

Figure S1. Determination of the extreme wave height threshold using the MF-DFA method.

Table S1. Significance test of turning point.

| Turning Point (P1) | n | χ^2 | $\chi^2_{(a/2)}$ | $\chi^2_{(1-a/2)}$ | Significance Test |
|--------------------|-----|----------|------------------|--------------------|-------------------|
| 5.19 | 52 | 50.03 | 64.3 | 38.56 | No |
| 5.12 | 56 | 71.14 | 68.8 | 42.06 | Yes |
| 4.87 | 74 | 90.6 | 88.85 | 58.01 | Yes |
| 4.76 | 83 | 140.27 | 98.78 | 66.08 | Yes |
| 4.44 | 112 | 121.82 | 130.47 | 92.38 | No |
| 4.35 | 121 | 113.72 | 140.23 | 100.62 | No |

| Turning Point (P2) | n | χ^2 | $\chi^2_{(a/2)}$ | $\chi^2_{(1-a/2)}$ | Significance Test |
|--------------------|-----|----------|------------------|--------------------|-------------------|
| 4.46 | 36 | 43.47 | 46.06 | 24.80 | No |
| 4.12 | 59 | 52.63 | 72.16 | 44.70 | No |
| 3.96 | 70 | 120.33 | 84.42 | 54.44 | Yes |
| 3.63 | 101 | 274.09 | 118.50 | 82.36 | Yes |
| 3.33 | 130 | 240.74 | 149.97 | 108.89 | Yes |
| 3.15 | 148 | 417.68 | 169.36 | 125.50 | Yes |

| Turning Point (P3) | n | χ^2 | $\chi^2_{(a/2)}$ | $\chi^2_{(1-a/2)}$ | Significance Test |
|--------------------|-----|----------|------------------|--------------------|-------------------|
| 6.11 | 67 | 64.96 | 81.09 | 51.77 | No |
| 6.06 | 70 | 51.06 | 84.42 | 54.44 | Yes |
| 5.63 | 99 | 90.49 | 116.32 | 80.54 | No |
| 5.43 | 117 | 97.53 | 135.90 | 96.96 | No |
| 5.14 | 143 | 129.44 | 163.98 | 120.88 | No |
| 4.87 | 170 | 171.80 | 192.95 | 145.91 | No |

| Turning Point (P4) | n | χ^2 | $\chi^2_{(a/2)}$ | $\chi^2_{(1-a/2)}$ | Significance Test |
|--------------------|-----|----------|------------------|--------------------|-------------------|
| 6.24 | 34 | 23.34 | 43.75 | 23.11 | No |
| 5.65 | 68 | 63.69 | 82.20 | 52.66 | No |
| 5.59 | 73 | 137.69 | 87.74 | 57.11 | Yes |
| 5.25 | 100 | 81.63 | 117.41 | 81.45 | No |
| 4.88 | 135 | 125.77 | 155.36 | 113.49 | No |
| 6.24 | 34 | 23.34 | 43.75 | 23.11 | No |

| Turning Point (P5) | n | χ^2 | $\chi^2_{(a/2)}$ | $\chi^2_{(1-a/2)}$ | Significance Test |
|-----------------------|-----|----------|------------------|--------------------|----------------------|
| 4.45 | 64 | 48.83 | 77.75 | 49.11 | Yes |
| 4.13 | 87 | 70.17 | 103.18 | 69.68 | No |
| 3.79 | 117 | 108.15 | 135.90 | 96.96 | No |
| 3.68 | 127 | 123.11 | 146.72 | 106.13 | No |
| 3.63 | 132 | 121.61 | 152.12 | 110.73 | No |
| 3.29 | 165 | 167.22 | 187.60 | 141.26 | No |

| Turning Point (P6) | n | χ^2 | $\chi^2_{(a/2)}$ | $\chi^2_{(1-a/2)}$ | Significance Test |
|-----------------------|-----|----------|------------------|--------------------|----------------------|
| 5.56 | 68 | 71.50 | 82.20 | 52.66 | No |
| 5.15 | 88 | 105.16 | 104.28 | 70.58 | Yes |
| 4.98 | 103 | 114.90 | 120.68 | 84.18 | No |
| 4.67 | 131 | 121.52 | 151.05 | 109.81 | No |
| 4.33 | 165 | 166.61 | 187.60 | 141.26 | No |
| 4.23 | 175 | 162.72 | 198.29 | 150.56 | No |

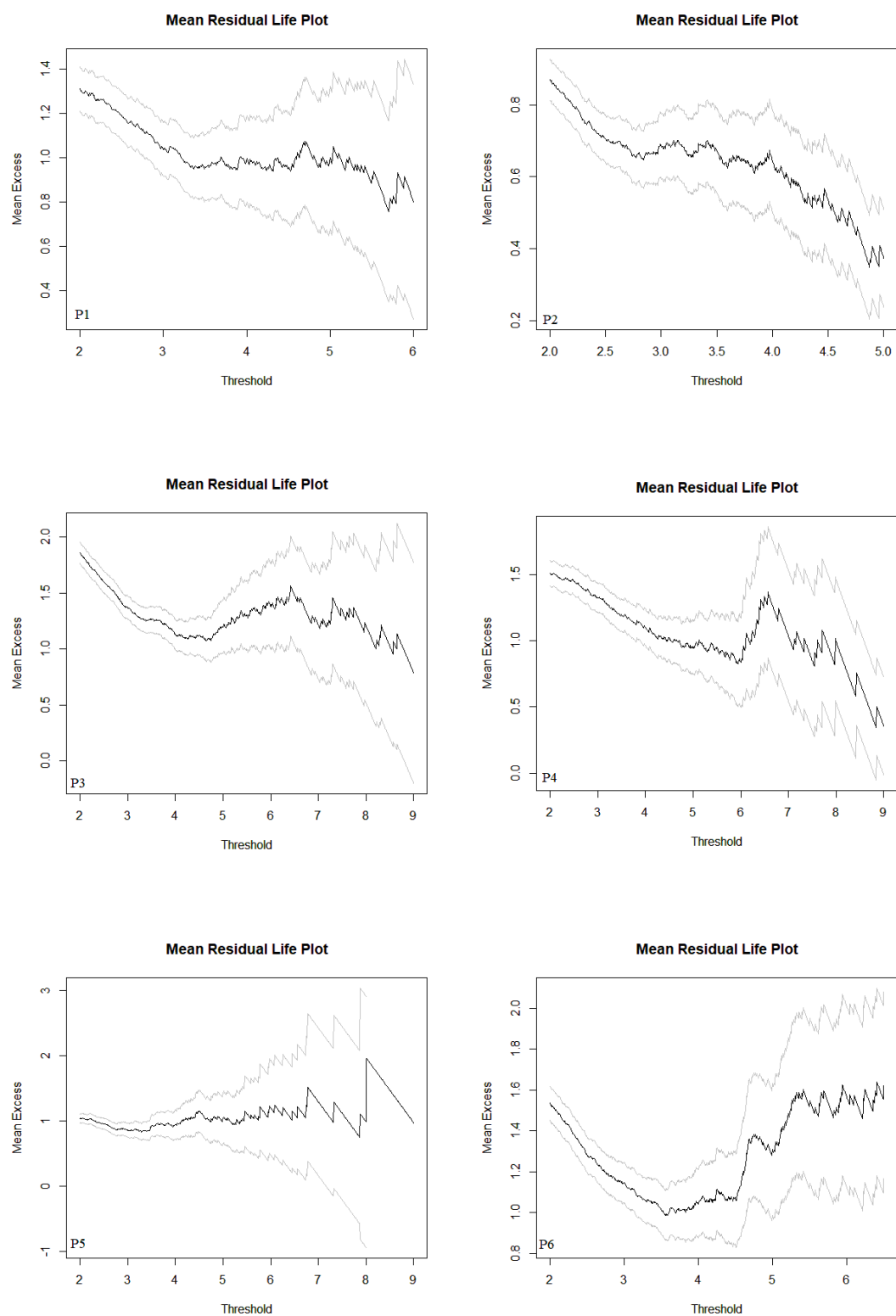
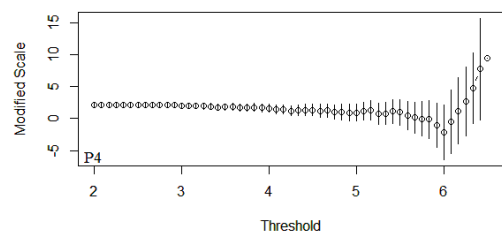
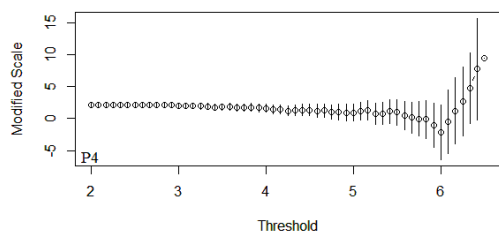
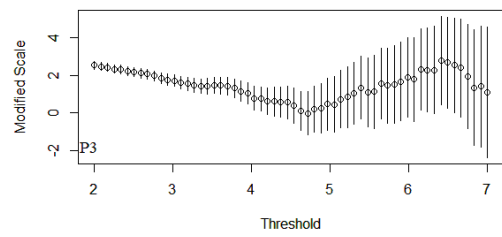
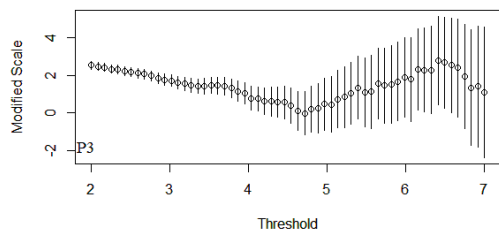
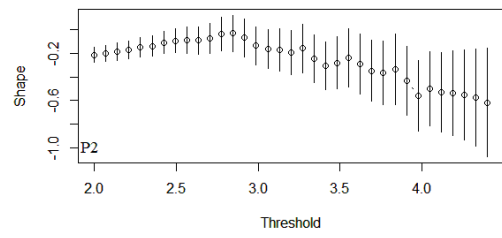
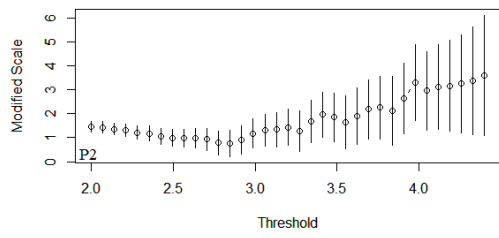
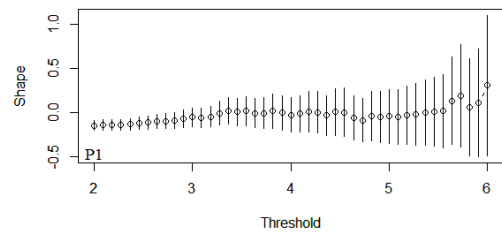
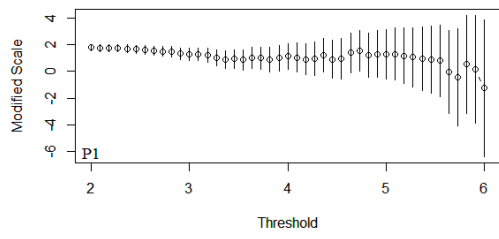


Figure S2. Mean residual life plots.



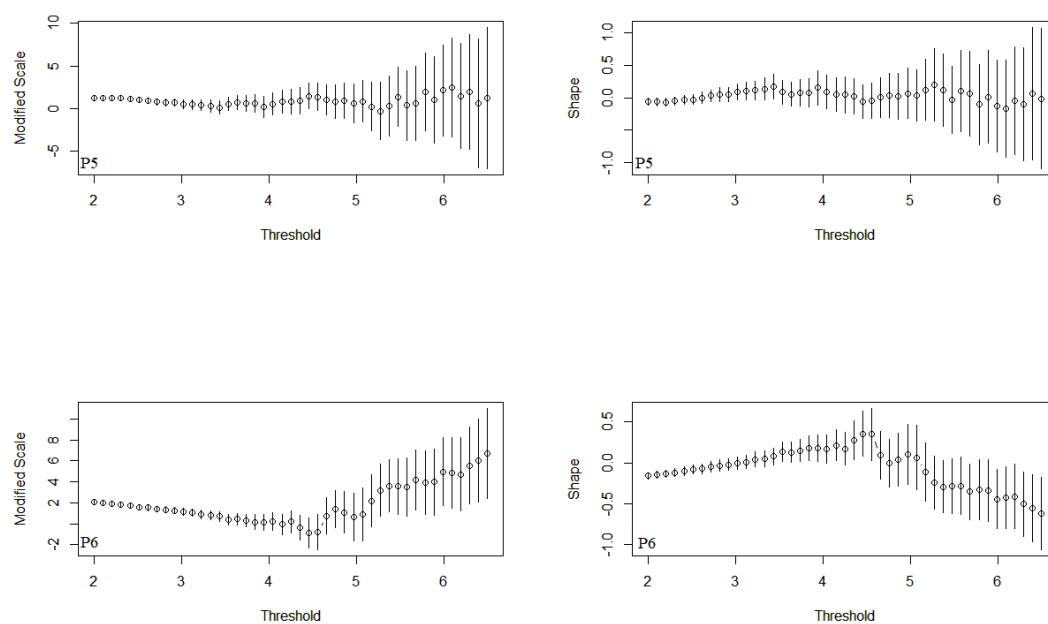


Figure S3. Parameter stability plots.