

8. La Scie

This station was updated in CRA (2015). The updated IDF curve from CRA (2015) is reproduced below, with the addition of the 20-year return period.

This IDF curve was updated using 1-hr and 6-hr data from La Scie. The IDF curve decreased slightly for most durations during the update (Table 8.1), but increased slightly for the 24-hr duration.

Table 8.1 Differences Between IDF Curves for La Scie

Duration	Percent Difference in Precipitation Amount (%) (Difference in Precipitation Amount (mm))					
	Return Period (years)					
	2	5	10	25	50	100
5-min	N/A	N/A	N/A	N/A	N/A	N/A
10-min	N/A	N/A	N/A	N/A	N/A	N/A
15-min	N/A	N/A	N/A	N/A	N/A	N/A
30-min	N/A	N/A	N/A	N/A	N/A	N/A
1-hr	0.0 (0.0)	-1.8 (-0.3)	-2.6 (-0.4)	-3.3 (-0.6)	-3.8 (-0.8)	-4.1 (-1.0)
2-hr	0.0 (0.0)	-1.4 (-0.3)	-2.1 (-0.5)	-2.7 (-0.7)	-3.0 (-0.9)	-3.3 (-1.1)
6-hr	-0.4 (-0.1)	-1.7 (-0.6)	-2.2 (-0.9)	-2.7 (-1.3)	-3.0 (-1.6)	-3.3 (-1.9)
12-hr	-2.4 (-1.0)	-3.2 (-1.7)	-3.6 (-2.1)	-3.9 (-2.7)	-4.1 (-3.2)	-4.2 (-3.6)
24-hr	1.1 (0.5)	1.4 (0.9)	1.5 (1.1)	1.7 (1.4)	1.8 (1.6)	1.9 (1.8)
Notes:						
Red numbers indicate that the updated IDF curve is lower than the EC-IDF V2.3 IDF curve for that duration and return period.						
Bold numbers indicate changes greater than 5 percent.						

Office of Climate Change and Energy Efficiency

Short Duration Rainfall Intensity-Duration-Frequency Data
Données sur l'intensité, la durée et la fréquence des chutes
de pluie de courte durée

Gumbel - Method of moments/Méthode des moments

2015/10/30

LA SCIE NL 8402520
Updated with 6-hr and 1-hr data measured at La Scie (8402520): 2003-2006

Latitude: 49 55'N Longitude: 55 40'W Elevation/Altitude: 194 m
Years/Années : 1984 - 2006 # Years/Années : 12

Table 1 : Annual Maximum (mm)/Maximum annuel (mm)

	Year Année	5 min	10 min	15 min	30 min	1 h	2 h	6 h	12 h	24 h
EC-IDF	1984	3.2	3.6	4.7	7.6	10.4	15.0	-99.9	-99.9	-99.9
EC-IDF	1985	2.4	3.1	3.5	5.6	9.8	16.4	25.5	40.1	53.8
EC-IDF	1986	3.3	4.0	4.7	5.9	10.6	18.2	42.6	68.6	79.7
EC-IDF	1987	2.9	5.1	5.7	6.7	9.1	15.3	28.2	38.6	40.6
EC-IDF	1988	1.9	2.7	2.9	4.6	7.2	11.9	20.7	32.0	34.5
EC-IDF	1989	2.1	3.7	5.4	9.7	17.2	27.0	47.3	53.4	53.4
EC-IDF	1990	4.7	7.3	8.8	11.0	14.1	16.9	22.0	29.8	42.4
EC-IDF	1991	2.9	3.5	4.3	4.9	6.5	11.6	24.4	34.3	57.6
EC-IDF	1992	1.8	2.2	2.9	4.0	6.3	9.0	15.6	24.1	41.6
EC-IDF	1993	4.0	5.4	6.0	9.3	17.1	25.2	36.5	57.0	66.1
EC-IDF	1994	5.8	7.3	9.7	12.9	13.6	16.4	30.8	50.5	61.9
EC-IDF	1995	3.6	6.1	9.1	13.1	14.4	14.6	22.0	37.6	60.0
UPDATE	2003	NM	NM	NM	NM	NM	NM	20.0	29.0	36.0
UPDATE	2004	NM	NM	NM	NM	11.9	18.4	37.0	48.7	68.6
UPDATE	2006	NM	NM	NM	NM	10.1	13.8	26.3	34.1	65.2
# Yrs.	12	12	12	12	14	14	14	14	14	14
Mean	3.2	4.5	5.6	7.9	11.3	16.4	28.5	41.3	54.4	
Std. Dev.	1.2	1.7	2.4	3.2	3.6	4.9	9.2	12.6	13.7	
Skew.	0.91	0.55	0.69	0.48	0.27	0.97	0.77	0.77	0.07	
Kurtosis	4.31	2.89	3.01	2.65	2.79	4.59	3.37	3.57	2.76	

*-99.9 Indicates Missing Data/Données manquantes

* NM Indicates No Measurements/Aucunes mesures

Table 2a : Return Period Rainfall Amounts (mm)
Quantité de pluie (mm) par période de retour

Duration/Durée	2	5	10	20	25	50	100	#Years Années
	yr/ans	yr/ans	yr/ans	yr/ans	yr/ans	yr/ans	yr/ans	
EC-IDF	5 min	3.0	4.1	4.8	5.4	5.6	6.3	12
EC-IDF	10 min	4.2	5.7	6.7	7.7	8.0	9.0	12
EC-IDF	15 min	5.3	7.3	8.7	10.1	10.5	11.8	12
EC-IDF	30 min	7.4	10.2	12.1	13.9	14.5	16.2	12
UPDATE	1 h	10.7	13.9	16.0	18.0	18.6	20.6	14
UPDATE	2 h	15.6	19.9	22.8	25.5	26.4	29.0	14
UPDATE	6 h	27.0	35.1	40.5	45.7	47.4	52.4	14
UPDATE	12 h	39.2	50.3	57.7	64.8	67.0	74.0	14
UPDATE	24 h	52.1	64.2	72.2	79.9	82.3	89.8	14

* 6-hr and 1-hr data were used for the update: shorter durations were not updated

Table 2b :

Return Period Rainfall Rates (mm/h) - 95% Confidence limits

Intensité de la pluie (mm/h) par période de retour - Limites de confiance de 95%

Duration/Durée	2	5	10	20	25	50	100	#Years Années
	yr/ans	yr/ans	yr/ans	yr/ans	yr/ans	yr/ans	yr/ans	
EC-IDF	5 min	36.3	48.8	57.2	65.2	67.7	75.5	12
	+/-	7.4	12.5	16.8	21.3	22.7	27.1	12
EC-IDF	10 min	25.3	34.4	40.5	46.3	48.1	53.8	12
	+/-	5.4	9.0	12.2	15.4	16.5	19.7	12
EC-IDF	15 min	21.0	29.4	34.9	40.3	41.9	47.1	12
	+/-	4.9	8.3	11.2	14.1	15.1	18.1	12
EC-IDF	30 min	14.8	20.5	24.2	27.8	29.0	32.5	12

		+/-	3.3 +/-	5.6 +/-	7.6 +/-	9.6 +/-	10.2 +/-	12.2 +/-	14.2	12
UPDATE	1 h		10.7	13.9	16.0	18.0	18.6	20.6	22.5	14
		+/-	1.7 +/-	2.9 +/-	3.9 +/-	4.9 +/-	5.3 +/-	6.3 +/-	7.4	14
UPDATE	2 h		7.8	10.0	11.4	12.7	13.2	14.5	15.8	14
		+/-	1.2 +/-	2.0 +/-	2.7 +/-	3.4 +/-	3.6 +/-	4.3 +/-	5.0	14
UPDATE	6 h		4.5	5.9	6.8	7.6	7.9	8.7	9.6	14
		+/-	0.7 +/-	1.2 +/-	1.7 +/-	2.1 +/-	2.3 +/-	2.7 +/-	3.2	14
UPDATE	12 h		3.3	4.2	4.8	5.4	5.6	6.2	6.7	14
		+/-	0.5 +/-	0.9 +/-	1.1 +/-	1.5 +/-	1.5 +/-	1.9 +/-	2.2	14
UPDATE	24 h		2.2	2.7	3.0	3.3	3.4	3.7	4.1	14
		+/-	0.3 +/-	0.5 +/-	0.6 +/-	0.8 +/-	0.8 +/-	1.0 +/-	1.2	14

* 6-hr and 1-hr data were used for the update: shorter durations were not updated

Table 3 : Interpolation Equation / Équation d'interpolation: $R = A \cdot T^B$

R = Interpolated Rainfall rate (mm/h)/Intensité interpolée de la pluie (mm/h)

RR = Rainfall rate (mm/h) / Intensité de la pluie (mm/h)

T = Rainfall duration (h) / Durée de la pluie (h)

Statistics/Statistiques	2	5	10	20	25	50	100
	yr/ans	yr/ans	yr/ans	yr/ans	yr/ans	yr/ans	yr/ans
Mean of RR/Moyenne de RR	14.0	18.9	22.1	25.2	26.2	29.2	32.2
Std. Dev. /Écart-type (RR)	11.6	15.8	18.7	21.4	22.3	24.9	27.6
Std. Error/Erreur-type	0.2	0.6	1.0	1.4	1.5	1.9	2.3
Coefficient (A)	10.7	14.2	16.4	18.6	19.3	21.4	23.6
Exponent/Exposant (B)	-0.489	-0.506	-0.514	-0.520	-0.521	-0.525	-0.529
Mean % Error/% erreur moyenne	1.6	2.6	3.4	4.1	4.3	4.7	5.1

Short Duration Rainfall Intensity-Duration-Frequency Data Données sur l'intensité, la durée et la fréquence des chutes de pluie de courte durée

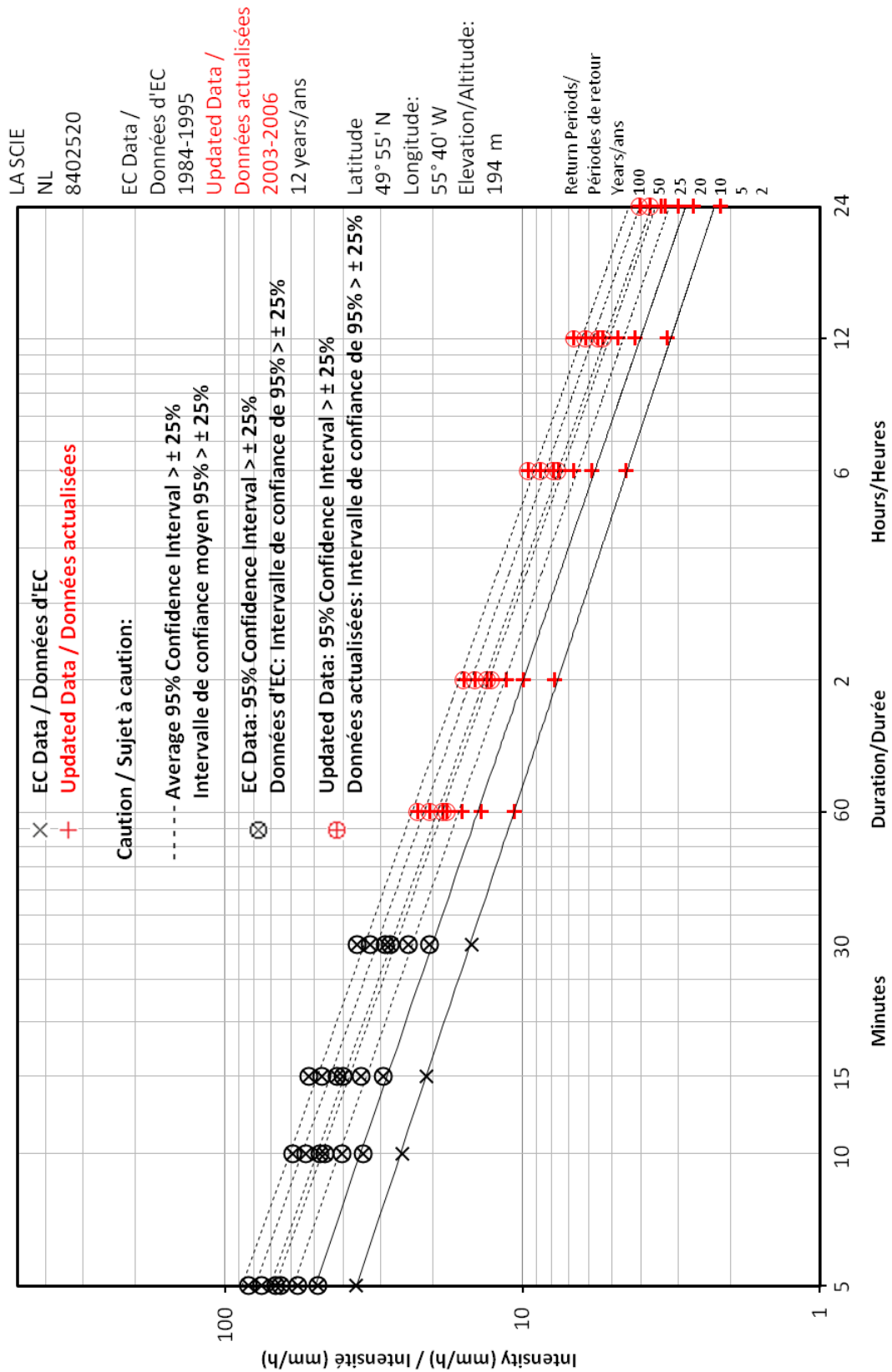


Figure 8.1 La Scie IDF Curve – Updated

Quantile-Quantile : LA SCIE, NL 8402520

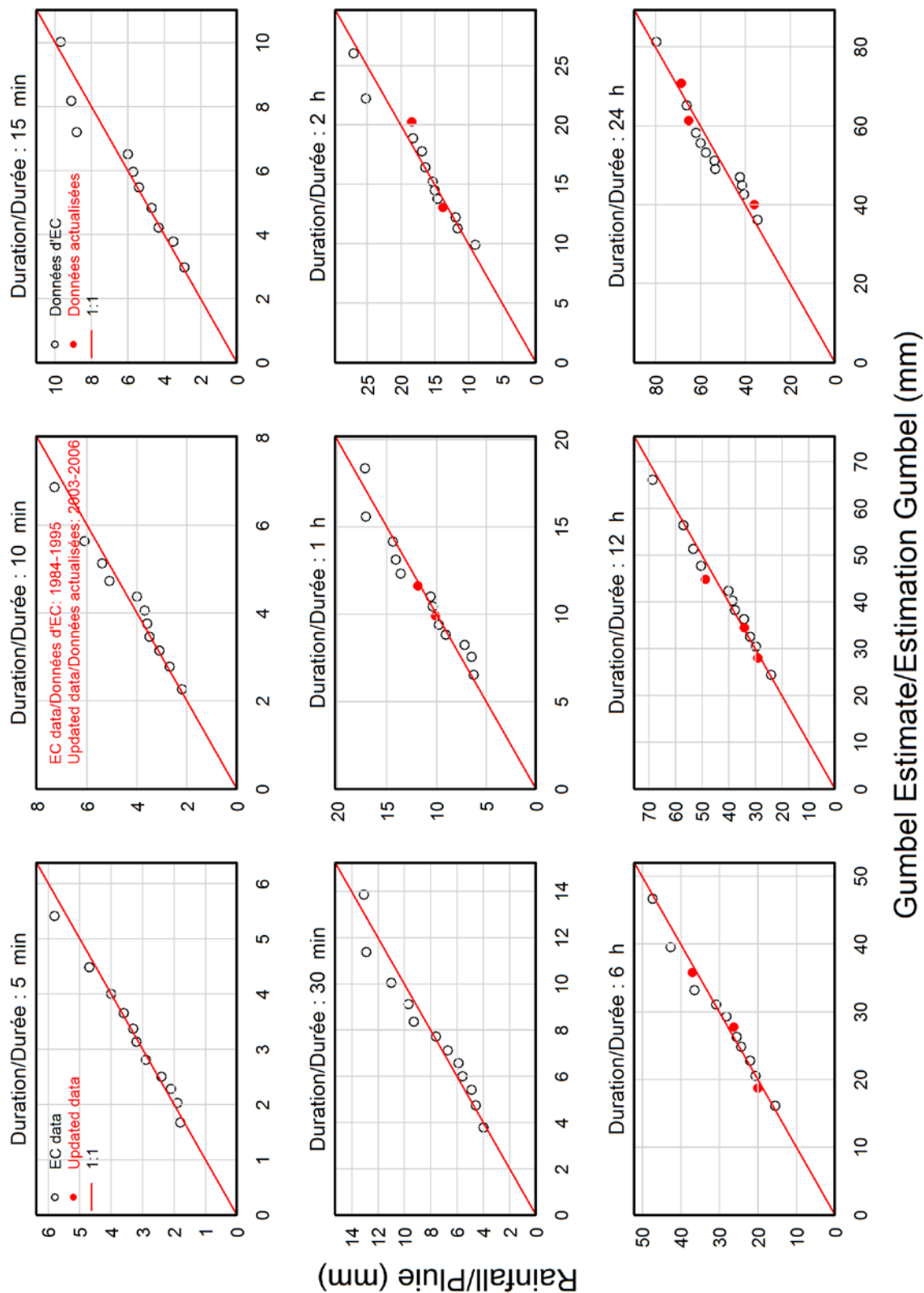
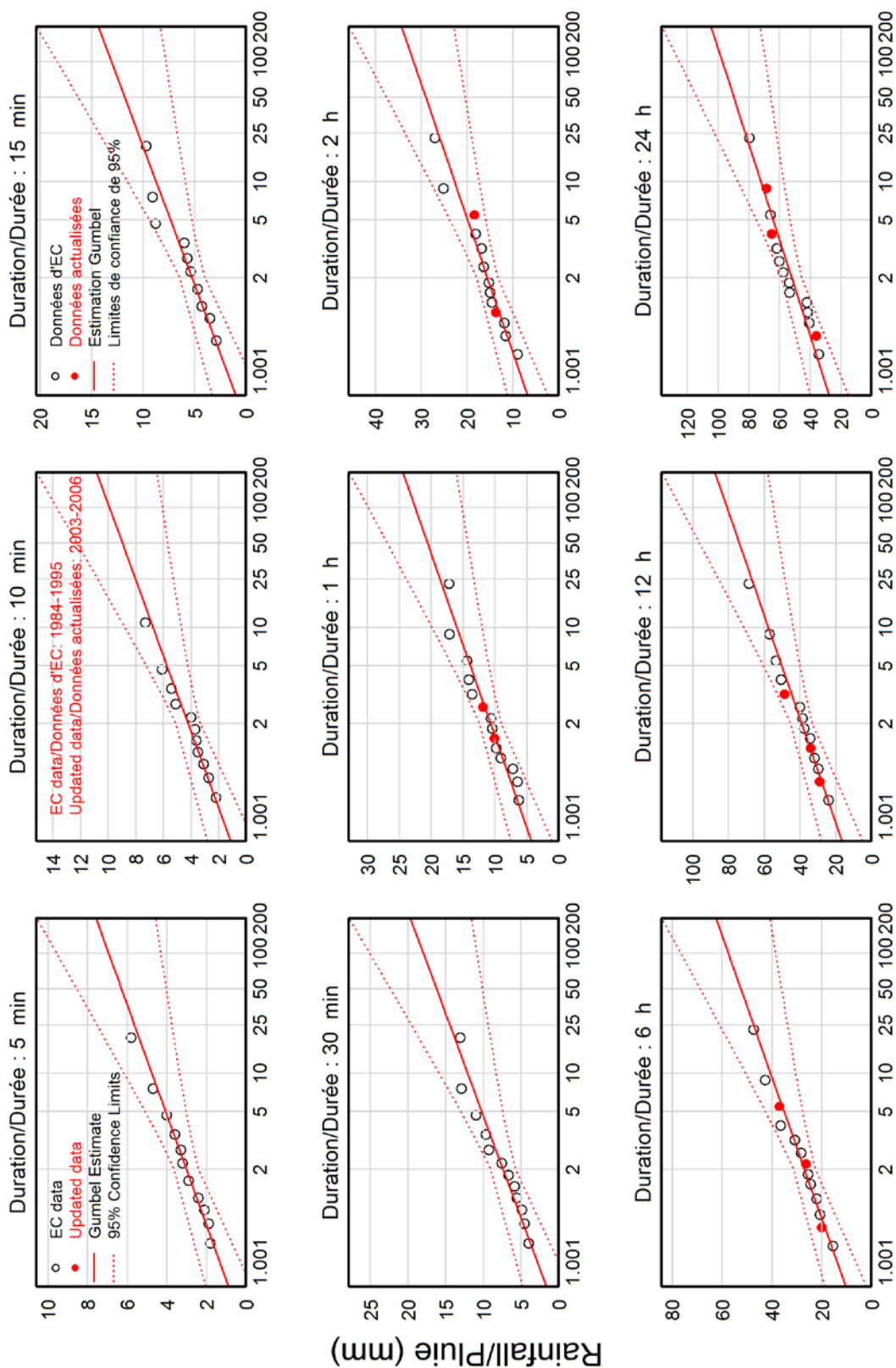


Figure 8.2 La Scie Quantile-Quantile Plot - Updated

Return Level/Niveau de retour : LA SCIE, NL 8402520



Return Period/Période de retour (years/années)

Figure 8.3 La Scie Return Level Plot – Updated

Trend/Tendance : LA SCIE, NL 8402520

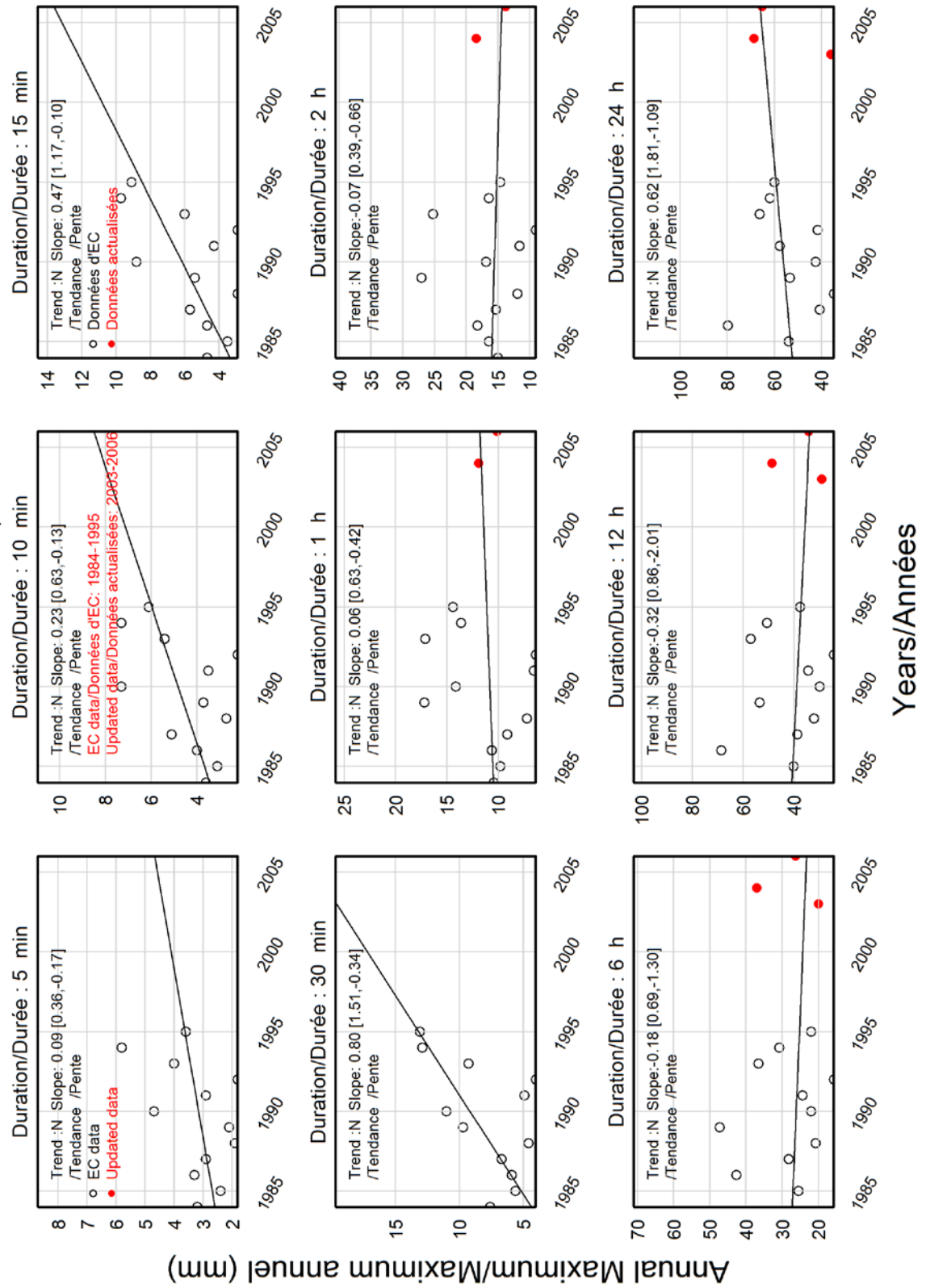


Figure 8.4 La Scie Trend Plot - Updated