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# Quality control of climatological time series in the province of macerata (adriatic side of central italy)



X2.392

Geophysical Research Abstracts

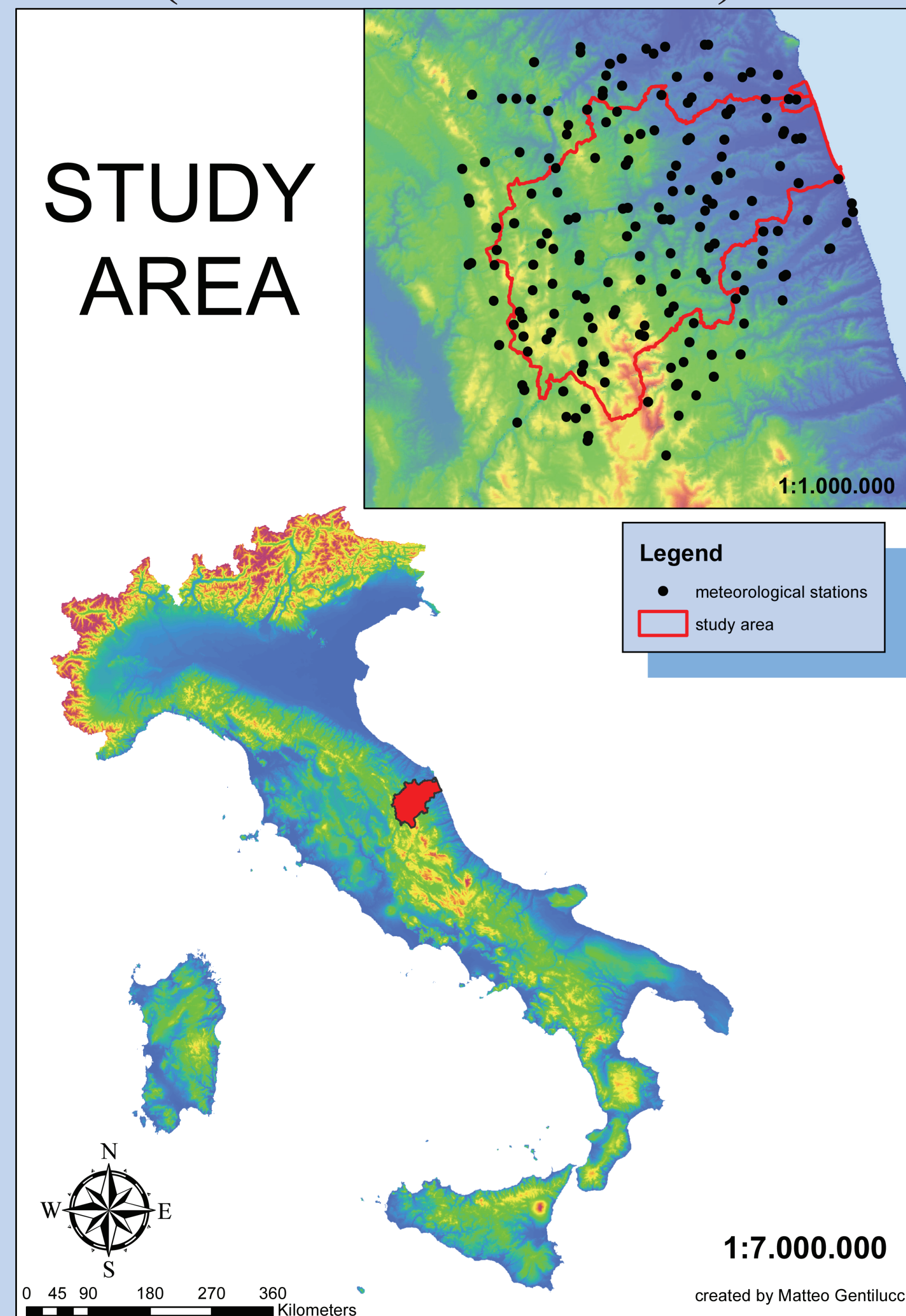
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## PROVINCE OF MACERATA (CENTRAL ITALY)



MORE THAN 100 METEOROLOGICAL  
RECORDING STATIONS FOR  
TEMPERATURES AND PRECIPITATIONS  
THAT COVER ABOUT ONE CENTURY OF  
OBSERVATIONS

## A BIG PROBLEM

SOME ERRORS AND MISSING DATA

## HOW TO SOLVE THIS PROBLEM?

# VALIDATION

IT IS COMPOSED BY 7 STEP:

- LOGICAL CONTROL
- INTERNAL CONSISTENCY CHECK
- TOLERANCE TEST
- SPATIAL CONSISTENCY
- TEMPORAL CONSISTENCY
- HOMOGENIZATION
- RECONSTRUCTION

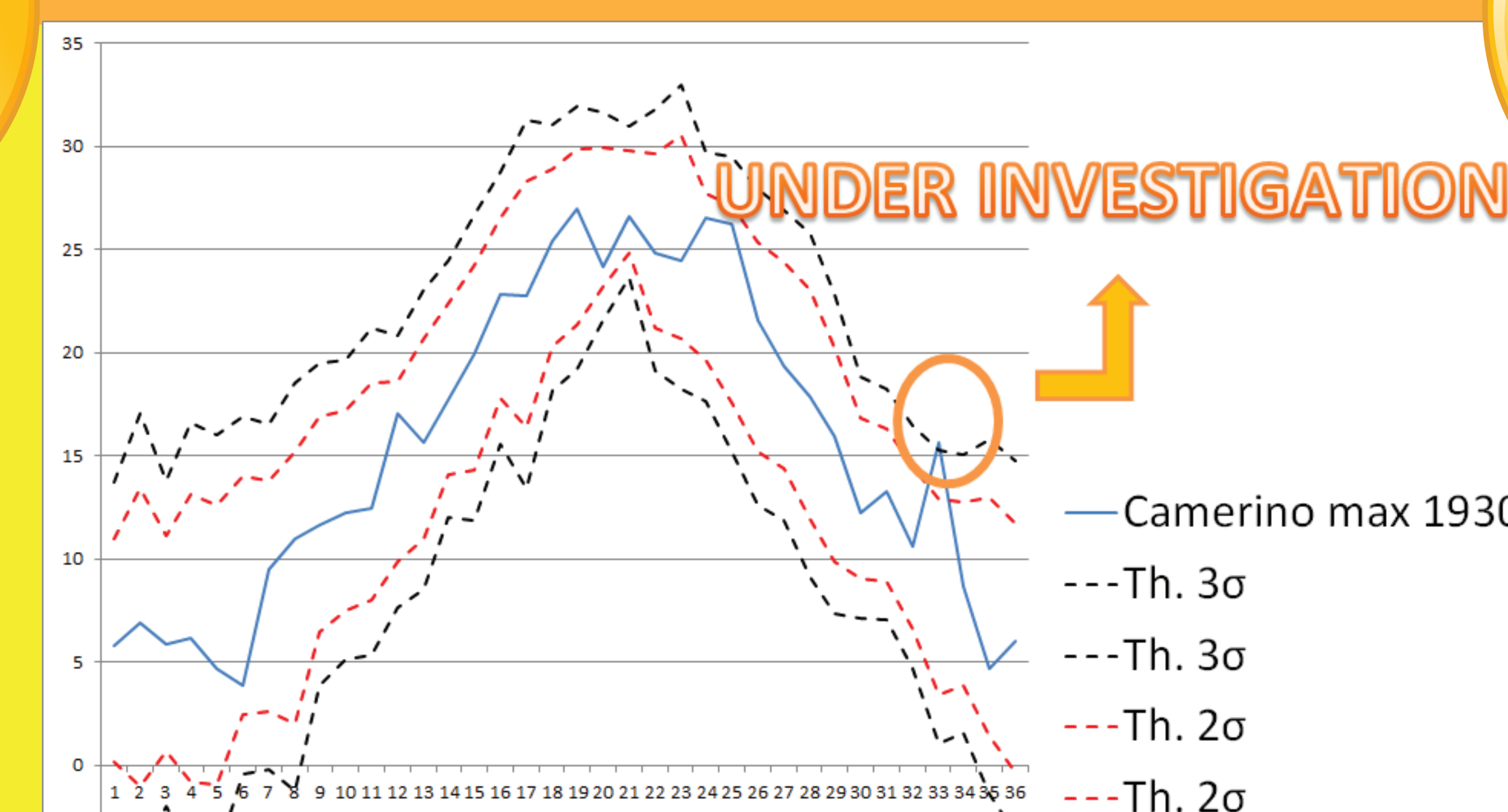
THE DATA ARE CLASSIFIED  
THROUGH VALIDATION CODES

- VC=-1 MISSING
- VC=0 VERIFIED
- VC=1 UNDER INVESTIGATION
- VC=2 REMOVED
- VC=3 RECONSTRUCTED

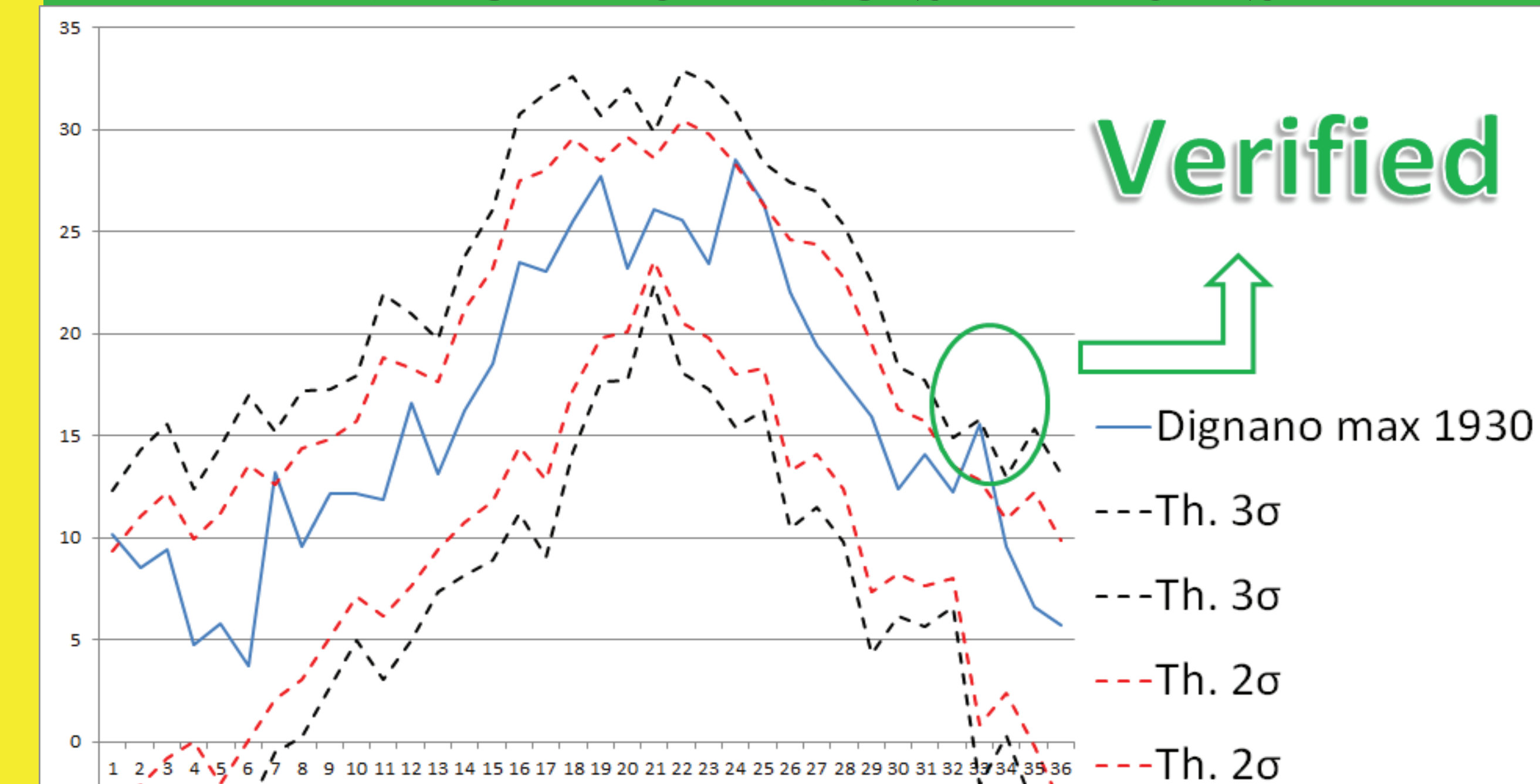
LOGICAL CONTROL = GROSS ERRORS  
INTERNAL C.C. = VALUE OUT OF THE  
CLIMATE ZONE RANGE

stazione	13/11/1993	14/11/1993	15/11/1993	16/11/1993	17/11/1993	18/11/1993	19/11/1993	20/11/1993	21/11/1993	22/11/1993
Camerino T min	6,3	6	7	5,3	8,8	9,3	7	6,2	2	7,1
Dignano T max	8,4	6	6,5	9,5	12,2	12,7	12,3	9	11,4	10,1
Dignano T min	2,8	1,8	1,7	2,9	1,9	1,8	2,8	1,9	2	1,9
Ornano s.a. T max	9,6	12	11	14,5	18	19,6	15	13,8	16,2	11
Ornano s.a. T min	6,5	6,5	3,4	3,2	8,6	8,8	8,2	6,8	7	7
Macerata T max										
Macerata T min										
Servigliano T max	14	13,1	11,8	15	20	21,1	20,5	15	16,2	13,4
Servigliano T min	8,2	3,5	3,5	1,6	3	5,1	7	5	11,2	7,7
Fermo T max	18	10,8	9,8	11,4	14,8	13,6	12,5	12,2	13,5	11,4
Fermo T min	8,3	8,4	7	7,1	10,2	11,3	10,1	8,2	10,4	9
Montemonaco T max	10,5	4,6	8,3	10,6	11,4	16	16,4	12,6	12,6	13
Montemonaco T min	3	4	1,4	2,2	7,5	7	4	6	4,5	1
Ussita T max	8,6	9,3	10,2							16,2
Ussita T min	3,2	2,6	1,1							1
Norcia T max	12	11	11,5	11,5	11,5	13	14,5	14	15	15
Norcia T min	6	5,5	3,5	1,5	4,5	3	3	4,5	8	3,5
Gualdo T Tadini max	12,5	9,9	10,5	12,9	15,5	17	20	15,8	15,5	14,3
Gualdo T Tadini min	6	4	5,4	5	7,6	9,6	7	8	10,5	7,5

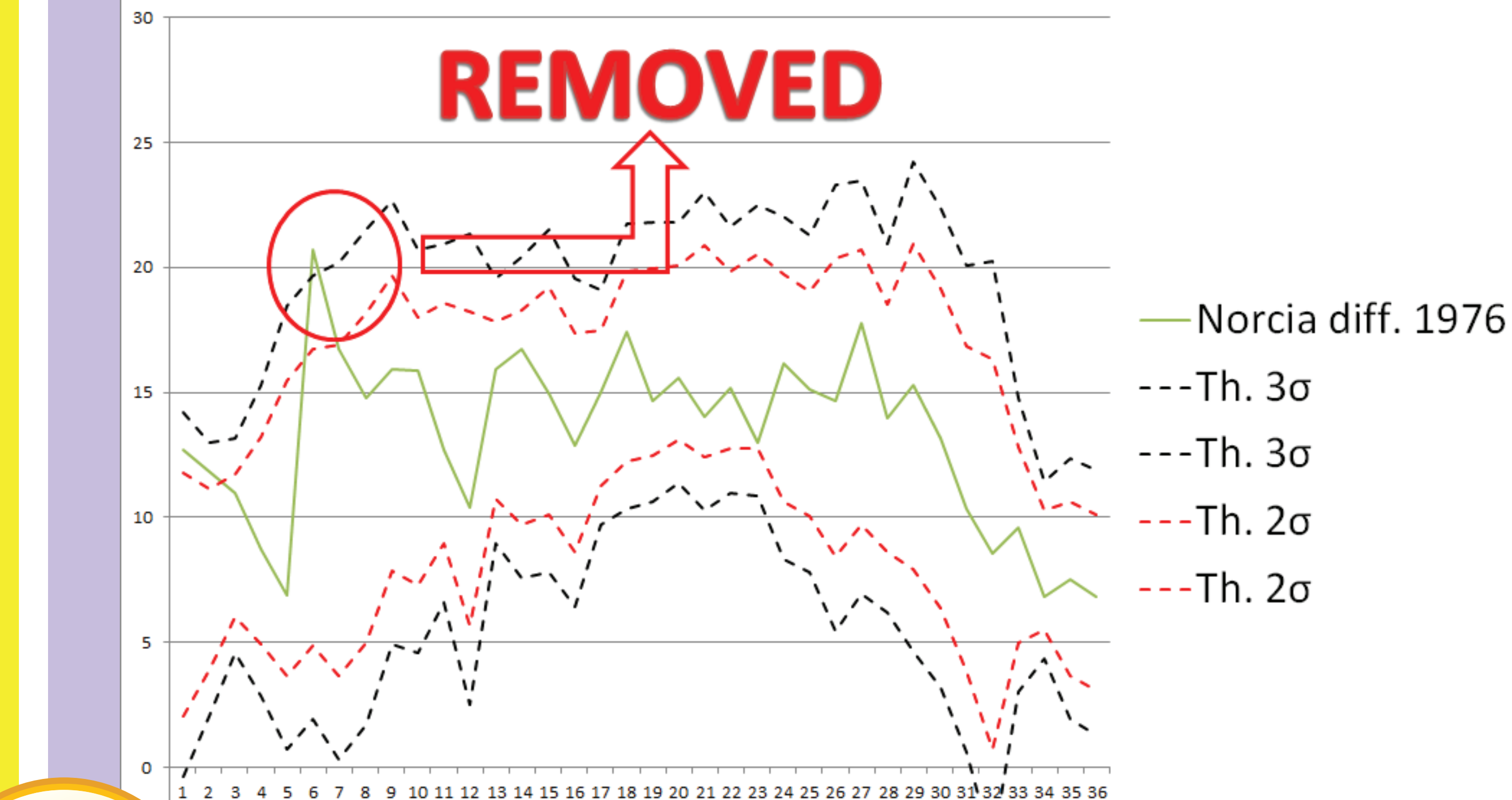
TOLERANCE TEST = COMPARISON OF THE  
DATA WITH THEIR HISTORICAL RECORD



SPATIAL C. = COMPARISON BETWEEN  
NEIGHBORING STATIONS

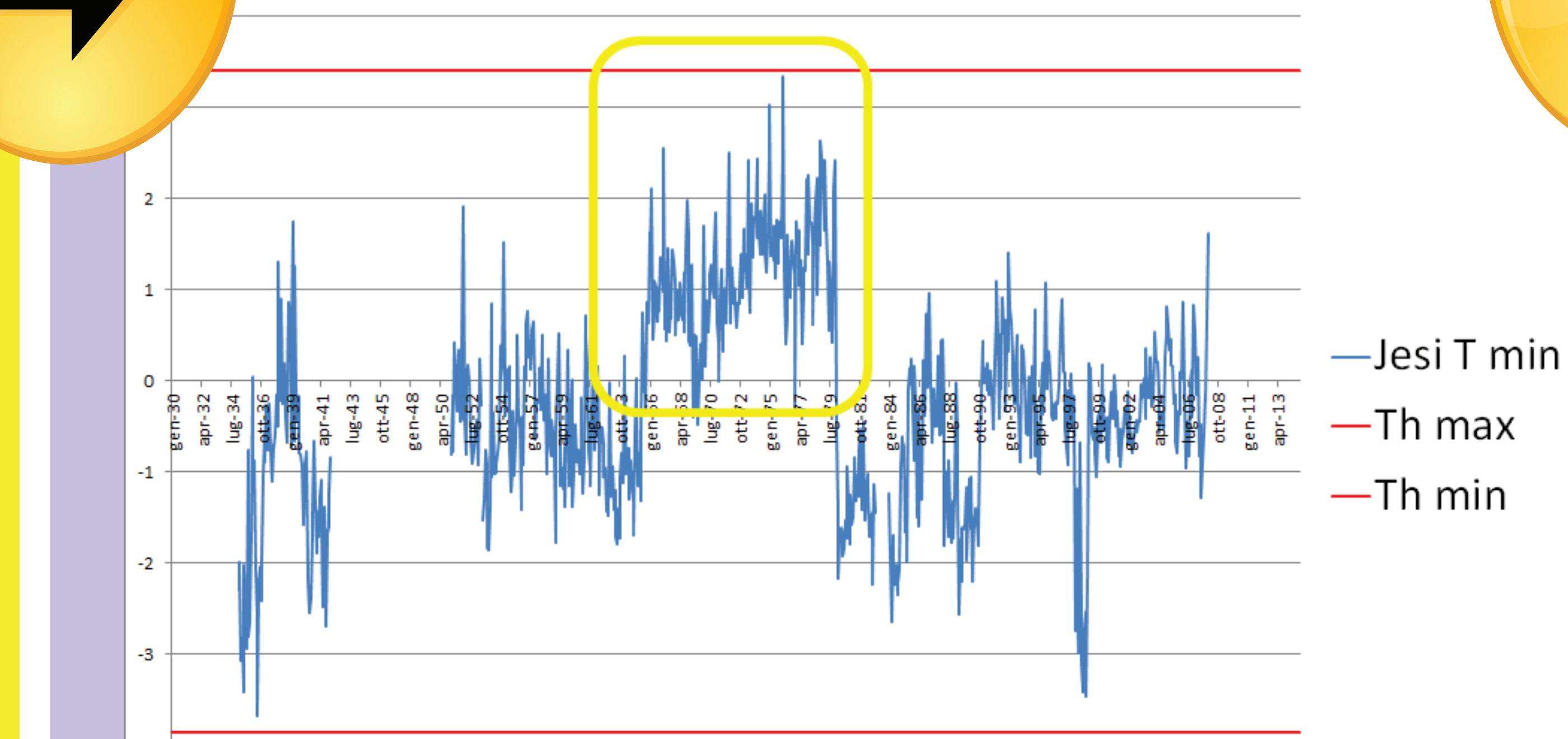


TEMPORAL CONSISTENCY = RANGE OF  
VARIATION IN ADJOINING DAYS FOR EACH  
STATION

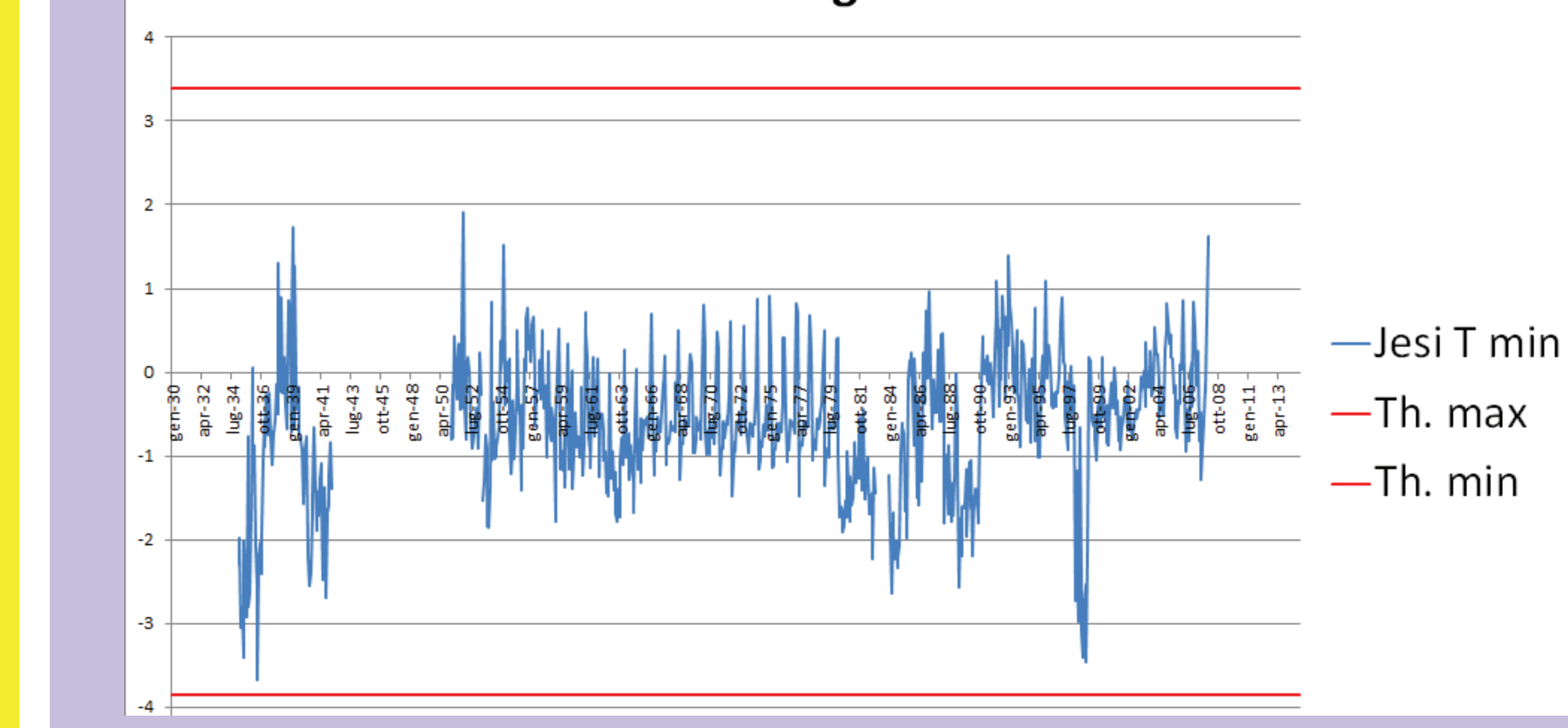


## HOMOGENIZATION

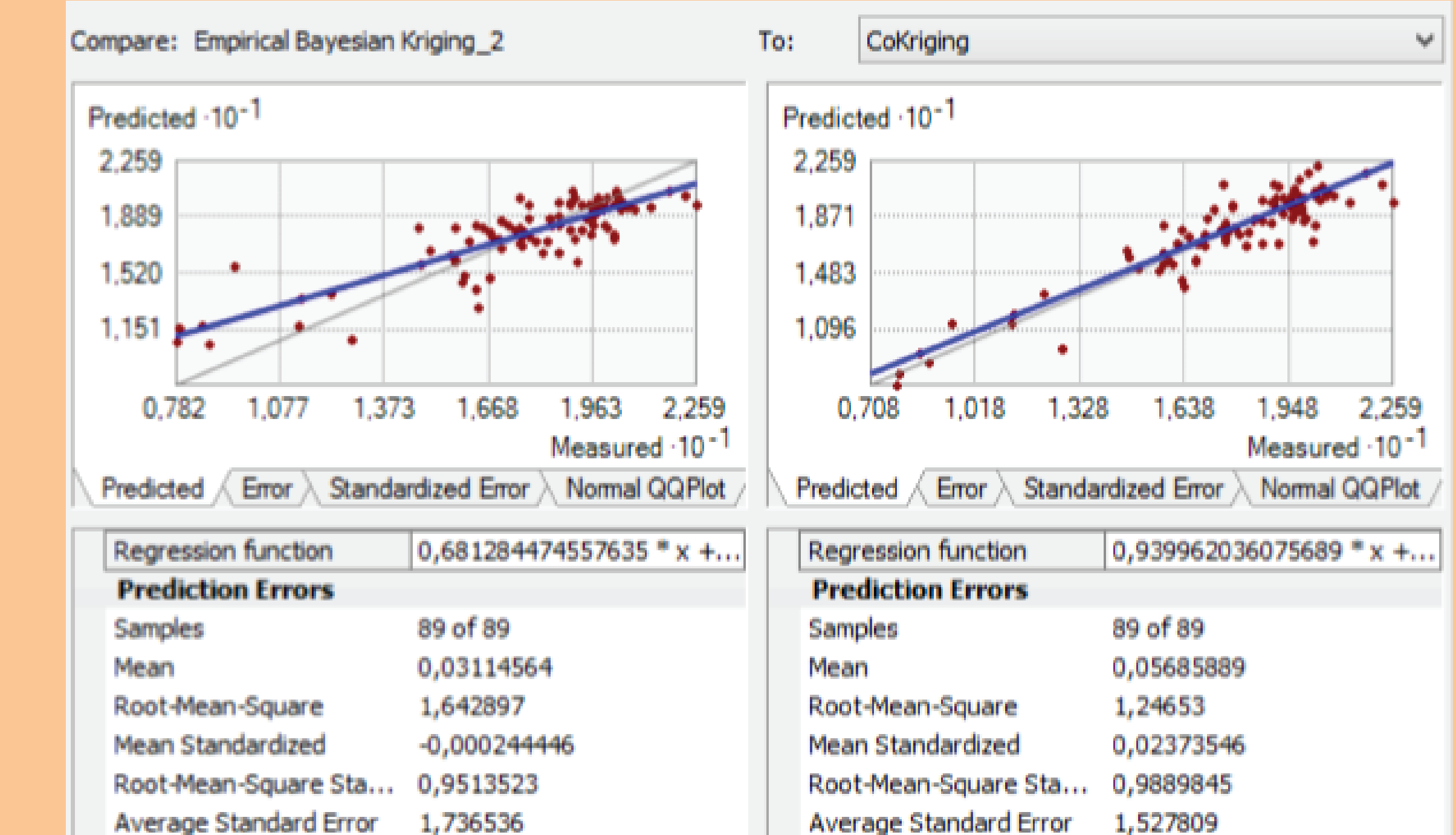
Jesi T min reference time series-real values



Jesi T min reference time series-real values  
homogenized



## RECONSTRUCTION



INTERPOLATION USING A  
CO-KRIGING BASED  
ON THE ELEVATION  
THROUGH  
GIS SOFTWARE

## RESEARCH GOALS

Precipitations - 1286 refused data in  
77021 (1,67%)

Temperatures - 375 refused data in  
1821054 (0,02%)

More than 800 reconstructed data