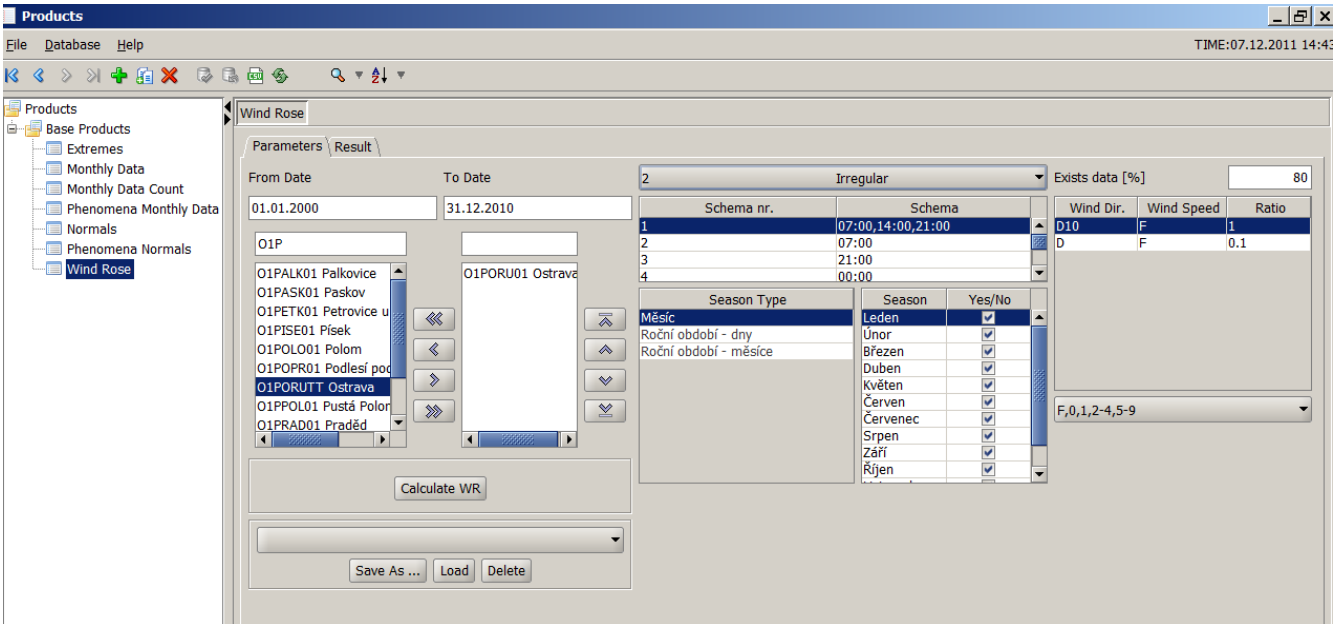
In the result you can see that there is 146 days with rain for whole year in station O1PORU01.

8.7 Wind rose

This part of the application is used for the calculation of wind rose charts.

8.7.1 Parameters of wind rose

First you must define the parameters in the first tab:



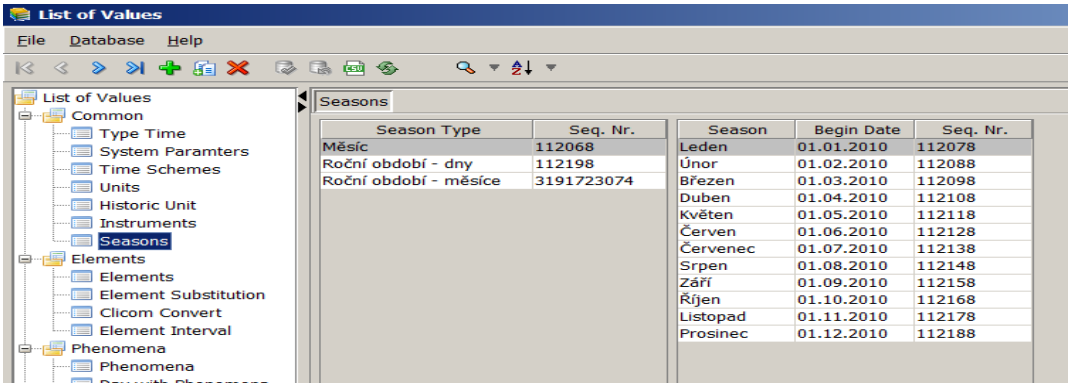
The parameters are as follows and all parameters must be set correctly according your data in database.

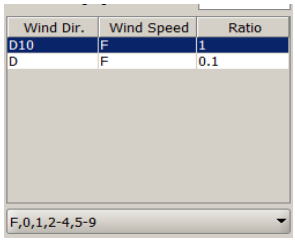
From and to Dates – specifies the period of the calculation. The data must present for this perios

Scheme – choose irregular scheme for the data from RDATA_N table or regular scheme for data from RDATA_R table. After that choose the correct **time(s) or interval** from the list below.

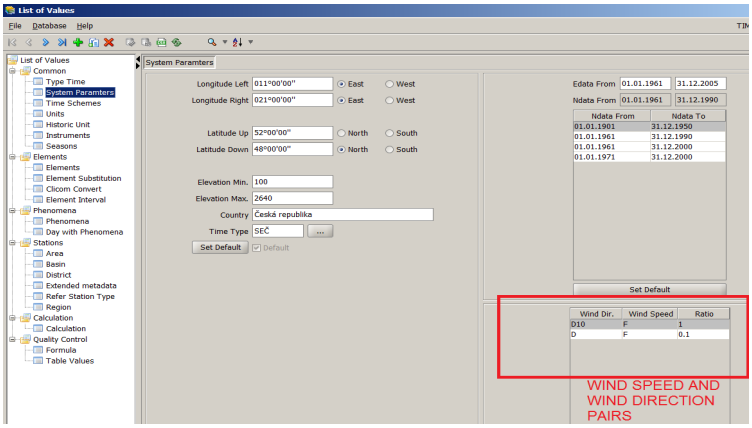
Station(s) select one or more stations for the calculation. The blank fields above the list of available stations is as filter. You can put into the filter part of the Station Id and press enter. It will filter the Station ids. Use  buttons for selection the station.

The year is divided into seasons. The seasons are defined in Metadata like in the following picture:



Finally set the pair of Wind speed and Wind direction element. 

The pairs are defined in system parameters:

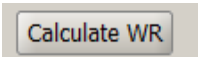


The ratio is:

1 for wind direction 1-36

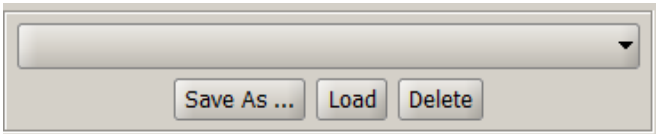
0.1 for wind direction 1-360

1.125 for wind direction 1-32

After you are finished with the definition of all parameters press 

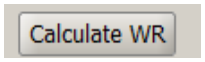
button. This will calculate the wind rose.

The configuration can be saved by the following block:



Use **save as** button for saving the configuration. **Load** loads saved configuration selected from the list and **Delete** deletes saved configuration selected in the list.

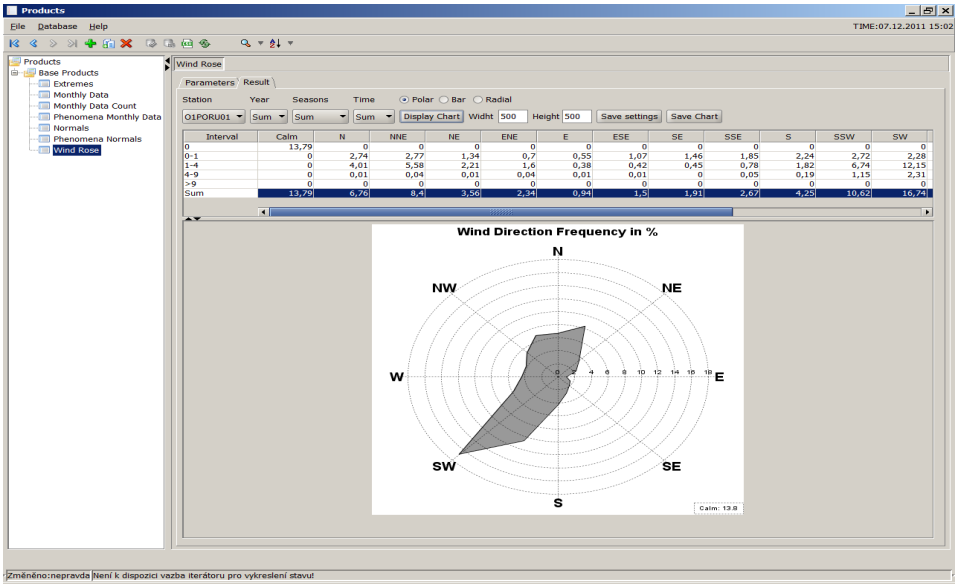
8.7.2 Displaying the wind rose chart

After you press 

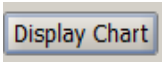
button you can see in the 

the percentage of data present in selected period.

Switch into Result tab



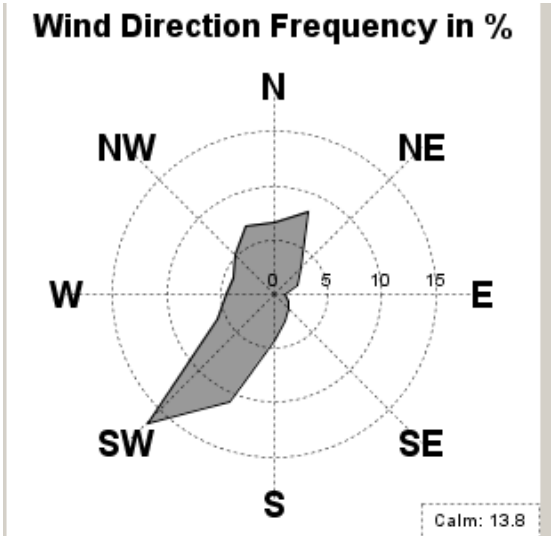
You can filter the results by station/year/Seasons/times. If the lists show sum it means that all stations or seasons or years or times are selected.

By pressing 

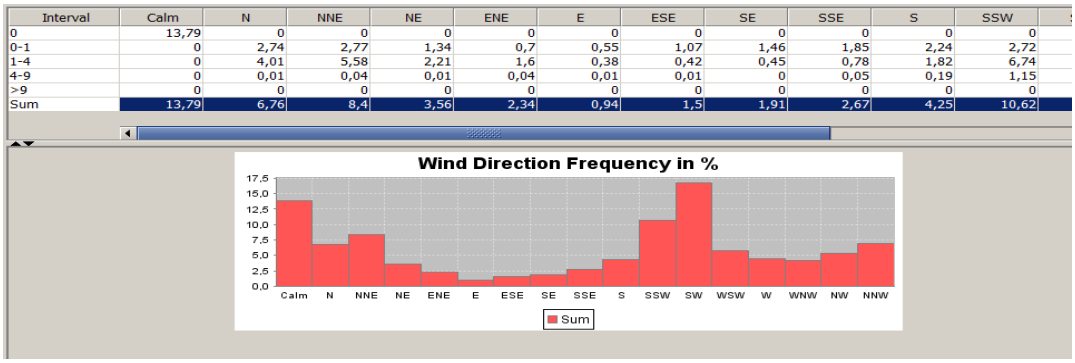
button the chart is drawn to the screen. The size of the chart is specified in **Width** and **Height** fields.

You can select from 3 types of charts:

Polar – only 1 line for calculation can be selected from the list of lines in table below.

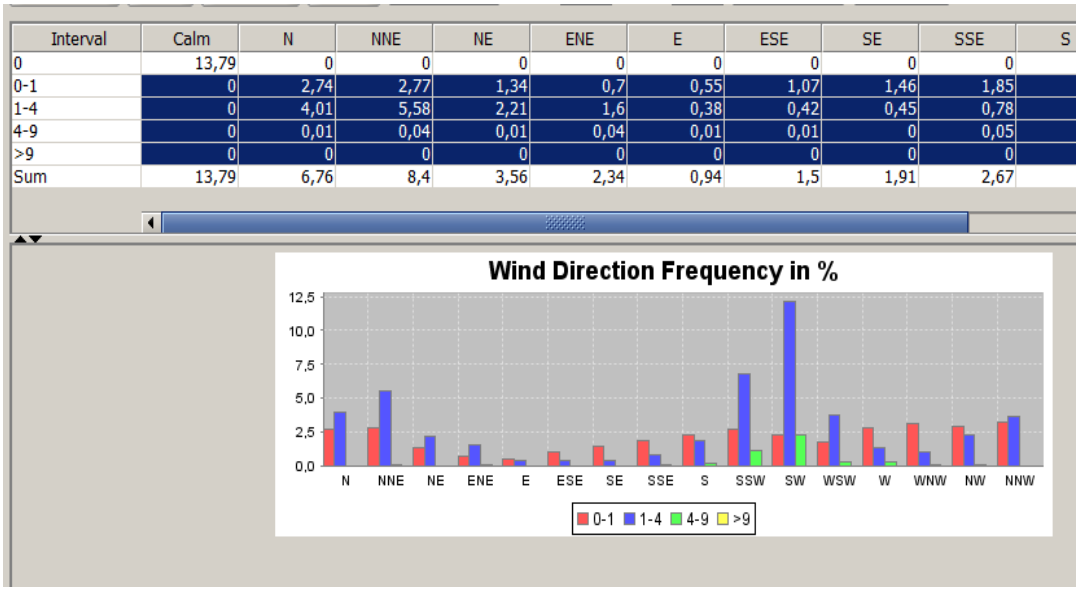


Bar – single line selection:



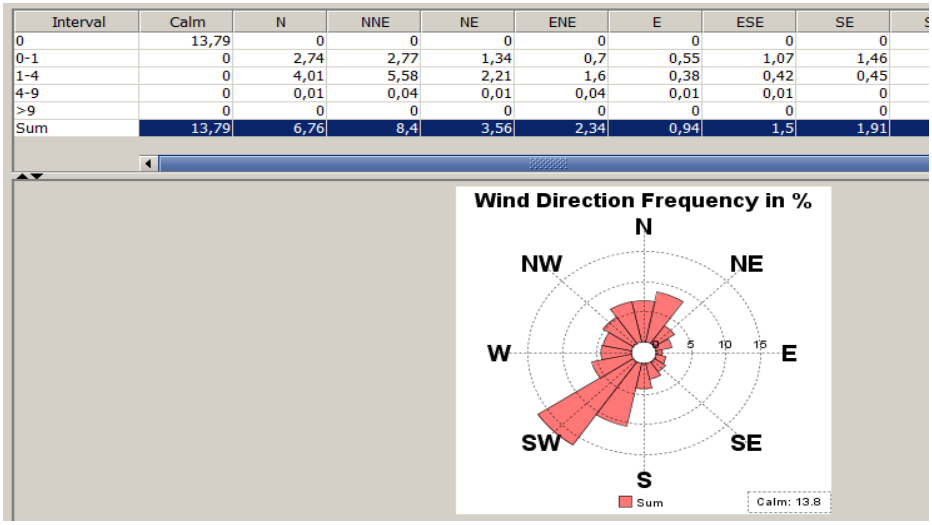
Interval	Calm	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW
0	13,79	0	0	0	0	0	0	0	0	0	0
0-1	0	2,74	2,77	1,34	0,7	0,55	1,07	1,46	1,85	2,24	2,72
1-4	0	4,01	5,58	2,21	1,6	0,38	0,42	0,45	0,78	1,82	6,74
4-9	0	0,01	0,04	0,01	0,04	0,01	0,01	0	0,05	0,19	1,15
>9	0	0	0	0	0	0	0	0	0	0	0
Sum	13,79	6,76	8,4	3,56	2,34	0,94	1,5	1,91	2,67	4,25	10,62

Bar – multi line selection



Interval	Calm	N	NNE	NE	ENE	E	ESE	SE	SSE	S
0	13,79	0	0	0	0	0	0	0	0	
0-1	0	2,74	2,77	1,34	0,7	0,55	1,07	1,46	1,85	
1-4	0	4,01	5,58	2,21	1,6	0,38	0,42	0,45	0,78	
4-9	0	0,01	0,04	0,01	0,04	0,01	0,01	0	0,05	
>9	0	0	0	0	0	0	0	0	0	
Sum	13,79	6,76	8,4	3,56	2,34	0,94	1,5	1,91	2,67	

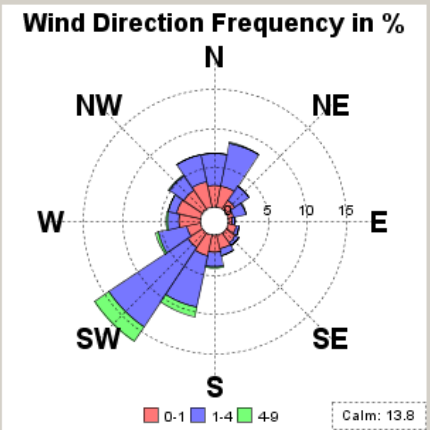
Radial – single line selection



Interval	Calm	N	NNE	NE	ENE	E	ESE	SE	S
0	13,79	0	0	0	0	0	0	0	
0-1	0	2,74	2,77	1,34	0,7	0,55	1,07	1,46	
1-4	0	4,01	5,58	2,21	1,6	0,38	0,42	0,45	
4-9	0	0,01	0,04	0,01	0,04	0,01	0,01	0	
>9	0	0	0	0	0	0	0	0	
Sum	13,79	6,76	8,4	3,56	2,34	0,94	1,5	1,91	

Radial – multi line selection

Interval	Calm	N	NNE	NE	ENE	E	ESE	SE
0	13,79	0	0	0	0	0	0	0
0-1	0	2,74	2,77	1,34	0,7	0,55	1,07	1,46
1-4	0	4,01	5,58	2,21	1,6	0,38	0,42	0,45
4-9	0	0,01	0,04	0,01	0,04	0,01	0,01	0
>9	0	0	0	0	0	0	0	0
Sum	13,79	6,76	8,4	3,56	2,34	0,94	1,5	1,91

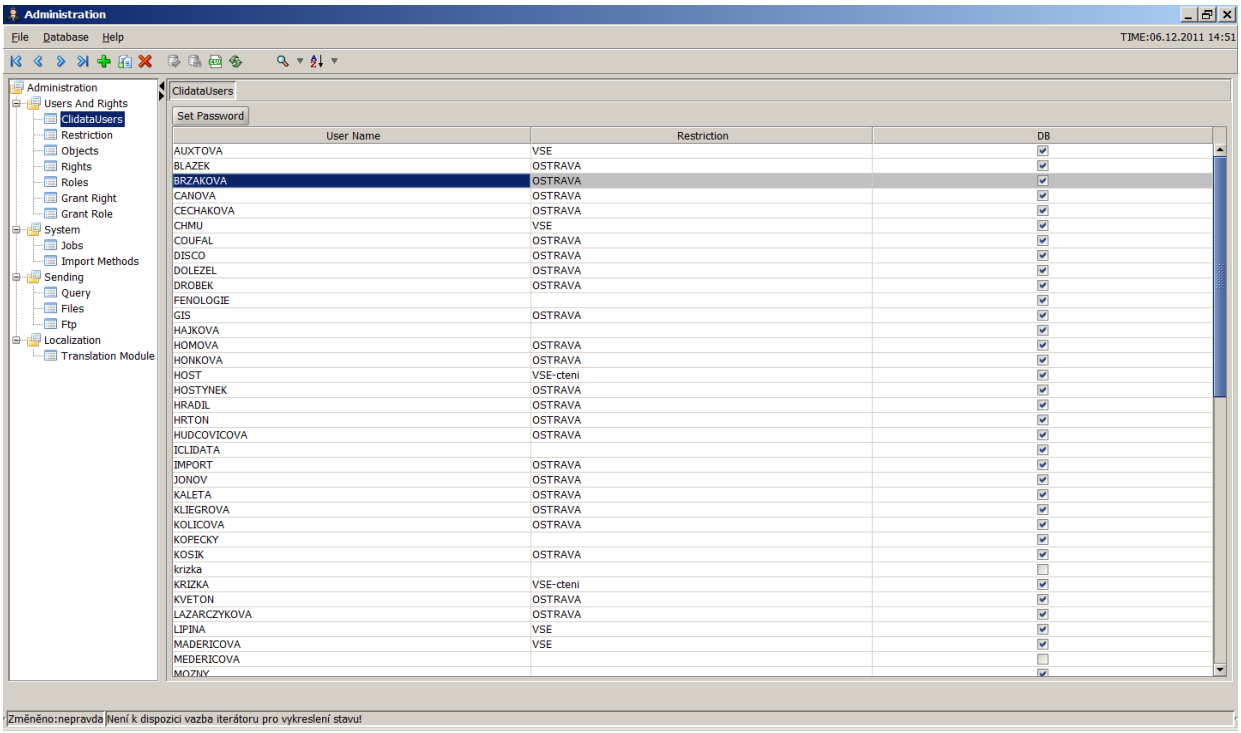


You can save the chart into file by pressing **Save chart** button. By changing the extension you can save the chart in different file format (JPG,GIF,BMP,SVG,PDF,PNG,TIF)

9 Administration

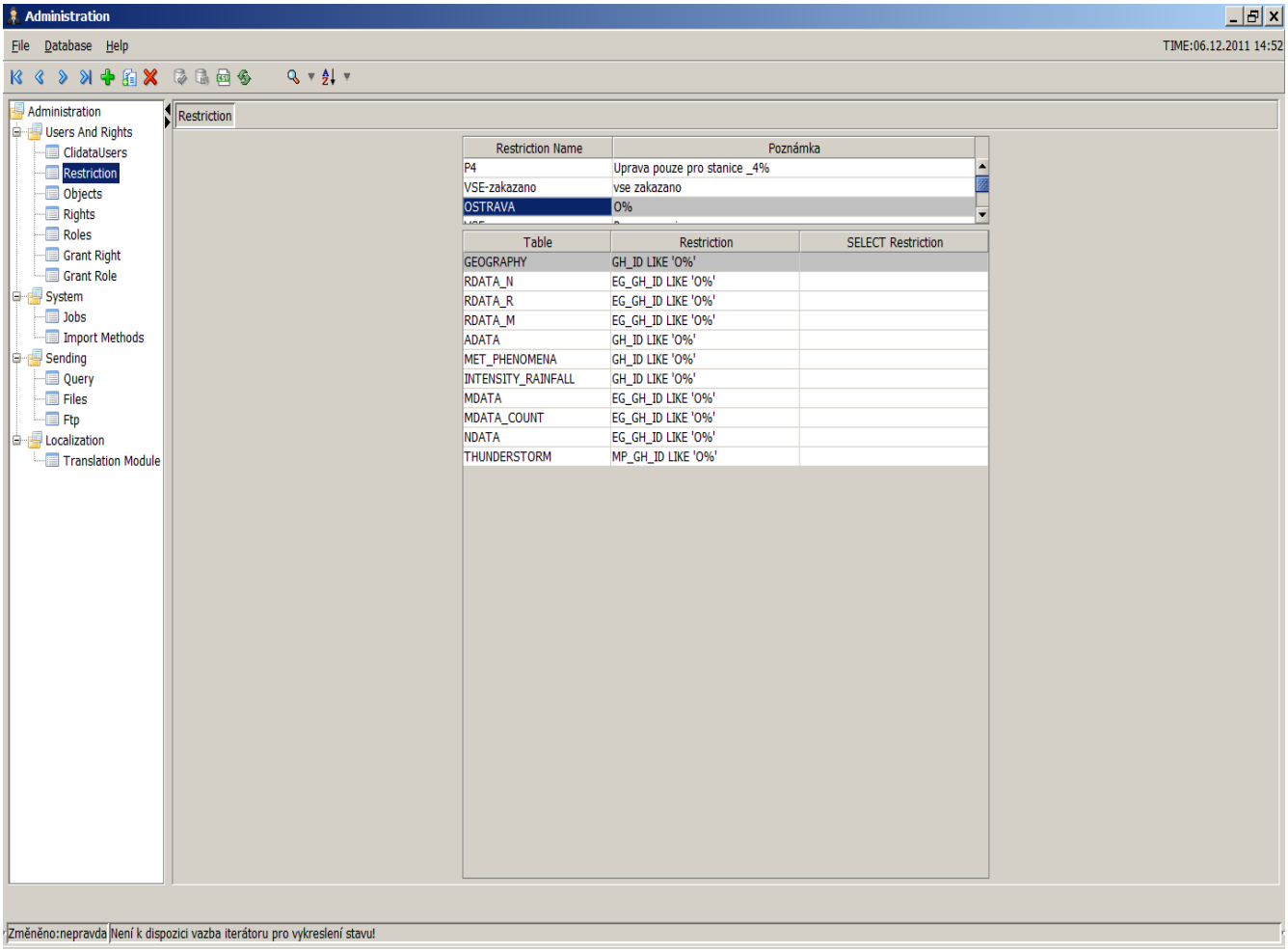
Module for the application administration

9.1 Users



Enter new user in this form. Fill for each user the password and set the restriction of the data from predefined list of restrictions.

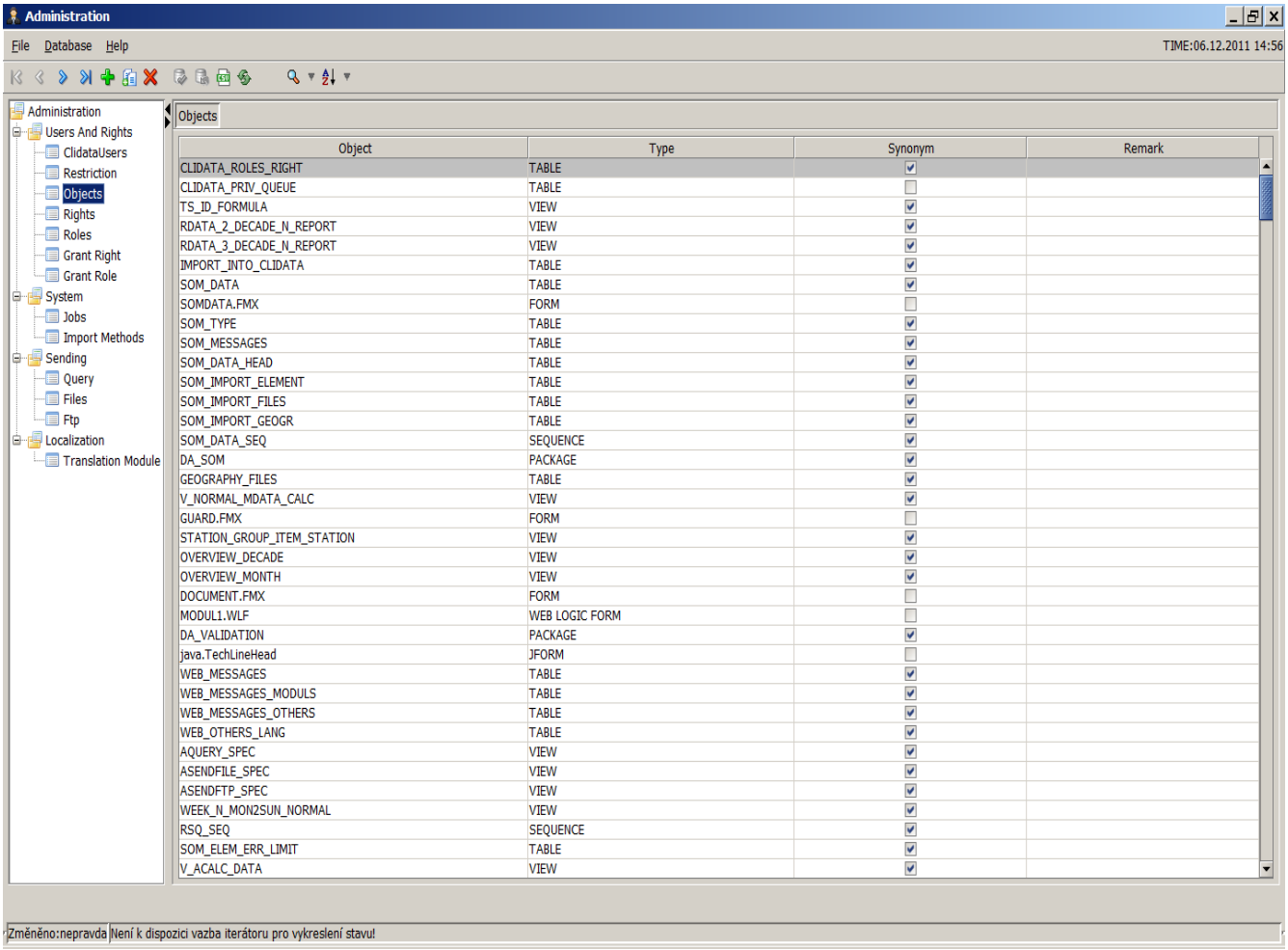
9.2 Restrictions



This form is for the definition of restrictions for the data manipulation. Each user can be assigned with one restriction definition. One restriction consists of table definitions with a condition for select and update. The condition is used as in the SQL where clause for the selection from the underlying table.

In the picture there is a restriction **Ostrava** which restricts all user to be able to modify only tables where the Station id begins with O. The user has no any restriction for select therefore user is able to select all data.

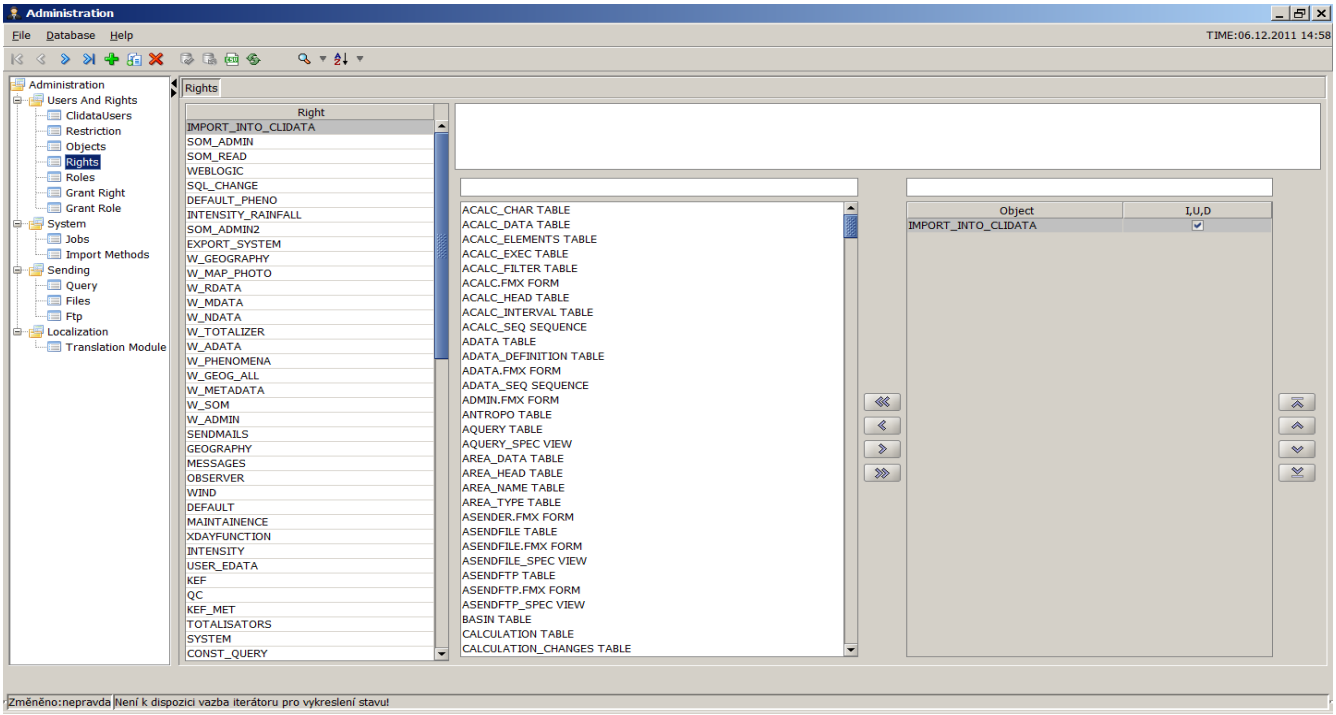
9.3 Objects



In this form there is list of all database objects to which the user can get access. The synonym means that the object is visible to all users or not. Also type specifies the type of the object.

Pleas do not change this definition. It is reserved to change only by developers of the system.

9.4 Rights



This form defines all individual rights in the system. The rights are assigned to users.

We focus to the following rights:

Right to access Clidata application

Right	Description
DEFAULT	All users needs this right to be able to work with Clidata

Right to access modules of Java Clidata application

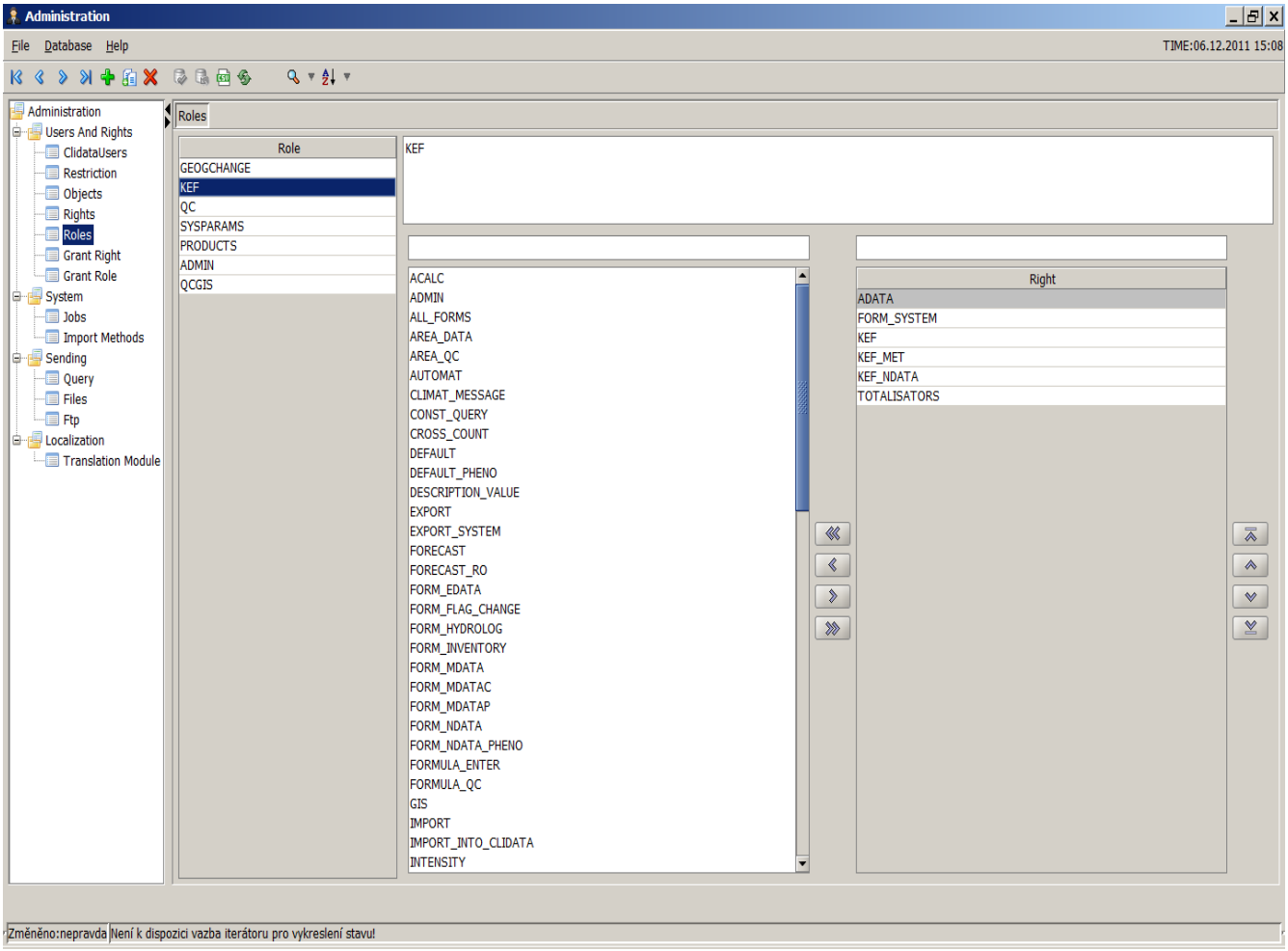
Right	Description
JF_ALL	Access to whole modules of the system
JF_ADMIN	Access to administration part of the system
JF_KEF	Access to key entry forms
JF_LOV	Access to metadata
JF_PRODUCTS	Access to products
JF_SOM	Access to run-off model
JF_STATION	Access to station definitions

Rights to modify data

Right	Description
W_ADATA	User can write to Upper air data
W_ADMIN	User can modify data in administration part
W_GEOG_ALL	User can modify all geography information

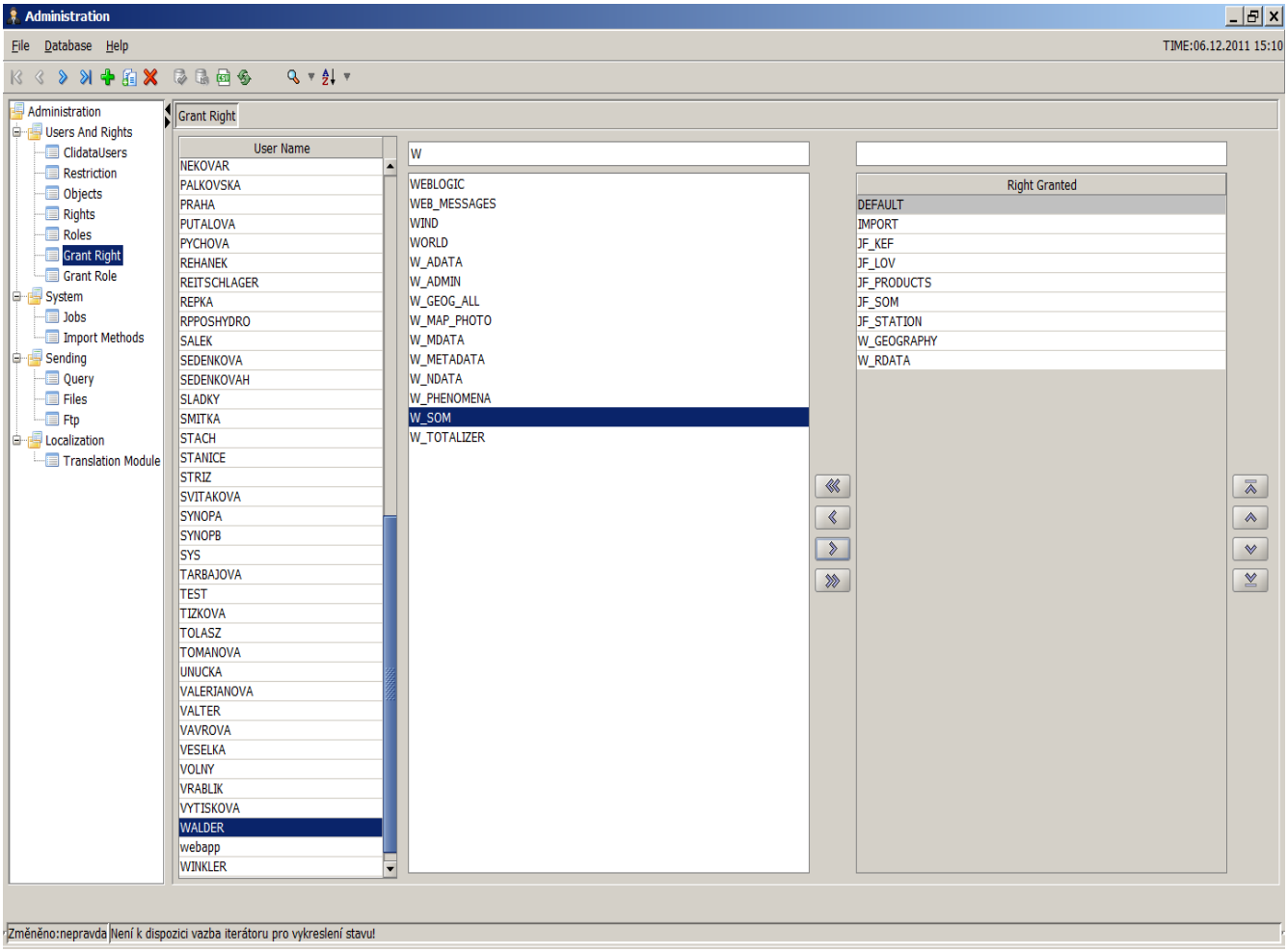
W_GEOGRAPHY	User can modify only station and observation information
W_MAP_PHOTO	User can add maps and photos
W_MDATA	User can write monthly data
W_METADATA	User can modify metadata information
W_NDATA	User can modify normal information
W_PHENOMENA	User can enter meteorological phenomena
W_RDATA	User can modify daily data
W_SOM	User can modify run-off model preparation
W_TOTALIZER	User can modify rainfall gauge (totalizator) data

9.5 Roles



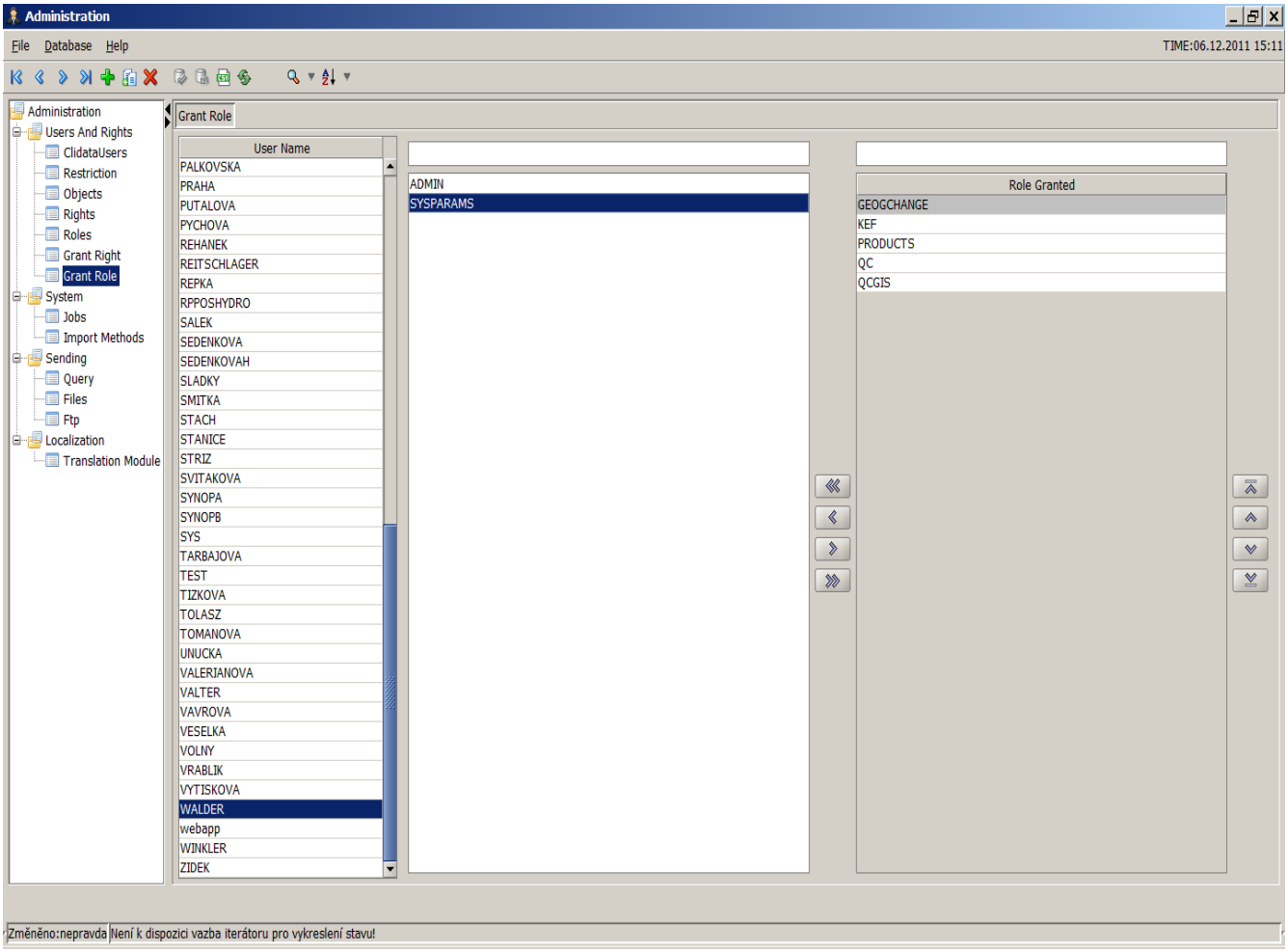
Individual rights can be grouped into more complex roles.

9.6 Grant right



Assignment of the rights to users. The user in the picture has the rights to all Java modules except administration. He is able to modify station geography and key entry daily data.

9.7 Grant role



The user at the picture has some roles assigned. The individual rights of the roles are defined in Roles page.