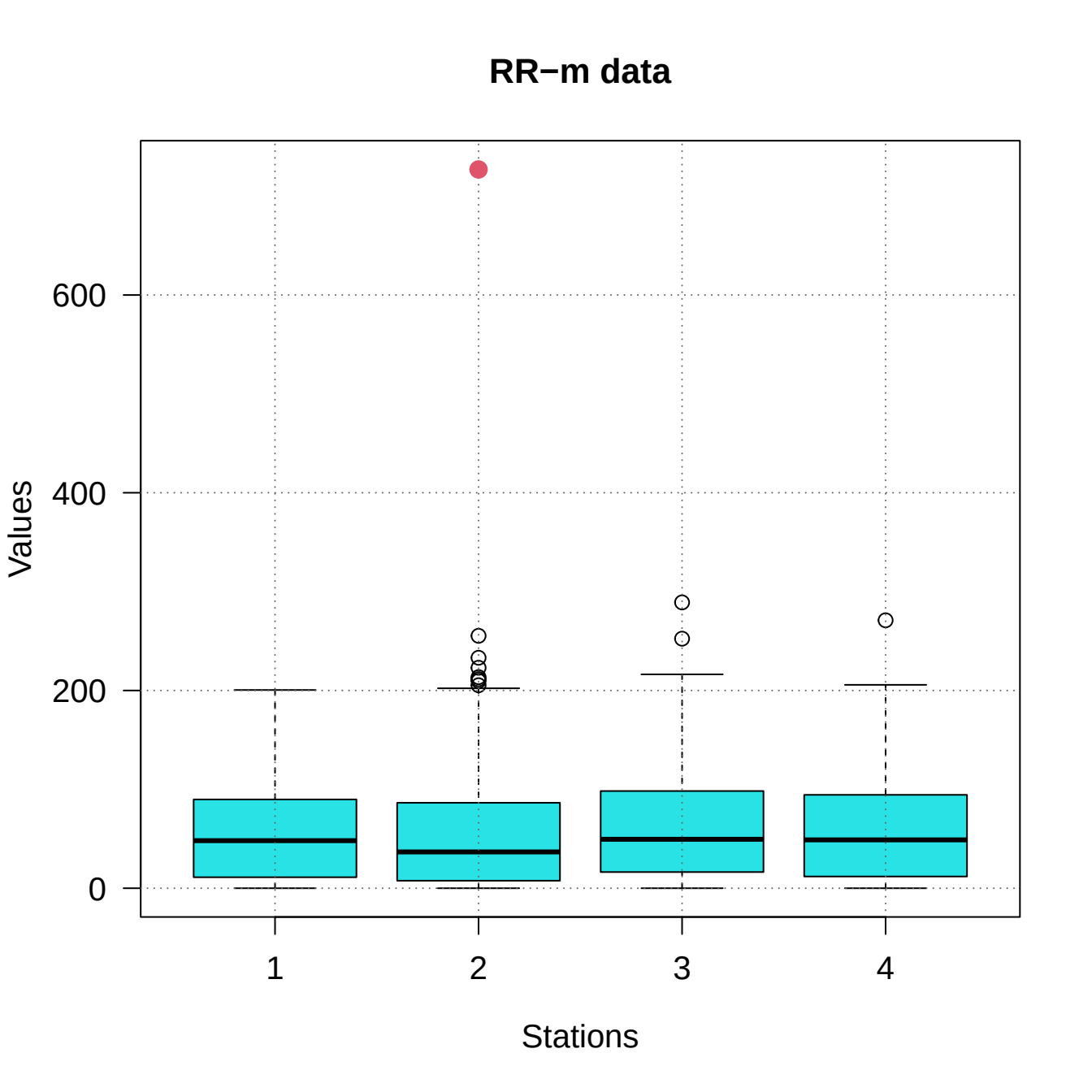
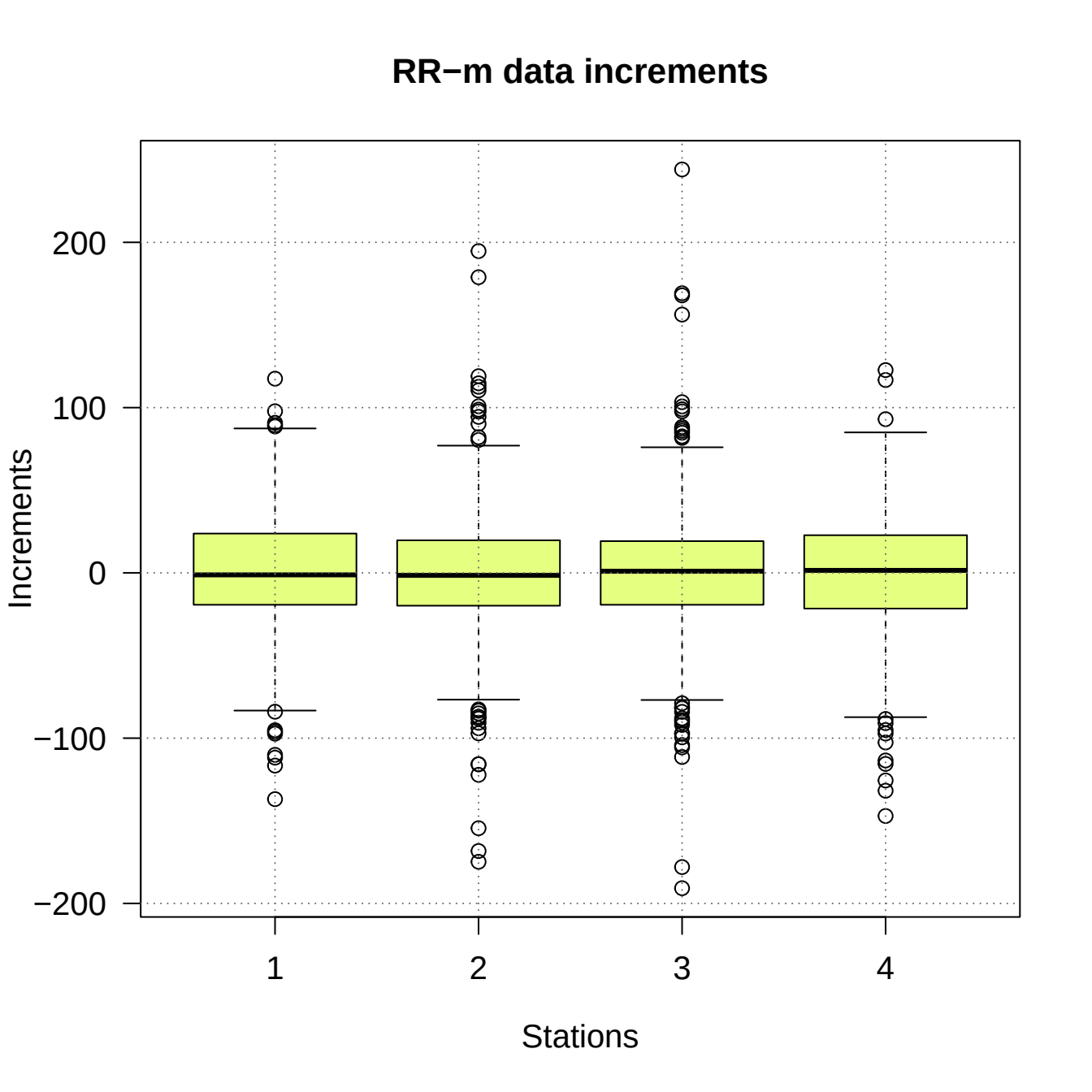
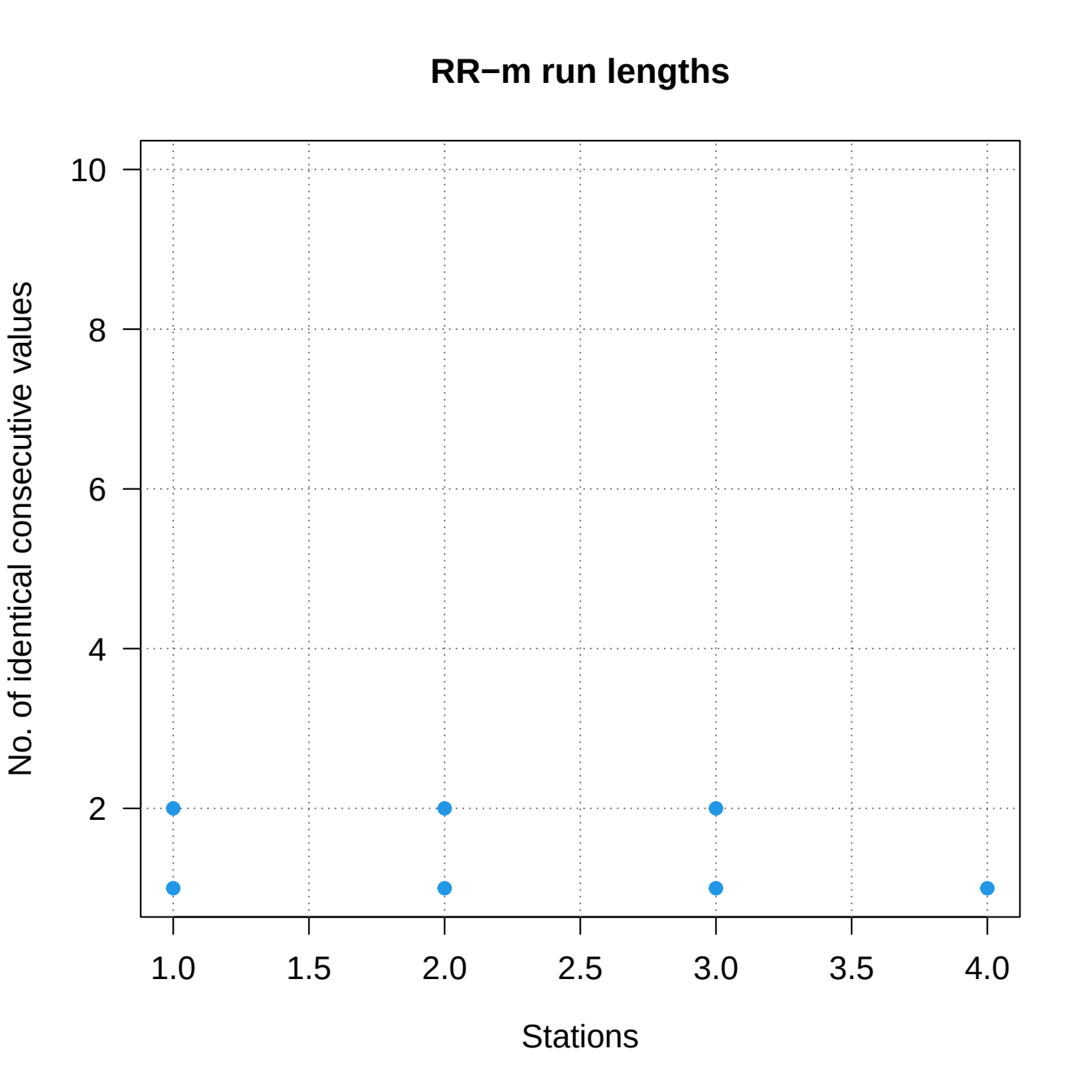
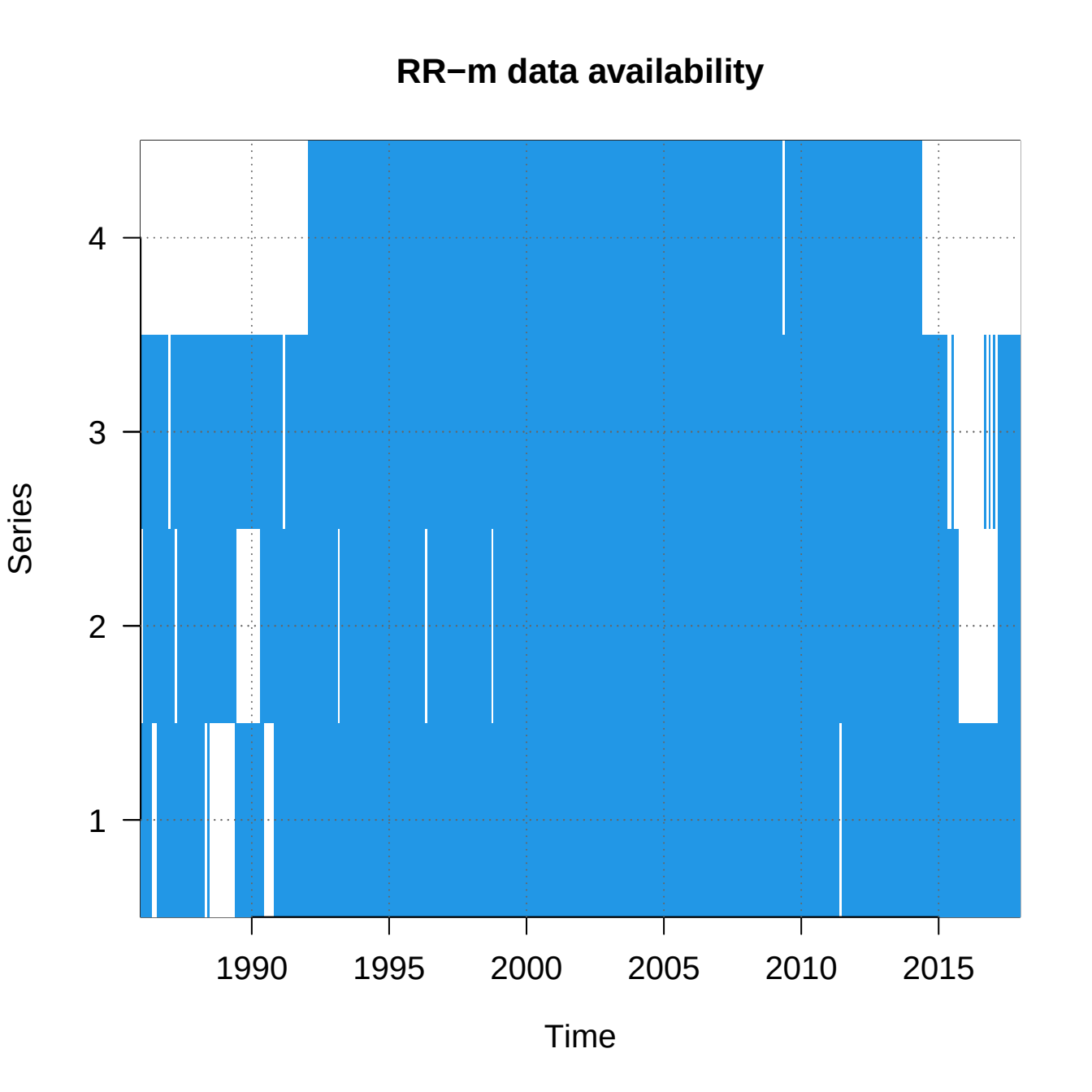
CLIMATOL 4.0.0

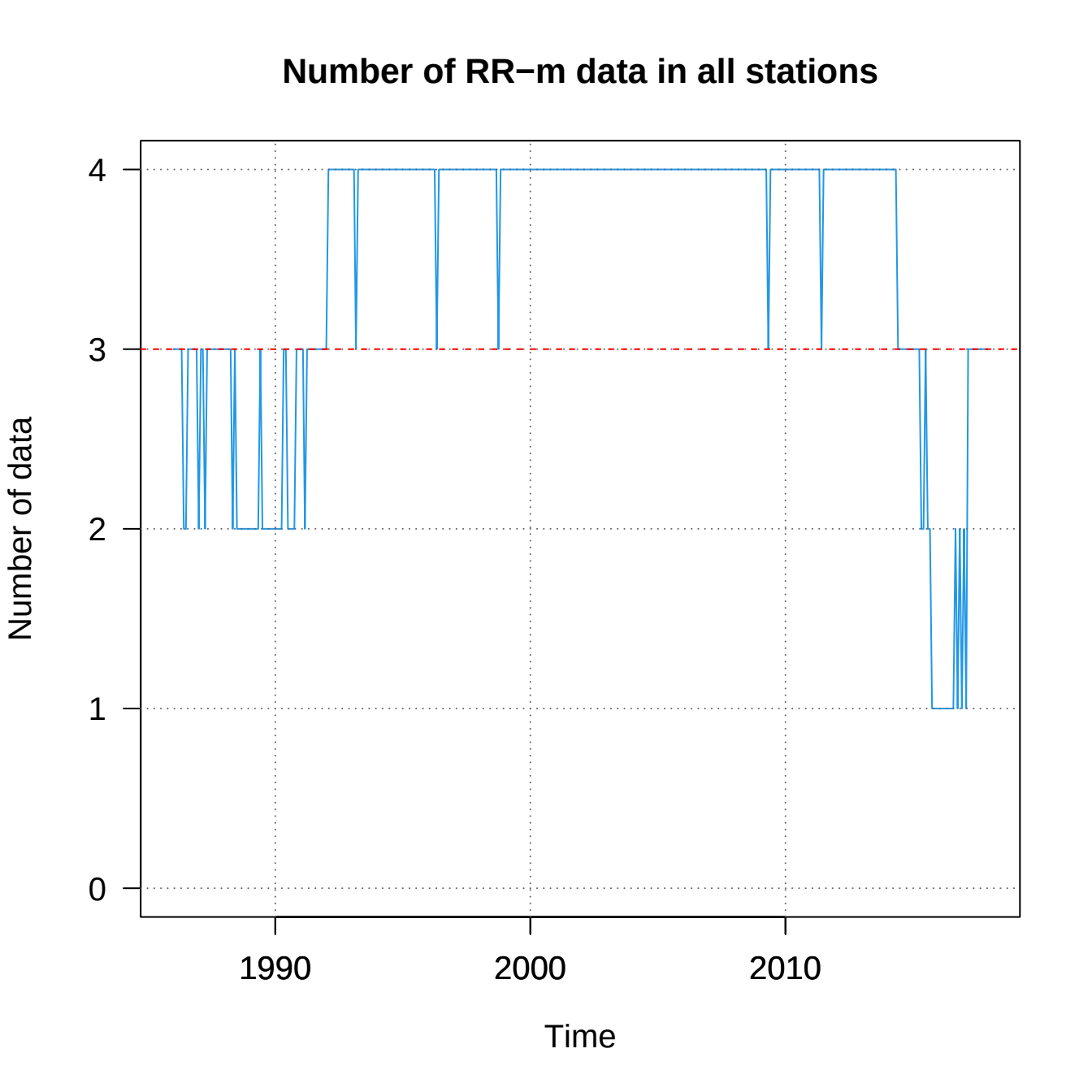
Homogenization
graphic output of
RR−m
1986−2017

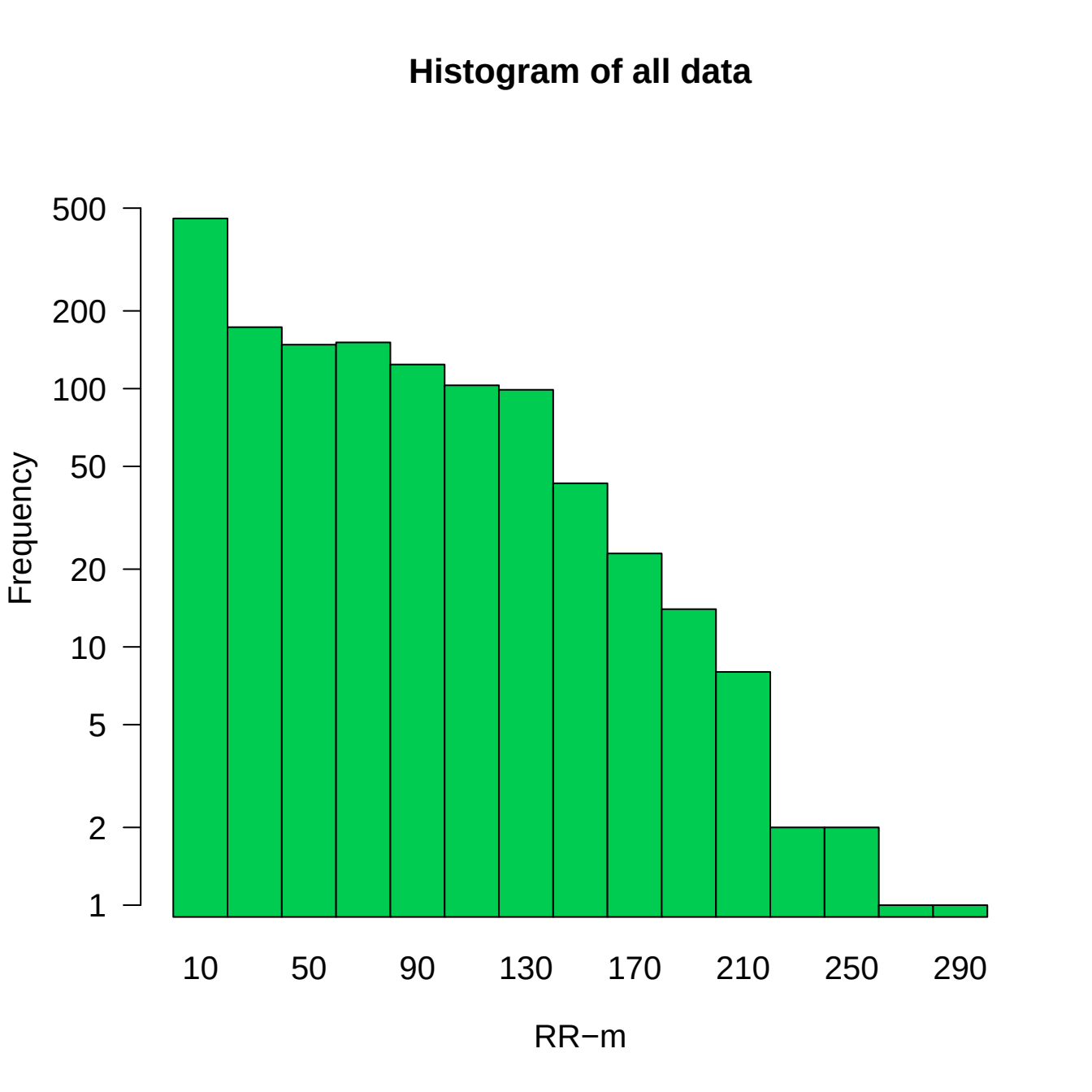

RR−m data
600
400
200
0
Values
1
2
3
4
Stations

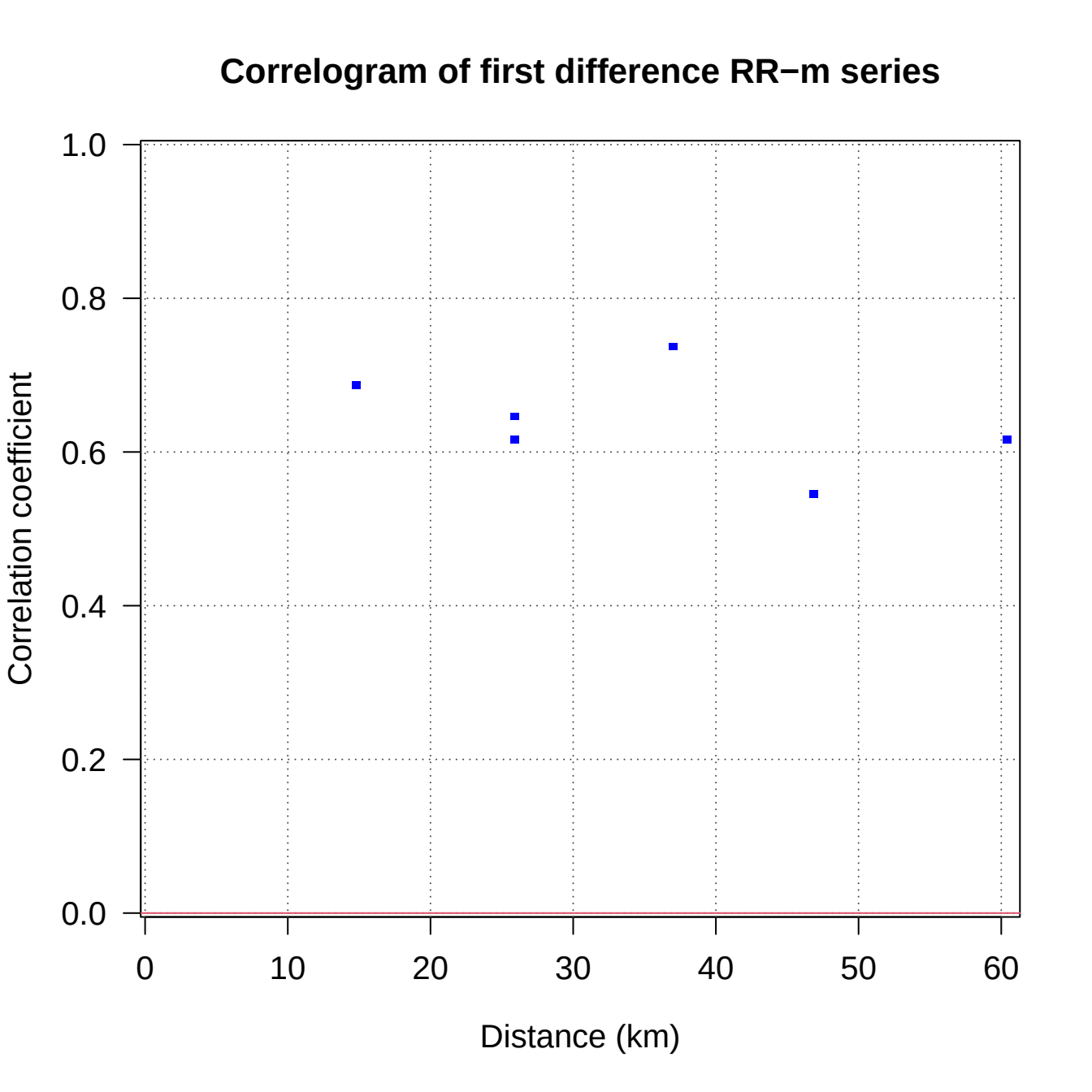

RR−m data increments
200
100
0
−100
−200
Increments
1
2
3
4
Stations

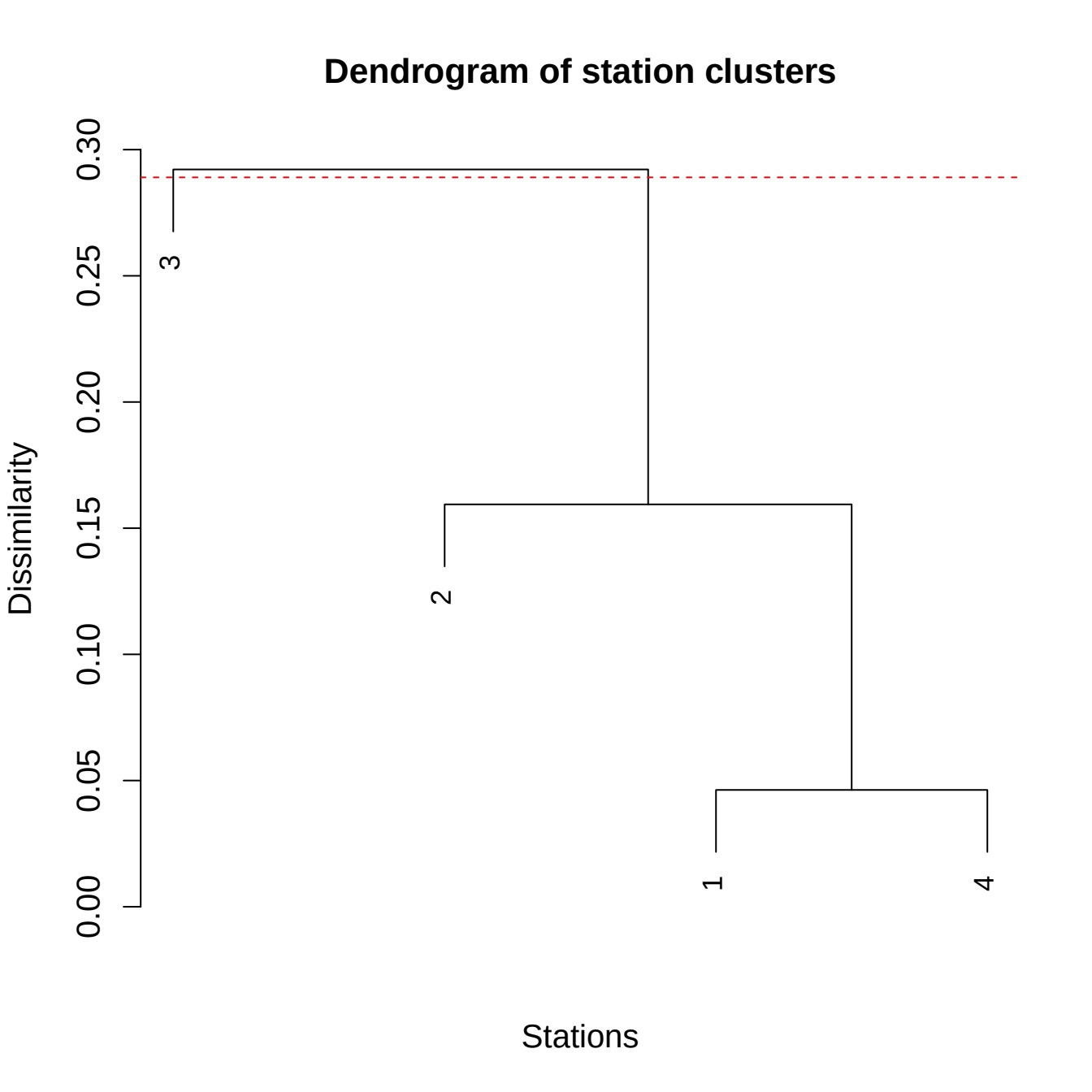

RR−m run lengths
No. of identical consecutive values
10
8
6
4
2
1.0
1.5
2.0
2.5
3.0
3.5
4.0
Stations

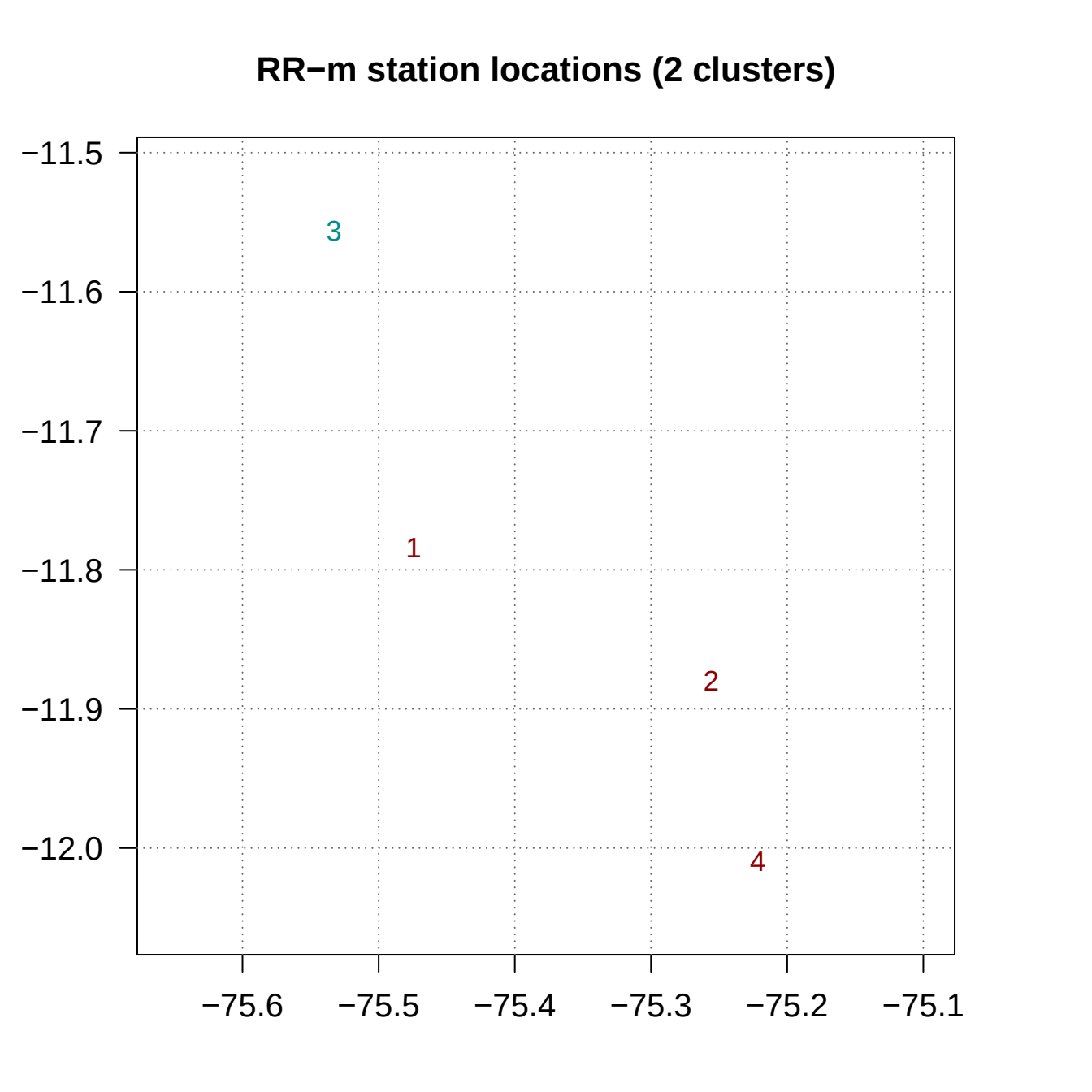

RR−m data availability
Series
4
3
2
1
1990
1995
2000
2005
2010
2015
Time


Number of RR−m data in all stations
Number of data
0
1
2
3
4
1990
2000
2010
Time


Histogram of all data
Frequency
500
200
100
50
20
10
5
2
1
10
50
90
130
170
210
250
290
RR−m

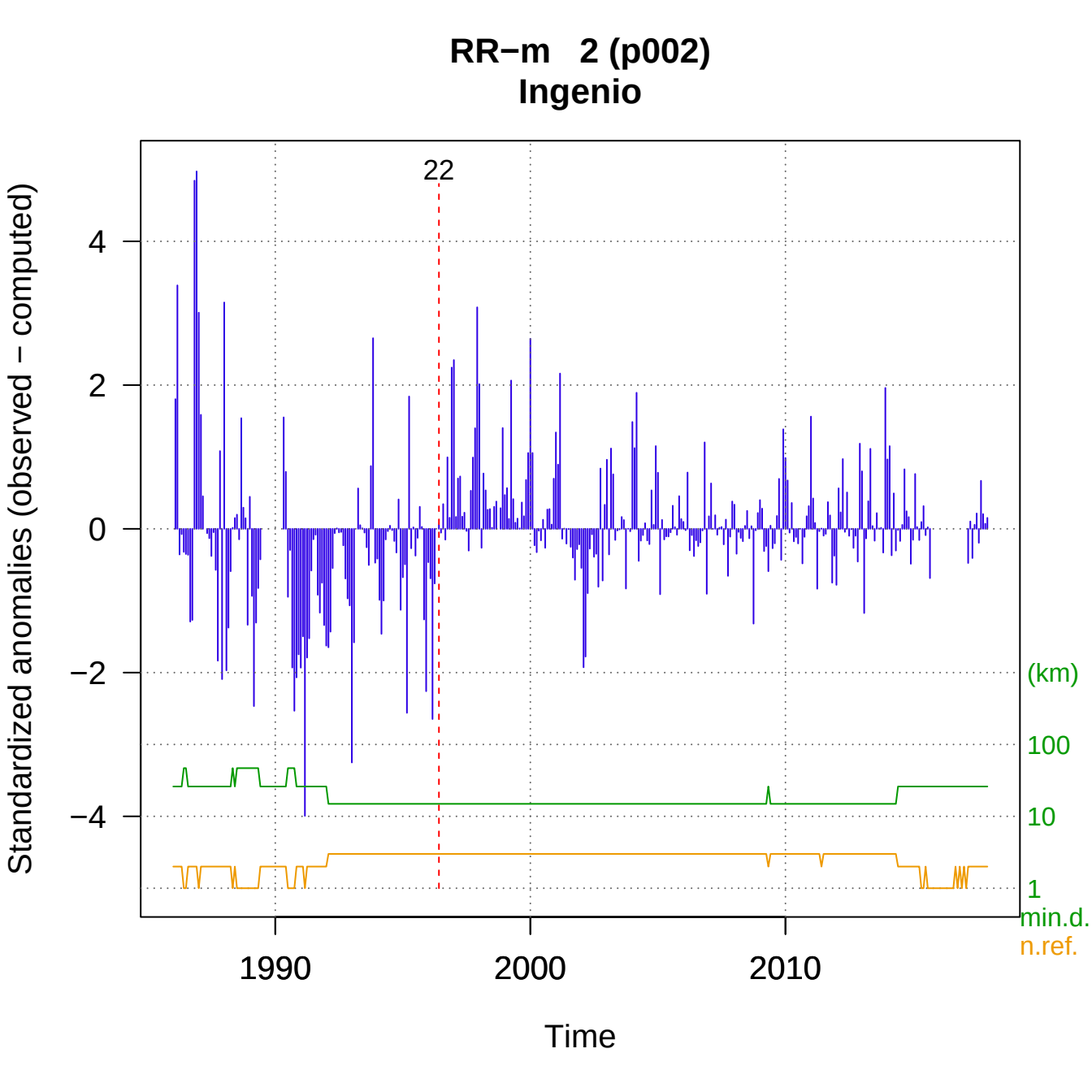

Correlogram of first difference RR−m series
Correlation coefficient
1.0
0.8
0.6
0.4
0.2
0.0
0
10
20
30
40
50
60
Distance (km)


Dendrogram of station clusters
Dissimilarity
0.00
0.05
0.10
0.15
0.20
0.25
0.30
3
2
1
4
Stations


RR−m station locations (2 clusters)
−11.5
−11.6
−11.7
−11.8
−11.9
−12.0
−75.6
−75.5
−75.4
−75.3
−75.2
−75.1
3
1
2
4

Stage 1

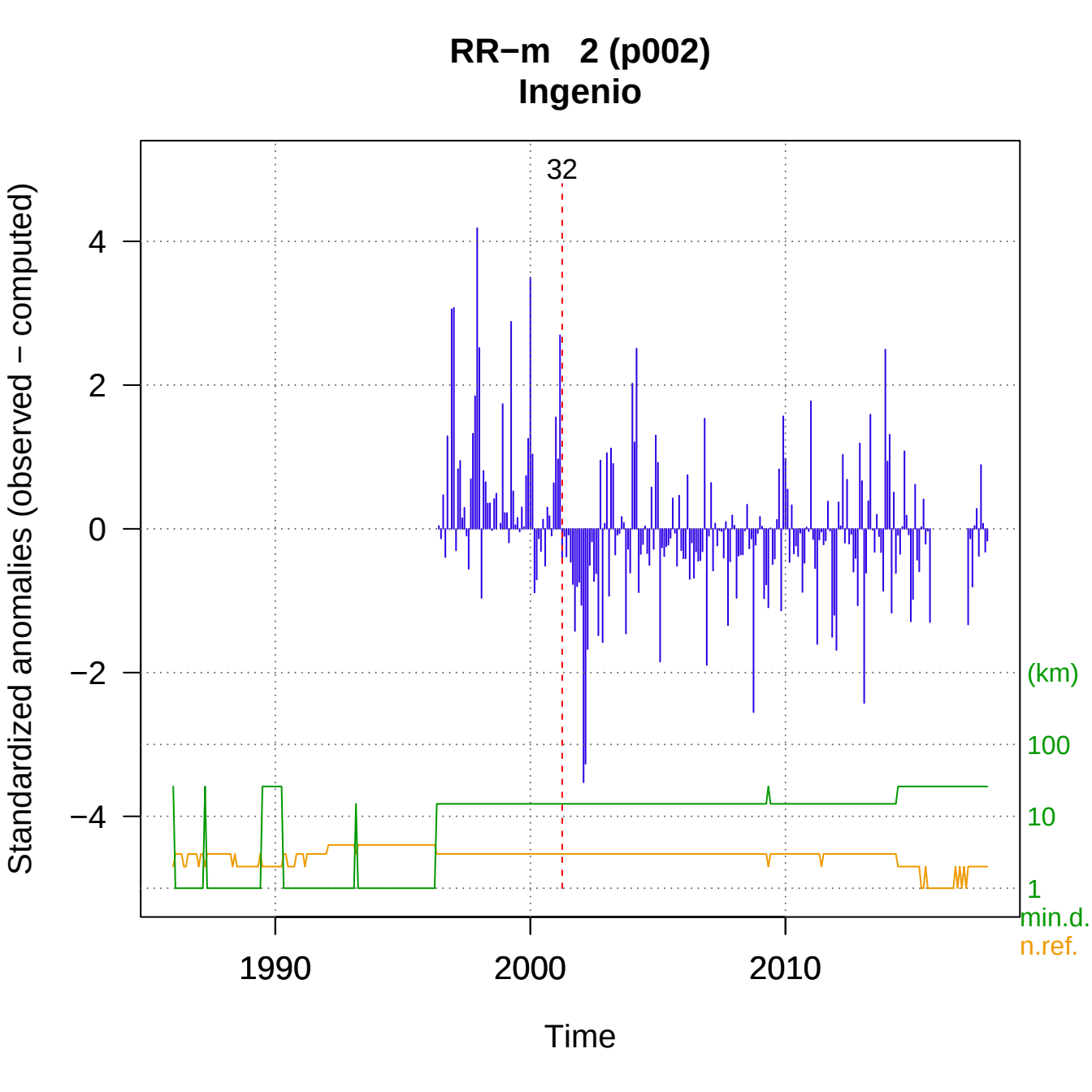
Binary splits on 60 term stepped windows with std=2, SNHT>20 and wd=0 km

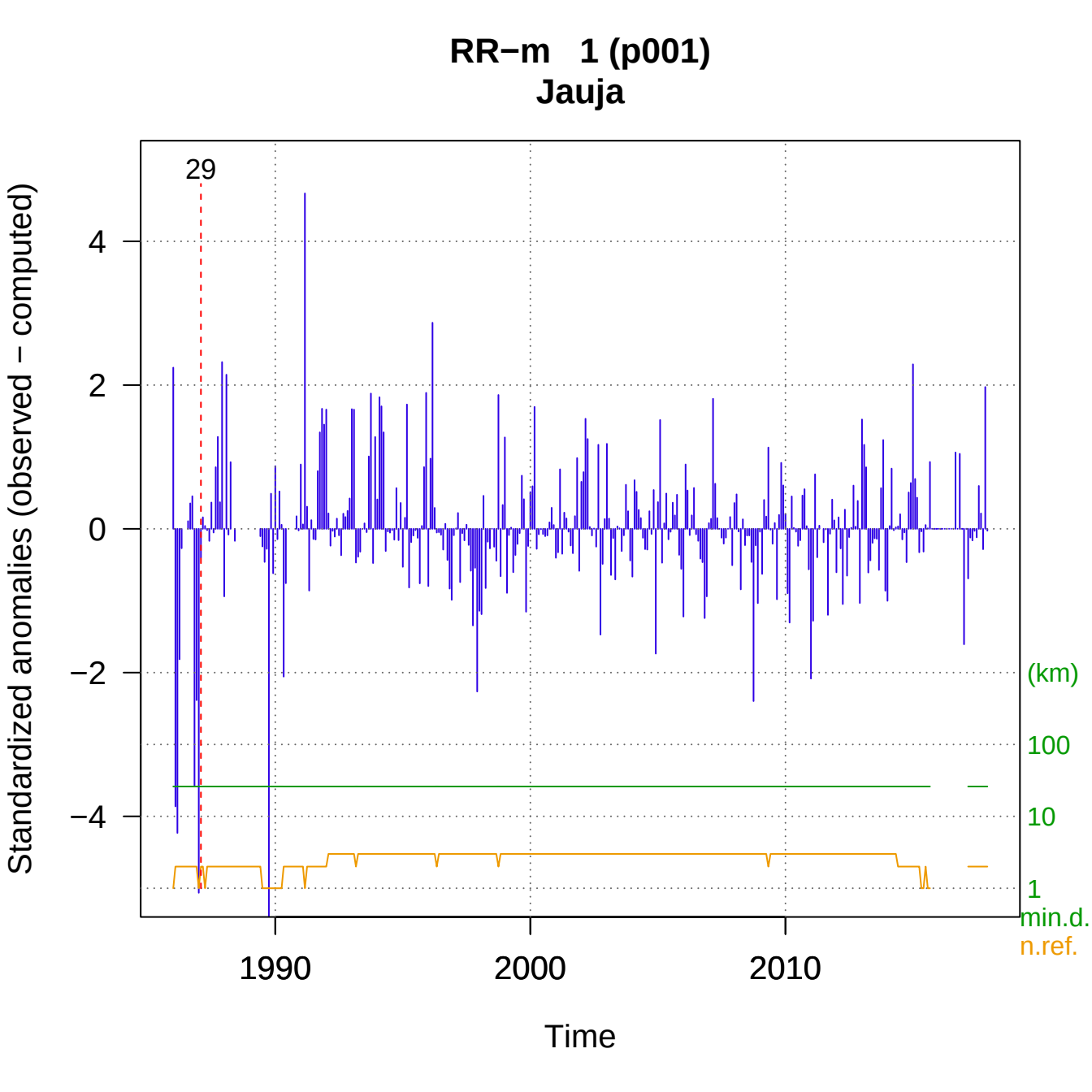

RR−m 2 (p002)
Ingenio
22
4
2
0
−2
−4
Standardized anomalies (observed − computed)
1990
2000
2010
Time
(km)
100
10
1
min.d.
n.ref.


Histogram of maximum SNHT (Stage 1)
Frequency
1
0
5
10
15
20
SNHT

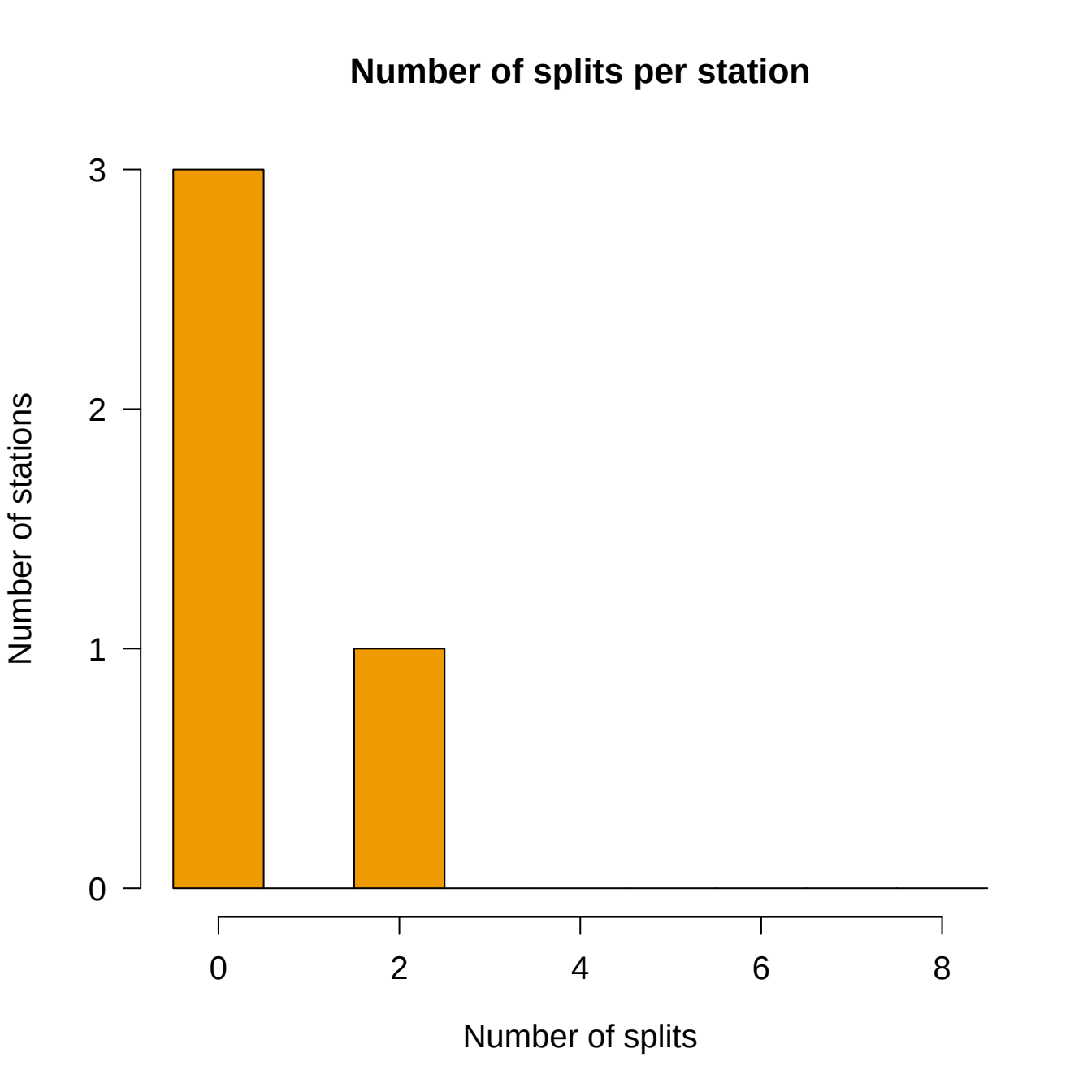
Stage 2

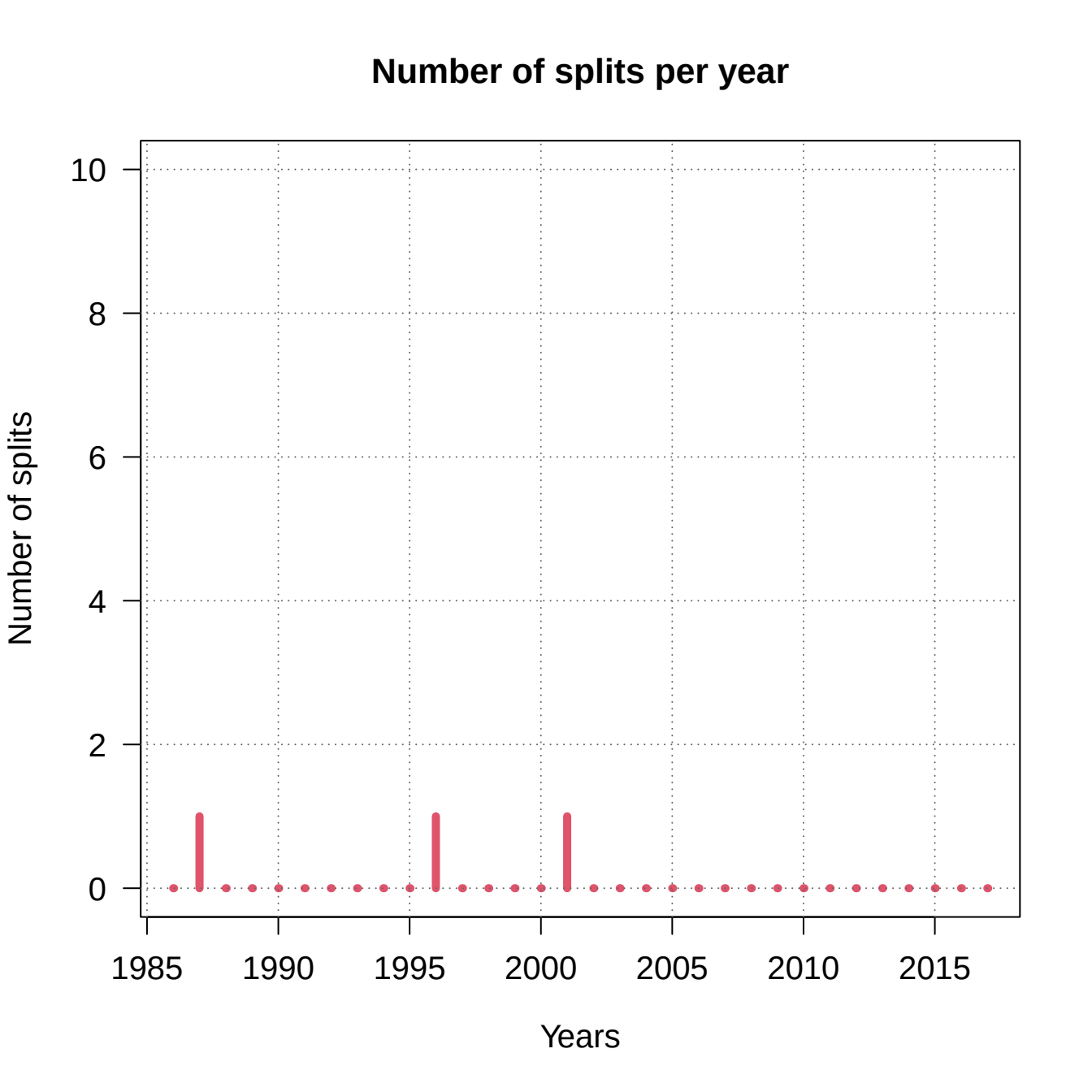
Binary splits on whole series with std=2, SNHT>20 and wd=0 km


RR−m 2 (p002)
Ingenio
32
4
2
0
−2
−4
Standardized anomalies (observed − computed)
1990
2000
2010
Time
(km)
100
10
1
min.d.
n.ref.


RR−m 1 (p001)
Jauja
29
4
2
0
−2
−4
Standardized anomalies (observed − computed)
1990
2000
2010
Time
(km)
100
10
1
min.d.
n.ref.

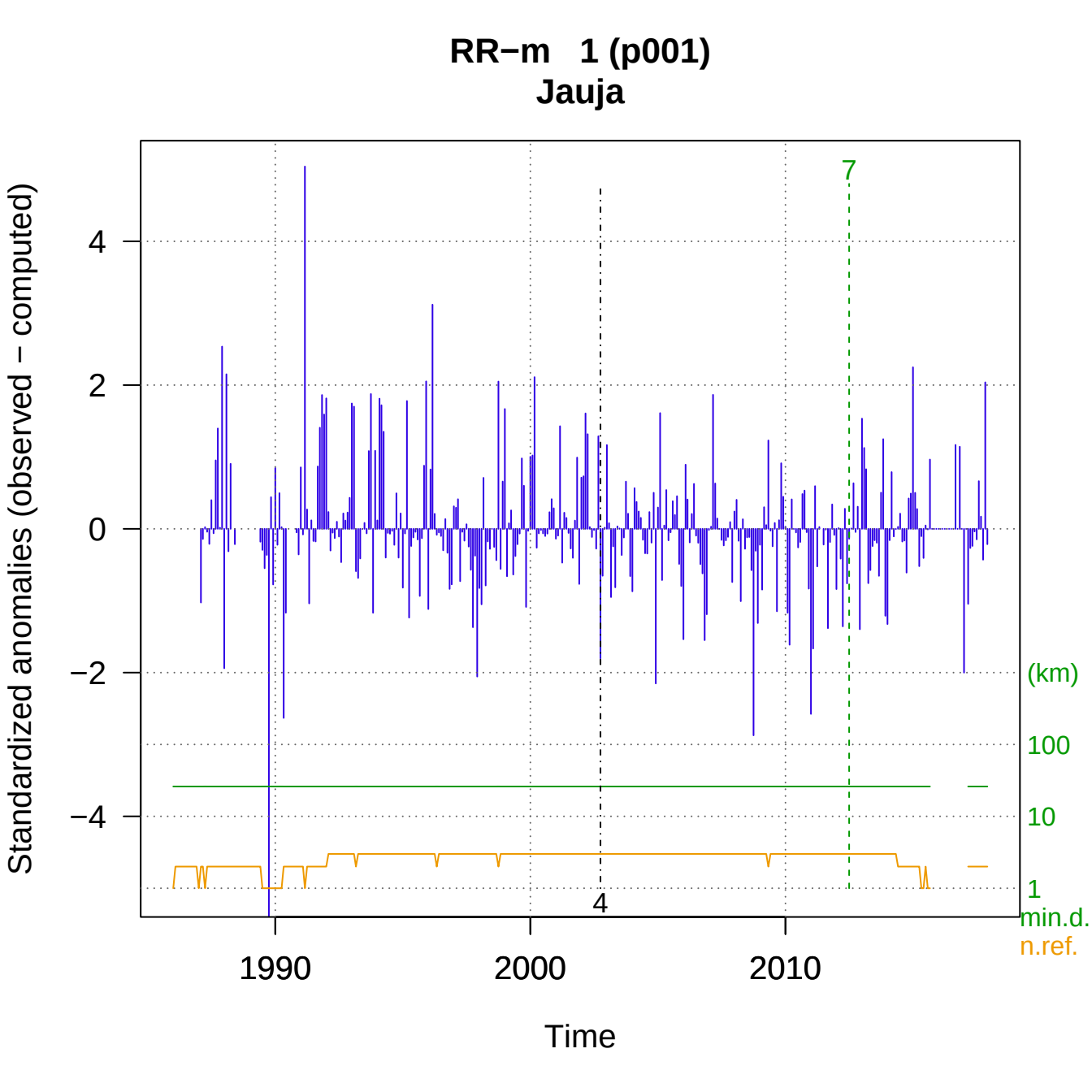

Histogram of maximum SNHT (Stage 2)
1
0
Frequency
5
10
15
SNHT

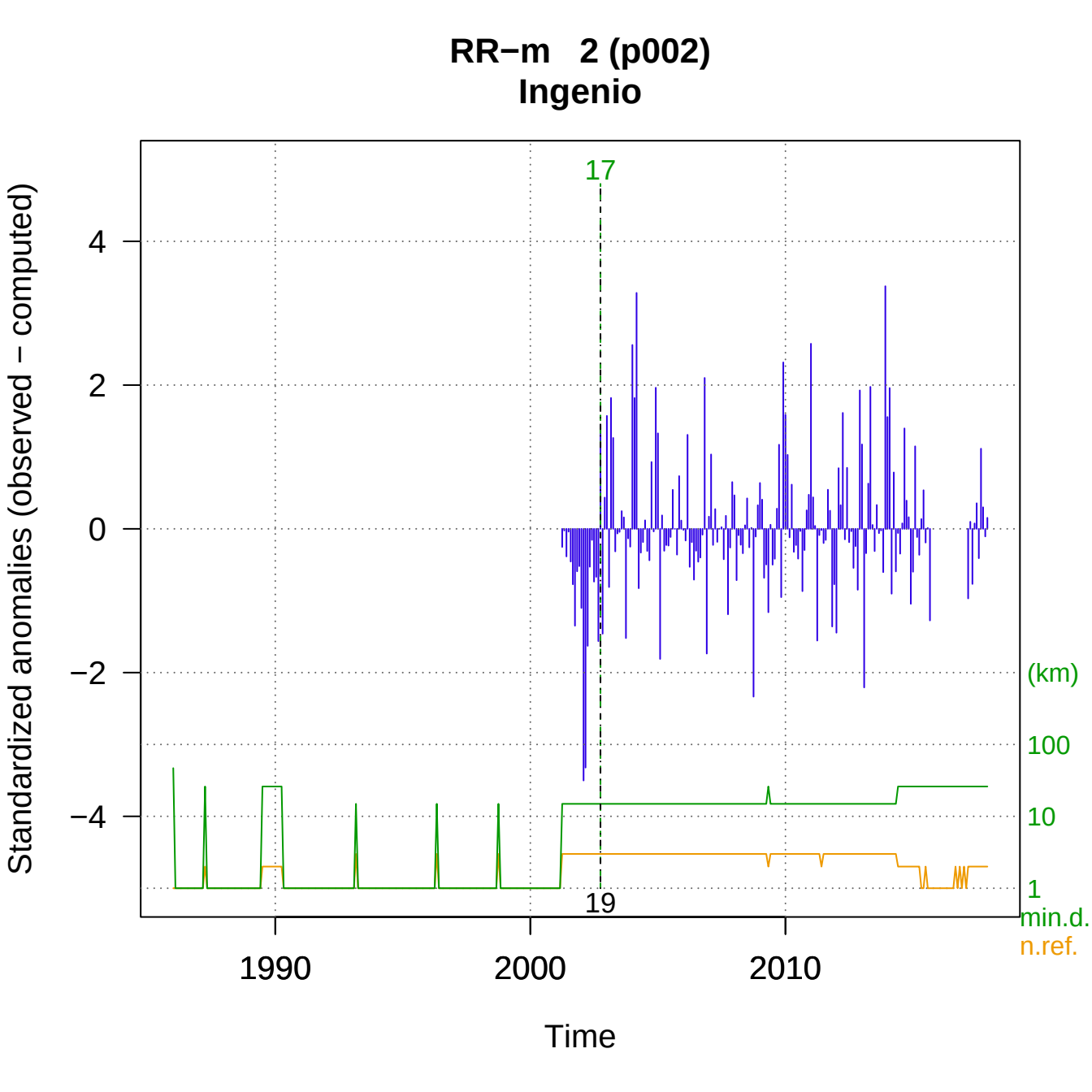

Number of splits per station
Number of stations
3
2
1
0
0
2
4
6
8
Number of splits

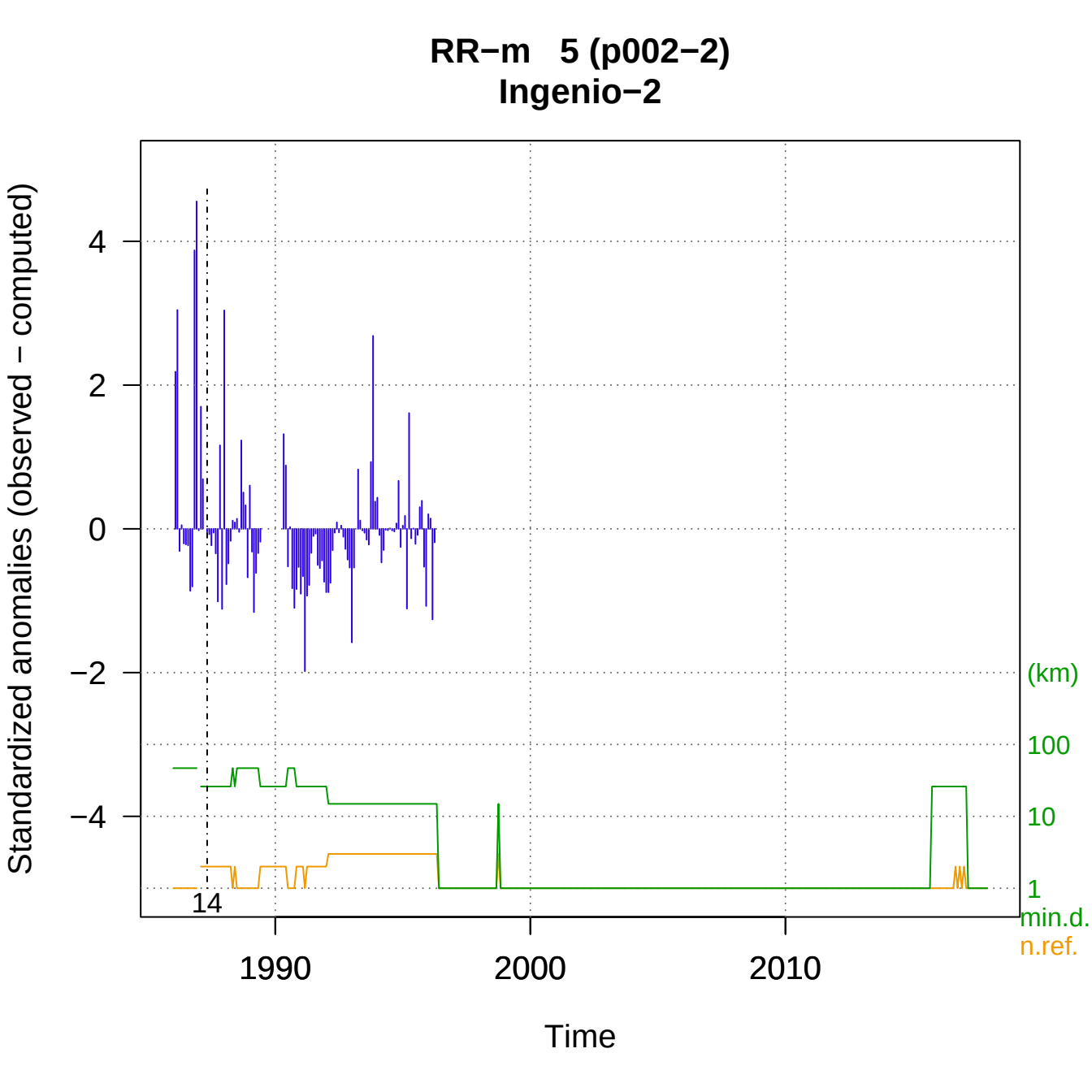

Number of splits per year
Number of splits
0
2
4
6
8
10
1985
1990
1995
2000
2005
2010
2015
Years

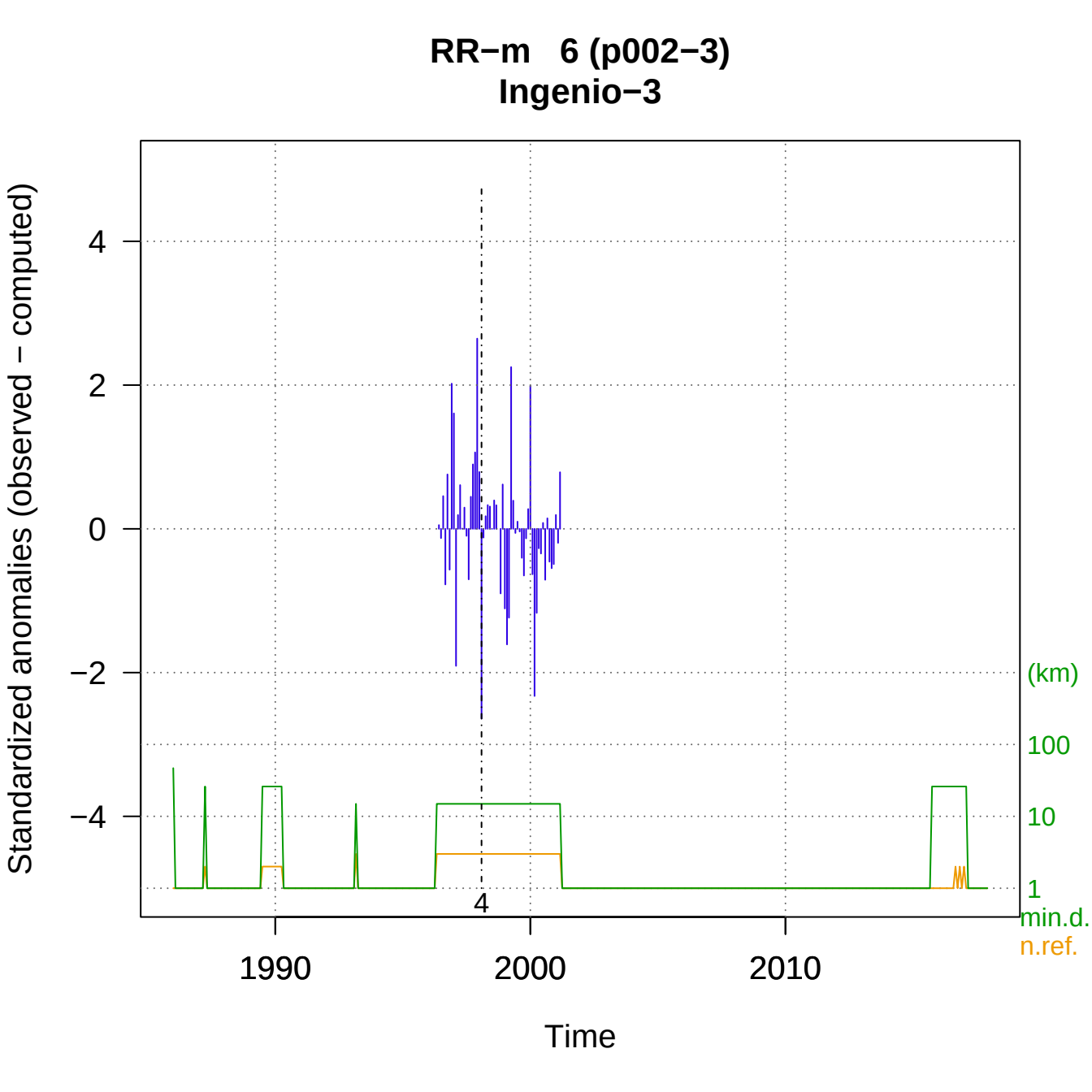
Stage 3

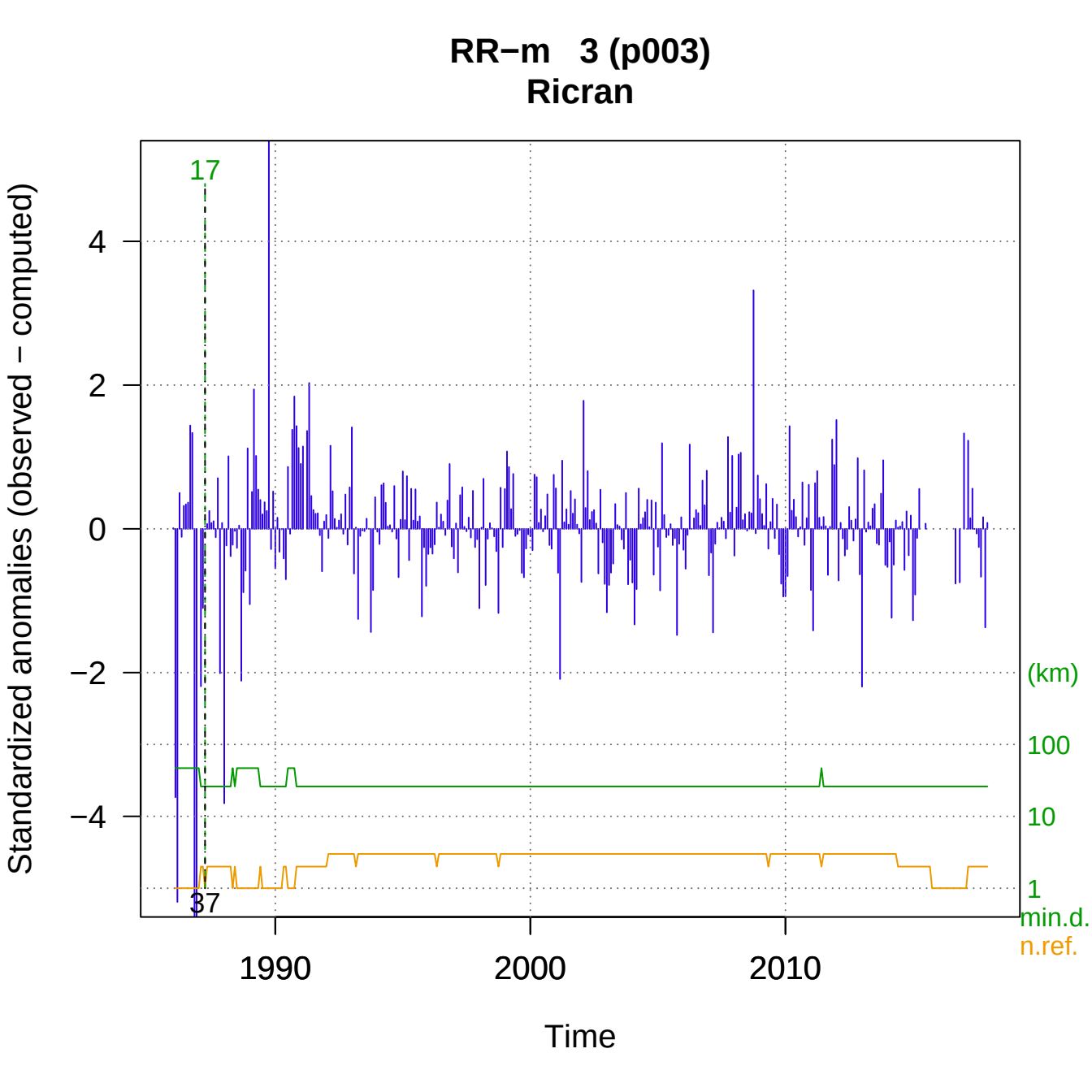
Final anomalies of the homogenized series with wd = 100 km and nref = 4

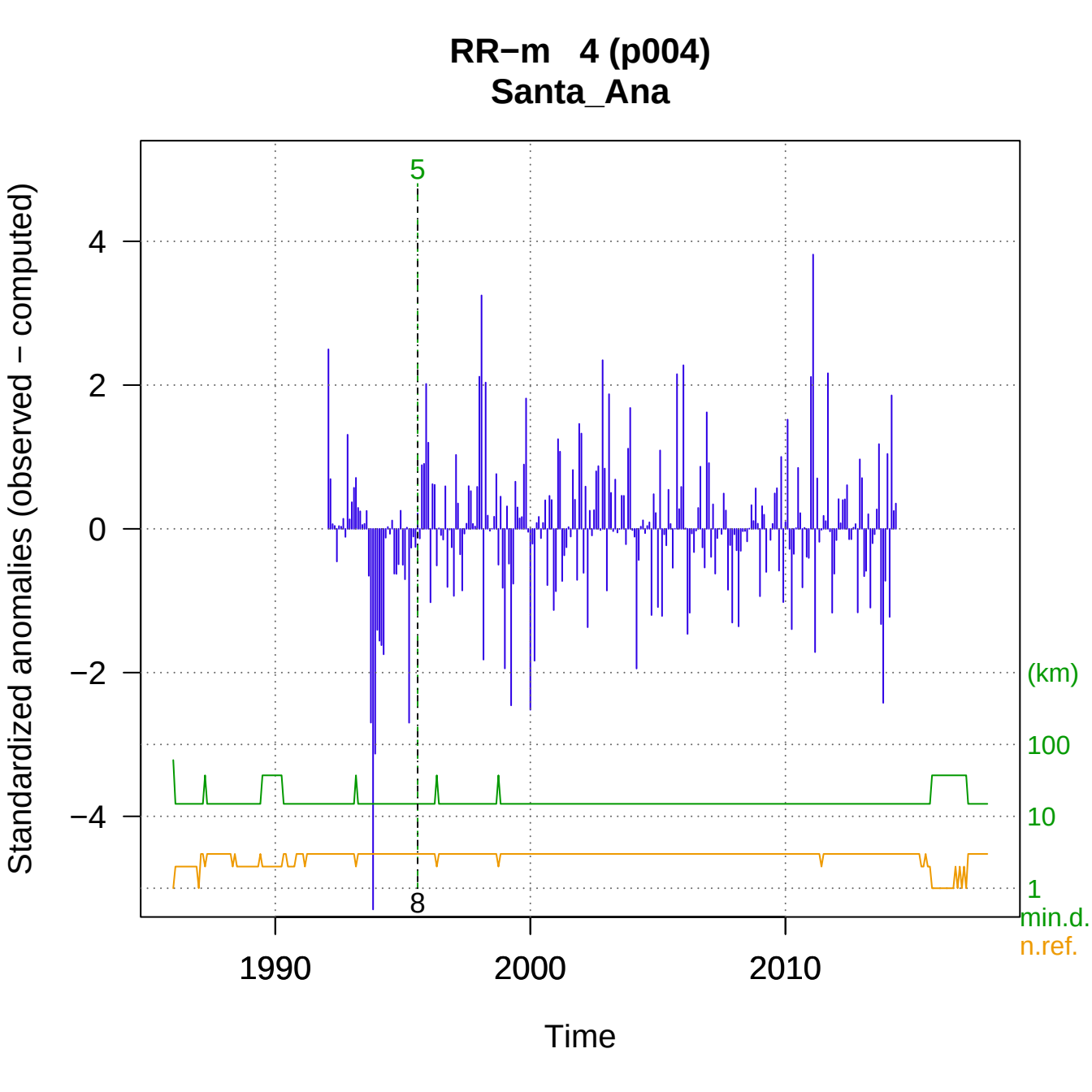

RR−m 1 (p001)
Jauja
Standardized anomalies (observed − computed)
4
2
0
−2
−4
7
4
(km)
100
10
1
min.d.
n.ref.
1990
2000
2010
Time


RR−m 2 (p002)
Ingenio
17
19
4
2
0
−2
−4
1990
2000
2010
Time
Standardized anomalies (observed − computed)
(km)
100
10
1
min.d.
n.ref.


RR−m 5 (p002−2)
Ingenio−2
Standardized anomalies (observed − computed)
4
2
0
−2
−4
14
1990
2000
2010
Time
(km)
100
10
1
min.d.
n.ref.

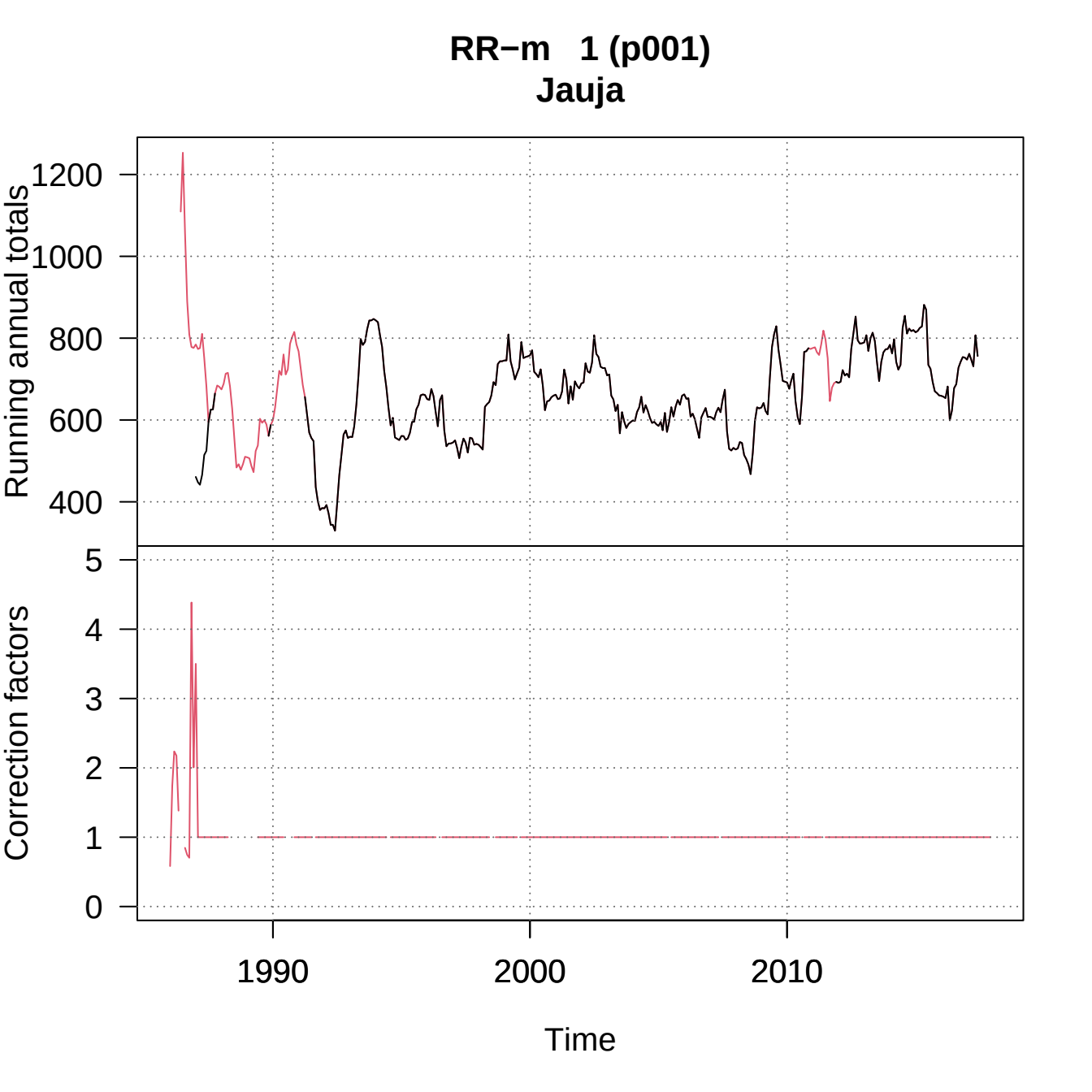

RR−m 6 (p002−3)
Ingenio−3
Standardized anomalies (observed − computed)
4
2
0
−2
−4
1990
2000
2010
Time
4
(km)
100
10
1
min.d.
n.ref.

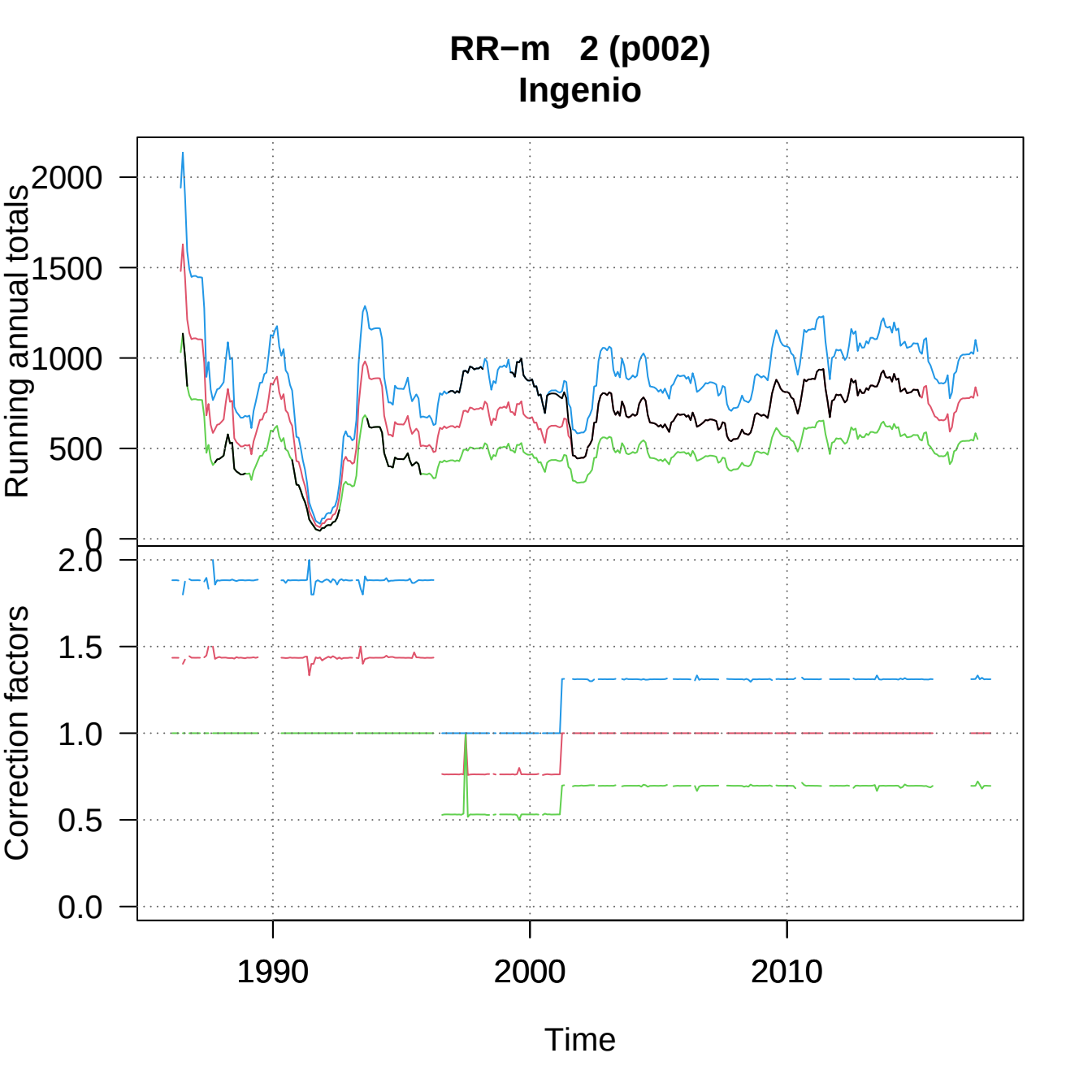

RR−m 3 (p003)
Ricran
17
37
Standardized anomalies (observed − computed)
4
2
0
−2
−4
1990
2000
2010
Time
(km)
100
10
1
min.d.
n.ref.

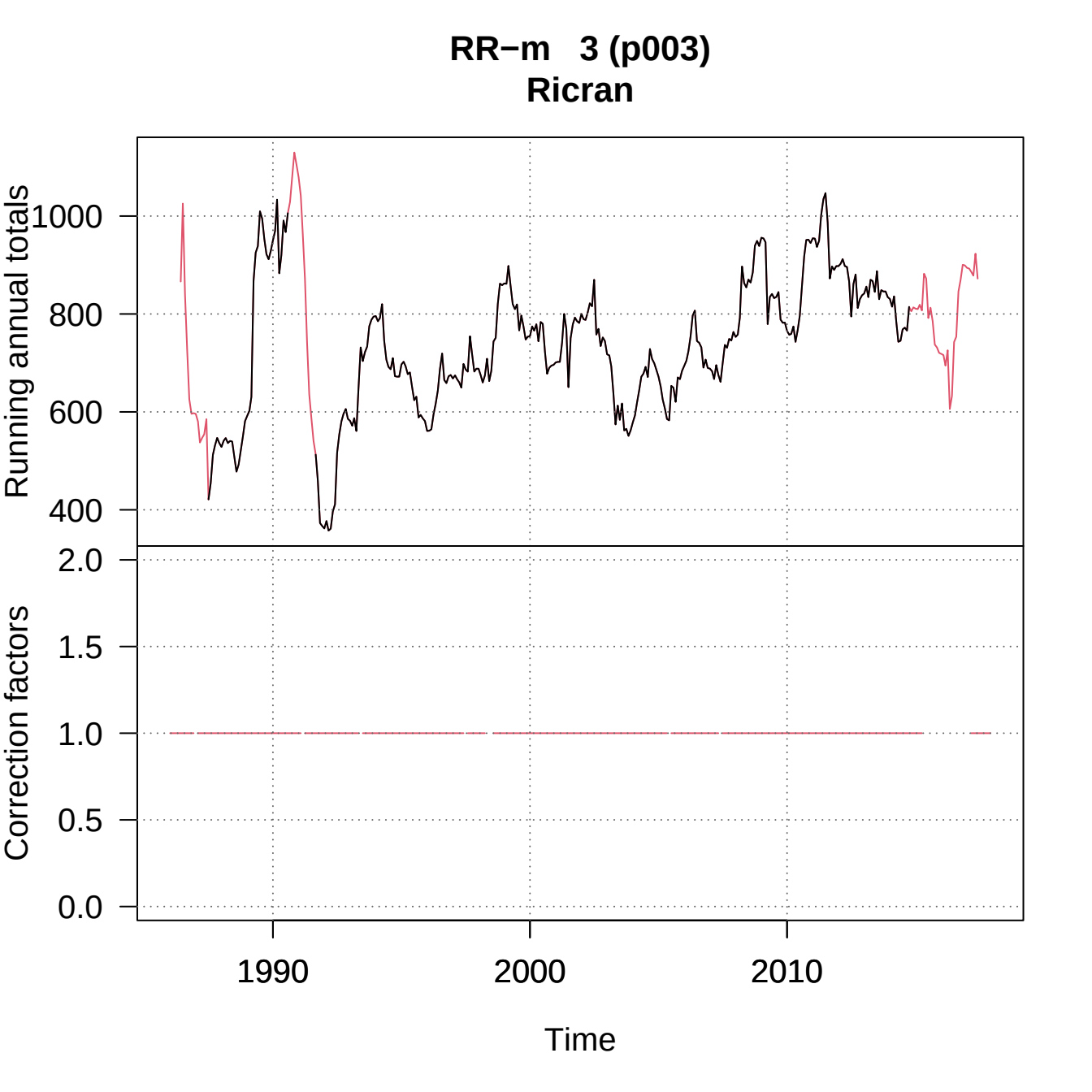

RR−m 4 (p004)
Santa_Ana
Standardized anomalies (observed − computed)
4
2
0
−2
−4
5
8
1990
2000
2010
Time
(km)
100
10
1
min.d.
n.ref.

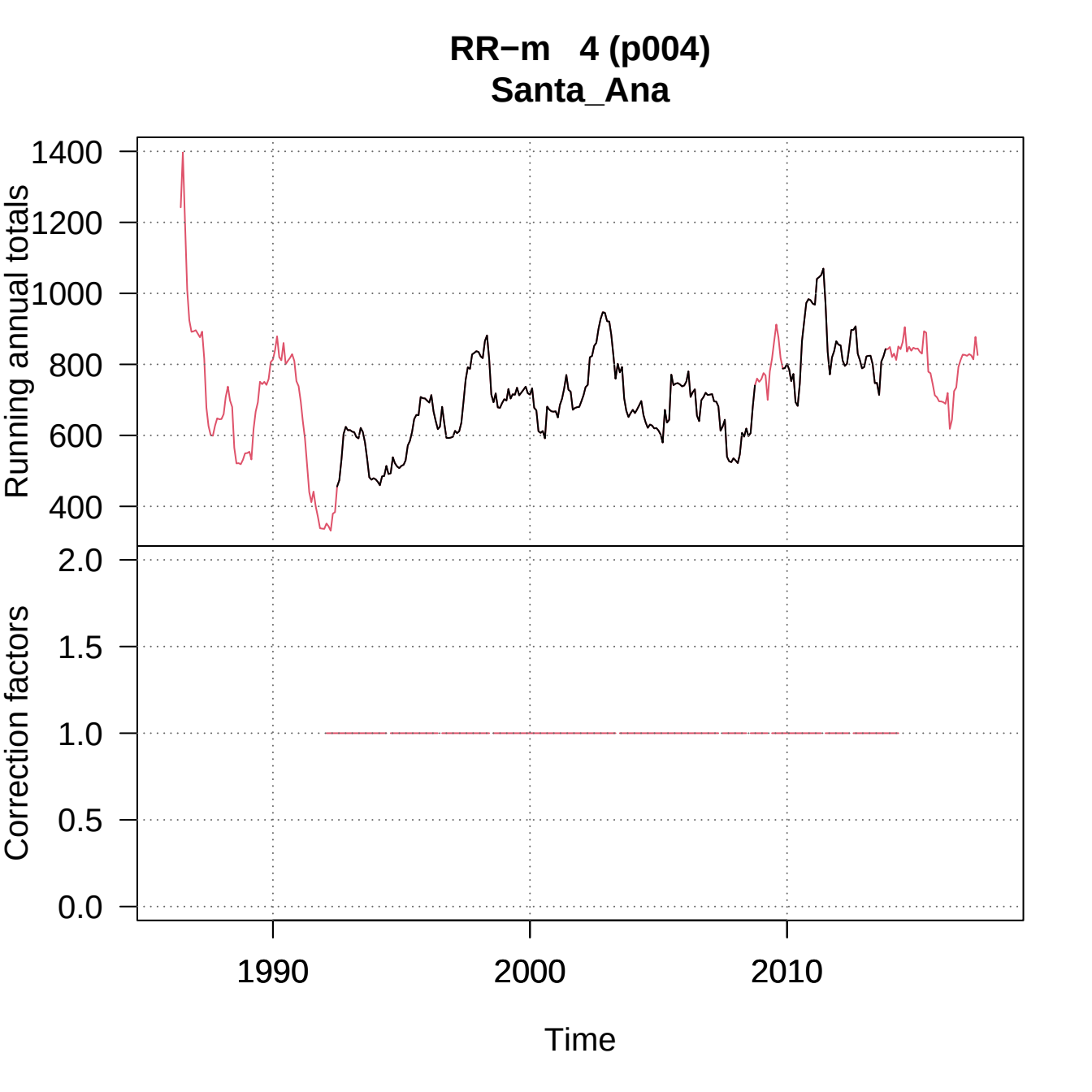
Final graphics

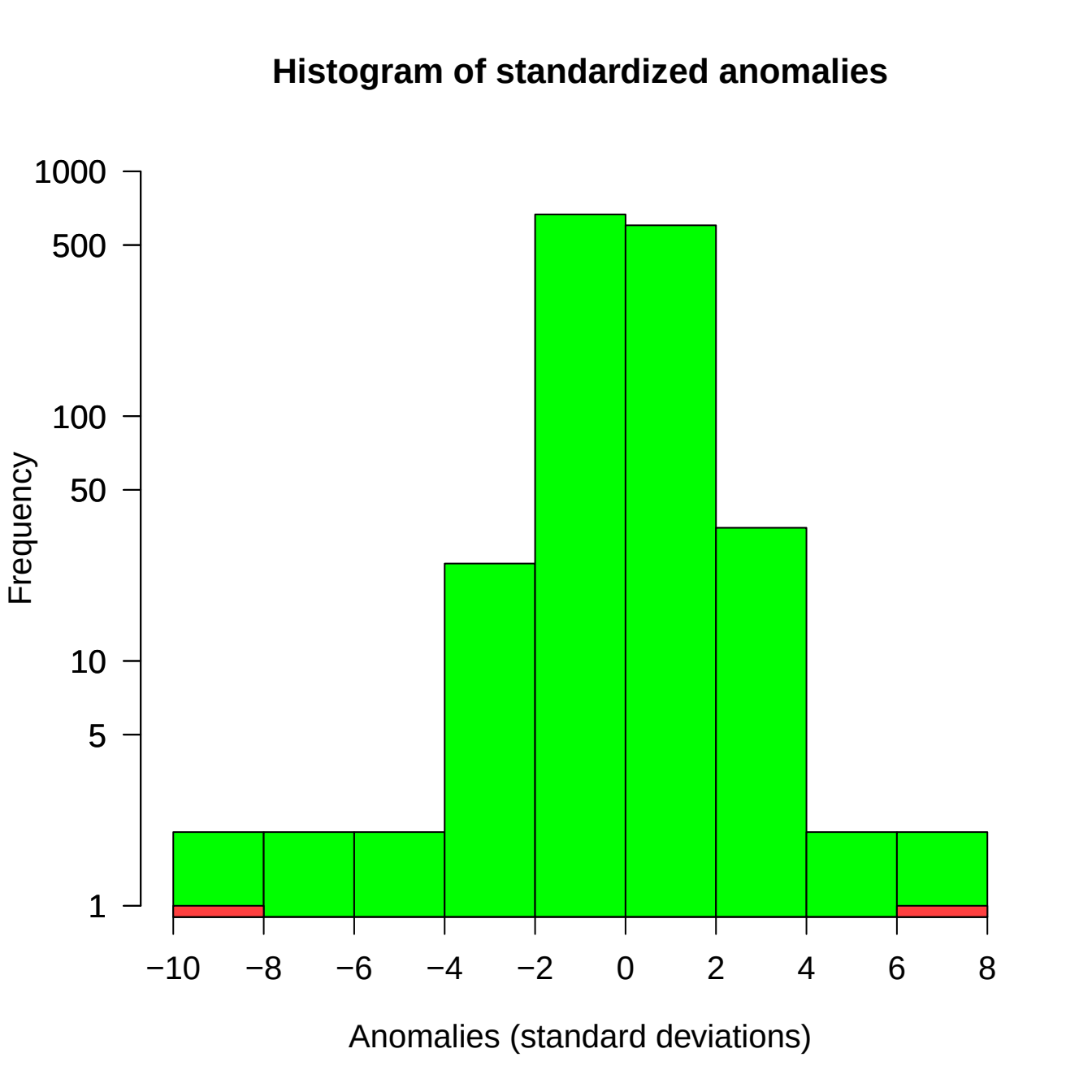
Adjusted series and applied corrections

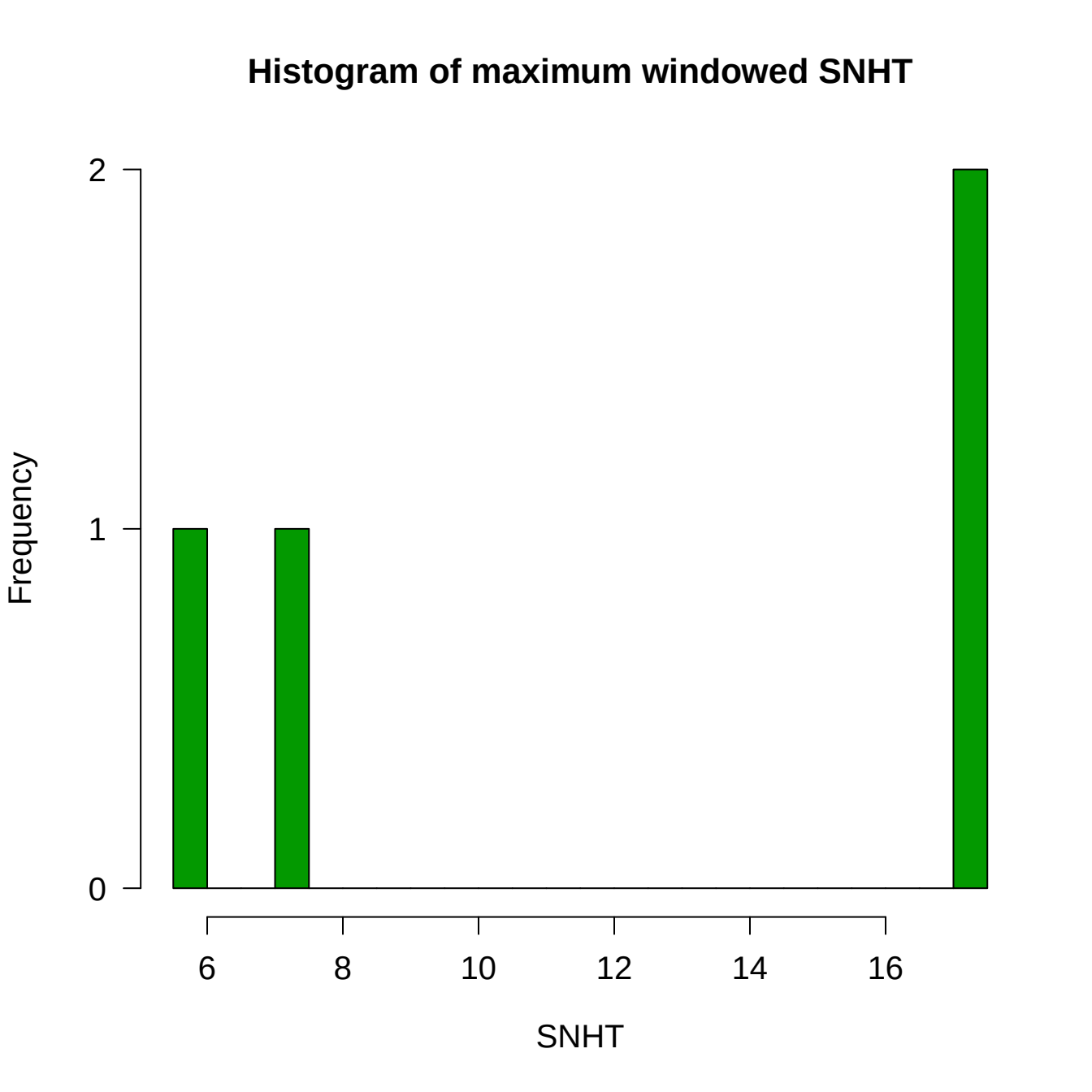

RR−m 1 (p001)
Jauja
Running annual totals
1200
1000
800
600
400
Correction factors
5
4
3
2
1
0
1990
2000
2010
Time

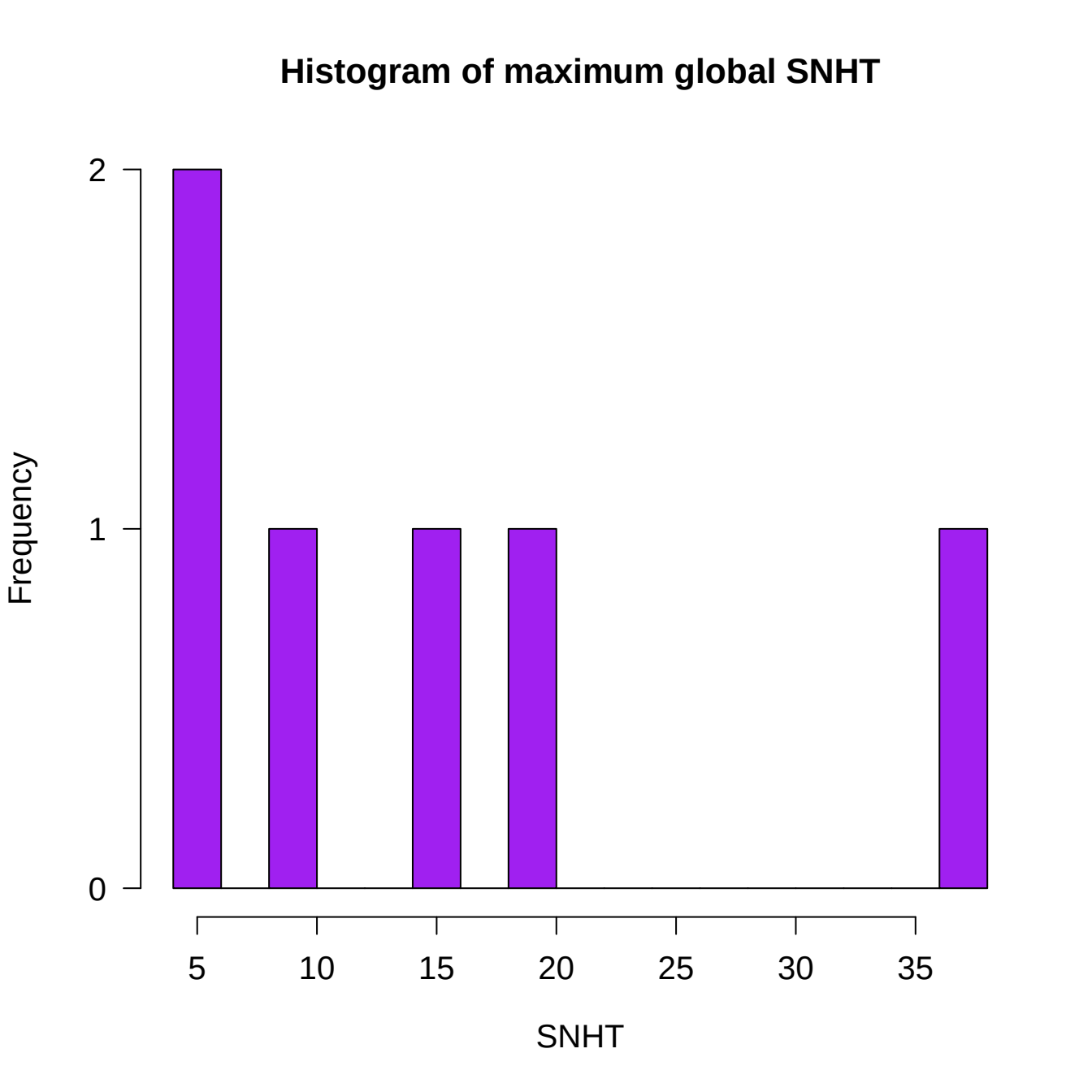

RR−m 2 (p002)
Ingenio
Running annual totals
2000
1500
1000
500
0
Correction factors
2.0
1.5
1.0
0.5
0.0
1990
2000
2010
Time

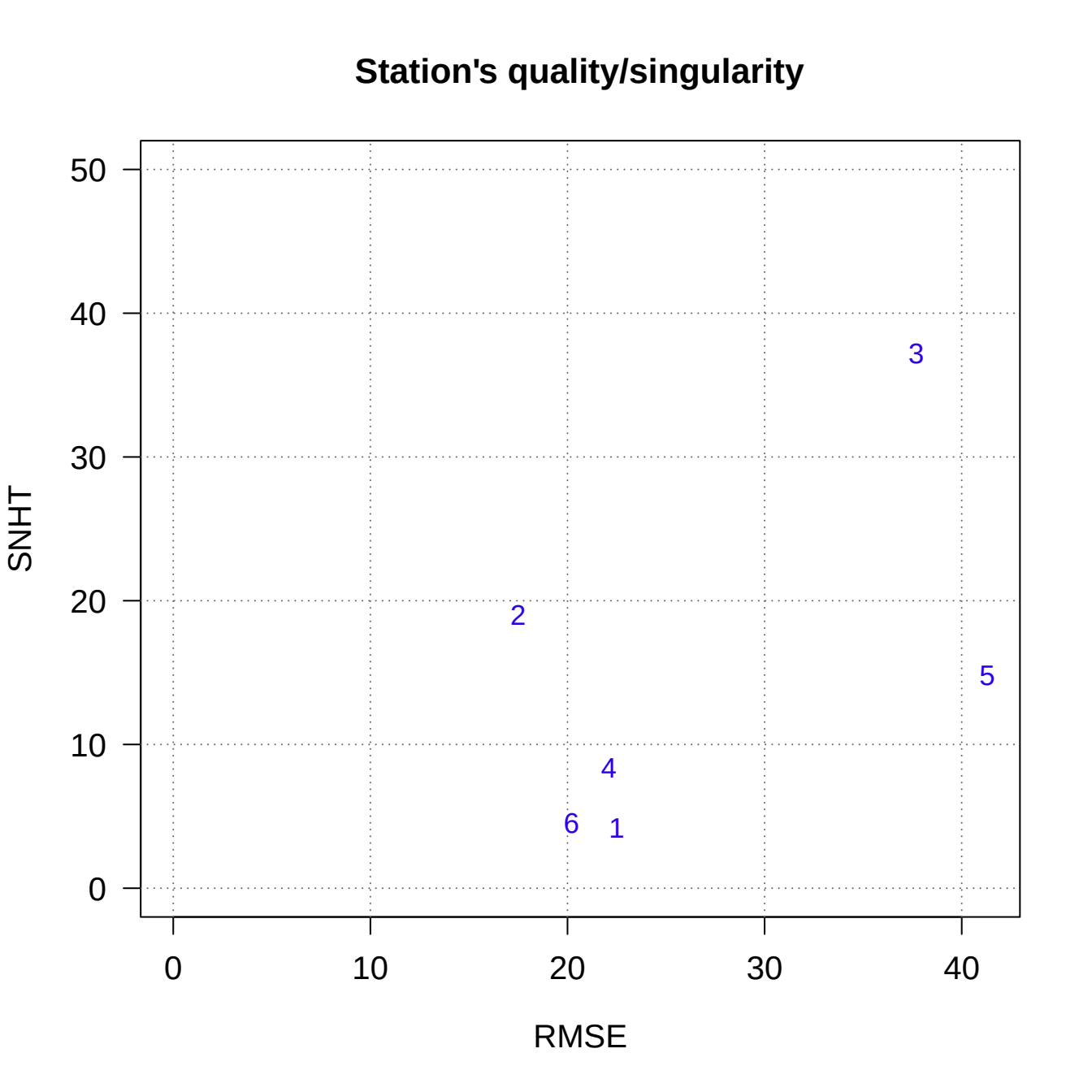

RR−m 3 (p003)
Ricran
Running annual totals
1000
800
600
400
Correction factors
2.0
1.5
1.0
0.5
0.0
1990
2000
2010
Time


RR−m 4 (p004)
Santa_Ana
Running annual totals
1400
1200
1000
800
600
400
Correction factors
2.0
1.5
1.0
0.5
0.0
1990
2000
2010
Time


Histogram of standardized anomalies
1000
500
100
50
10
5
1
Frequency
−10
−8
−6
−4
−2
0
2
4
6
8
Anomalies (standard deviations)


Histogram of maximum windowed SNHT
Frequency
0
1
2
6
8
10
12
14
16
SNHT


Histogram of maximum global SNHT
Frequency
2
1
0
5
10
15
20
25
30
35
SNHT


Station's quality/singularity
SNHT
RMSE
0
10
20
30
40
50
0
10
20
30
40
3
2
5
4
6
1