



Statistiek van de extreme neerslag voor de Belgische gemeenten

Wijnegem (NIS 11050)

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 | 7.6 | 10.9 | 13.4 | 14.9 | 16.0 | 16.9 | 17.6 | 18.8 | 19.8 | 21.6 | 23.0 | 26.4 |
| 20 min | 10.9 | 15.7 | 19.2 | 21.4 | 23.0 | 24.2 | 25.3 | 27.0 | 28.4 | 31.0 | 32.9 | 37.9 |
| 30 min | 12.9 | 18.8 | 23.1 | 25.8 | 27.7 | 29.3 | 30.6 | 32.7 | 34.4 | 37.6 | 39.9 | 46.0 |
| 1 u | 16.0 | 22.4 | 27.2 | 30.1 | 32.2 | 33.9 | 35.3 | 37.6 | 39.4 | 42.8 | 45.4 | 51.9 |
| 2 u | 19.2 | 26.4 | 31.7 | 35.0 | 37.4 | 39.3 | 40.8 | 43.4 | 45.4 | 49.3 | 52.1 | 59.4 |
| 3 u | 21.2 | 29.2 | 35.2 | 38.7 | 41.4 | 43.4 | 45.2 | 48.0 | 50.2 | 54.5 | 57.6 | 65.5 |
| 6 u | 25.7 | 33.9 | 40.0 | 43.7 | 46.4 | 48.6 | 50.4 | 53.3 | 55.6 | 59.9 | 63.1 | 71.2 |
| 12 u | 31.2 | 41.2 | 48.5 | 52.9 | 56.1 | 58.7 | 60.8 | 64.2 | 67.0 | 72.1 | 75.9 | 85.5 |
| 1 d | 38.3 | 49.7 | 58.0 | 62.8 | 66.4 | 69.1 | 71.5 | 75.2 | 78.1 | 83.5 | 87.5 | 97.5 |
| 2 d | 48.5 | 62.1 | 71.7 | 77.3 | 81.3 | 84.5 | 87.0 | 91.2 | 94.4 | 100.4 | 104.8 | 115.5 |
| 3 d | 51.5 | 66.0 | 76.0 | 81.8 | 86.0 | 89.2 | 91.9 | 96.1 | 99.4 | 105.5 | 109.8 | 120.6 |
| 4 d | 56.0 | 71.4 | 81.9 | 88.0 | 92.4 | 95.7 | 98.5 | 102.9 | 106.3 | 112.5 | 117.0 | 128.0 |
| 5 d | 63.5 | 80.1 | 91.5 | 98.0 | 102.6 | 106.1 | 109.1 | 113.7 | 117.3 | 123.9 | 128.6 | 140.1 |
| 7 d | 73.1 | 91.1 | 103.3 | 110.2 | 115.0 | 118.8 | 121.9 | 126.7 | 130.5 | 137.4 | 142.3 | 154.1 |
| 10 d | 86.9 | 107.2 | 120.6 | 128.2 | 133.6 | 137.7 | 141.0 | 146.3 | 150.4 | 157.7 | 163.0 | 175.6 |
| 15 d | 105.3 | 128.9 | 144.4 | 153.1 | 159.1 | 163.8 | 167.5 | 173.4 | 178.0 | 186.2 | 192.0 | 205.8 |
| 20 d | 122.6 | 150.1 | 168.0 | 178.0 | 184.9 | 190.1 | 194.4 | 201.1 | 206.3 | 215.5 | 222.0 | 237.5 |
| 25 d | 130.6 | 159.9 | 178.8 | 189.2 | 196.4 | 202.0 | 206.4 | 213.4 | 218.7 | 228.3 | 235.0 | 250.9 |
| 30 d | 152.8 | 184.3 | 204.4 | 215.5 | 223.2 | 229.0 | 233.8 | 241.1 | 246.8 | 256.8 | 263.9 | 280.5 |

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 | 7.6 | 10.9 | 13.4 | 14.9 | 16.0 | 16.9 | 17.6 | 18.8 | 19.8 | 21.6 | 23.0 | 26.4 |
| | 0.2 | 0.3 | 0.5 | 0.7 | 0.8 | 0.9 | 1.0 | 1.2 | 1.3 | 1.7 | 1.9 | 2.7 |
| 20 min | 10.9 | 15.7 | 19.2 | 21.4 | 23.0 | 24.2 | 25.3 | 27.0 | 28.4 | 31.0 | 32.9 | 37.9 |
| | 0.3 | 0.5 | 0.7 | 0.9 | 1.1 | 1.2 | 1.4 | 1.6 | 1.8 | 2.2 | 2.6 | 3.5 |
| 30 min | 12.9 | 18.8 | 23.1 | 25.8 | 27.7 | 29.3 | 30.6 | 32.7 | 34.4 | 37.6 | 39.9 | 46.0 |
| | 0.4 | 0.6 | 0.8 | 1.0 | 1.1 | 1.3 | 1.4 | 1.6 | 1.8 | 2.1 | 2.4 | 3.2 |
| 1 u | 16.0 | 22.4 | 27.2 | 30.1 | 32.2 | 33.9 | 35.3 | 37.6 | 39.4 | 42.8 | 45.4 | 51.9 |
| | 0.4 | 0.7 | 1.0 | 1.2 | 1.5 | 1.6 | 1.8 | 2.1 | 2.4 | 2.9 | 3.3 | 4.5 |
| 2 u | 19.2 | 26.4 | 31.7 | 35.0 | 37.4 | 39.3 | 40.8 | 43.4 | 45.4 | 49.3 | 52.1 | 59.4 |
| | 0.5 | 0.8 | 1.1 | 1.4 | 1.7 | 1.9 | 2.0 | 2.4 | 2.7 | 3.2 | 3.7 | 5.0 |
| 3 u | 21.2 | 29.2 | 35.2 | 38.7 | 41.4 | 43.4 | 45.2 | 48.0 | 50.2 | 54.5 | 57.6 | 65.5 |
| | 0.6 | 0.9 | 1.2 | 1.5 | 1.7 | 1.9 | 2.1 | 2.4 | 2.6 | 3.1 | 3.6 | 4.8 |
| 6 u | 25.7 | 33.9 | 40.0 | 43.7 | 46.4 | 48.6 | 50.4 | 53.3 | 55.6 | 59.9 | 63.1 | 71.2 |
| | 0.7 | 0.9 | 1.3 | 1.7 | 2.0 | 2.2 | 2.5 | 2.9 | 3.2 | 4.0 | 4.6 | 6.3 |
| 12 u | 31.2 | 41.2 | 48.5 | 52.9 | 56.1 | 58.7 | 60.8 | 64.2 | 67.0 | 72.1 | 75.9 | 85.5 |
| | 0.9 | 1.3 | 1.8 | 2.3 | 2.6 | 3.0 | 3.3 | 3.8 | 4.3 | 5.2 | 6.0 | 8.2 |
| 1 d | 38.3 | 49.7 | 58.0 | 62.8 | 66.4 | 69.1 | 71.5 | 75.2 | 78.1 | 83.5 | 87.5 | 97.5 |
| | 0.9 | 1.2 | 1.5 | 1.8 | 2.0 | 2.2 | 2.4 | 2.7 | 2.9 | 3.5 | 3.9 | 5.0 |
| 2 d | 48.5 | 62.1 | 71.7 | 77.3 | 81.3 | 84.5 | 87.0 | 91.2 | 94.4 | 100.4 | 104.8 | 115.5 |
| | 1.3 | 1.9 | 2.6 | 3.1 | 3.5 | 3.9 | 4.2 | 4.7 | 5.2 | 6.0 | 6.7 | 8.6 |
| 3 d | 51.5 | 66.0 | 76.0 | 81.8 | 86.0 | 89.2 | 91.9 | 96.1 | 99.4 | 105.5 | 109.8 | 120.6 |
| | 1.6 | 2.3 | 3.0 | 3.5 | 4.0 | 4.3 | 4.6 | 5.1 | 5.6 | 6.4 | 7.1 | 8.9 |
| 4 d | 56.0 | 71.4 | 81.9 | 88.0 | 92.4 | 95.7 | 98.5 | 102.9 | 106.3 | 112.5 | 117.0 | 128.0 |
| | 1.9 | 2.4 | 3.0 | 3.4 | 3.8 | 4.0 | 4.3 | 4.7 | 5.1 | 5.8 | 6.3 | 7.8 |
| 5 d | 63.5 | 80.1 | 91.5 | 98.0 | 102.6 | 106.1 | 109.1 | 113.7 | 117.3 | 123.9 | 128.6 | 140.1 |
| | 2.1 | 2.7 | 3.3 | 3.6 | 3.9 | 4.2 | 4.4 | 4.8 | 5.1 | 5.8 | 6.3 | 7.6 |
| 7 d | 73.1 | 91.1 | 103.3 | 110.2 | 115.0 | 118.8 | 121.9 | 126.7 | 130.5 | 137.4 | 142.3 | 154.1 |
| | 2.5 | 3.1 | 3.5 | 3.9 | 4.1 | 4.4 | 4.6 | 4.9 | 5.2 | 5.7 | 6.2 | 7.3 |
| 10 d | 86.9 | 107.2 | 120.6 | 128.2 | 133.6 | 137.7 | 141.0 | 146.3 | 150.4 | 157.7 | 163.0 | 175.6 |
| | 3.1 | 3.9 | 4.5 | 4.9 | 5.2 | 5.4 | 5.6 | 6.0 | 6.3 | 6.9 | 7.4 | 8.6 |
| 15 d | 105.3 | 128.9 | 144.4 | 153.1 | 159.1 | 163.8 | 167.5 | 173.4 | 178.0 | 186.2 | 192.0 | 205.8 |
| | 3.8 | 4.7 | 5.2 | 5.6 | 5.8 | 6.0 | 6.1 | 6.4 | 6.6 | 7.0 | 7.3 | 8.0 |
| 20 d | 122.6 | 150.1 | 168.0 | 178.0 | 184.9 | 190.1 | 194.4 | 201.1 | 206.3 | 215.5 | 222.0 | 237.5 |
| | 4.5 | 5.6 | 6.3 | 6.8 | 7.1 | 7.3 | 7.5 | 7.8 | 8.1 | 8.6 | 9.0 | 10.1 |
| 25 d | 130.6 | 159.9 | 178.8 | 189.2 | 196.4 | 202.0 | 206.4 | 213.4 | 218.7 | 228.3 | 235.0 | 250.9 |
| | 5.0 | 6.4 | 7.4 | 8.0 | 8.5 | 8.9 | 9.3 | 9.9 | 10.4 | 11.3 | 12.0 | 13.9 |
| 30 d | 152.8 | 184.3 | 204.4 | 215.5 | 223.2 | 229.0 | 233.8 | 241.1 | 246.8 | 256.8 | 263.9 | 280.5 |
| | 5.6 | 7.1 | 8.4 | 9.2 | 9.9 | 10.5 | 10.9 | 11.7 | 12.4 | 13.7 | 14.6 | 17.1 |

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 | 7.2 | 10.2 | 12.4 | 13.6 | 14.4 | 15.1 | 15.6 | 16.5 | 17.1 | 18.3 | 19.2 | 21.2 |
| | 8.0 | 11.5 | 14.4 | 16.2 | 17.6 | 18.7 | 19.6 | 21.2 | 22.4 | 24.9 | 26.7 | 31.7 |
| 20 min | 10.3 | 14.7 | 17.8 | 19.6 | 20.9 | 21.8 | 22.6 | 23.9 | 24.9 | 26.7 | 27.9 | 31.0 |
| | 11.5 | 16.6 | 20.6 | 23.2 | 25.1 | 26.7 | 28.0 | 30.2 | 31.9 | 35.4 | 37.9 | 44.8 |
| 30 min | 12.2 | 17.6 | 21.5 | 23.8 | 25.5 | 26.8 | 27.9 | 29.6 | 30.9 | 33.4 | 35.2 | 39.6 |
| | 13.6 | 19.9 | 24.7 | 27.7 | 30.0 | 31.8 | 33.3 | 35.8 | 37.9 | 41.8 | 44.7 | 52.3 |
| 1 u | 15.2 | 21.1 | 25.2 | 27.6 | 29.3 | 30.6 | 31.7 | 33.4 | 34.8 | 37.2 | 38.9 | 43.1 |
| | 16.8 | 23.7 | 29.1 | 32.5 | 35.0 | 37.1 | 38.8 | 41.7 | 44.0 | 48.5 | 51.8 | 60.6 |
| 2 u | 18.2 | 24.9 | 29.5 | 32.2 | 34.1 | 35.6 | 36.8 | 38.7 | 40.2 | 42.9 | 44.9 | 49.5 |
| | 20.1 | 27.9 | 34.0 | 37.8 | 40.6 | 42.9 | 44.9 | 48.1 | 50.7 | 55.6 | 59.4 | 69.2 |
| 3 u | 20.1 | 27.5 | 32.8 | 35.9 | 38.1 | 39.8 | 41.2 | 43.4 | 45.1 | 48.3 | 50.6 | 56.2 |
| | 22.4 | 30.9 | 37.5 | 41.6 | 44.7 | 47.1 | 49.2 | 52.6 | 55.4 | 60.6 | 64.6 | 74.8 |
| 6 u | 24.3 | 32.1 | 37.4 | 40.5 | 42.6 | 44.2 | 45.6 | 47.6 | 49.2 | 52.1 | 54.1 | 58.9 |
| | 27.0 | 35.8 | 42.7 | 47.0 | 50.3 | 52.9 | 55.2 | 58.9 | 61.9 | 67.7 | 72.0 | 83.5 |
| 12 u | 29.4 | 38.6 | 44.9 | 48.5 | 50.9 | 52.8 | 54.4 | 56.7 | 58.6 | 61.8 | 64.1 | 69.4 |
| | 33.1 | 43.7 | 52.0 | 57.3 | 61.3 | 64.5 | 67.2 | 71.7 | 75.3 | 82.4 | 87.7 | 101.6 |
| 1 d | 36.5 | 47.4 | 54.9 | 59.3 | 62.4 | 64.8 | 66.8 | 69.9 | 72.3 | 76.8 | 80.0 | 87.8 |
| | 40.1 | 52.1 | 61.0 | 66.4 | 70.4 | 73.5 | 76.2 | 80.4 | 83.9 | 90.3 | 95.1 | 107.3 |
| 2 d | 45.9 | 58.3 | 66.6 | 71.2 | 74.4 | 76.8 | 78.8 | 81.9 | 84.3 | 88.6 | 91.6 | 98.7 |
| | 51.1 | 65.9 | 76.8 | 83.4 | 88.2 | 92.1 | 95.3 | 100.4 | 104.5 | 112.3 | 118.0 | 132.4 |
| 3 d | 48.4 | 61.5 | 70.1 | 74.9 | 78.2 | 80.8 | 82.8 | 86.0 | 88.5 | 92.9 | 96.0 | 103.3 |
| | 54.7 | 70.5 | 81.9 | 88.8 | 93.7 | 97.7 | 100.9 | 106.2 | 110.3 | 118.1 | 123.7 | 138.0 |
| 4 d | 52.3 | 66.6 | 76.1 | 81.3 | 85.0 | 87.8 | 90.1 | 93.6 | 96.4 | 101.3 | 104.7 | 112.8 |
| | 59.6 | 76.1 | 87.8 | 94.7 | 99.7 | 103.6 | 106.9 | 112.1 | 116.2 | 123.8 | 129.4 | 143.2 |
| 5 d | 59.3 | 74.8 | 85.1 | 90.9 | 94.9 | 97.9 | 100.4 | 104.3 | 107.2 | 112.6 | 116.3 | 125.1 |
| | 67.7 | 85.5 | 97.9 | 105.1 | 110.3 | 114.4 | 117.7 | 123.1 | 127.3 | 135.2 | 140.9 | 155.0 |
| 7 d | 68.2 | 85.1 | 96.3 | 102.6 | 106.9 | 110.3 | 112.9 | 117.2 | 120.4 | 126.2 | 130.2 | 139.7 |
| | 78.0 | 97.1 | 110.2 | 117.8 | 123.2 | 127.4 | 130.8 | 136.3 | 140.6 | 148.6 | 154.3 | 168.4 |
| 10 d | 80.8 | 99.6 | 111.9 | 118.7 | 123.4 | 127.1 | 130.0 | 134.5 | 138.0 | 144.2 | 148.6 | 158.7 |
| | 93.0 | 114.8 | 129.4 | 137.8 | 143.7 | 148.3 | 152.1 | 158.0 | 162.7 | 171.3 | 177.4 | 192.5 |
| 15 d | 97.8 | 119.7 | 134.1 | 142.1 | 147.7 | 152.0 | 155.5 | 160.9 | 165.1 | 172.5 | 177.8 | 190.1 |
| | 112.7 | 138.1 | 154.7 | 164.0 | 170.5 | 175.5 | 179.6 | 186.0 | 190.9 | 199.9 | 206.2 | 221.5 |
| 20 d | 113.7 | 139.1 | 155.6 | 164.7 | 171.0 | 175.8 | 179.7 | 185.8 | 190.4 | 198.6 | 204.4 | 217.7 |
| | 131.5 | 161.2 | 180.4 | 191.2 | 198.7 | 204.5 | 209.1 | 216.5 | 222.1 | 232.4 | 239.7 | 257.2 |
| 25 d | 120.7 | 147.4 | 164.3 | 173.4 | 179.7 | 184.4 | 188.2 | 194.0 | 198.4 | 206.2 | 211.5 | 223.8 |
| | 140.4 | 172.4 | 193.2 | 205.0 | 213.2 | 219.5 | 224.6 | 232.8 | 239.0 | 250.4 | 258.5 | 278.1 |
| 30 d | 141.9 | 170.4 | 188.0 | 197.4 | 203.8 | 208.5 | 212.3 | 218.1 | 222.5 | 230.1 | 235.2 | 246.9 |
| | 163.7 | 198.1 | 220.8 | 233.6 | 242.6 | 249.6 | 255.2 | 264.1 | 271.0 | 283.6 | 292.5 | 314.1 |

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 | 135.1 | 0.4724 | 299.2 | 0.7194 | 52.6 | 0.5196 |
| 5 | 193.8 | 0.4724 | 462.8 | 0.7429 | 79.4 | 0.5402 |
| 10 | 236.4 | 0.4698 | 594.0 | 0.7561 | 103.4 | 0.5551 |
| 15 | 261.8 | 0.4677 | 677.2 | 0.7630 | 119.7 | 0.5639 |
| 20 | 280.2 | 0.4661 | 739.9 | 0.7677 | 132.5 | 0.5701 |
| 25 | 294.7 | 0.4647 | 790.7 | 0.7713 | 143.2 | 0.5749 |
| 30 | 306.8 | 0.4636 | 833.8 | 0.7742 | 152.5 | 0.5789 |
| 40 | 326.2 | 0.4616 | 904.9 | 0.7786 | 168.3 | 0.5852 |
| 50 | 341.6 | 0.4601 | 962.7 | 0.7819 | 181.4 | 0.5901 |
| 75 | 370.3 | 0.4571 | 1074.2 | 0.7879 | 207.8 | 0.5991 |
| 100 | 391.3 | 0.4548 | 1158.9 | 0.7921 | 228.5 | 0.6055 |
| 200 | 444.3 | 0.4492 | 1383.2 | 0.8020 | 286.4 | 0.6210 |

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.