Statistiek van de extreme neerslag voor de Belgische gemeenten

Geetbets (NIS 24028)

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

	Terugkeerperiode (jaren)											
Duur	**2**	**5**	**10**	**15**	**20**	**25**	**30**	**40**	**50**	**75**	**100**	**200**
10 min	7.4	10.7	13.1	14.6	15.7	16.5	17.3	18.4	19.4	21.2	22.5	25.9
20 min	10.5	15.1	18.5	20.6	22.1	23.3	24.3	25.9	27.3	29.7	31.6	36.3
30 min	12.5	18.2	22.4	25.0	26.9	28.4	29.7	31.7	33.3	36.4	38.7	44.6
1 u	15.5	21.5	26.0	28.8	30.8	32.4	33.7	35.9	37.6	40.8	43.2	49.4
2 u	18.5	25.3	30.3	33.4	35.7	37.4	38.9	41.3	43.3	46.9	49.6	56.4
3 u	20.5	28.1	33.8	37.3	39.8	41.8	43.5	46.2	48.3	52.4	55.4	63.1
6 u	24.7	32.8	38.9	42.5	45.2	47.3	49.1	51.9	54.2	58.5	61.6	69.7
12 u	29.8	39.7	46.9	51.3	54.5	57.1	59.2	62.6	65.3	70.4	74.2	83.7
1 d	36.5	47.9	56.0	60.8	64.3	67.1	69.4	73.0	75.9	81.4	85.3	95.2
2 d	45.6	58.9	68.2	73.6	77.5	80.6	83.1	87.1	90.3	96.1	100.3	110.8
3 d	48.0	62.0	71.6	77.2	81.2	84.3	86.8	90.9	94.1	99.9	104.1	114.4
4 d	51.9	66.7	76.8	82.6	86.8	90.0	92.6	96.8	100.1	106.1	110.4	120.9
5 d	58.9	74.7	85.4	91.6	95.9	99.3	102.1	106.4	109.9	116.1	120.6	131.4
7 d	67.4	84.5	96.0	102.6	107.2	110.7	113.6	118.2	121.8	128.3	132.9	144.1
10 d	79.8	98.5	110.9	117.9	122.9	126.7	129.8	134.6	138.4	145.2	150.0	161.6
15 d	96.5	118.4	132.7	140.8	146.4	150.7	154.2	159.6	163.9	171.5	176.8	189.7
20 d	112.4	137.8	154.2	163.4	169.8	174.6	178.6	184.8	189.5	198.0	204.0	218.3
25 d	119.1	146.2	163.6	173.2	179.9	185.0	189.1	195.6	200.5	209.3	215.5	230.2
30 d	140.1	169.4	188.2	198.5	205.7	211.1	215.5	222.4	227.6	237.0	243.6	259.1

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.

	Terugkeerperiode (jaren)											
Duur	**2**	**5**	**10**	**15**	**20**	**25**	**30**	**40**	**50**	**75**	**100**	**200**
10 min	7.4	10.7	13.1	14.6	15.7	16.5	17.3	18.4	19.4	21.2	22.5	25.9
	0.2	0.3	0.5	0.7	0.8	0.9	1.0	1.2	1.3	1.7	1.9	2.6
20 min	10.5	15.1	18.5	20.6	22.1	23.3	24.3	25.9	27.3	29.7	31.6	36.3
	0.3	0.5	0.8	0.9	1.1	1.2	1.3	1.6	1.7	2.1	2.4	3.3
30 min	12.5	18.2	22.4	25.0	26.9	28.4	29.7	31.7	33.3	36.4	38.7	44.6
	0.4	0.7	0.9	1.1	1.3	1.5	1.6	1.8	2.0	2.4	2.7	3.5
1 u	15.5	21.5	26.0	28.8	30.8	32.4	33.7	35.9	37.6	40.8	43.2	49.4
	0.5	0.8	1.1	1.4	1.6	1.8	2.0	2.3	2.6	3.1	3.5	4.6
2 u	18.5	25.3	30.3	33.4	35.7	37.4	38.9	41.3	43.3	46.9	49.6	56.4
	0.6	0.9	1.3	1.6	1.9	2.1	2.3	2.6	2.9	3.4	3.9	5.2
3 u	20.5	28.1	33.8	37.3	39.8	41.8	43.5	46.2	48.3	52.4	55.4	63.1
	0.7	1.0	1.4	1.7	1.9	2.1	2.3	2.6	2.9	3.4	3.9	5.1
6 u	24.7	32.8	38.9	42.5	45.2	47.3	49.1	51.9	54.2	58.5	61.6	69.7
	0.8	1.1	1.6	1.9	2.2	2.5	2.7	3.1	3.5	4.2	4.8	6.5
12 u	29.8	39.7	46.9	51.3	54.5	57.1	59.2	62.6	65.3	70.4	74.2	83.7
	1.1	1.5	2.0	2.5	2.8	3.2	3.5	4.0	4.4	5.4	6.1	8.3
1 d	36.5	47.9	56.0	60.8	64.3	67.1	69.4	73.0	75.9	81.4	85.3	95.2
	1.2	1.5	1.9	2.2	2.4	2.6	2.8	3.1	3.3	3.8	4.2	5.4
2 d	45.6	58.9	68.2	73.6	77.5	80.6	83.1	87.1	90.3	96.1	100.3	110.8
	1.8	2.5	3.2	3.7	4.2	4.5	4.8	5.4	5.8	6.7	7.4	9.3
3 d	48.0	62.0	71.6	77.2	81.2	84.3	86.8	90.9	94.1	99.9	104.1	114.4
	2.2	3.0	3.7	4.3	4.7	5.1	5.4	5.9	6.3	7.2	7.8	9.6
4 d	51.9	66.7	76.8	82.6	86.8	90.0	92.6	96.8	100.1	106.1	110.4	120.9
	2.6	3.2	3.9	4.3	4.6	4.9	5.2	5.6	6.0	6.7	7.2	8.7
5 d	58.9	74.7	85.4	91.6	95.9	99.3	102.1	106.4	109.9	116.1	120.6	131.4
	2.9	3.7	4.3	4.7	5.0	5.2	5.5	5.9	6.2	6.8	7.3	8.6
7 d	67.4	84.5	96.0	102.6	107.2	110.7	113.6	118.2	121.8	128.3	132.9	144.1
	3.5	4.2	4.8	5.2	5.5	5.8	6.0	6.4	6.6	7.2	7.7	8.8
10 d	79.8	98.5	110.9	117.9	122.9	126.7	129.8	134.6	138.4	145.2	150.0	161.6
	4.3	5.4	6.2	6.7	7.0	7.3	7.5	8.0	8.3	8.9	9.4	10.7
15 d	96.5	118.4	132.7	140.8	146.4	150.7	154.2	159.6	163.9	171.5	176.8	189.7
	5.3	6.5	7.3	7.7	8.0	8.3	8.5	8.8	9.0	9.5	9.9	10.7
20 d	112.4	137.8	154.2	163.4	169.8	174.6	178.6	184.8	189.5	198.0	204.0	218.3
	6.3	7.8	8.7	9.3	9.7	10.0	10.3	10.7	11.0	11.6	12.1	13.2
25 d	119.1	146.2	163.6	173.2	179.9	185.0	189.1	195.6	200.5	209.3	215.5	230.2
	7.0	8.7	9.9	10.6	11.1	11.6	11.9	12.5	13.0	13.9	14.6	16.4
30 d	140.1	169.4	188.2	198.5	205.7	211.1	215.5	222.4	227.6	237.0	243.6	259.1
	7.8	9.6	11.0	11.9	12.5	13.1	13.6	14.4	15.0	16.2	17.1	19.5

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.

	Terugkeerperiode (jaren)											
Duur	**2**	**5**	**10**	**15**	**20**	**25**	**30**	**40**	**50**	**75**	**100**	**200**
10 min	7.0	10.0	12.0	13.2	14.1	14.7	15.3	16.1	16.7	17.9	18.8	20.8
	7.8	11.3	14.1	15.9	17.2	18.3	19.3	20.8	22.0	24.4	26.2	31.1
20 min	9.9	14.0	17.0	18.7	19.9	20.9	21.7	22.9	23.8	25.6	26.8	29.8
	11.2	16.1	20.0	22.4	24.2	25.7	26.9	29.0	30.7	33.9	36.4	42.8
30 min	11.7	16.9	20.6	22.8	24.3	25.5	26.5	28.2	29.4	31.8	33.5	37.7
	13.3	19.5	24.3	27.2	29.5	31.3	32.8	35.2	37.2	41.1	43.9	51.4
1 u	14.6	20.0	23.8	26.0	27.6	28.8	29.8	31.4	32.6	34.8	36.4	40.3
	16.4	23.1	28.3	31.6	34.0	36.0	37.6	40.4	42.6	46.8	50.0	58.5
2 u	17.3	23.4	27.7	30.2	32.0	33.4	34.5	36.3	37.6	40.1	41.9	46.2
	19.6	27.1	32.9	36.6	39.3	41.5	43.4	46.4	48.9	53.6	57.2	66.6
3 u	19.1	26.1	31.1	34.0	36.0	37.6	38.9	41.0	42.7	45.7	47.8	53.1
	21.8	30.2	36.6	40.6	43.6	46.0	48.0	51.3	54.0	59.1	63.0	73.0
6 u	23.1	30.6	35.8	38.8	40.9	42.5	43.8	45.8	47.4	50.2	52.2	56.9
	26.3	35.1	41.9	46.3	49.5	52.1	54.4	58.0	61.0	66.7	71.1	82.4
12 u	27.6	36.7	42.9	46.5	48.9	50.8	52.4	54.8	56.6	59.9	62.1	67.4
	32.0	42.7	51.0	56.2	60.1	63.3	66.0	70.4	74.0	81.0	86.2	100.0
1 d	34.1	44.9	52.3	56.6	59.7	62.0	64.0	67.1	69.5	73.9	77.0	84.7
	38.9	50.9	59.7	65.1	69.0	72.2	74.8	79.0	82.4	88.8	93.6	105.7
2 d	42.0	54.0	61.9	66.3	69.4	71.7	73.6	76.6	78.9	83.0	85.8	92.6
	49.2	63.8	74.5	80.9	85.7	89.4	92.6	97.6	101.7	109.3	114.8	129.0
3 d	43.7	56.1	64.3	68.8	71.9	74.3	76.3	79.3	81.6	85.8	88.7	95.6
	52.4	67.8	78.9	85.6	90.4	94.2	97.4	102.4	106.5	114.0	119.5	133.3
4 d	46.9	60.4	69.3	74.2	77.7	80.3	82.5	85.8	88.4	93.0	96.3	103.9
	57.0	73.0	84.4	91.1	95.9	99.7	102.8	107.8	111.8	119.1	124.5	137.9
5 d	53.1	67.5	77.1	82.4	86.1	89.0	91.3	94.9	97.7	102.7	106.2	114.5
	64.6	81.8	93.7	100.7	105.7	109.6	112.8	117.9	122.0	129.5	134.9	148.4
7 d	60.5	76.2	86.5	92.3	96.3	99.4	101.9	105.8	108.8	114.2	117.9	126.8
	74.3	92.8	105.5	112.8	118.0	122.1	125.4	130.7	134.8	142.5	147.9	161.5
10 d	71.3	87.9	98.8	104.9	109.1	112.3	115.0	119.0	122.1	127.7	131.6	140.7
	88.3	109.1	123.0	131.0	136.6	141.0	144.5	150.2	154.6	162.7	168.4	182.5
15 d	86.0	105.6	118.5	125.6	130.6	134.5	137.6	142.4	146.1	152.8	157.5	168.6
	107.0	131.2	147.0	155.9	162.1	166.9	170.8	176.9	181.6	190.1	196.1	210.7
20 d	100.0	122.5	137.1	145.2	150.8	155.0	158.5	163.8	167.9	175.2	180.3	192.3
	124.7	153.0	171.4	181.6	188.8	194.3	198.7	205.7	211.1	220.8	227.7	244.2
25 d	105.3	129.1	144.2	152.4	158.0	162.3	165.7	171.0	175.0	182.0	186.8	198.0
	132.9	163.2	182.9	194.0	201.7	207.7	212.5	220.1	226.0	236.7	244.2	262.4
30 d	124.7	150.7	166.7	175.3	181.1	185.5	188.9	194.3	198.3	205.2	210.0	220.8
	155.4	188.2	209.7	221.8	230.3	236.8	242.1	250.5	257.0	268.8	277.2	297.4

4. Schatting van de coefficienten van Montana.
Formule van Montana : intensiteit[mm/h] = a . duur[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	132.3	0.4737	299.4	0.7275	54.4	0.5315
5	191.7	0.4781	458.4	0.7488	85.5	0.5558
10	235.0	0.4774	585.5	0.7611	113.6	0.5725
15	260.8	0.4762	666.1	0.7676	132.7	0.5821
20	279.5	0.4751	726.8	0.7720	147.7	0.5889
25	294.3	0.4741	776.0	0.7754	160.3	0.5941
30	306.5	0.4733	817.7	0.7781	171.2	0.5983
40	326.2	0.4717	886.4	0.7823	189.7	0.6051
50	341.9	0.4705	942.3	0.7855	205.3	0.6103
75	371.1	0.4680	1050.2	0.7912	236.3	0.6197
100	392.4	0.4661	1131.9	0.7952	260.8	0.6265
200	446.3	0.4611	1348.6	0.8047	329.5	0.6427

Referenties

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