



Statistiques des précipitations extrêmes des communes belges

Lint (INS 11025)

1. Niveau de retour estimé pour une durée de précipitations de 10 minutes à 30 jours (lignes) et une période de retour de 2 à 200 années (colonnes). Unités : mm.

| Durée | Période de retour (années) | | | | | | | | | | | |
|--------|----------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| | 2 | 5 | 10 | 15 | 20 | 25 | 30 | 40 | 50 | 75 | 100 | 200 |
| 10 min | 7.6 | 10.8 | 13.3 | 14.8 | 15.9 | 16.8 | 17.5 | 18.7 | 19.7 | 21.5 | 22.8 | 26.3 |
| 20 min | 10.8 | 15.5 | 19.0 | 21.2 | 22.7 | 24.0 | 25.1 | 26.8 | 28.1 | 30.7 | 32.6 | 37.5 |
| 30 min | 12.8 | 18.6 | 22.9 | 25.6 | 27.5 | 29.1 | 30.4 | 32.4 | 34.1 | 37.3 | 39.6 | 45.6 |
| 1 h | 15.9 | 22.2 | 26.9 | 29.7 | 31.8 | 33.5 | 34.9 | 37.1 | 38.9 | 42.3 | 44.8 | 51.2 |
| 2 h | 19.0 | 26.1 | 31.4 | 34.6 | 36.9 | 38.8 | 40.4 | 42.9 | 44.9 | 48.7 | 51.5 | 58.6 |
| 3 h | 21.0 | 29.0 | 34.8 | 38.4 | 41.0 | 43.0 | 44.8 | 47.5 | 49.8 | 53.9 | 57.0 | 64.9 |
| 6 h | 25.4 | 33.7 | 39.8 | 43.4 | 46.1 | 48.3 | 50.0 | 52.9 | 55.2 | 59.5 | 62.7 | 70.8 |
| 12 h | 30.9 | 40.8 | 48.1 | 52.5 | 55.7 | 58.3 | 60.4 | 63.8 | 66.5 | 71.7 | 75.5 | 85.1 |
| 1 j | 37.5 | 48.9 | 57.1 | 61.9 | 65.4 | 68.2 | 70.5 | 74.2 | 77.1 | 82.6 | 86.5 | 96.5 |
| 2 j | 47.2 | 60.6 | 70.1 | 75.6 | 79.6 | 82.7 | 85.3 | 89.3 | 92.5 | 98.5 | 102.8 | 113.4 |
| 3 j | 50.0 | 64.2 | 74.0 | 79.7 | 83.8 | 87.0 | 89.6 | 93.7 | 97.0 | 103.0 | 107.2 | 117.8 |
| 4 j | 54.1 | 69.3 | 79.6 | 85.6 | 89.8 | 93.1 | 95.9 | 100.1 | 103.5 | 109.6 | 114.0 | 124.8 |
| 5 j | 61.4 | 77.7 | 88.7 | 95.1 | 99.6 | 103.0 | 105.9 | 110.4 | 113.9 | 120.4 | 124.9 | 136.2 |
| 7 j | 70.5 | 88.1 | 100.0 | 106.7 | 111.5 | 115.2 | 118.2 | 122.9 | 126.6 | 133.3 | 138.0 | 149.6 |
| 10 j | 83.7 | 103.2 | 116.2 | 123.6 | 128.7 | 132.7 | 135.9 | 141.0 | 144.9 | 152.1 | 157.1 | 169.3 |
| 15 j | 101.3 | 124.2 | 139.1 | 147.5 | 153.4 | 157.8 | 161.5 | 167.2 | 171.6 | 179.5 | 185.1 | 198.5 |
| 20 j | 118.0 | 144.5 | 161.8 | 171.4 | 178.0 | 183.1 | 187.3 | 193.7 | 198.7 | 207.6 | 213.9 | 228.8 |
| 25 j | 125.4 | 153.7 | 171.9 | 182.0 | 189.0 | 194.3 | 198.6 | 205.3 | 210.5 | 219.7 | 226.2 | 241.6 |
| 30 j | 147.0 | 177.6 | 197.1 | 207.8 | 215.3 | 220.9 | 225.5 | 232.7 | 238.1 | 247.9 | 254.7 | 270.8 |

2. Niveau de retour estimé et écart-type de l'estimation pour une durée de précipitations de 10 minutes à 30 jours (lignes) et une période de retour de 2 à 200 années (colonnes). Unités : mm.

| Durée | Période de retour (années) | | | | | | | | | | | |
|--------|----------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| | 2 | 5 | 10 | 15 | 20 | 25 | 30 | 40 | 50 | 75 | 100 | 200 |
| 10 min | 7.6 | 10.8 | 13.3 | 14.8 | 15.9 | 16.8 | 17.5 | 18.7 | 19.7 | 21.5 | 22.8 | 26.3 |
| | 0.2 | 0.3 | 0.5 | 0.7 | 0.8 | 0.9 | 1.0 | 1.2 | 1.4 | 1.7 | 1.9 | 2.7 |
| 20 min | 10.8 | 15.5 | 19.0 | 21.2 | 22.7 | 24.0 | 25.1 | 26.8 | 28.1 | 30.7 | 32.6 | 37.5 |
| | 0.3 | 0.5 | 0.8 | 1.0 | 1.1 | 1.3 | 1.4 | 1.6 | 1.8 | 2.2 | 2.6 | 3.5 |
| 30 min | 12.8 | 18.6 | 22.9 | 25.6 | 27.5 | 29.1 | 30.4 | 32.4 | 34.1 | 37.3 | 39.6 | 45.6 |
| | 0.4 | 0.6 | 0.9 | 1.1 | 1.2 | 1.4 | 1.5 | 1.7 | 1.9 | 2.2 | 2.5 | 3.3 |
| 1 h | 15.9 | 22.2 | 26.9 | 29.7 | 31.8 | 33.5 | 34.9 | 37.1 | 38.9 | 42.3 | 44.8 | 51.2 |
| | 0.5 | 0.8 | 1.1 | 1.4 | 1.6 | 1.8 | 1.9 | 2.2 | 2.5 | 3.0 | 3.4 | 4.6 |
| 2 h | 19.0 | 26.1 | 31.4 | 34.6 | 36.9 | 38.8 | 40.4 | 42.9 | 44.9 | 48.7 | 51.5 | 58.6 |
| | 0.6 | 0.9 | 1.3 | 1.6 | 1.8 | 2.0 | 2.2 | 2.5 | 2.8 | 3.4 | 3.9 | 5.2 |
| 3 h | 21.0 | 29.0 | 34.8 | 38.4 | 41.0 | 43.0 | 44.8 | 47.5 | 49.8 | 53.9 | 57.0 | 64.9 |
| | 0.7 | 1.0 | 1.3 | 1.6 | 1.8 | 2.0 | 2.2 | 2.5 | 2.8 | 3.3 | 3.7 | 4.9 |
| 6 h | 25.4 | 33.7 | 39.8 | 43.4 | 46.1 | 48.3 | 50.0 | 52.9 | 55.2 | 59.5 | 62.7 | 70.8 |
| | 0.8 | 1.1 | 1.5 | 1.8 | 2.1 | 2.3 | 2.6 | 3.0 | 3.3 | 4.1 | 4.7 | 6.4 |
| 12 h | 30.9 | 40.8 | 48.1 | 52.5 | 55.7 | 58.3 | 60.4 | 63.8 | 66.5 | 71.7 | 75.5 | 85.1 |
| | 1.1 | 1.5 | 2.0 | 2.4 | 2.7 | 3.1 | 3.4 | 3.9 | 4.4 | 5.3 | 6.1 | 8.3 |
| 1 j | 37.5 | 48.9 | 57.1 | 61.9 | 65.4 | 68.2 | 70.5 | 74.2 | 77.1 | 82.6 | 86.5 | 96.5 |
| | 1.3 | 1.6 | 1.9 | 2.1 | 2.4 | 2.5 | 2.7 | 3.0 | 3.2 | 3.7 | 4.1 | 5.2 |
| 2 j | 47.2 | 60.6 | 70.1 | 75.6 | 79.6 | 82.7 | 85.3 | 89.3 | 92.5 | 98.5 | 102.8 | 113.4 |
| | 2.0 | 2.6 | 3.2 | 3.7 | 4.1 | 4.5 | 4.8 | 5.3 | 5.7 | 6.6 | 7.3 | 9.1 |
| 3 j | 50.0 | 64.2 | 74.0 | 79.7 | 83.8 | 87.0 | 89.6 | 93.7 | 97.0 | 103.0 | 107.2 | 117.8 |
| | 2.4 | 3.1 | 3.9 | 4.4 | 4.8 | 5.1 | 5.4 | 5.9 | 6.3 | 7.2 | 7.8 | 9.6 |
| 4 j | 54.1 | 69.3 | 79.6 | 85.6 | 89.8 | 93.1 | 95.9 | 100.1 | 103.5 | 109.6 | 114.0 | 124.8 |
| | 2.8 | 3.5 | 4.1 | 4.5 | 4.8 | 5.1 | 5.3 | 5.7 | 6.1 | 6.8 | 7.3 | 8.7 |
| 5 j | 61.4 | 77.7 | 88.7 | 95.1 | 99.6 | 103.0 | 105.9 | 110.4 | 113.9 | 120.4 | 124.9 | 136.2 |
| | 3.2 | 4.0 | 4.6 | 5.0 | 5.3 | 5.5 | 5.8 | 6.1 | 6.5 | 7.1 | 7.6 | 8.9 |
| 7 j | 70.5 | 88.1 | 100.0 | 106.7 | 111.5 | 115.2 | 118.2 | 122.9 | 126.6 | 133.3 | 138.0 | 149.6 |
| | 3.9 | 4.6 | 5.2 | 5.6 | 5.9 | 6.1 | 6.3 | 6.7 | 7.0 | 7.5 | 7.9 | 9.1 |
| 10 j | 83.7 | 103.2 | 116.2 | 123.6 | 128.7 | 132.7 | 135.9 | 141.0 | 144.9 | 152.1 | 157.1 | 169.3 |
| | 4.8 | 5.9 | 6.8 | 7.2 | 7.6 | 7.9 | 8.2 | 8.6 | 8.9 | 9.5 | 10.0 | 11.3 |
| 15 j | 101.3 | 124.2 | 139.1 | 147.5 | 153.4 | 157.8 | 161.5 | 167.2 | 171.6 | 179.5 | 185.1 | 198.5 |
| | 5.9 | 7.2 | 8.0 | 8.5 | 8.8 | 9.1 | 9.3 | 9.6 | 9.9 | 10.4 | 10.7 | 11.6 |
| 20 j | 118.0 | 144.5 | 161.8 | 171.4 | 178.0 | 183.1 | 187.3 | 193.7 | 198.7 | 207.6 | 213.9 | 228.8 |
| | 7.0 | 8.5 | 9.6 | 10.2 | 10.6 | 10.9 | 11.2 | 11.6 | 11.9 | 12.6 | 13.0 | 14.2 |
| 25 j | 125.4 | 153.7 | 171.9 | 182.0 | 189.0 | 194.3 | 198.6 | 205.3 | 210.5 | 219.7 | 226.2 | 241.6 |
| | 7.8 | 9.6 | 10.8 | 11.6 | 12.1 | 12.6 | 12.9 | 13.5 | 14.0 | 15.0 | 15.7 | 17.5 |
| 30 j | 147.0 | 177.6 | 197.1 | 207.8 | 215.3 | 220.9 | 225.5 | 232.7 | 238.1 | 247.9 | 254.7 | 270.8 |
| | 8.6 | 10.5 | 11.9 | 12.8 | 13.5 | 14.0 | 14.5 | 15.3 | 15.9 | 17.1 | 18.1 | 20.4 |

3. Intervalle de confiance à 95% de la période de retour estimée pour une durée de précipitations de 10 minutes à 30 jours (lignes) et une période de retour de 2 à 200 années (colonnes). Unités : mm.

| Durée | Période de retour (années) | | | | | | | | | | | |
|--------|----------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| | 2 | 5 | 10 | 15 | 20 | 25 | 30 | 40 | 50 | 75 | 100 | 200 |
| 10 min | 7.1 | 10.2 | 12.3 | 13.5 | 14.3 | 15.0 | 15.5 | 16.4 | 17.0 | 18.2 | 19.1 | 21.1 |
| | 8.0 | 11.5 | 14.3 | 16.1 | 17.5 | 18.6 | 19.5 | 21.1 | 22.3 | 24.8 | 26.6 | 31.5 |
| 20 min | 10.2 | 14.5 | 17.5 | 19.3 | 20.5 | 21.5 | 22.3 | 23.5 | 24.5 | 26.3 | 27.5 | 30.6 |
| | 11.5 | 16.6 | 20.6 | 23.1 | 25.0 | 26.5 | 27.8 | 30.0 | 31.7 | 35.1 | 37.6 | 44.4 |
| 30 min | 12.0 | 17.4 | 21.2 | 23.5 | 25.1 | 26.4 | 27.4 | 29.1 | 30.5 | 32.9 | 34.7 | 39.1 |
| | 13.6 | 19.8 | 24.7 | 27.7 | 29.9 | 31.7 | 33.3 | 35.8 | 37.8 | 41.7 | 44.6 | 52.1 |
| 1 h | 15.0 | 20.7 | 24.7 | 27.0 | 28.7 | 30.0 | 31.1 | 32.7 | 34.0 | 36.4 | 38.1 | 42.2 |
| | 16.8 | 23.7 | 29.1 | 32.4 | 34.9 | 37.0 | 38.7 | 41.5 | 43.8 | 48.2 | 51.5 | 60.3 |
| 2 h | 17.9 | 24.3 | 28.9 | 31.5 | 33.4 | 34.8 | 36.0 | 37.9 | 39.3 | 42.0 | 43.9 | 48.4 |
| | 20.1 | 27.9 | 33.9 | 37.7 | 40.5 | 42.8 | 44.7 | 47.9 | 50.4 | 55.4 | 59.1 | 68.8 |
| 3 h | 19.7 | 27.0 | 32.2 | 35.2 | 37.4 | 39.0 | 40.4 | 42.6 | 44.3 | 47.5 | 49.7 | 55.3 |
| | 22.4 | 30.9 | 37.5 | 41.5 | 44.6 | 47.0 | 49.1 | 52.5 | 55.2 | 60.4 | 64.3 | 74.5 |
| 6 h | 23.8 | 31.5 | 36.9 | 39.9 | 42.1 | 43.7 | 45.0 | 47.1 | 48.7 | 51.6 | 53.6 | 58.4 |
| | 27.0 | 35.8 | 42.6 | 46.9 | 50.2 | 52.8 | 55.1 | 58.7 | 61.7 | 67.5 | 71.8 | 83.3 |
| 12 h | 28.7 | 37.9 | 44.3 | 47.8 | 50.3 | 52.2 | 53.8 | 56.2 | 58.0 | 61.3 | 63.6 | 68.9 |
| | 33.1 | 43.7 | 51.9 | 57.1 | 61.1 | 64.3 | 67.0 | 71.5 | 75.1 | 82.1 | 87.3 | 101.3 |
| 1 j | 35.0 | 45.8 | 53.4 | 57.7 | 60.8 | 63.2 | 65.2 | 68.3 | 70.8 | 75.2 | 78.4 | 86.2 |
| | 40.1 | 52.0 | 60.8 | 66.1 | 70.1 | 73.2 | 75.8 | 80.1 | 83.5 | 89.9 | 94.6 | 106.7 |
| 2 j | 43.3 | 55.6 | 63.8 | 68.3 | 71.5 | 73.9 | 75.9 | 79.0 | 81.3 | 85.6 | 88.5 | 95.5 |
| | 51.1 | 65.7 | 76.4 | 82.9 | 87.7 | 91.5 | 94.6 | 99.7 | 103.8 | 111.4 | 117.0 | 131.3 |
| 3 j | 45.2 | 58.0 | 66.5 | 71.2 | 74.4 | 77.0 | 79.0 | 82.1 | 84.5 | 88.9 | 91.9 | 99.1 |
| | 54.7 | 70.3 | 81.6 | 88.3 | 93.2 | 97.0 | 100.2 | 105.3 | 109.4 | 117.0 | 122.6 | 136.6 |
| 4 j | 48.6 | 62.5 | 71.7 | 76.8 | 80.4 | 83.2 | 85.4 | 88.9 | 91.6 | 96.4 | 99.7 | 107.7 |
| | 59.6 | 76.0 | 87.6 | 94.4 | 99.3 | 103.1 | 106.3 | 111.4 | 115.4 | 122.9 | 128.3 | 141.9 |
| 5 j | 55.1 | 69.9 | 79.8 | 85.3 | 89.2 | 92.2 | 94.6 | 98.4 | 101.3 | 106.5 | 110.1 | 118.7 |
| | 67.7 | 85.4 | 97.7 | 104.8 | 109.9 | 113.9 | 117.2 | 122.5 | 126.6 | 134.3 | 139.8 | 153.6 |
| 7 j | 62.9 | 79.1 | 89.8 | 95.8 | 99.9 | 103.2 | 105.8 | 109.8 | 112.9 | 118.5 | 122.5 | 131.8 |
| | 78.1 | 97.2 | 110.2 | 117.7 | 123.0 | 127.2 | 130.6 | 136.0 | 140.2 | 148.0 | 153.6 | 167.4 |
| 10 j | 74.2 | 91.6 | 103.0 | 109.4 | 113.8 | 117.2 | 119.9 | 124.2 | 127.5 | 133.4 | 137.5 | 147.1 |
| | 93.1 | 114.9 | 129.5 | 137.8 | 143.7 | 148.2 | 151.9 | 157.8 | 162.4 | 170.8 | 176.8 | 191.4 |
| 15 j | 89.7 | 110.1 | 123.4 | 130.9 | 136.1 | 140.1 | 143.3 | 148.4 | 152.2 | 159.2 | 164.1 | 175.7 |
| | 112.9 | 138.2 | 154.8 | 164.1 | 170.6 | 175.6 | 179.7 | 186.0 | 191.0 | 199.9 | 206.2 | 221.3 |
| 20 j | 104.3 | 127.8 | 143.0 | 151.5 | 157.3 | 161.8 | 165.4 | 171.0 | 175.3 | 183.0 | 188.3 | 200.9 |
| | 131.7 | 161.3 | 180.6 | 191.3 | 198.8 | 204.5 | 209.2 | 216.5 | 222.1 | 232.3 | 239.4 | 256.7 |
| 25 j | 110.1 | 135.0 | 150.7 | 159.3 | 165.2 | 169.7 | 173.3 | 178.8 | 183.0 | 190.4 | 195.5 | 207.3 |
| | 140.7 | 172.4 | 193.1 | 204.6 | 212.7 | 218.9 | 223.9 | 231.9 | 238.0 | 249.1 | 256.9 | 275.9 |
| 30 j | 130.1 | 157.0 | 173.8 | 182.8 | 188.9 | 193.4 | 197.1 | 202.7 | 206.9 | 214.3 | 219.3 | 230.8 |
| | 164.0 | 198.1 | 220.4 | 232.9 | 241.7 | 248.5 | 254.0 | 262.6 | 269.3 | 281.5 | 290.1 | 310.9 |

4. Estimation des coefficients de Montana.

Formule de Montana : intensité[mm/h] = $a \cdot \text{durée}[\text{min}]^{-b}$ pour une plage de durées

a_1, b_1 : durées < 25 min

a_2, b_2 : durées entre 25 min et 6000 min (= 100 h)

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

| Période de retour (années) | a_1 | b_1 | a_2 | b_2 | a_3 | b_3 |
|----------------------------|-------|--------|--------|--------|-------|--------|
| 2 | 132.7 | 0.4676 | 303.5 | 0.7245 | 53.5 | 0.5250 |
| 5 | 191.1 | 0.4691 | 467.7 | 0.7472 | 82.0 | 0.5470 |
| 10 | 233.4 | 0.4671 | 599.2 | 0.7600 | 107.6 | 0.5626 |
| 15 | 258.7 | 0.4654 | 682.6 | 0.7668 | 125.0 | 0.5717 |
| 20 | 277.0 | 0.4639 | 745.4 | 0.7714 | 138.7 | 0.5781 |
| 25 | 291.5 | 0.4627 | 796.3 | 0.7749 | 150.1 | 0.5831 |
| 30 | 303.5 | 0.4616 | 839.5 | 0.7777 | 160.1 | 0.5872 |
| 40 | 322.8 | 0.4598 | 910.7 | 0.7820 | 176.9 | 0.5937 |
| 50 | 338.1 | 0.4583 | 968.6 | 0.7853 | 191.0 | 0.5987 |
| 75 | 366.7 | 0.4555 | 1080.4 | 0.7912 | 219.1 | 0.6078 |
| 100 | 387.6 | 0.4534 | 1165.1 | 0.7953 | 241.3 | 0.6144 |
| 200 | 440.3 | 0.4480 | 1389.7 | 0.8051 | 303.5 | 0.6302 |

Références

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