

Software solution for data quality control, homogenization and time series analysis

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Software package

- ◆ Originally created for homogeneity testing and time series analysis (trends, cycles, correlation analysis)
- ◆ Recently added functions for extreme values analysis (GEV, GPD), RCM outputs validation and correction, multivariate analysis (connection with R software), interpolations

<http://www.climahom.eu>

Software Package for Processing Climatological Data

- ◆ Application for downloading data from central database (e.g. Oracle)
- ◆ ProClimDB software for processing whole dataset (finding outliers, combining series, creating reference series, preparing data for homogeneity testing, analysis ...)
- ◆ AnClim software for homogeneity testing and times series analysis – **education**

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Statistical analysis

Å

(ProClimDB)

Validation of RCM outputs

(ProClimDB)

Extreme value analysis

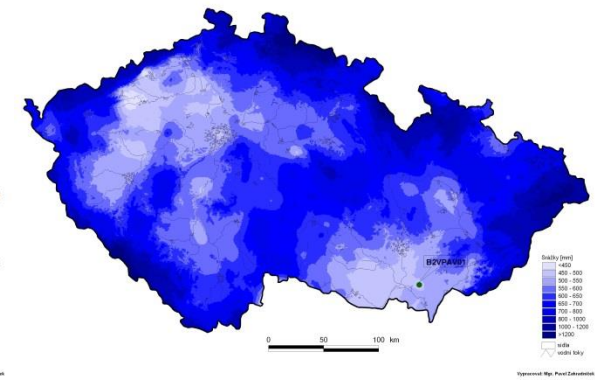
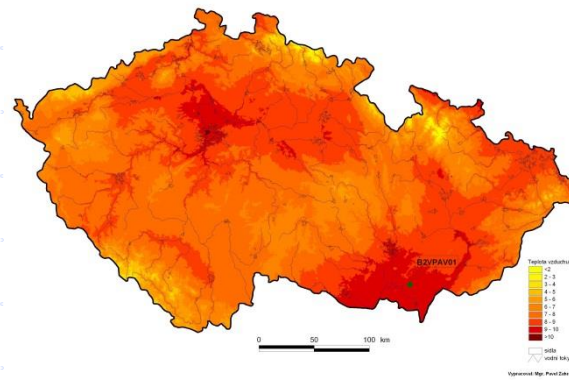
(ProClimDB)

Correction of RCM outputs

(ProClimDB)

Spatial analysis

(connection ProClimDB - ArcView)



Further tools:

(connection ProClimDB - R)

LoadData software, SQL commands generator (based on given *Database Table* and *Info_file*)

Processing window (profile: v_day_n)

Connection | **Download data** | Info | Cross Table | Output | Modify

Database: (SQL command) Tables Views
 V_DAY_N ?
 Desc Create New Info_file Adjust Info_file

Output File
 data\output.dbf
 right click for context menu View

Info File (download specification): ?
 settings\d_data_info_day_n.dbf ?
 right click for context menu

Show SQL command
 3. Download data

Output Last Output
 Downloading data according to
 > settings\d_data_info_day_n.dbf
 Output file:
 > data\output.dbf
 Connection:oraclebr
 (1 active cases (rows) from the Info_file will be processed)
 row 7>
 SQL command:
 SELECT * FROM V_DAY_N WHERE (EG_GH_ID LIKE 'B2BZAB%')and(EG_EL_ABBREVIATION LIKE T%) and (YEAR>2005) or ((YEAR=2005)and (month>5 or

	Active	Eg_gh_id	Eg_el_abbr	Time	Begin	End	Last_days	Add_cond	Distance
	0	B1VIZO01	T%		5.2.2005	11.2.2005	0		0.0
	0	B2DYJA01	HPU*		1.3.2005	.	0		0.0
	0	B2BTUR01	JEV,A		1.1.1990	.	0		0.0
	0	B2BZAB*	SRA*		.	.	3		0.0
List	0	B1PROT01	T,H	AVG	1.1.1961	.	0		15.0
	0	723,667	Fmax		7.11.200	9.11.2002	0		0.0
	1	B2BZAB*	T*		1.5.2005	.	0		0.0

time

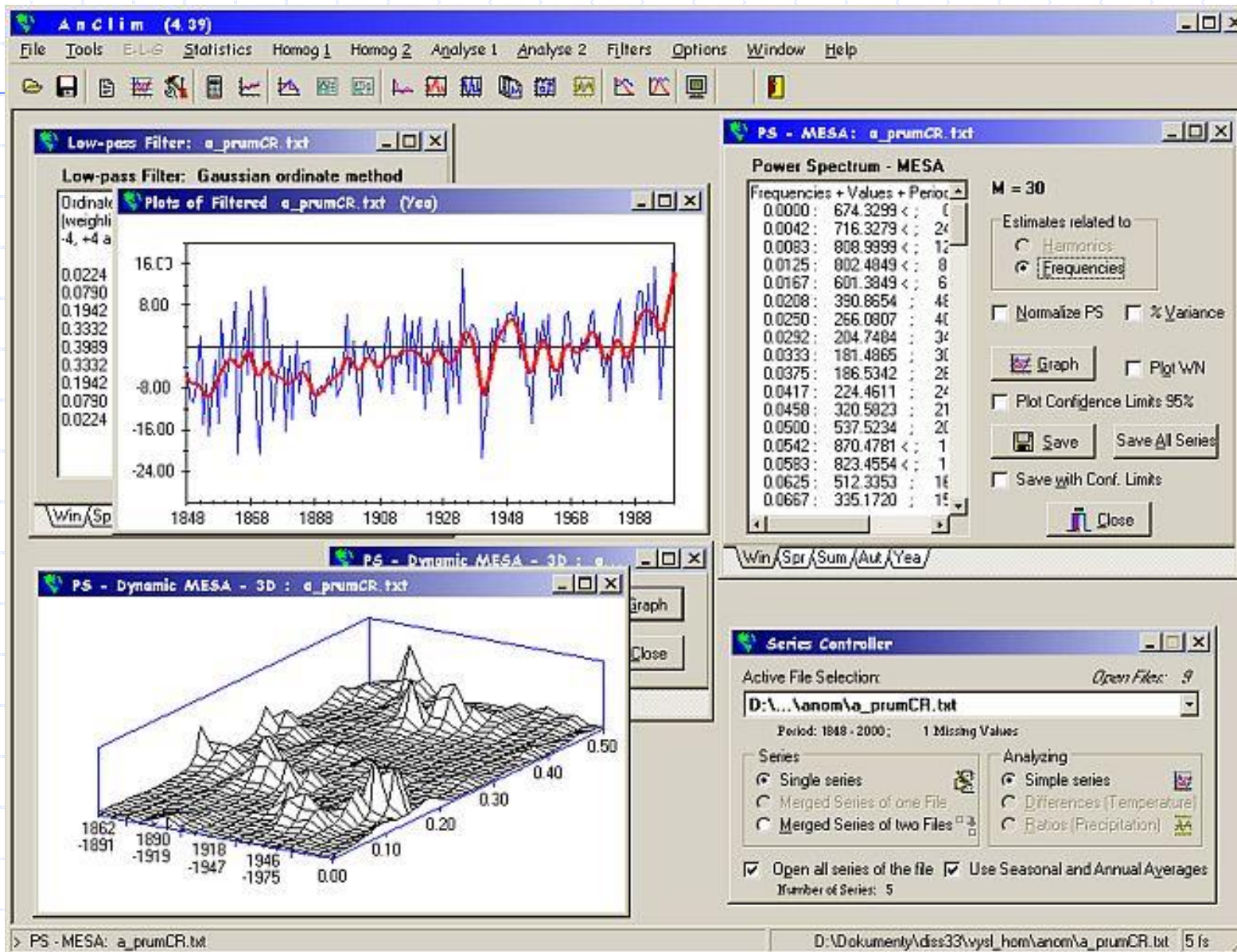
Elements (all) Elem. flags

Connection: oraclebr
 Info_file: settings\d_data_info_day_n.dbf
 Output file: data\output.dbf

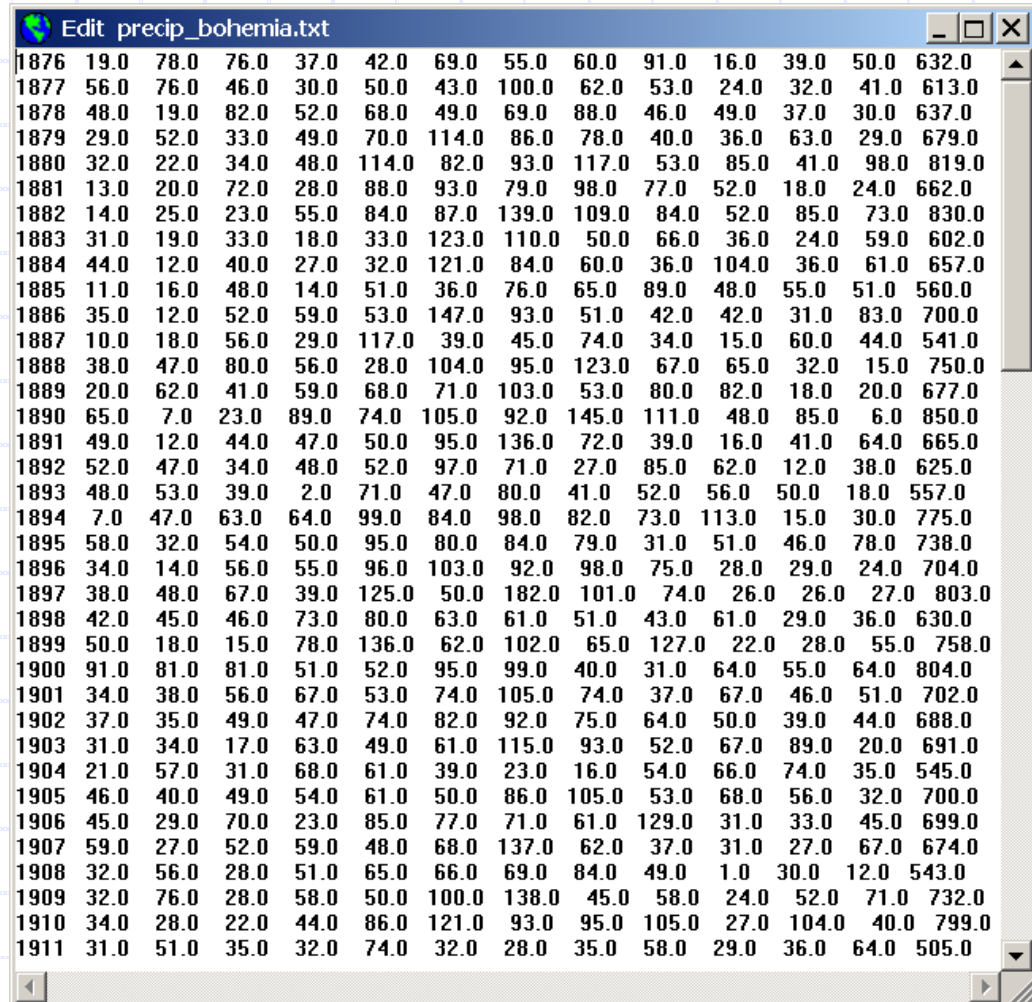
Settings Change PROFILE Quit

AnClim software, TXT files (each station has its own text file)

Monthly (seasonal, annual) or **daily** data processing
convenient for learning of statistical methods in climatology (tutorials)



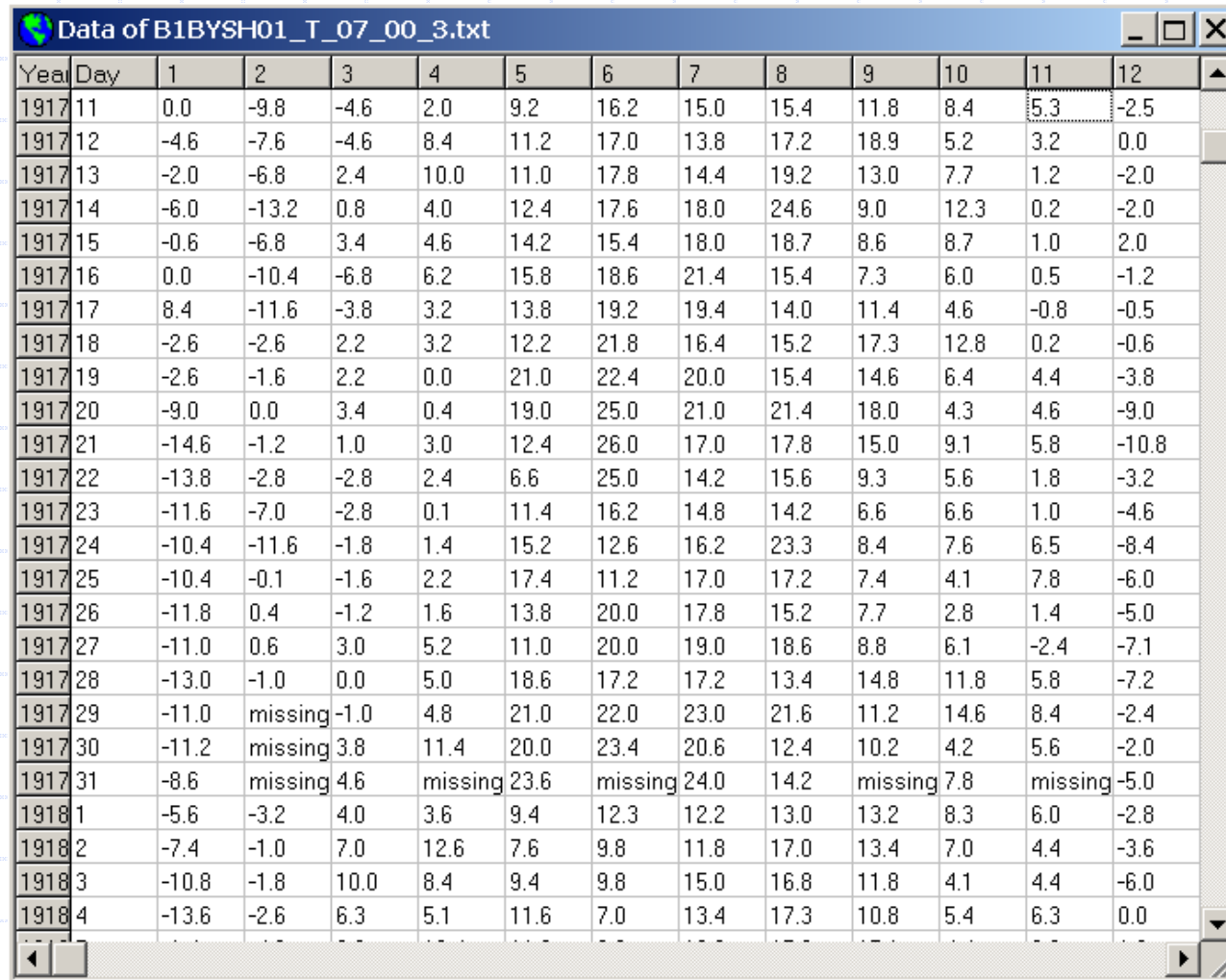
Examples of Data formats – AnClim, monthly data



The image shows a screenshot of a text editor window titled "Edit precip_bohemia.txt". The window contains a table of monthly precipitation data for the years 1876 to 1911. The data is presented in a grid format with 13 columns per row. The first column represents the year, and the subsequent 12 columns represent the months of the year. The values are numerical, representing precipitation amounts.

1876	19.0	78.0	76.0	37.0	42.0	69.0	55.0	60.0	91.0	16.0	39.0	50.0	632.0
1877	56.0	76.0	46.0	30.0	50.0	43.0	100.0	62.0	53.0	24.0	32.0	41.0	613.0
1878	48.0	19.0	82.0	52.0	68.0	49.0	69.0	88.0	46.0	49.0	37.0	30.0	637.0
1879	29.0	52.0	33.0	49.0	70.0	114.0	86.0	78.0	40.0	36.0	63.0	29.0	679.0
1880	32.0	22.0	34.0	48.0	114.0	82.0	93.0	117.0	53.0	85.0	41.0	98.0	819.0
1881	13.0	20.0	72.0	28.0	88.0	93.0	79.0	98.0	77.0	52.0	18.0	24.0	662.0
1882	14.0	25.0	23.0	55.0	84.0	87.0	139.0	109.0	84.0	52.0	85.0	73.0	830.0
1883	31.0	19.0	33.0	18.0	33.0	123.0	110.0	50.0	66.0	36.0	24.0	59.0	602.0
1884	44.0	12.0	40.0	27.0	32.0	121.0	84.0	60.0	36.0	104.0	36.0	61.0	657.0
1885	11.0	16.0	48.0	14.0	51.0	36.0	76.0	65.0	89.0	48.0	55.0	51.0	560.0
1886	35.0	12.0	52.0	59.0	53.0	147.0	93.0	51.0	42.0	42.0	31.0	83.0	700.0
1887	10.0	18.0	56.0	29.0	117.0	39.0	45.0	74.0	34.0	15.0	60.0	44.0	541.0
1888	38.0	47.0	80.0	56.0	28.0	104.0	95.0	123.0	67.0	65.0	32.0	15.0	750.0
1889	20.0	62.0	41.0	59.0	68.0	71.0	103.0	53.0	80.0	82.0	18.0	20.0	677.0
1890	65.0	7.0	23.0	89.0	74.0	105.0	92.0	145.0	111.0	48.0	85.0	6.0	850.0
1891	49.0	12.0	44.0	47.0	50.0	95.0	136.0	72.0	39.0	16.0	41.0	64.0	665.0
1892	52.0	47.0	34.0	48.0	52.0	97.0	71.0	27.0	85.0	62.0	12.0	38.0	625.0
1893	48.0	53.0	39.0	2.0	71.0	47.0	80.0	41.0	52.0	56.0	50.0	18.0	557.0
1894	7.0	47.0	63.0	64.0	99.0	84.0	98.0	82.0	73.0	113.0	15.0	30.0	775.0
1895	58.0	32.0	54.0	50.0	95.0	80.0	84.0	79.0	31.0	51.0	46.0	78.0	738.0
1896	34.0	14.0	56.0	55.0	96.0	103.0	92.0	98.0	75.0	28.0	29.0	24.0	704.0
1897	38.0	48.0	67.0	39.0	125.0	50.0	182.0	101.0	74.0	26.0	26.0	27.0	803.0
1898	42.0	45.0	46.0	73.0	80.0	63.0	61.0	51.0	43.0	61.0	29.0	36.0	630.0
1899	50.0	18.0	15.0	78.0	136.0	62.0	102.0	65.0	127.0	22.0	28.0	55.0	758.0
1900	91.0	81.0	81.0	51.0	52.0	95.0	99.0	40.0	31.0	64.0	55.0	64.0	804.0
1901	34.0	38.0	56.0	67.0	53.0	74.0	105.0	74.0	37.0	67.0	46.0	51.0	702.0
1902	37.0	35.0	49.0	47.0	74.0	82.0	92.0	75.0	64.0	50.0	39.0	44.0	688.0
1903	31.0	34.0	17.0	63.0	49.0	61.0	115.0	93.0	52.0	67.0	89.0	20.0	691.0
1904	21.0	57.0	31.0	68.0	61.0	39.0	23.0	16.0	54.0	66.0	74.0	35.0	545.0
1905	46.0	40.0	49.0	54.0	61.0	50.0	86.0	105.0	53.0	68.0	56.0	32.0	700.0
1906	45.0	29.0	70.0	23.0	85.0	77.0	71.0	61.0	129.0	31.0	33.0	45.0	699.0
1907	59.0	27.0	52.0	59.0	48.0	68.0	137.0	62.0	37.0	31.0	27.0	67.0	674.0
1908	32.0	56.0	28.0	51.0	65.0	66.0	69.0	84.0	49.0	1.0	30.0	12.0	543.0
1909	32.0	76.0	28.0	58.0	50.0	100.0	138.0	45.0	58.0	24.0	52.0	71.0	732.0
1910	34.0	28.0	22.0	44.0	86.0	121.0	93.0	95.0	105.0	27.0	104.0	40.0	799.0
1911	31.0	51.0	35.0	32.0	74.0	32.0	28.0	35.0	58.0	29.0	36.0	64.0	505.0

Examples of Data formats – AnClim, daily data



The screenshot shows a text editor window titled "Data of B1BYSH01_T_07_00_3.txt". The window contains a table of daily climate data. The table has 14 columns: "Year", "Day", and 12 numbered columns (1-12). The data is organized by year, with rows for each day of the year. The years shown are 1917 and 1918. The data values are numerical, with some cells containing the word "missing".

Year	Day	1	2	3	4	5	6	7	8	9	10	11	12
1917	11	0.0	-9.8	-4.6	2.0	9.2	16.2	15.0	15.4	11.8	8.4	5.3	-2.5
1917	12	-4.6	-7.6	-4.6	8.4	11.2	17.0	13.8	17.2	18.9	5.2	3.2	0.0
1917	13	-2.0	-6.8	2.4	10.0	11.0	17.8	14.4	19.2	13.0	7.7	1.2	-2.0
1917	14	-6.0	-13.2	0.8	4.0	12.4	17.6	18.0	24.6	9.0	12.3	0.2	-2.0
1917	15	-0.6	-6.8	3.4	4.6	14.2	15.4	18.0	18.7	8.6	8.7	1.0	2.0
1917	16	0.0	-10.4	-6.8	6.2	15.8	18.6	21.4	15.4	7.3	6.0	0.5	-1.2
1917	17	8.4	-11.6	-3.8	3.2	13.8	19.2	19.4	14.0	11.4	4.6	-0.8	-0.5
1917	18	-2.6	-2.6	2.2	3.2	12.2	21.8	16.4	15.2	17.3	12.8	0.2	-0.6
1917	19	-2.6	-1.6	2.2	0.0	21.0	22.4	20.0	15.4	14.6	6.4	4.4	-3.8
1917	20	-9.0	0.0	3.4	0.4	19.0	25.0	21.0	21.4	18.0	4.3	4.6	-9.0
1917	21	-14.6	-1.2	1.0	3.0	12.4	26.0	17.0	17.8	15.0	9.1	5.8	-10.8
1917	22	-13.8	-2.8	-2.8	2.4	6.6	25.0	14.2	15.6	9.3	5.6	1.8	-3.2
1917	23	-11.6	-7.0	-2.8	0.1	11.4	16.2	14.8	14.2	6.6	6.6	1.0	-4.6
1917	24	-10.4	-11.6	-1.8	1.4	15.2	12.6	16.2	23.3	8.4	7.6	6.5	-8.4
1917	25	-10.4	-0.1	-1.6	2.2	17.4	11.2	17.0	17.2	7.4	4.1	7.8	-6.0
1917	26	-11.8	0.4	-1.2	1.6	13.8	20.0	17.8	15.2	7.7	2.8	1.4	-5.0
1917	27	-11.0	0.6	3.0	5.2	11.0	20.0	19.0	18.6	8.8	6.1	-2.4	-7.1
1917	28	-13.0	-1.0	0.0	5.0	18.6	17.2	17.2	13.4	14.8	11.8	5.8	-7.2
1917	29	-11.0	missing	-1.0	4.8	21.0	22.0	23.0	21.6	11.2	14.6	8.4	-2.4
1917	30	-11.2	missing	3.8	11.4	20.0	23.4	20.6	12.4	10.2	4.2	5.6	-2.0
1917	31	-8.6	missing	4.6	missing	23.6	missing	24.0	14.2	missing	7.8	missing	-5.0
1918	1	-5.6	-3.2	4.0	3.6	9.4	12.3	12.2	13.0	13.2	8.3	6.0	-2.8
1918	2	-7.4	-1.0	7.0	12.6	7.6	9.8	11.8	17.0	13.4	7.0	4.4	-3.6
1918	3	-10.8	-1.8	10.0	8.4	9.4	9.8	15.0	16.8	11.8	4.1	4.4	-6.0
1918	4	-13.6	-2.6	6.3	5.1	11.6	7.0	13.4	17.3	10.8	5.4	6.3	0.0

ProcData software, only one Data file, accompanied by Info_file

database processing

Processing window (profile: slovensko)

Menu : Reference
Calculates reference series for each station given

Item : From Correlations
Selects given Number of stations with average correlation

Source files:

Data file: right click for context menu

(Data Info file)

ID	EG_EL_ABBR	YEAR	DAY	TIME	N1	N2	N3	N4	N5	N6	N7	N8
B1BYSH01_SCE_07:00	SCE	2006	24	07:00	30.00	10.00	0.00	0.00	0.00	0.00	0.00	-999.00
B1BYSH01_SCE_07:00	SCE	2006	25	07:00	28.00	10.00	0.00	0.00	0.00	0.00	0.00	-999.00
B1BYSH01_SCE_07:00	SCE	2006	26	07:00	28.00	12.00	0.00	0.00	0.00	0.00	0.00	-999.00
B1BYSH01_SCE_07:00	SCE	2006	27	07:00	28.00	9.00	0.00	0.00	0.00	0.00	0.00	-999.00
B1BYSH01_SCE_07:00	SCE	2006	28	07:00	28.00	9.00	0.00	0.00	0.00	0.00	0.00	-999.00
B1BYSH01_SCE_07:00	SCE	2006	29	07:00	28.00	-999.00	0.00	0.00	0.00	0.00	0.00	-999.00
B1BYSH01_SCE_07:00	SCE	2006	30	07:00	28.00	-999.00	0.00	0.00	0.00	0.00	0.00	-999.00
B1BYSH01_SCE_07:00	SCE	2006	31	07:00	27.00	-999.00	0.00	-999.00	0.00	-999.00	0.00	-999.00
B1BYSH01_SNO_07:00	SNO	1961	1	07:00	5.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
B1BYSH01_SNO_07:00	SNO	1961	2	07:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
B1BYSH01_SNO_07:00	SNO	1961	3	07:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
B1BYSH01_SNO_07:00	SNO	1961	4	07:00	0.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00
B1BYSH01_SNO_07:00	SNO	1961	5	07:00	0.00	5.00	0.00	0.00	0.00	0.00	0.00	0.00
B1BYSH01_SNO_07:00	SNO	1961	6	07:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
B1BYSH01_SNO_07:00	SNO	1961	7	07:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
B1BYSH01_SNO_07:00	SNO	1961	8	07:00	1.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00

	NAME	ID	BE	EL	IDXXX	III	REGION	LATITUDE	LONGITUDE	ALTITUDE	BEGIN	END	LENGTH	MISS_CN
<input checked="" type="checkbox"/>	Bystřice pod Hostýnem	B1BYSH01_SCE_07:00			B1BYSH01		SCE	17.67	49.40	315	1.1.1961	31.1.2006	46	0.00
<input checked="" type="checkbox"/>	Bystřice pod Hostýnem	B1BYSH01_SNO_07:00			B1BYSH01		SNO	17.67	49.40	315	1.1.1961	31.1.2006	46	0.00
<input type="checkbox"/>	Bystřice pod Hostýnem	B1BYSH01_SRA_07:00			B1BYSH01		SRA	17.67	49.40	315	1.1.1872	31.1.2006	135	0.00
<input checked="" type="checkbox"/>	Bystřice pod Hostýnem	B1BYSH01_SVH_07:00			B1BYSH01		SVH	17.67	49.40	315	1.1.1961	31.1.2006	46	0.00
<input checked="" type="checkbox"/>	Holešov	B1HOLE01_SCE_07:00			B1HOLE01		SCE	17.57	49.32	224	1.1.1961	31.1.2006	46	0.00
<input checked="" type="checkbox"/>	Holešov	B1HOLE01_SNO_07:00			B1HOLE01		SNO	17.57	49.32	224	1.1.1961	31.1.2006	46	0.00
<input checked="" type="checkbox"/>	Holešov	B1HOLE01_SRA_07:00			B1HOLE01		SRA	17.57	49.32	224	1.1.1953	31.1.2006	54	0.00
<input checked="" type="checkbox"/>	Holešov	B1HOLE01_SVH_07:00			B1HOLE01		SVH	17.57	49.32	224	1.1.1979	31.1.2006	28	0.00
<input checked="" type="checkbox"/>	Napajedla	B1NAPA01_SCE_07:00			B1NAPA01		SCE	17.52	49.18	185	1.1.1961	31.1.2006	46	0.00
<input checked="" type="checkbox"/>	Napajedla	B1NAPA01_SNO_07:00			B1NAPA01		SNO	17.52	49.18	185	1.1.1961	31.1.2006	46	0.00
<input type="checkbox"/>	Napajedla	B1NAPA01_SRA_07:00			B1NAPA01		SRA	17.52	49.18	185	1.1.1889	31.1.2006	118	0.00
<input checked="" type="checkbox"/>	Napajedla	B1NAPA01_SVH_07:00			B1NAPA01		SVH	17.52	49.18	185	1.1.1977	31.1.2006	30	0.00
<input type="checkbox"/>	Brno	B2BKVE01_SCE_07:00			B2BKVE01		SCE	16.57	49.19	223	2.1.1922	31.1.1970	49	0.00
<input type="checkbox"/>	Brno	B2BKVE01_SNO_07:00			B2BKVE01		SNO	16.57	49.19	223	3.1.1931	31.1.1970	40	0.00
<input type="checkbox"/>	Brno	B2BKVE01_SRA_07:00			B2BKVE01		SRA	16.57	49.19	223	1.1.1922	31.1.1970	49	0.00
<input type="checkbox"/>	Brno	B2BPIS01_SCE_07:00			B2BPIS01		SCE	16.57	49.20	203	1.1.1919	31.1.1979	61	0.00
<input type="checkbox"/>	Brno	B2BPIS01_SNO_07:00			B2BPIS01		SNO	16.57	49.20	203	4.1.1931	31.1.1979	49	0.00
<input type="checkbox"/>	Brno	B2BPIS01_SRA_07:00			B2BPIS01		SRA	16.57	49.20	203	1.1.1916	31.1.1979	64	0.00
<input checked="" type="checkbox"/>	Brno	B2BPIS01_SVH_07:00			B2BPIS01		SVH	16.57	49.20	203	1.1.1961	31.1.1979	19	0.00
<input checked="" type="checkbox"/>	Brno	B2BTUR01_SCE_07:00			B2BTUR01		SCE	16.70	49.16	241	1.1.1961	31.1.2006	46	0.00
<input checked="" type="checkbox"/>	Brno	B2BTUR01_SNO_07:00			B2BTUR01		SNO	16.70	49.16	241	1.1.1961	31.1.2006	46	0.00
<input checked="" type="checkbox"/>	Brno	B2BTUR01_SRA_07:00			B2BTUR01		SRA	16.70	49.16	241	1.1.1961	31.1.2006	46	0.00
<input checked="" type="checkbox"/>	Brno	B2BTUR01_SVH_07:00			B2BTUR01		SVH	16.70	49.16	241	1.1.1969	31.1.2006	38	0.00
<input checked="" type="checkbox"/>	Jihlava	B2JIHL01_SCE_07:00			B2JIHL01		SCE	15.54	49.39	560	1.1.1961	31.1.1969	9	0.00
<input checked="" type="checkbox"/>	Jihlava	B2JIHL01_SNO_07:00			B2JIHL01		SNO	15.54	49.39	560	1.1.1961	31.1.1969	9	0.00

Correlations column:

ProClimDB software

ProClimDB v7.61 (MONTHLY data)

Options Edit Get info Tools Transf Calculate Calc2 Neighbors Anomalies Reference Homog Adjust Fill Miss Window Help

Processing window (profile: slovensko)

Menu : Reference 8 **Settings**
Calculates reference series for each station given in Info File

Item : From Correlations 2 **Change PROFILE**
Selects given Number of stations with average correlation higher than a Limit and creates reference series

Source files: *right click for context menu*

Data file	:_et_hurv_mes_new_reconstr2.dbf
(Data Info file)	data\data_info.dbf
Correlations	data\correl.dbf

Destination files: *right click for context menu*

Refer. Series	data\ref_series.dbf
Ref Info file	data\ref_ser_info.dbf

Settings

Create Info File only
Number of Stations: 5
Limit - correlation: 0.2;100
Maximum altitude diff.: -100
 Weighted average
Years per one part:
Overlap - years:
 Allow length +/- overlay
Correlations column: K13

Process info:

Number of stations: 5
Difference in measuring periods (base and selected stations) is not taken into account!
Neighbours selected according to: correlation based on K13 column
- additional condition: limit distance: maximum: 100 km
Neighbours can differ in altitude at least: 100 m
Base station has to have a length at least: 20 years.
Neighbours have to have a length at least: 20 years.
Minimum length of period in common: 10 years (selecting 5 stations out of 5).
Selected stations from the same region only! (Column 'Region' in the Info_file).

Stations processed:
1:B1BRBY01_TMA_21
2:BRBY01_TMA_21

Run **Last Output** **Quit**

Ready for action

NUM

Context menu: Open File, Save as ... (Copy), Save as DBF IV, View / Edit Table ..., Open in Excel ..., Load Template, Undo, Copy Name to Clipboard, Paste Name from Clipboard

ProClimDB software

The image shows two overlapping windows from the ProClimDB software. The background window is titled "7.61 (MONTHLY data)" and contains a "Processing window (profile: slovensko)". The foreground window is titled "ref info t.dbf - Show_DBF.exe v1.2.4" and displays a table of data with a context menu open over it.

Processing window (profile: slovensko)

Menu: Reference [8] | Calculate reference series for each station given in Info File

Item: From Correlations [2] | Selects given Number of stations with average correlation higher than a Limit and creates reference

Source files: [Data file: _et_huv_mes_new_reconstr2.dbf] [Data Info file: data\data_info.dbf] [Correlations: data\correl.dbf]

Destination files: [Refer. Series: data\ref_ser.in] [Ref info file: data\ref_ser.in]

Settings:

- Create Info File only
- Number of Stations: [5]
- Limit - correlation: [0.2,100]
- Maximum altitude diff: [-100]
- Weighted average
- Years per one part: []
- Overlap - years: []
- Allow length +/- overlay
- Correlations column: [K13]

Process info:

- Number of stations: 5
- Difference in measuring periods (base and selected) taken into account
- Neighbours selected according to: correlation based on K13 column
- additional condition: limit distance: maximum
- Neighbours can differ in altitude at least: 100 m
- Base station has to have a length at least: 20 years
- Neighbours have to have a length at least: 20 years
- Minimum length of period in common: 10 years (select of 5)
- Selected stations from the same region only! (Column 1 info_file)
- Stations processed: 1: B1BRBY01_TMA_21

ref info t.dbf - Show_DBF.exe v1.2.4

File Edit Edit2 Records Fields Options Help

Editing D:\dokumenty\progr\proc data\DATA\zprac_CR\Vse_od61\ref info t.dbf (12306 records, 20 marked for deleting)

ID_1	ID_2	REGION	BEGIN	END	LENGTH	REMARK	CORREL	DISTANCE	AZIMUTH	AL
B1BRBY01_T_07:00	B1BRBY01_T_07:00_1_d	T_07:00	1.1.1960	31.12.1989	10958	0st.		0.00	0.0	50
B1BRBY01_T_07:00	B1BRBY01_T_07:00_2_d	T_07:00	31.12.1964	31.12.1994	10957	5st. (I:29.3		92.80	122.8	50
	B1LUHA01_T_07:00	T_07:00	31.12.1960	31.12.2007		10957 y. com		18.25	176.4	50
	B1VIZO01_T_07:00	T_07:00	31.12.1960	31.12.2007		10957 y. com		18.71	134.4	50
	O3HUSL01_T_07:00	T_07:00	31.12.1960	31.12.2007		10957 y. com		23.66	70.3	50
	O3VSET01_T_07:00	T_07:00	31.12.1960	31.12.2007		10957 y. com		26.76	93.1	50
	B1ZLIN01_T_07:00	T_07:00	31.12.1960	31.12.1996		10957 y. com		29.30	150.3	50
B1BRBY01_T_14:00	B1BRBY01_T_14:00_1_d	T_14:00	1.1.1960	31.12.1989	10958	0st.		0.00	0.0	50
B1BRBY01_T_14:00	B1BRBY01_T_14:00_2_d	T_14:00	31.12.1964	31.12.1994	10957	5st. (I:29.3		92.80	122.8	50
	B1LUHA01_T_14:00	T_14:00	31.12.1960	31.12.2007		10957 y. com		18.25	176.4	50
	B1VIZO01_T_14:00	T_14:00	31.12.1960	31.12.2007		10957 y. com		18.71	134.4	50
	O3HUSL01_T_14:00	T_14:00	31.12.1960	31.12.2007		10957 y. com		23.66	70.3	50
	O3VSET01_T_14:00	T_14:00	31.12.1960	31.12.2007		10957 y. com		26.76	93.1	50
	B1ZLIN01_T_14:00	T_14:00	31.12.1960	31.12.1996		10957 y. com		29.30	150.3	50
B1BRBY01_T_21:00	B1BRBY01_T_21:00_1_d	T_21:00	1.1.1960	31.12.1989	10958	0st.		0.00	0.0	50
B1BRBY01_T_21:00	B1BRBY01_T_21:00_2_d	T_21:00	31.12.1964	31.12.1994	10957	5st. (I:29.3		92.80	122.8	50
	B1LUHA01_T_21:00	T_21:00	31.12.1960	31.12.2007		10957 y. com		18.25	176.4	50
	B1VIZO01_T_21:00	T_21:00	31.12.1960	31.12.2007		10957 y. com		18.71	134.4	50
	O3HUSL01_T_21:00	T_21:00	31.12.1960	31.12.2007		10957 y. com		23.66	70.3	50
	O3VSET01_T_21:00	T_21:00	31.12.1960	31.12.2007		10957 y. com		26.76	93.1	50
	B1ZLIN01_T_21:00	T_21:00	31.12.1960	31.12.1996		10957 y. com		29.30	150.3	50
B1BRBY01_T_AVG	B1BRBY01_T_AVG_1_d	T_AVG	1.1.1960	31.12.1989	10958	0st.		0.00	0.0	50
B1BRBY01_T_AVG	B1BRBY01_T_AVG_2_d	T_AVG	31.12.1964	31.12.1994	10957	5st. (I:29.3		92.80	122.8	50
	B1LUHA01_T_AVG	T_AVG	31.12.1960	31.12.2007		10957 y. com		18.25	176.4	50
	B1VIZO01_T_AVG	T_AVG	31.12.1960	31.12.2007		10957 y. com		18.71	134.4	50
	O3HUSL01_T_AVG	T_AVG	31.12.1960	31.12.2007		10957 y. com		23.66	70.3	50
	O3VSET01_T_AVG	T_AVG	31.12.1960	31.12.2007		10957 y. com		26.76	93.1	50
	B1ZLIN01_T_AVG	T_AVG	31.12.1960	31.12.1996		10957 y. com		29.30	150.3	50

Context menu options:

- Sort data according to this column
- Sort data according to All columns CTRL+O
- Find a string CTRL+F
- Find next F3
- Replace strings CTRL+L
- List cases of the column CTRL+T
- Filter (show rows of a particular case)
- Filter out into new Application
- Blank the cell CTRL+B
- Insert row CTRL+I
- Mark/Unmark record for deleting CTRL+D
- Delete rest (mark) CTRL+A
- Recall rest (unmark) CTRL+R
- Copy row(s) to Clipboard CTRL+W
- Paste row(s) from Clipboard CTRL+E
- Display DBF file
- Quit viewer CTRL+Q

Buttons at the bottom: No, Bottom, Sort, Delete, Insert, Modi Stru, Command, Excel, Close, ?

Data formats - ProClimDB

- ◆ DBF files (the only DBF file for data + Info file)
- ◆ Macro in MS-Excel to load TXT,XLS,... files and to create a DBF data file
- ◆ function in ProClimDB to import from TXT,DBF files / export to TXT,... files
- ◆ **Monthly** (seasonal, annual), **daily** (even individual time) data processing, or **subdaily** (up to minute records)

Examples of Data formats – ProClimDB, monthly data

	Id	Year	N1	N2	N3	N4	N5	N6	N7	N8	N9	N10	N11	N12	Remark
	11801_RV_07:00	1961	88.0	89.0	86.0	74.0	81.0	80.0	75.0	72.0	67.0	67.0	76.0	73.0	
	11801_RV_07:00	1962	87.0	81.0	79.0	68.0	75.0	68.0	70.0	78.0	80.0	87.0	89.0	87.0	
	11801_RV_07:00	1963	83.0	86.0	84.0	80.0	84.0	79.0	74.0	80.0	84.0	89.0	82.0	87.0	
	11801_RV_07:00	1964	85.0	78.0	84.0	75.0	77.0	79.0	80.0	83.0	83.0	87.0	89.0	92.0	
	11801_RV_07:00	1965	91.0	88.0	87.0	86.0	81.0	82.0	82.0	83.0	85.0	92.0	86.0	87.0	
	11801_RV_07:00	1966	87.0	86.0	88.0	84.0	77.0	80.0	85.0	88.0	90.0	88.0	89.0	88.0	
	11801_RV_07:00	1967	86.0	88.0	85.0	83.0	75.0	80.0	78.0	82.0	90.0	88.0	90.0	87.0	
	11801_RV_07:00	1968	87.0	91.0	82.0	75.0	74.0	73.0	77.0	87.0	89.0	92.0	90.0	88.0	
	11801_RV_07:00	1969	89.0	88.0	89.0	79.0	74.0	86.0	81.0	86.0	88.0	88.0	86.0	93.0	
	11801_RV_07:00	1970	90.0	92.0	89.0	84.0	78.0	78.0	84.0	88.0	89.0	93.0	87.0	91.0	
	11801_RV_07:00	1971	90.0	92.0	87.0	78.0	80.0	82.0	80.0	80.0	91.0	91.0	90.0	92.0	
	11801_RV_07:00	1972	88.0	86.0	75.0	85.0	84.0	78.0	85.0	86.0	88.0	88.0	87.0	87.0	
	11801_RV_07:00	1973	85.0	90.0	82.0	79.0	75.0	79.0	82.0	81.0	85.0	85.0	81.0	82.0	

(ID, Year, Months in columns: very useful format > easy processing of individual months)

	Id	Year	Pav_4h	Pdsav_4h	Pdssdv_4h	Pf20_4h	Pf40_4h	Pf50_4h	Pf60_4h	Pf80_4h	Pf90_4h
	ADAMCLISI	1961	1.221	6.886	6.355	0.957	0.880	0.814	0.756	0.542	0.36
	ADAMCLISI	1962	0.966	6.383	6.149	0.944	0.861	0.762	0.729	0.489	0.36
	ADAMCLISI	1963	1.079	6.522	6.306	0.950	0.878	0.804	0.737	0.545	0.36
	ADAMCLISI	1964	1.051	6.756	5.713	0.936	0.884	0.835	0.772	0.575	0.36
	ADAMCLISI	1965	1.055	7.119	7.178	0.925	0.843	0.796	0.721	0.511	0.36
	ADAMCLISI	1966	1.723	6.796	7.322	0.959	0.860	0.800	0.710	0.472	0.36
	ADAMCLISI	1967	0.976	6.864	5.201	0.949	0.865	0.782	0.709	0.510	0.36
	ADAMCLISI	1968	1.117	7.625	9.771	0.955	0.880	0.823	0.749	0.522	0.36
	ADAMCLISI	1969	1.493	7.317	10.978	0.963	0.904	0.855	0.799	0.600	0.46
	ADAMCLISI	1970	1.633	6.348	5.941	0.966	0.906	0.840	0.782	0.562	0.36
	ADAMCLISI	1971	1.670	6.042	5.694	0.964	0.899	0.841	0.789	0.612	0.46
	ADAMCLISI	1972	1.533	7.974	7.103	0.967	0.911	0.861	0.803	0.615	0.46
	ADAMCLISI	1973	1.344	7.388	6.444	0.967	0.899	0.833	0.774	0.588	0.46

(ID, Year, Annual data (e.g. various indexes) in columns: e.g. individual months, seasons and year can be used > easy processing of individual columns)

Examples of Data formats - ProClimDB, daily data

	Id	Year	Day	N1	N2	N3	N4	N5	N6	N7	N8	N9	N10	N11	N12
▶	B1BYSH01_T_07:00	1866	1	-3.7	-0.6	2.8	3.8	11.6	16.0	17.4	9.3	11.3	9.7	4.1	-2.1
	B1BYSH01_T_07:00	1866	2	-3.2	2.7	2.5	4.5	15.0	16.0	15.8	9.7	11.4	12.0	0.5	-3.4
	B1BYSH01_T_07:00	1866	3	-3.0	5.7	0.8	5.8	4.7	15.7	17.0	12.8	12.3	9.1	3.5	1.0
	B1BYSH01_T_07:00	1866	4	-1.3	1.0	-3.2	8.0	4.8	14.5	10.5	13.0	8.8	8.0	5.0	1.5
	B1BYSH01_T_07:00	1866	5	-4.5	1.0	0.5	5.3	10.7	16.4	14.0	11.8	10.5	8.0	4.5	4.0
	B1BYSH01_T_07:00	1866	6	-6.5	1.1	-0.1	5.6	5.0	14.4	14.0	11.5	11.3	7.3	3.8	1.5
	B1BYSH01_T_07:00	1866	7	-3.9	5.0	2.9	8.1	4.1	14.5	11.7	9.0	12.6	1.0	6.8	3.3
	B1BYSH01_T_07:00	1866	8	-4.4	3.9	-1.1	8.7	5.6	14.8	10.6	13.8	14.2	0.8	4.5	2.2
	B1BYSH01_T_07:00	1866	9	-2.0	0.0	0.3	11.6	9.5	14.0	10.7	15.8	14.2	0.7	5.0	-1.5
	B1BYSH01_T_07:00	1866	10	-1.7	1.5	2.7	11.2	11.9	13.5	11.9	11.7	12.4	3.0	0.8	-2.0
	B1BYSH01_T_07:00	1866	11	-1.8	1.4	-0.6	6.8	6.8	14.6	12.3	10.7	12.5	0.5	-4.0	0.0
	B1BYSH01_T_07:00	1866	12	2.3	4.5	0.0	5.8	9.5	16.7	11.8	8.7	12.5	3.2	0.5	-5.5
	B1BYSH01_T_07:00	1866	13	-1.9	2.1	1.6	6.4	6.0	16.4	14.5	8.9	10.5	6.0	4.0	0.6
	B1BYSH01_T_07:00	1866	14	-3.6	-1.7	2.4	5.3	6.2	15.7	15.0	9.5	6.5	8.5	6.1	4.0
	B1BYSH01_T_07:00	1866	15	1.1	-3.0	-3.7	9.4	6.8	13.0	16.2	10.5	11.4	5.0	1.9	-6.2
	B1BYSH01_T_07:00	1866	16	0.0	0.0	-4.3	4.8	5.5	11.4	16.7	11.3	13.5	2.8	-0.3	-6.0
	B1BYSH01_T_07:00	1866	17	1.0	0.5	-1.6	6.9	3.5	15.5	16.2	10.5	7.7	0.0	4.0	-2.2
	B1BYSH01_T_07:00	1866	18	0.0	1.9	4.0	6.7	4.2	8.8	15.7	10.0	10.5	-2.1	-5.0	-1.4
	B1BYSH01_T_07:00	1866	19	3.0	3.3	2.4	6.9	3.0	11.6	13.5	10.5	8.8	-0.1	-1.0	-0.9
	B1BYSH01_T_07:00	1866	20	1.0	-2.0	6.0	1.7	2.1	14.7	12.8	10.5	9.0	-1.5	-6.2	-3.9
	B1BYSH01_T_07:00	1866	21	0.0	-0.3	0.0	7.0	1.8	11.8	10.4	12.5	7.5	-1.1	-6.0	-4.0

(ID, Year, Day, Months in columns: very useful format > easy processing of individual months)

	Year	Month	Day	Id	Value2
	1961	1	1	T1HOLE01	-0.4
	1961	1	1	T1IVAN01	-1.6
	1961	1	1	T1KIOM01	-1.0
	1961	1	1	T1LUHA01	-0.6
	1961	1	1	T1TYSH01	-1.2
	1961	1	2	T1HOLE01	-2.3
	1961	1	2	T1IVAN01	-2.9
	1961	1	2	T1KIOM01	-3.5
	1961	1	2	T1LUHA01	-1.1
	1961	1	2	T1TYSH01	-3.5
	1961	1	3	T1HOLE01	-2.0
	1961	1	3	T1IVAN01	-2.2
	1961	1	3	T1KIOM01	-1.5
	1961	1	3	T1LUHA01	-2.9
	1961	1	3	T1TYSH01	-2.9
	1961	1	4	T1HOLE01	3.5

(ID, Year, Month, Day, Value:
very space consuming > long time
calculations í)

Examples of Data formats - ProClimDB, daily data

ID	YEAR	MONTH	VAL01	VAL02	VAL03	VAL04	VAL05	VAL06	VAL07	VAL08	VAL09	VAL10	VAL11	VAL12	VAL13	VAL14	VAL15	VAL16	VAL17	VAL18	VAL19	VAL20
B2DVES02	2001	3	-999.0	-999.0	-999.0	-999.0	-999.0	-999.0	-999.0	-999.0	-999.0	-999.0	-999.0	-999.0	-999.0	-999.0	-999.0	-999.0	-999.0	-999.0	-999.0	-999.0
B2DVES02	2001	4	4.2	0.0	12.1	13.5	8.8	9.7	11.0	7.7	7.4	7.8	9.5	8.4	3.6	2.6	4.3	7.1	6.3	8.3	6.6	6
B2DVES02	2001	5	18.4	-999.0	21.2	19.5	18.7	-999.0	12.6	15.0	16.5	16.5	15.3	13.2	14.4	15.3	15.5	18.8	20.1	14.2	13.0	14
B2DVES02	2001	6	13.2	14.6	13.0	11.1	13.2	14.8	17.9	18.0	14.7	14.7	12.3	14.9	17.0	17.4	20.0	18.3	16.8	16.6	14.9	17
B2DVES02	2001	7	18.7	18.2	15.9	19.0	20.8	22.3	23.0	20.4	20.9	23.4	19.2	20.3	22.0	24.8	27.2	21.6	15.3	19.6	20.4	17
B2DVES02	2001	8	-999.0	22.5	25.9	22.1	19.3	21.3	22.0	21.6	21.0	17.7	17.0	17.7	19.7	-999.0	23.7	24.5	-999.0	24.4	25.1	21
B2DVES02	2001	9	15.9	16.9	18.5	16.4	13.9	14.8	14.1	15.4	11.9	11.9	12.8	-999.0	13.5	13.3	12.9	11.8	11.3	10.6	12.0	12
B2DVES02	2001	10	17.4	19.8	15.5	14.7	13.6	-999.0	-999.0	-999.0	-999.0	-999.0	-999.0	-999.0	-999.0	12.9	14.3	11.1	12.0	12.1	12.4	12
B2DVES02	2001	12	-999.0	-999.0	-999.0	-999.0	-999.0	-999.0	-999.0	-999.0	-999.0	-999.0	-999.0	-999.0	-999.0	-999.0	-999.0	-999.0	-999.0	-999.0	0.0	0
B2DVES02	2002	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0
B2DVES02	2002	2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-999.0	-999.0	-999.0	-999.0	-999.0	-999.0
B2DVES02	2002	3	-999.0	-999.0	-999.0	-999.0	-999.0	-999.0	-999.0	-999.0	-999.0	-999.0	-999.0	-999.0	-999.0	-999.0	-999.0	-999.0	-999.0	-999.0	-999.0	-999.0
B2DVES02	2002	4	0.0	0.0	0.0	0.0	2.5	0.8	2.7	6.2	7.0	5.2	7.8	8.3	9.9	9.4	8.5	10.0	11.8	13.1	11.5	11
B2DVES02	2002	5	16.1	19.5	22.6	22.8	13.3	15.2	16.7	18.1	18.5	17.3	18.1	18.9	18.6	17.3	16.4	18.1	21.8	18.5	17.9	16
B2DVES02	2002	6	15.8	13.8	17.4	20.6	19.8	17.3	15.4	15.6	16.5	16.7	16.7	19.8	21.7	21.9	21.4	22.4	22.6	25.4	25.7	26
B2DVES02	2002	7	22.6	21.5	25.3	17.1	19.5	22.4	20.8	22.8	24.6	28.5	21.2	22.3	22.1	22.5	23.9	21.7	21.4	20.4	19.1	21
B2DVES02	2002	8	22.7	10.5	0.0	0.0	17.8	20.9	19.7	20.7	20.5	21.0	19.8	17.0	17.3	19.5	19.1	21.0	21.7	22.2	21	
B2DVES02	2002	9	18.9	16.6	20.1	21.3	20.4	18.6	19.2	20.4	21.2	18.7	17.9	14.0	13.8	15.2	12.9	12.8	13.6	15.5	16.1	15
B2DVES02	2002	10	11.1	11.2	12.0	12.1	10.8	11.7	7.4	7.7	8.1	7.7	5.4	3.8	5.6	6.0	0.8	10.4	11.6	9.5	7.2	6

(ID, Year, Month, Days in columns)

Year	Month	Day	T1hole01	T1ivan01	T1kiom01	T1luha01	T1piot01	T1tity01	T1tysh01
1961	1	1	-0.4	-1.6	-1.0	-0.6	-999	-999	-1.2
1961	1	2	-2.3	-2.9	-3.5	-1.1	-999	-999	-3.5
1961	1	3	-1.1	-1.3	-0.6	-2.0	-999	-999	-2.0
1961	1	4	3.5	0.3	1.0	3.1	-999	-999	2.6
1961	1	5	0.3	-1.4	-1.0	0.4	-999	-999	-0.5
1961	1	6	-3.4	-3.5	-8.0	-3.9	-999	-999	-4.5
1961	1	7	1.4	-1.9	-2.5	1.1	-999	-999	0.5
1961	1	8	-1.6	-2.4	-2.6	-1.4	-999	-999	-2.5
1961	1	9	-0.6	-1.4	-4.0	-0.8	-999	-999	-1.0
1961	1	10	-0.9	-1.1	-1.0	-0.9	-999	-999	-0.5
1961	1	11	0.2	0.1	-0.3	0.1	-999	-999	-2.0
1961	1	12	-0.3	-1.4	-0.3	-0.3	-999	-999	-2.2
1961	1	13	-6.7	-8.5	-7.5	-4.4	-999	-999	-8.5

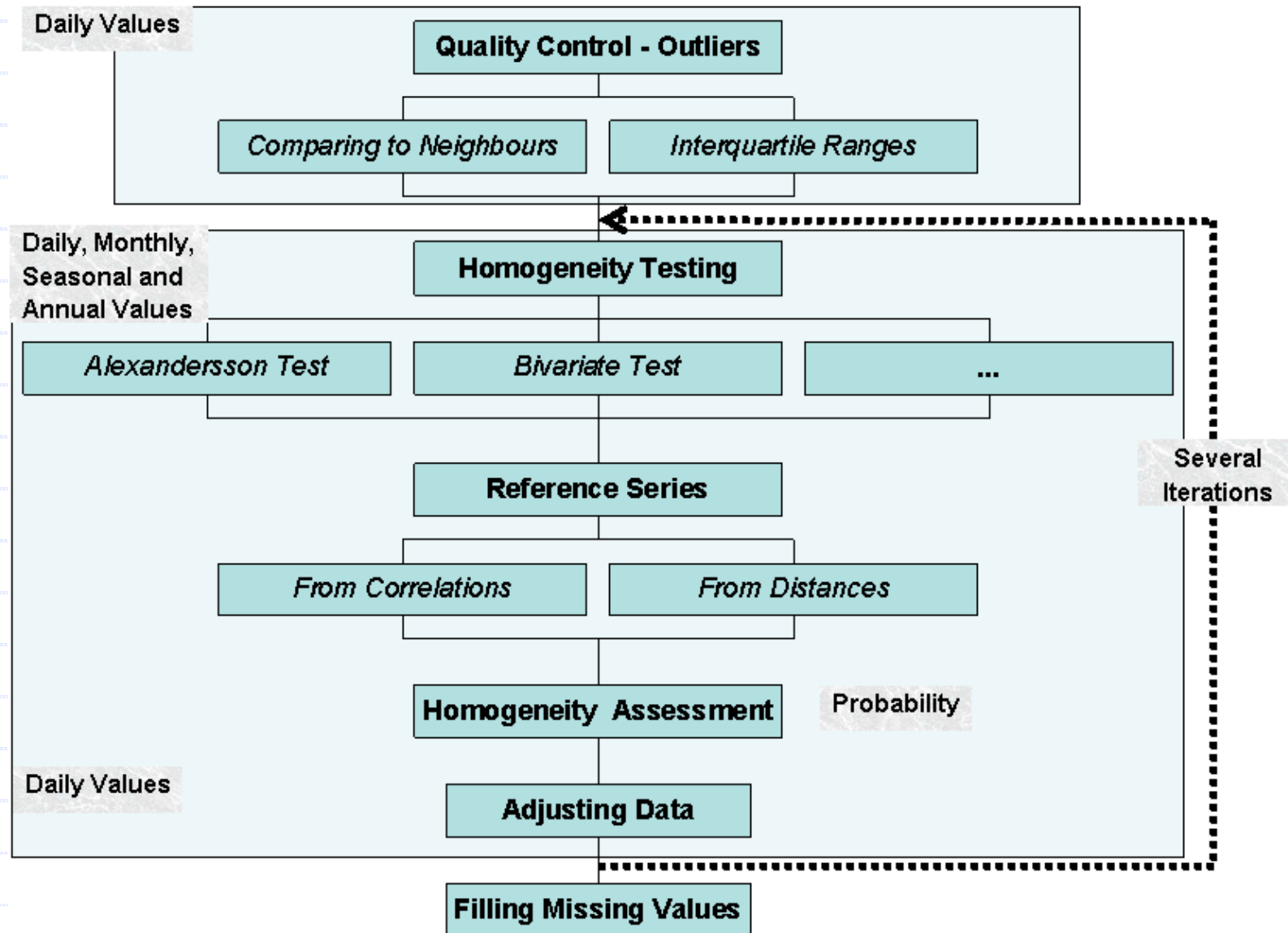
(Year, Month, Day, ID& station in individual columns > suitable in case of the same period of measurements)

ProcData software, info_file

NAME	ID	B E L	IDXXX	III	REGION	LATITUDE	LONGITUDE	ALTITUDE	BEGIN	END	LENGTH	MISS_CN
X Bystřice pod Hostýnem	B1BYSH01_SCE_07:00		B1BYSH01		SCE	17.67	49.40	315	1.1.1961	31.1.2006	46	
X Bystřice pod Hostýnem	B1BYSH01_SNO_07:00		B1BYSH01		SNO	17.67	49.40	315	1.1.1961	31.1.2006	46	
Bystřice pod Hostýnem	B1BYSH01_SRA_07:00		B1BYSH01		SRA	17.67	49.40	315	1.1.1872	31.1.2006	135	
X Bystřice pod Hostýnem	B1BYSH01_SVH_07:00		B1BYSH01		SVH	17.67	49.40	315	1.1.1961	31.1.2006	46	
X Holešov	B1HOLE01_SCE_07:00		B1HOLE01		SCE	17.57	49.32	224	1.1.1961	31.1.2006	46	
X Holešov	B1HOLE01_SNO_07:00		B1HOLE01		SNO	17.57	49.32	224	1.1.1961	31.1.2006	46	
X Holešov	B1HOLE01_SRA_07:00		B1HOLE01		SRA	17.57	49.32	224	1.1.1953	31.1.2006	54	
X Holešov	B1HOLE01_SVH_07:00		B1HOLE01		SVH	17.57	49.32	224	1.1.1979	31.1.2006	28	
X Napajedla	B1NAPA01_SCE_07:00		B1NAPA01		SCE	17.52	49.18	185	1.1.1961	31.1.2006	46	
X Napajedla	B1NAPA01_SNO_07:00		B1NAPA01		SNO	17.52	49.18	185	1.1.1961	31.1.2006	46	
Napajedla	B1NAPA01_SRA_07:00		B1NAPA01		SRA	17.52	49.18	185	1.1.1889	31.1.2006	118	
X Napajedla	B1NAPA01_SVH_07:00		B1NAPA01		SVH	17.52	49.18	185	1.1.1977	31.1.2006	30	
Brno	B2BKVE01_SCE_07:00		B2BKVE01		SCE	16.57	49.19	223	2.1.1922	31.1.1970	49	
Brno	B2BKVE01_SNO_07:00		B2BKVE01		SNO	16.57	49.19	223	3.1.1931	31.1.1970	40	
Brno	B2BKVE01_SRA_07:00		B2BKVE01		SRA	16.57	49.19	223	1.1.1922	31.1.1970	49	
Brno	B2BPIS01_SCE_07:00		B2BPIS01		SCE	16.57	49.20	203	1.1.1919	31.1.1979	61	
Brno	B2BPIS01_SNO_07:00		B2BPIS01		SNO	16.57	49.20	203	4.1.1931	31.1.1979	49	
Brno	B2BPIS01_SRA_07:00		B2BPIS01		SRA	16.57	49.20	203	1.1.1916	31.1.1979	64	
X Brno	B2BPIS01_SVH_07:00		B2BPIS01		SVH	16.57	49.20	203	1.1.1961	31.1.1979	19	
X Brno	B2BTUR01_SCE_07:00		B2BTUR01		SCE	16.70	49.16	241	1.1.1961	31.1.2006	46	
X Brno	B2BTUR01_SNO_07:00		B2BTUR01		SNO	16.70	49.16	241	1.1.1961	31.1.2006	46	
X Brno	B2BTUR01_SRA_07:00		B2BTUR01		SRA	16.70	49.16	241	1.1.1961	31.1.2006	46	
X Brno	B2BTUR01_SVH_07:00		B2BTUR01		SVH	16.70	49.16	241	1.1.1969	31.1.2006	38	
X Jihlava	B2JIHL01_SCE_07:00		B2JIHL01		SCE	15.54	49.39	560	1.1.1961	31.1.1969	9	
X Jihlava	B2JIHL01_SNO_07:00		B2JIHL01		SNO	15.54	49.39	560	1.1.1961	31.1.1969	9	

General scheme of data processing before time series analysis

Data Processing





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