



Statistiek van de extreme neerslag voor de Belgische gemeenten

Pecq (NIS 57062)

1. Geschatte neerslaghoeveelheid voor een neerslagduur van 10 minuten tot 30 dagen (rijen) en een terugkeerperiode van 2 tot 200 jaar (kolommen). Eenheid: mm.

| Duur | Terugkeerperiode (jaren) | | | | | | | | | | | |
|--------|--------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| | 2 | 5 | 10 | 15 | 20 | 25 | 30 | 40 | 50 | 75 | 100 | 200 |
| 10 min | 7.5 | 10.8 | 13.3 | 14.8 | 15.9 | 16.7 | 17.5 | 18.7 | 19.6 | 21.4 | 22.8 | 26.2 |
| 20 min | 10.8 | 15.4 | 18.9 | 21.1 | 22.6 | 23.9 | 24.9 | 26.6 | 28.0 | 30.5 | 32.4 | 37.3 |
| 30 min | 12.7 | 18.5 | 22.8 | 25.5 | 27.4 | 28.9 | 30.2 | 32.3 | 34.0 | 37.1 | 39.4 | 45.4 |
| 1 u | 15.8 | 22.1 | 26.7 | 29.6 | 31.6 | 33.3 | 34.7 | 36.9 | 38.7 | 42.0 | 44.5 | 50.9 |
| 2 u | 18.9 | 25.9 | 31.2 | 34.4 | 36.7 | 38.5 | 40.1 | 42.6 | 44.6 | 48.3 | 51.1 | 58.2 |
| 3 u | 20.9 | 28.8 | 34.6 | 38.2 | 40.7 | 42.8 | 44.5 | 47.3 | 49.5 | 53.6 | 56.7 | 64.6 |
| 6 u | 25.3 | 33.5 | 39.6 | 43.3 | 46.0 | 48.1 | 49.9 | 52.7 | 55.0 | 59.3 | 62.5 | 70.6 |
| 12 u | 30.7 | 40.6 | 47.9 | 52.3 | 55.5 | 58.0 | 60.2 | 63.6 | 66.3 | 71.4 | 75.2 | 84.8 |
| 1 d | 37.5 | 48.9 | 57.0 | 61.9 | 65.4 | 68.2 | 70.5 | 74.2 | 77.1 | 82.5 | 86.5 | 96.4 |
| 2 d | 47.1 | 60.6 | 70.0 | 75.6 | 79.5 | 82.6 | 85.2 | 89.3 | 92.5 | 98.4 | 102.7 | 113.3 |
| 3 d | 49.9 | 64.1 | 74.0 | 79.7 | 83.7 | 86.9 | 89.5 | 93.7 | 96.9 | 102.9 | 107.2 | 117.7 |
| 4 d | 54.1 | 69.2 | 79.5 | 85.5 | 89.8 | 93.1 | 95.8 | 100.0 | 103.4 | 109.5 | 113.9 | 124.7 |
| 5 d | 61.3 | 77.6 | 88.6 | 95.0 | 99.5 | 102.9 | 105.8 | 110.3 | 113.8 | 120.2 | 124.8 | 136.0 |
| 7 d | 70.4 | 88.0 | 99.9 | 106.6 | 111.4 | 115.0 | 118.0 | 122.8 | 126.4 | 133.1 | 137.9 | 149.4 |
| 10 d | 83.6 | 103.1 | 116.1 | 123.4 | 128.6 | 132.5 | 135.8 | 140.8 | 144.8 | 151.9 | 156.9 | 169.1 |
| 15 d | 101.2 | 124.0 | 138.9 | 147.3 | 153.2 | 157.6 | 161.3 | 167.0 | 171.4 | 179.3 | 184.9 | 198.3 |
| 20 d | 117.8 | 144.4 | 161.6 | 171.1 | 177.8 | 182.9 | 187.0 | 193.5 | 198.4 | 207.3 | 213.6 | 228.5 |
| 25 d | 125.2 | 153.5 | 171.6 | 181.7 | 188.7 | 194.0 | 198.3 | 205.0 | 210.2 | 219.4 | 225.9 | 241.2 |
| 30 d | 146.8 | 177.3 | 196.8 | 207.6 | 215.0 | 220.7 | 225.2 | 232.4 | 237.8 | 247.6 | 254.4 | 270.5 |

2. Geschatte neerslaghoeveelheid en standaardafwijking van deze schatting voor een neerslagduur van 10 minuten tot 30 dagen (rijen) en een terugkeerperiode van 2 tot 200 jaar (kolommen). Eenheid: mm.

| Duur | Terugkeerperiode (jaren) | | | | | | | | | | | |
|--------|--------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| | 2 | 5 | 10 | 15 | 20 | 25 | 30 | 40 | 50 | 75 | 100 | 200 |
| 10 min | 7.5 | 10.8 | 13.3 | 14.8 | 15.9 | 16.7 | 17.5 | 18.7 | 19.6 | 21.4 | 22.8 | 26.2 |
| | 0.2 | 0.4 | 0.5 | 0.7 | 0.8 | 0.9 | 1.0 | 1.2 | 1.4 | 1.7 | 1.9 | 2.7 |
| 20 min | 10.8 | 15.4 | 18.9 | 21.1 | 22.6 | 23.9 | 24.9 | 26.6 | 28.0 | 30.5 | 32.4 | 37.3 |
| | 0.4 | 0.6 | 0.8 | 1.0 | 1.2 | 1.3 | 1.5 | 1.7 | 1.9 | 2.3 | 2.6 | 3.5 |
| 30 min | 12.7 | 18.5 | 22.8 | 25.5 | 27.4 | 28.9 | 30.2 | 32.3 | 34.0 | 37.1 | 39.4 | 45.4 |
| | 0.4 | 0.7 | 0.9 | 1.1 | 1.3 | 1.4 | 1.6 | 1.8 | 1.9 | 2.3 | 2.6 | 3.4 |
| 1 u | 15.8 | 22.1 | 26.7 | 29.6 | 31.6 | 33.3 | 34.7 | 36.9 | 38.7 | 42.0 | 44.5 | 50.9 |
| | 0.5 | 0.9 | 1.2 | 1.5 | 1.7 | 1.9 | 2.1 | 2.4 | 2.6 | 3.1 | 3.6 | 4.7 |
| 2 u | 18.9 | 25.9 | 31.2 | 34.4 | 36.7 | 38.5 | 40.1 | 42.6 | 44.6 | 48.3 | 51.1 | 58.2 |
| | 0.6 | 1.0 | 1.4 | 1.7 | 2.0 | 2.2 | 2.4 | 2.7 | 3.0 | 3.6 | 4.0 | 5.3 |
| 3 u | 20.9 | 28.8 | 34.6 | 38.2 | 40.7 | 42.8 | 44.5 | 47.3 | 49.5 | 53.6 | 56.7 | 64.6 |
| | 0.8 | 1.1 | 1.5 | 1.7 | 2.0 | 2.2 | 2.3 | 2.6 | 2.9 | 3.4 | 3.9 | 5.0 |
| 6 u | 25.3 | 33.5 | 39.6 | 43.3 | 46.0 | 48.1 | 49.9 | 52.7 | 55.0 | 59.3 | 62.5 | 70.6 |
| | 0.9 | 1.2 | 1.6 | 1.9 | 2.2 | 2.4 | 2.6 | 3.0 | 3.4 | 4.1 | 4.7 | 6.4 |
| 12 u | 30.7 | 40.6 | 47.9 | 52.3 | 55.5 | 58.0 | 60.2 | 63.6 | 66.3 | 71.4 | 75.2 | 84.8 |
| | 1.3 | 1.6 | 2.1 | 2.5 | 2.8 | 3.2 | 3.5 | 4.0 | 4.4 | 5.4 | 6.1 | 8.3 |
| 1 d | 37.5 | 48.9 | 57.0 | 61.9 | 65.4 | 68.2 | 70.5 | 74.2 | 77.1 | 82.5 | 86.5 | 96.4 |
| | 1.5 | 1.8 | 2.1 | 2.3 | 2.5 | 2.7 | 2.8 | 3.1 | 3.4 | 3.9 | 4.2 | 5.3 |
| 2 d | 47.1 | 60.6 | 70.0 | 75.6 | 79.5 | 82.6 | 85.2 | 89.3 | 92.5 | 98.4 | 102.7 | 113.3 |
| | 2.3 | 2.9 | 3.6 | 4.0 | 4.4 | 4.8 | 5.1 | 5.6 | 6.0 | 6.8 | 7.5 | 9.3 |
| 3 d | 49.9 | 64.1 | 74.0 | 79.7 | 83.7 | 86.9 | 89.5 | 93.7 | 96.9 | 102.9 | 107.2 | 117.7 |
| | 2.9 | 3.6 | 4.3 | 4.8 | 5.2 | 5.6 | 5.9 | 6.4 | 6.8 | 7.6 | 8.2 | 10.0 |
| 4 d | 54.1 | 69.2 | 79.5 | 85.5 | 89.8 | 93.1 | 95.8 | 100.0 | 103.4 | 109.5 | 113.9 | 124.7 |
| | 3.3 | 4.0 | 4.7 | 5.1 | 5.4 | 5.7 | 5.9 | 6.3 | 6.7 | 7.3 | 7.9 | 9.3 |
| 5 d | 61.3 | 77.6 | 88.6 | 95.0 | 99.5 | 102.9 | 105.8 | 110.3 | 113.8 | 120.2 | 124.8 | 136.0 |
| | 3.8 | 4.6 | 5.3 | 5.7 | 6.0 | 6.3 | 6.5 | 6.9 | 7.3 | 7.9 | 8.4 | 9.7 |
| 7 d | 70.4 | 88.0 | 99.9 | 106.6 | 111.4 | 115.0 | 118.0 | 122.8 | 126.4 | 133.1 | 137.9 | 149.4 |
| | 4.6 | 5.5 | 6.1 | 6.5 | 6.8 | 7.1 | 7.3 | 7.7 | 8.0 | 8.5 | 8.9 | 10.1 |
| 10 d | 83.6 | 103.1 | 116.1 | 123.4 | 128.6 | 132.5 | 135.8 | 140.8 | 144.8 | 151.9 | 156.9 | 169.1 |
| | 5.7 | 7.1 | 8.0 | 8.6 | 9.0 | 9.3 | 9.6 | 10.0 | 10.4 | 11.0 | 11.5 | 12.9 |
| 15 d | 101.2 | 124.0 | 138.9 | 147.3 | 153.2 | 157.6 | 161.3 | 167.0 | 171.4 | 179.3 | 184.9 | 198.3 |
| | 7.1 | 8.5 | 9.5 | 10.1 | 10.4 | 10.7 | 11.0 | 11.4 | 11.7 | 12.2 | 12.6 | 13.6 |
| 20 d | 117.8 | 144.4 | 161.6 | 171.1 | 177.8 | 182.9 | 187.0 | 193.5 | 198.4 | 207.3 | 213.6 | 228.5 |
| | 8.3 | 10.1 | 11.3 | 12.0 | 12.5 | 12.9 | 13.2 | 13.7 | 14.0 | 14.8 | 15.3 | 16.6 |
| 25 d | 125.2 | 153.5 | 171.6 | 181.7 | 188.7 | 194.0 | 198.3 | 205.0 | 210.2 | 219.4 | 225.9 | 241.2 |
| | 9.3 | 11.3 | 12.7 | 13.5 | 14.1 | 14.6 | 15.0 | 15.7 | 16.2 | 17.2 | 17.9 | 19.7 |
| 30 d | 146.8 | 177.3 | 196.8 | 207.6 | 215.0 | 220.7 | 225.2 | 232.4 | 237.8 | 247.6 | 254.4 | 270.5 |
| | 10.3 | 12.4 | 13.9 | 14.8 | 15.5 | 16.1 | 16.6 | 17.4 | 18.0 | 19.2 | 20.1 | 22.5 |

3. 95%-betrouwbaarheidsinterval van de geschatte neerslaghoeveelheid voor een neerslagduur van 10 minuten tot 30 dagen (rijen) en een terugkeerperiode van 2 tot 200 jaar (kolommen). Eenheid: mm.

| Duur | Terugkeerperiode (jaren) | | | | | | | | | | | |
|--------|--------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| | 2 | 5 | 10 | 15 | 20 | 25 | 30 | 40 | 50 | 75 | 100 | 200 |
| 10 min | 7.1 | 10.1 | 12.2 | 13.4 | 14.3 | 14.9 | 15.5 | 16.3 | 17.0 | 18.2 | 19.0 | 21.0 |
| | 8.0 | 11.5 | 14.3 | 16.1 | 17.5 | 18.6 | 19.5 | 21.0 | 22.3 | 24.7 | 26.6 | 31.4 |
| 20 min | 10.0 | 14.3 | 17.3 | 19.0 | 20.3 | 21.3 | 22.0 | 23.3 | 24.3 | 26.0 | 27.3 | 30.3 |
| | 11.5 | 16.6 | 20.6 | 23.1 | 25.0 | 26.5 | 27.8 | 29.9 | 31.6 | 35.0 | 37.5 | 44.2 |
| 30 min | 11.9 | 17.2 | 21.0 | 23.3 | 24.9 | 26.1 | 27.2 | 28.8 | 30.2 | 32.6 | 34.3 | 38.7 |
| | 13.6 | 19.9 | 24.7 | 27.7 | 29.9 | 31.7 | 33.3 | 35.8 | 37.8 | 41.6 | 44.5 | 52.1 |
| 1 u | 14.8 | 20.4 | 24.3 | 26.6 | 28.3 | 29.6 | 30.6 | 32.2 | 33.5 | 35.9 | 37.6 | 41.6 |
| | 16.8 | 23.8 | 29.1 | 32.5 | 35.0 | 37.0 | 38.7 | 41.5 | 43.8 | 48.2 | 51.5 | 60.2 |
| 2 u | 17.6 | 23.9 | 28.4 | 31.0 | 32.8 | 34.3 | 35.4 | 37.3 | 38.7 | 41.4 | 43.2 | 47.7 |
| | 20.2 | 28.0 | 34.0 | 37.8 | 40.6 | 42.8 | 44.7 | 47.9 | 50.4 | 55.3 | 59.0 | 68.7 |
| 3 u | 19.4 | 26.6 | 31.7 | 34.7 | 36.9 | 38.5 | 39.9 | 42.1 | 43.8 | 46.9 | 49.2 | 54.7 |
| | 22.4 | 31.0 | 37.5 | 41.6 | 44.6 | 47.1 | 49.1 | 52.5 | 55.2 | 60.4 | 64.3 | 74.4 |
| 6 u | 23.5 | 31.2 | 36.5 | 39.6 | 41.7 | 43.4 | 44.7 | 46.8 | 48.4 | 51.2 | 53.3 | 58.0 |
| | 27.1 | 35.8 | 42.6 | 46.9 | 50.2 | 52.8 | 55.0 | 58.7 | 61.7 | 67.4 | 71.8 | 83.2 |
| 12 u | 28.2 | 37.4 | 43.8 | 47.4 | 49.9 | 51.8 | 53.4 | 55.8 | 57.6 | 60.9 | 63.2 | 68.5 |
| | 33.2 | 43.7 | 51.9 | 57.1 | 61.1 | 64.2 | 66.9 | 71.4 | 75.0 | 82.0 | 87.2 | 101.1 |
| 1 d | 34.5 | 45.4 | 53.0 | 57.4 | 60.5 | 62.9 | 64.9 | 68.0 | 70.5 | 75.0 | 78.2 | 86.0 |
| | 40.5 | 52.3 | 61.1 | 66.4 | 70.3 | 73.5 | 76.1 | 80.3 | 83.7 | 90.1 | 94.8 | 106.9 |
| 2 d | 42.6 | 54.9 | 63.1 | 67.7 | 70.8 | 73.3 | 75.3 | 78.4 | 80.7 | 85.0 | 88.0 | 95.0 |
| | 51.7 | 66.3 | 77.0 | 83.5 | 88.2 | 92.0 | 95.1 | 100.2 | 104.2 | 111.8 | 117.4 | 131.6 |
| 3 d | 44.3 | 57.0 | 65.5 | 70.2 | 73.5 | 76.0 | 78.0 | 81.2 | 83.6 | 88.0 | 91.0 | 98.2 |
| | 55.5 | 71.2 | 82.4 | 89.1 | 94.0 | 97.8 | 101.0 | 106.1 | 110.2 | 117.8 | 123.3 | 137.2 |
| 4 d | 47.6 | 61.3 | 70.4 | 75.6 | 79.2 | 81.9 | 84.1 | 87.6 | 90.3 | 95.1 | 98.5 | 106.5 |
| | 60.6 | 77.1 | 88.7 | 95.5 | 100.4 | 104.2 | 107.4 | 112.5 | 116.5 | 123.9 | 129.3 | 142.9 |
| 5 d | 53.9 | 68.5 | 78.3 | 83.8 | 87.6 | 90.6 | 93.0 | 96.7 | 99.6 | 104.8 | 108.4 | 117.0 |
| | 68.8 | 86.7 | 99.0 | 106.2 | 111.3 | 115.3 | 118.6 | 123.9 | 128.0 | 135.7 | 141.2 | 155.0 |
| 7 d | 61.4 | 77.3 | 87.9 | 93.8 | 98.0 | 101.1 | 103.7 | 107.8 | 110.9 | 116.4 | 120.4 | 129.6 |
| | 79.4 | 98.7 | 111.9 | 119.4 | 124.8 | 128.9 | 132.4 | 137.8 | 142.0 | 149.8 | 155.4 | 169.2 |
| 10 d | 72.3 | 89.3 | 100.4 | 106.7 | 111.0 | 114.3 | 117.0 | 121.2 | 124.5 | 130.3 | 134.3 | 143.9 |
| | 94.8 | 117.0 | 131.8 | 140.2 | 146.1 | 150.7 | 154.5 | 160.4 | 165.0 | 173.5 | 179.5 | 194.3 |
| 15 d | 87.3 | 107.2 | 120.3 | 127.6 | 132.7 | 136.6 | 139.7 | 144.7 | 148.5 | 155.3 | 160.1 | 171.5 |
| | 115.0 | 140.7 | 157.6 | 167.0 | 173.6 | 178.7 | 182.8 | 189.3 | 194.3 | 203.3 | 209.7 | 225.0 |
| 20 d | 101.5 | 124.5 | 139.3 | 147.6 | 153.3 | 157.7 | 161.2 | 166.7 | 170.9 | 178.4 | 183.7 | 196.0 |
| | 134.1 | 164.2 | 183.8 | 194.7 | 202.3 | 208.1 | 212.8 | 220.2 | 226.0 | 236.3 | 243.5 | 260.9 |
| 25 d | 107.0 | 131.3 | 146.7 | 155.2 | 161.0 | 165.4 | 168.9 | 174.4 | 178.5 | 185.8 | 190.9 | 202.5 |
| | 143.4 | 175.6 | 196.6 | 208.3 | 216.4 | 222.7 | 227.8 | 235.7 | 241.9 | 253.1 | 261.0 | 279.9 |
| 30 d | 126.6 | 153.1 | 169.6 | 178.5 | 184.5 | 189.1 | 192.7 | 198.3 | 202.5 | 209.9 | 214.9 | 226.3 |
| | 167.0 | 201.6 | 224.0 | 236.6 | 245.5 | 252.2 | 257.8 | 266.4 | 273.1 | 285.3 | 293.9 | 314.6 |

4. Schatting van de coëfficiënten van Montana.

Formule van Montana : intensiteit[mm/h] = $a \cdot \text{duur}[\text{min}]^{-b}$ voor verschillende tijdsduren

a_1, b_1 : duur < 25 min

a_2, b_2 : duur tussen 25 min en 6000 min (= 100 h)

a_3, b_3 : duur > 6000 min (= 100 h)

| Terugkeerperiode (jaren) | a_1 | b_1 | a_2 | b_2 | a_3 | b_3 |
|--------------------------|-------|--------|--------|--------|-------|--------|
| 2 | 133.4 | 0.4710 | 300.8 | 0.7237 | 53.4 | 0.5251 |
| 5 | 192.2 | 0.4729 | 463.2 | 0.7462 | 82.0 | 0.5472 |
| 10 | 234.9 | 0.4711 | 593.3 | 0.7590 | 107.8 | 0.5630 |
| 15 | 260.3 | 0.4694 | 675.8 | 0.7658 | 125.3 | 0.5721 |
| 20 | 278.8 | 0.4680 | 737.9 | 0.7704 | 139.0 | 0.5785 |
| 25 | 293.4 | 0.4668 | 788.3 | 0.7738 | 150.5 | 0.5835 |
| 30 | 305.5 | 0.4657 | 831.0 | 0.7766 | 160.5 | 0.5876 |
| 40 | 324.9 | 0.4640 | 901.4 | 0.7809 | 177.4 | 0.5941 |
| 50 | 340.4 | 0.4625 | 958.7 | 0.7842 | 191.6 | 0.5991 |
| 75 | 369.2 | 0.4597 | 1069.2 | 0.7901 | 219.9 | 0.6083 |
| 100 | 390.2 | 0.4576 | 1153.0 | 0.7942 | 242.2 | 0.6149 |
| 200 | 443.4 | 0.4523 | 1375.2 | 0.8039 | 304.7 | 0.6307 |

Referenties

Van de Vyver, H. (2012). Spatial regression models for extreme precipitation in Belgium, Water Resour. Res., 48, W09549, doi :10.1029/2011WR011707.

Van de Vyver, H. (2013). Practical return level mapping for extreme precipitation in Belgium, RMI scientific and technical publication 062, 30 pages.

Disclaimer

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Zo niet, dan zijn de rechtbanken van het arrondissement Brussel bevoegd.