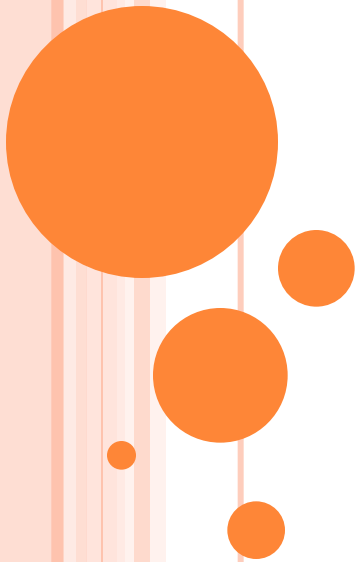


SOFTWARE SOLUTION FOR DATA QUALITY CONTROL, HOMOGENIZATION AND TIME SERIES ANALYSIS

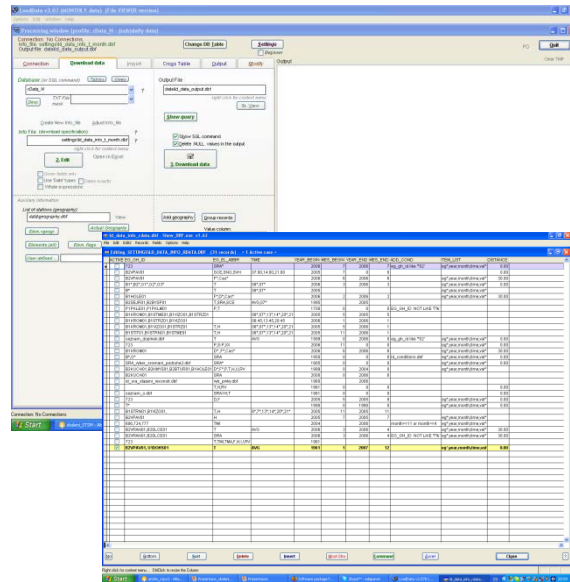


SOFTWARE PACKAGE TO BE PREZENTED

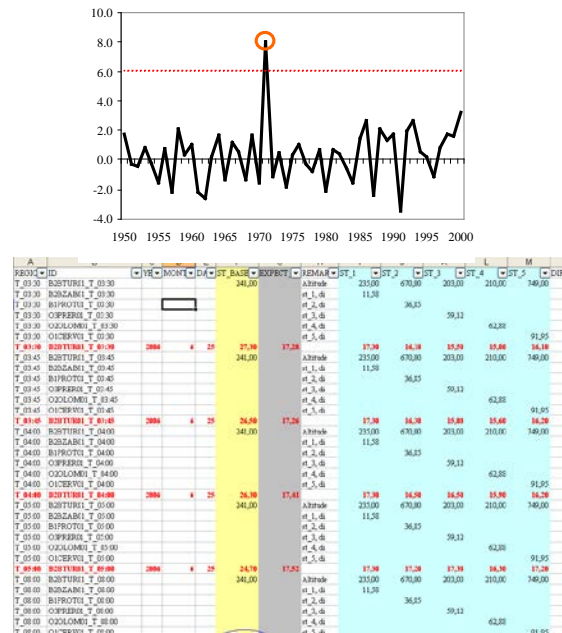
- Originally created for homogeneity testing and time series analysis (trends, cycles, correlation analysis)
- Recently added functions for extreme values analysis (GEV, GPD), RCM outputs validation and correction, multivariate analysis (connection with R software), interpolations



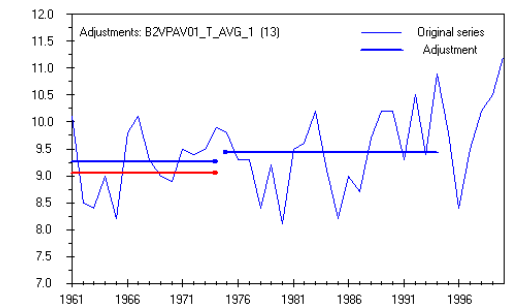
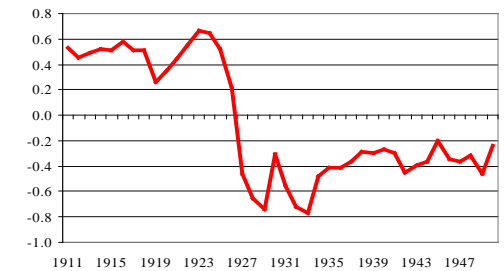
(LoadData)



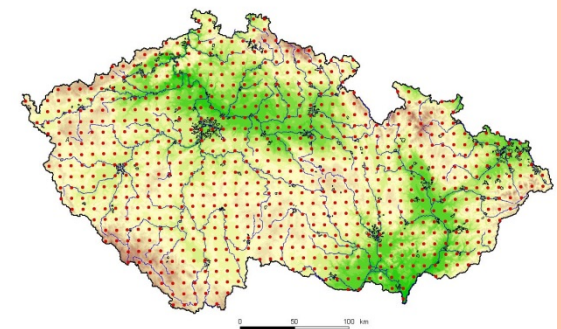
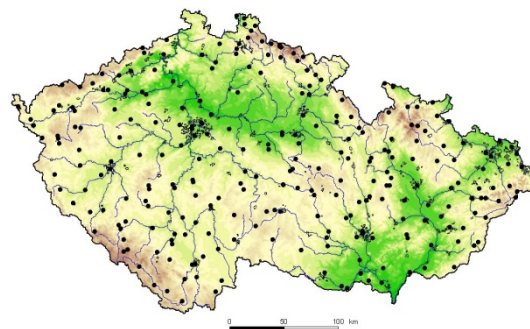
(ProClimDB)



(ProClimDB/AnClim)



(ProClimDB)



Statistical analysis

...

(ProClimDB)

Validation of RCM outputs

(ProClimDB)

Extreme value analysis

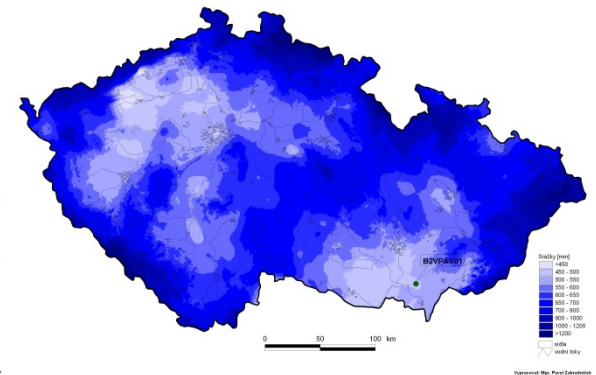
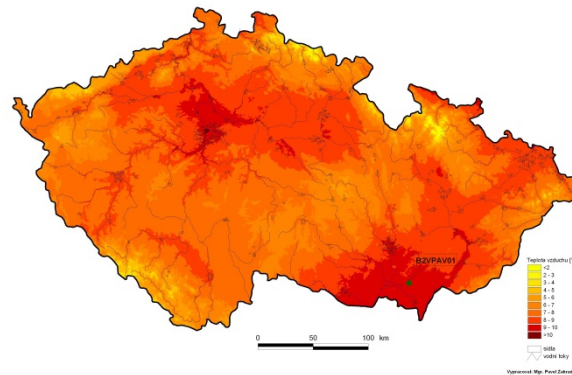
(ProClimDB)

Correction of RCM outputs

(ProClimDB)

Spatial analysis

(connection ProClimDB - R)



Further tools:

(connection ProClimDB - R)

ClimaHom.eu

Tools for processing and homogenization
of large climatological datasets

LoadData

AnClim

ProClimDB

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

Output Last Output

Downloading data according to
> settings\ld_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>

Info Fi	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
	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

List of stations (geography):
data\geography.dbf View

Elem.+geogr Actual Geography
Elements (all) Elem. flags

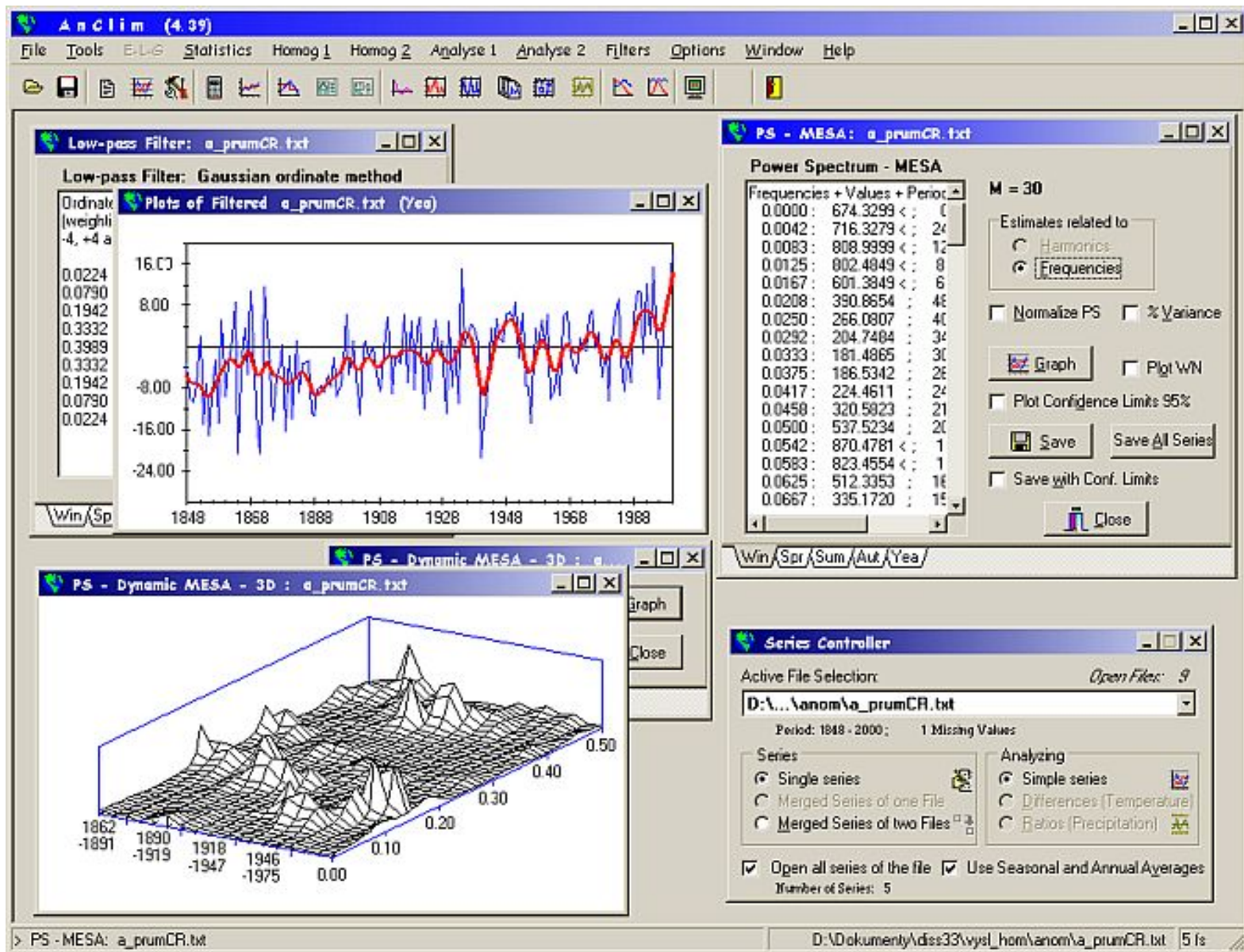
Group records Add geography
Group by:
time

Connection: oraclebr
Info_file: settings\ld_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

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

Data of B1BYSH01_T_07_00_3.txt													
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

(Data Info file)

Correlations

right click for context menu

:_e%_hurv_mes_new_reconstr2

data\data_info.dbf

data\correl.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 lenght +/- overlay

Correlations column

K13

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
B1BYSH01_SNO_07:00	SNO	1961	9	07:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
B1BYSH01_SNO_07:00	SNO	1961	10	07:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

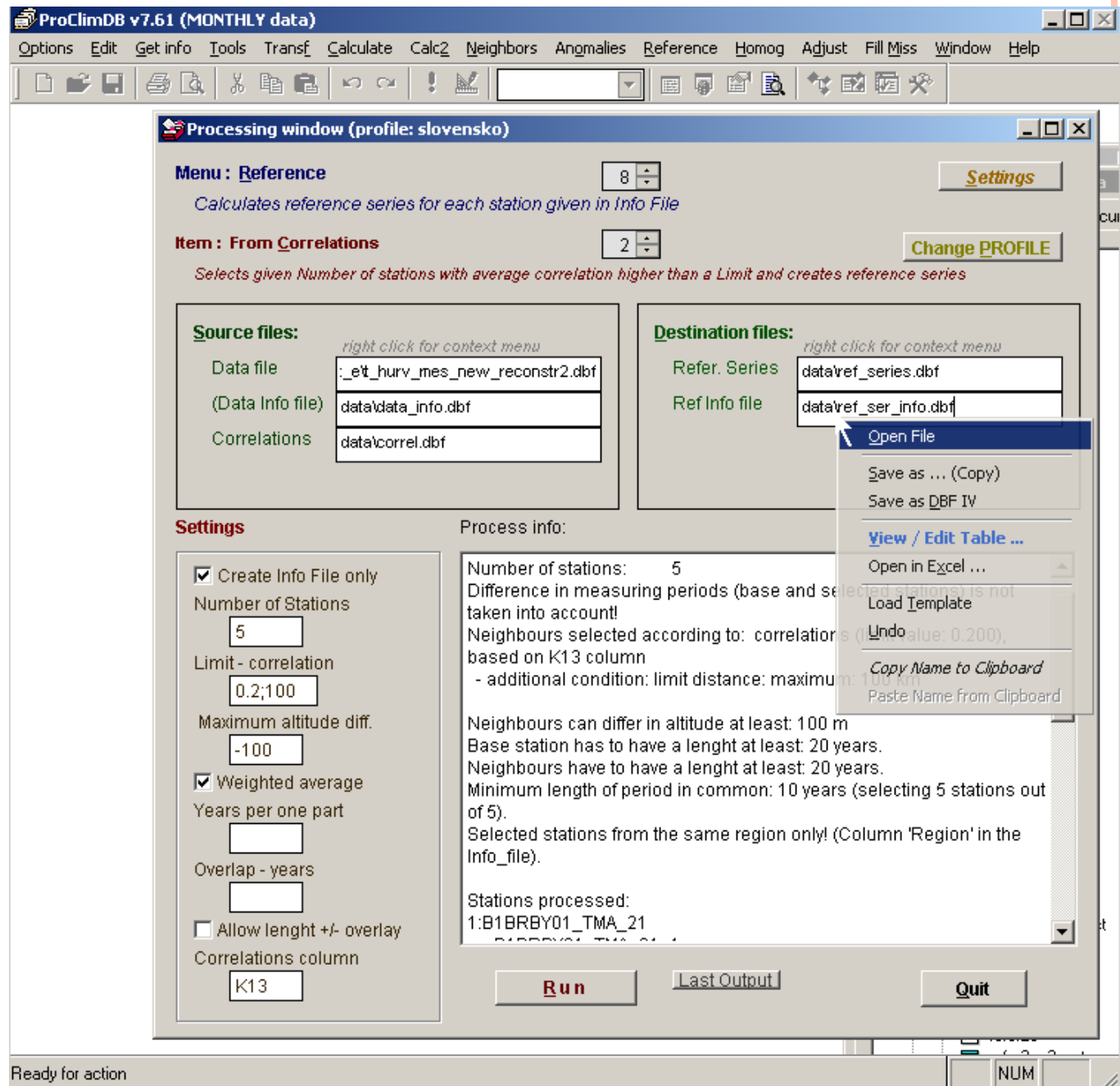
NAME	ID	B E L IDXXX	III	REGION	LATITUDE	LONGITUDE	ALTITUDE	BEGIN	END	LENGTH	MISS_CN
<input checked="" type="checkbox"/> Bystřice pod Hostýnem	B1BYSH01_SCE_07:00	B1BYSH01		SCE	17.67	49.40	315	1.1.1961	31.1.2006	46	0.00
<input checked="" type="checkbox"/> Bystřice pod Hostýnem	B1BYSH01_SNO_07:00	B1BYSH01		SNO	17.67	49.40	315	1.1.1961	31.1.2006	46	0.00
<input checked="" 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 checked="" 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
Brno	B2BKVE01_SCE_07:00	B2BKVE01		SCE	16.57	49.19	223	2.1.1922	31.1.1970	49	0.00
Brno	B2BKVE01_SNO_07:00	B2BKVE01		SNO	16.57	49.19	223	3.1.1931	31.1.1970	40	0.00
Brno	B2BKVE01_SRA_07:00	B2BKVE01		SRA	16.57	49.19	223	1.1.1922	31.1.1970	49	0.00
Brno	B2BPIS01_SCE_07:00	B2BPIS01		SCE	16.57	49.20	203	1.1.1919	31.1.1979	61	0.00
Brno	B2BPIS01_SNO_07:00	B2BPIS01		SNO	16.57	49.20	203	4.1.1931	31.1.1979	49	0.00
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

Run

Last Output

Quit

ProClimDB software



ProClimDB software

7.61 (MONTHLY data)

File Edit Edit2 Records Fields Options Help

Processing window (profiles slouvensko)

Menu: Reference 0:22
Calculates reference series for each station given in Info File

Item: From Correlations 2:22
Selects given Number of stations with average correlation higher than a Limit and creates reference

Source files: right click for context menu
Data file: sl_hrv_mes_new_records2.dbf
(Data info file): datainfo.dbf
Correlations: datacorrel.dbf

Destination files: right click for context menu
Refer. Series: dataref_series
Ref info file: dataref_ser.in
[Open] [Save] [Save as]

Settings
☒ Create info file only
 Number of stations: 5
 Limit - correlation: 0.2-1.00
 Maximum altitude diff: 100
☒ Weighted average
 Years per one part: 1
 Overlap - years: 1
☐ Allow length +/- overlap
 Correlations column: K13

Process info:
 Number of stations: 5
 Difference in measuring periods (base and selected) taken into account
 Neighbours selected according to: correlator 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	0.050	
B1BRBY01_T_07:00	B1BRBY01_T_07:00_2_d	T_07:00	31.12.1964	31.12.1994	10957	5st. (1:29.3		92.80	122.850	
	B1LUHA01_T_07:00	T_07:00	31.12.1960	31.12.2007		10957 y. com		18.25	176.450	
	B1VIZO01_T_07:00	T_07:00	31.12.1960	31.12.2007		10957 y. com		18.71	134.450	
	O3HUSL01_T_07:00	T_07:00	31.12.1960	31.12.2007		10957 y. com		23.66	70.350	
	O3VSET01_T_07:00	T_07:00	31.12.1960	31.12.2007		10957 y. com		26.76	93.150	
	B1ZLIN01_T_07:00	T_07:00	31.12.1960	31.12.1996		10957 y. com		29.30	150.350	
B1BRBY01_T_14:00	B1BRBY01_T_14:00_1_d	T_14:00			10958	0st.		0.00	0.050	
B1BRBY01_T_14:00	B1BRBY01_T_14:00_2_d	T_14:00						92.80	122.850	
	B1LUHA01_T_14:00	T_14:00				com		18.25	176.450	
	B1VIZO01_T_14:00	T_14:00				com		18.71	134.450	
	O3HUSL01_T_14:00	T_14:00				com		23.66	70.350	
	O3VSET01_T_14:00	T_14:00				com		26.76	93.150	
	B1ZLIN01_T_14:00	T_14:00				com		29.30	150.350	
B1BRBY01_T_21:00	B1BRBY01_T_21:00_1_d	T_21:00						0.00	0.050	
B1BRBY01_T_21:00	B1BRBY01_T_21:00_2_d	T_21:00						92.80	122.850	
	B1LUHA01_T_21:00	T_21:00				com		18.25	176.450	
	B1VIZO01_T_21:00	T_21:00				com		18.71	134.450	
	O3HUSL01_T_21:00	T_21:00				com		23.66	70.350	
	O3VSET01_T_21:00	T_21:00				com		26.76	93.150	
	B1ZLIN01_T_21:00	T_21:00				com		29.30	150.350	
B1BRBY01_T_AVG	B1BRBY01_T_AVG_1_d	T_AVG						0.00	0.050	
B1BRBY01_T_AVG	B1BRBY01_T_AVG_2_d	T_AVG						92.80	122.850	
	B1LUHA01_T_AVG	T_AVG				com		18.25	176.450	
	B1VIZO01_T_AVG	T_AVG				com		18.71	134.450	
	O3HUSL01_T_AVG	T_AVG				com		23.66	70.350	
	O3VSET01_T_AVG	T_AVG	31.12.1960	31.12.2007		10957 y. com		26.76	93.150	
	B1ZLIN01_T_AVG	T_AVG	31.12.1960	31.12.1996		10957 y. com		29.30	150.350	

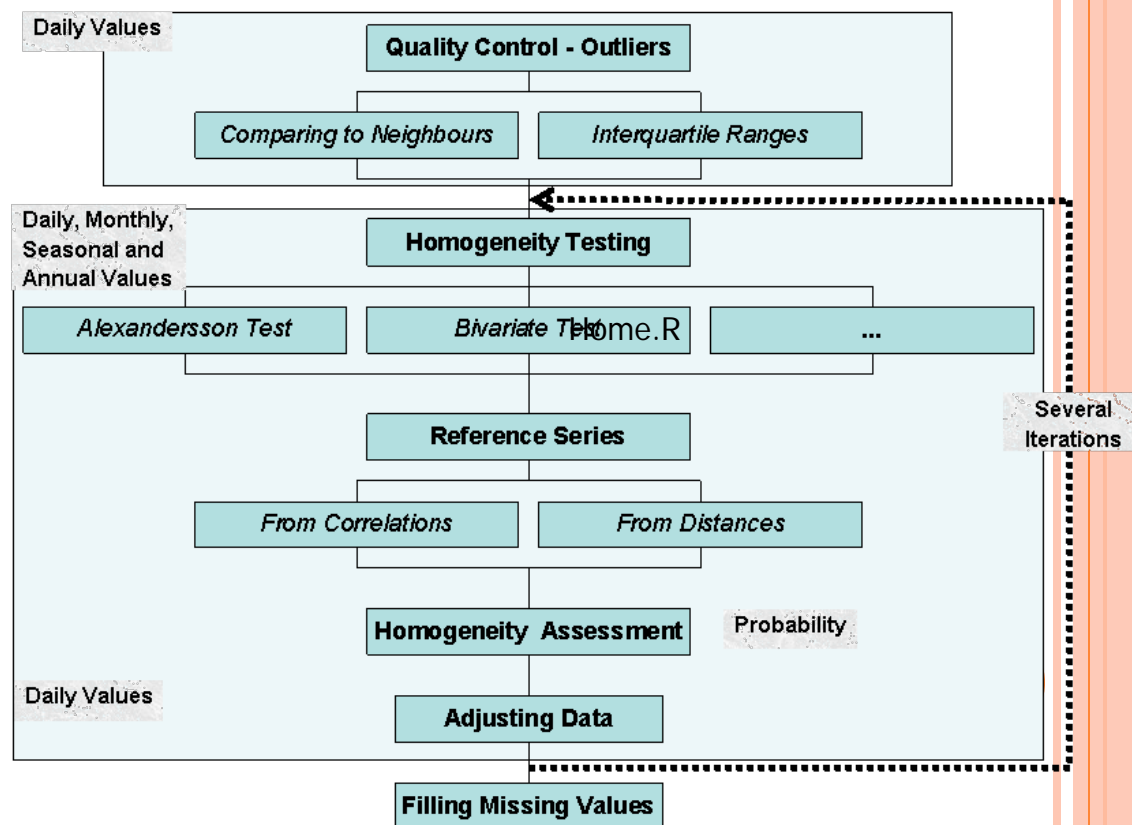
Right click for context menu ...

- 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

No Bottom Sort Delete Insert Modi Stru Command Excel Close ?

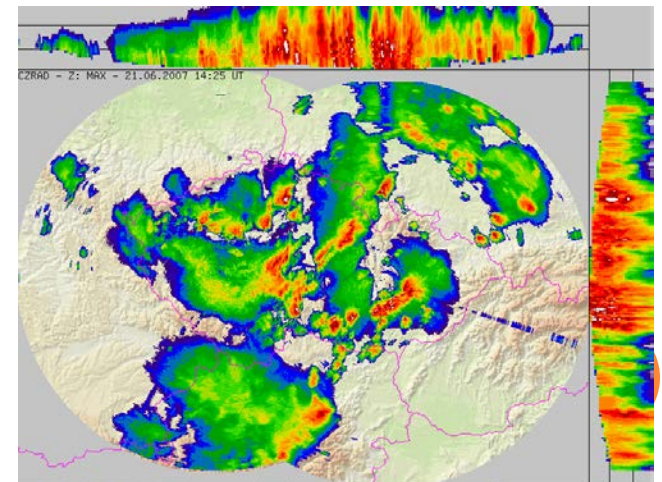
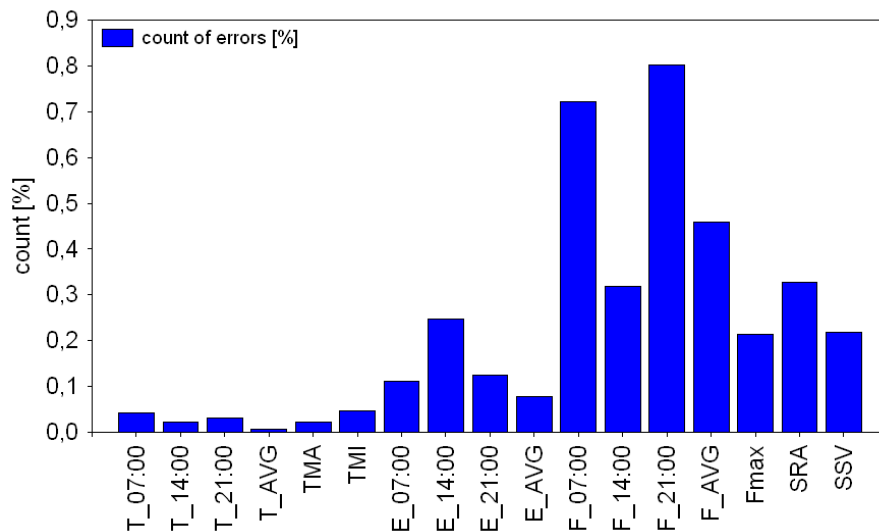
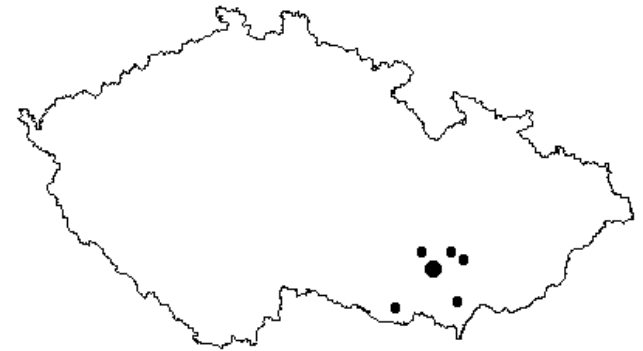
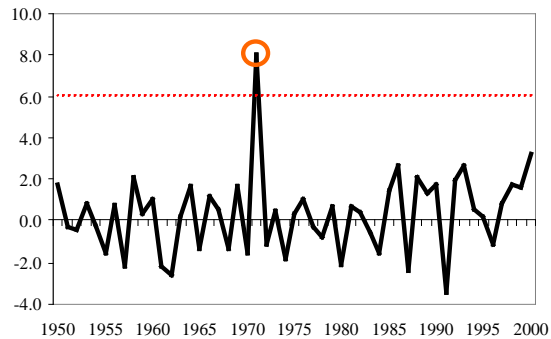
- Quality control, homogenization
- Completing gaps in series
- Calculation of new series in a given location
 - technical “station” series (QC, homogenized, filled missing periods)
 - grid point series (for RCM outputs validations, correction

Data Processing



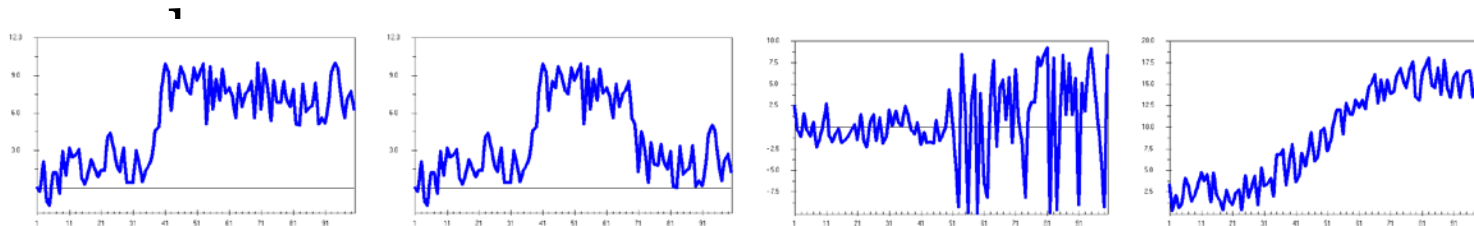
QUALITY CONTROL

- Own approach, combine more methods

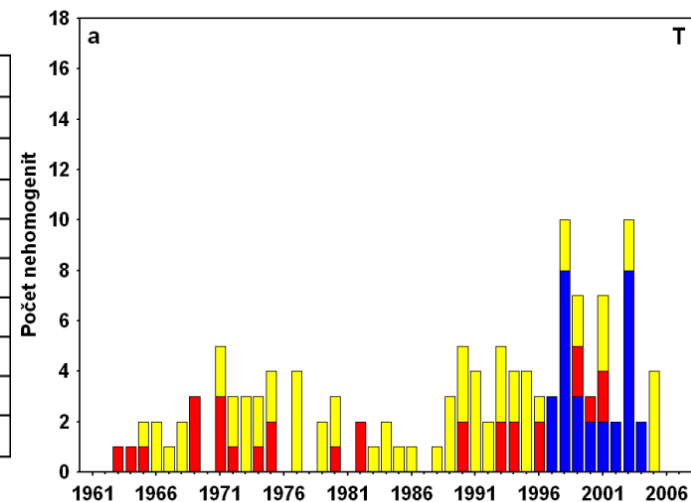


HOMOGENIZATION

- Unnatural changes in the series (change of location, change of instrument, automation, change of observed time, change in surrounding of the station)
- Detection in the monthly scale, correction in the daily



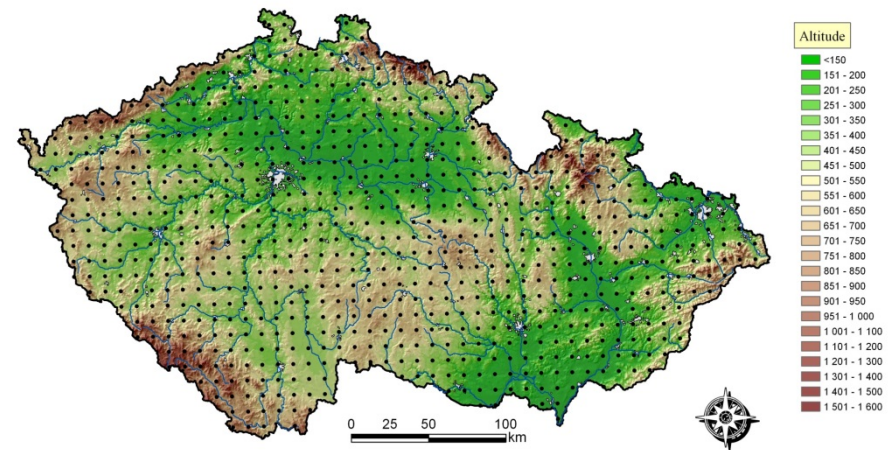
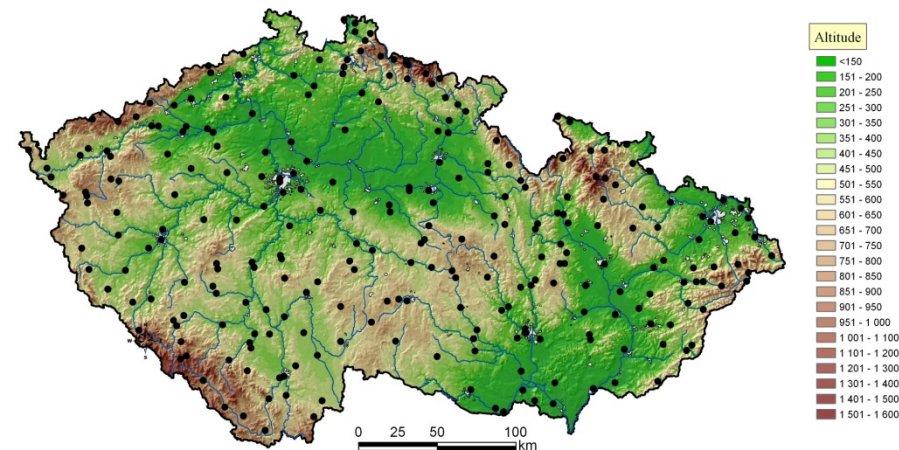
Element	Nb. series	Nb. series	Ratio (%)	Nb. Breaks in series			
		with break		0	1	2	3
Temperature	181	100	55.2	81	77	21	2
Max Temp	178	122	68.5	56	88	32	2
Min Temp	179	92	51.4	87	68	23	1
Precipitation	761	117	15.4	644	110	7	0
Water vapour	173	123	71.1	50	83	34	6
Wind speed	176	132	75.0	44	85	39	8
Sunshine	102	55	53.9	47	49	5	1
Total	1750	741	42.3	1009	560	161	20



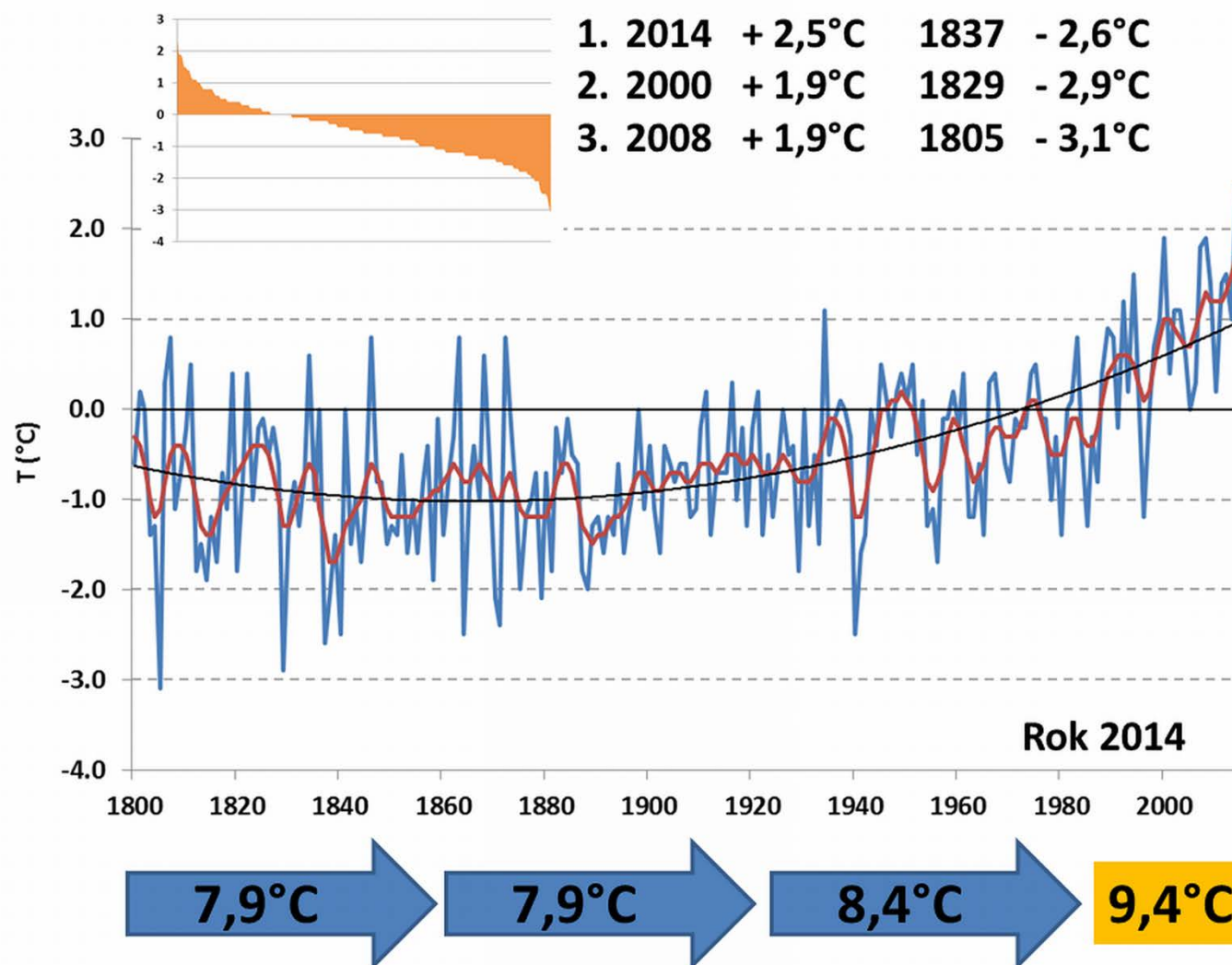
FILL THE GAPS – TECHNICAL SERIES

- Dataset after quality control and homogenization – calculate for the same station location from 8 nearest/best correlated stations new time series (the greatest weight has its own station) = technical station series (305 climatology stations and 789 rain-gauge stations)
- Recalculated to the regular grid network (10 km, 25 km etc.)
- Average, maximum, minimum temperature, water vapor, humidity, sunshine duration, radiation, precipitation, wind speed

trial



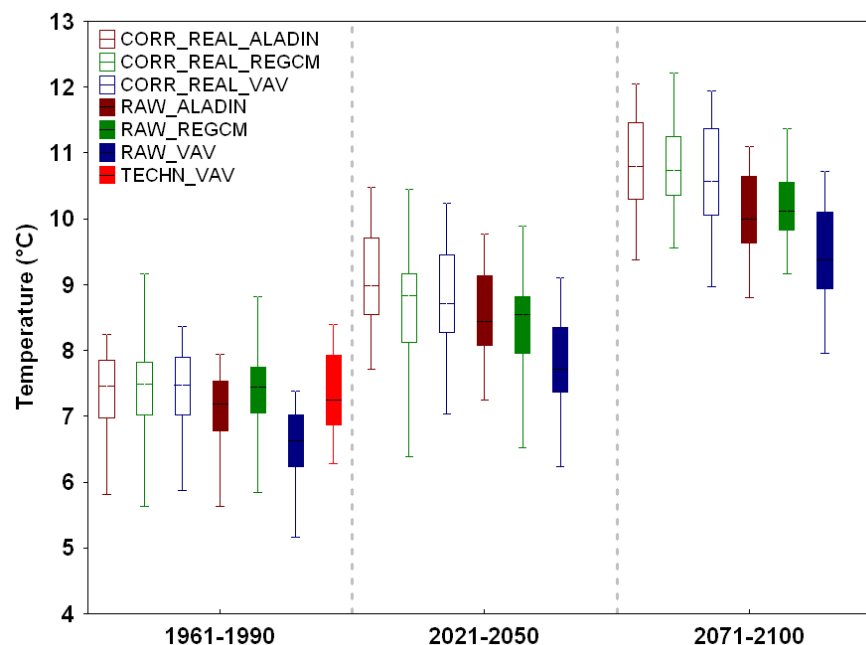
PREDICTION OF CLIMATE CHANGE IN THE CZECH REPUBLIC



PREDICTION OF CLIMATE CHANGE IN THE CZECH REPUBLIC

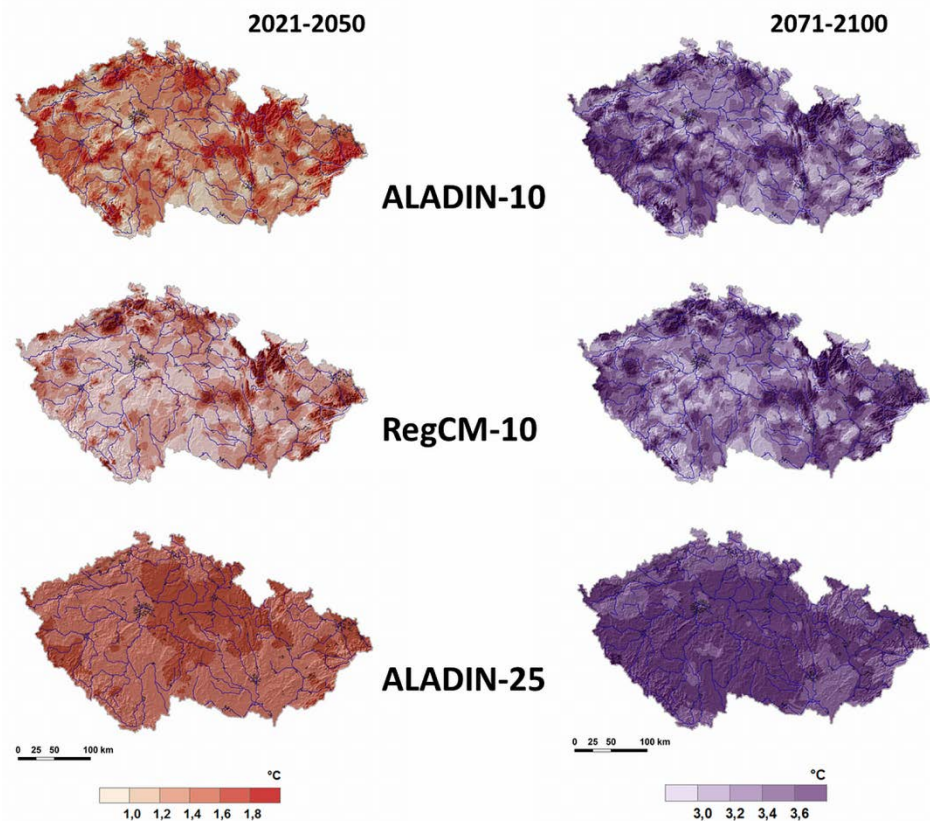
◆ TEMPERATURE

		YEAR		
MODEL	TYPE	1961-1990	2021-2050	2071-2100
ALADIN	corrected	7.4	+1.7	+3.5
ALADIN	uncorrected	7.1	+1.4	+3.0
RegCM	corrected	7.5	+1.2	+3.4
RegCM	uncorrected	7.4	+1.0	+2.8
VaV	corrected	7.4	+1.4	+3.3
VaV	uncorrected	6.6	+1.2	+2.9
REAL		7.3		



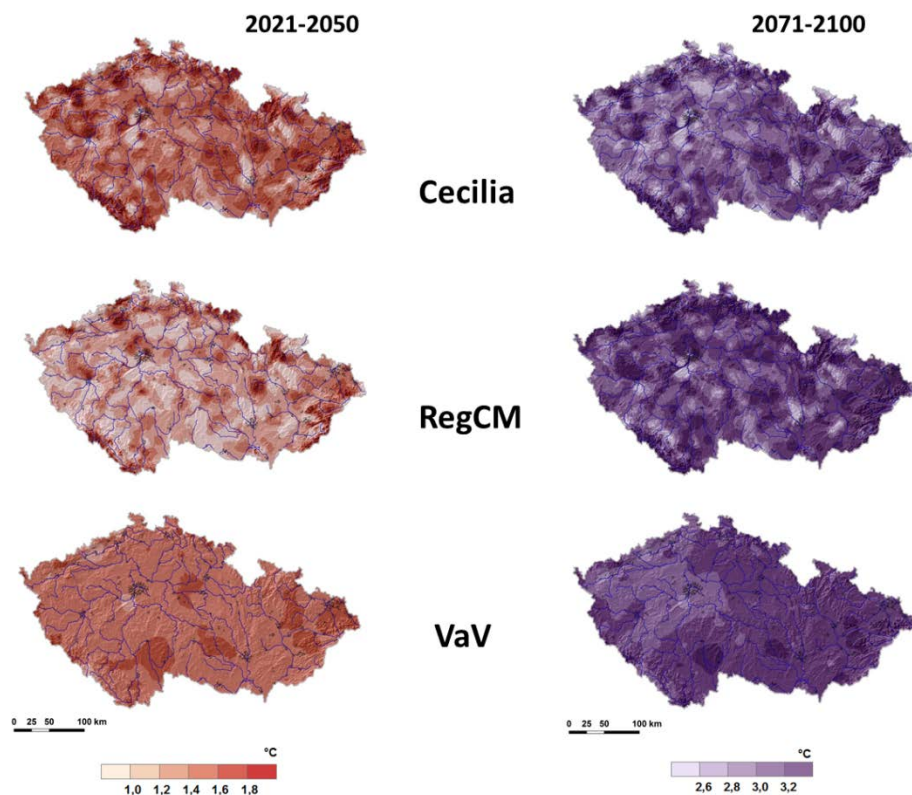
		DJF			MAM			JJA			SON		
MODEL	TYPE	1961-1990	2021-2050	2071-2100	1961-1990	2021-2050	2071-2100	1961-1990	2021-2050	2071-2100	1961-1990	2021-2050	2071-2100
ALADIN	corrected	-1.4	+1.7	+3.1	6.8	+1.5	+3.3	16.5	+1.9	+4.3	7.4	+1.6	+3.3
ALADIN	uncorrected	-1.3	+1.3	+2.4	6.0	+1.3	+2.8	17.0	+1.4	+3.4	6.6	+1.6	+3.3
RegCM	corrected	-1.5	+1.4	+3.8	7.2	+1.4	+2.8	16.2	+0.8	+3.3	7.8	+1.3	+3.5
RegCM	uncorrected	0.4	+1.2	+3.2	7.3	+1.2	+2.3	14.5	+0.6	+2.6	7.5	+1.1	+2.9
VaV	corrected	-1.6	+1.5	+2.9	6.8	+1.2	+3.1	16.6	+1.4	+3.9	7.5	+1.4	+3.1
VaV	uncorrected	-1.8	+1.2	+2.3	5.0	+1.1	+2.8	16.1	+1.2	+3.4	6.7	+1.4	+3.1
REAL		-1.8			7.1			16.0			7.7		

◆ Maximum temperature



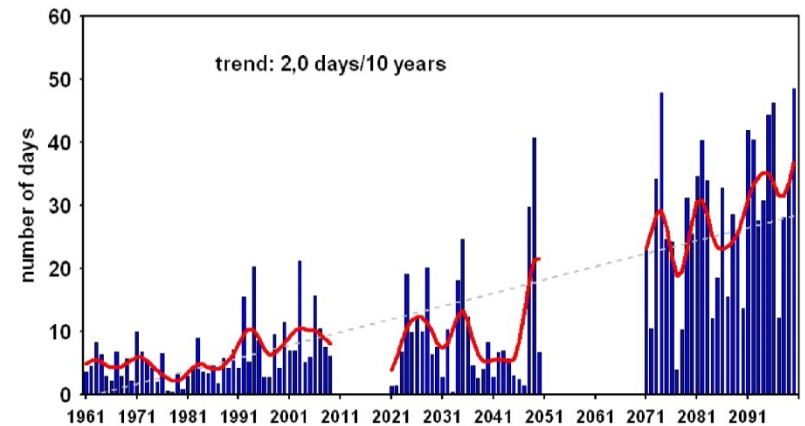
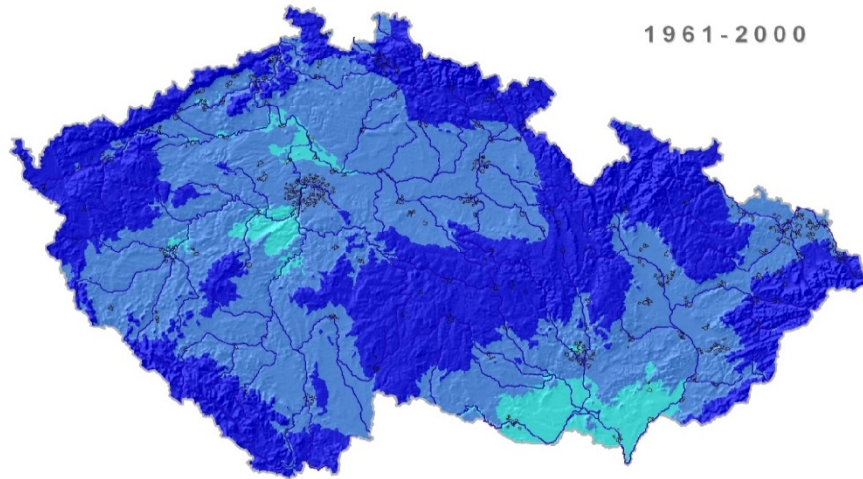
◆ 1.1 - 1.4 °C
3.3 - 3.4 °C

◆ Minimum temperature

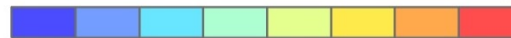


◆ 1.1 - 1.4 °C
2.9 - 3.1 °C

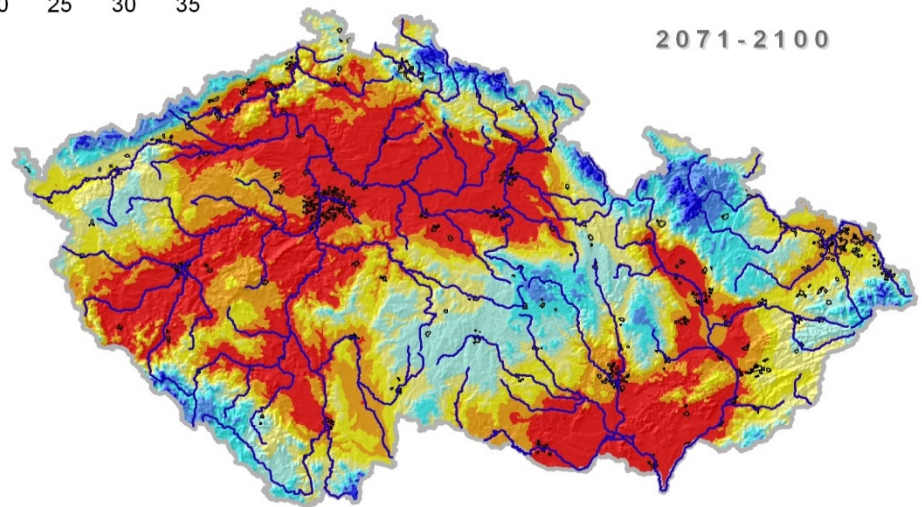
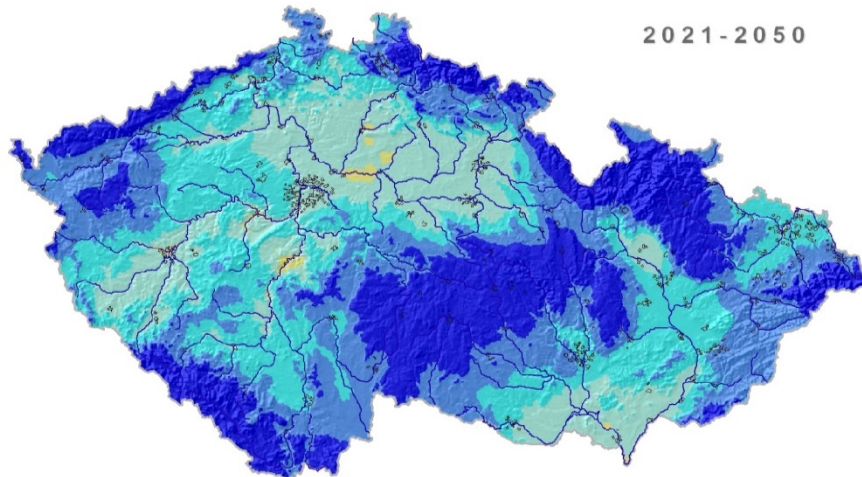
Number of tropical days in the period 1961-2100



number of days



5 10 15 20 25 30 35



0 25 50 100 km

