18. Nain

This station was not updated in CRA (2015) because it is an active IDF station and was updated by EC. The EC IDF V2.3 (2015) curve is reproduced below, with the addition of the 20-year return period.

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

NAIN NL 8502799

Latitude: 56 33'N Longitude: 61 41'W Elevation/Altitude: 7 m

Years/Années : 1993 - 2013 # Years/Années : 17

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	1993	3.8	6.0	6.2	7.4	8.8	11.6	18.8	19.8	24.7
EC-IDF	1994	2.2	3.6	4.4	6.0	10.1	16.2	37.5	43.5	59.6
EC-IDF	1997	1.4	1.9	2.6	3.7	6.0	10.4	19.4	31.1	49.8
EC-IDF	1998	3.7	5.4	7.6	9.5	11.7	13.7	25.2	42.2	47.1
EC-IDF	1999	6.5	7.0	7.2	8.3	12.7	19.0	25.2	39.0	50.5
EC-IDF	2000	-99.9	-99.9	-99.9	-99.9	-99.9	16.0	25.5	29.1	32.8
EC-IDF	2001	1.9	2.5	2.7	4.1	6.9	10.6	18.4	30.1	33.7
EC-IDF	2002	3.1	5.6	6.2	6.8	8.8	15.1	27.5	45.7	59.4
EC-IDF	2003	2.5	4.8	5.8	6.2	8.7	11.7	15.9	26.6	38.7
EC-IDF	2004	3.6	5.0	6.9	8.5	11.9	12.7	-99.9	-99.9	31.4
EC-IDF	2005	2.1	2.3	2.9	5.4	8.1	14.8	29.9	31.4	35.2
EC-IDF	2006	2.1	2.8	3.6	4.8	7.8	10.4	17.2	28.9	46.0
EC-IDF	2007	2.1	2.8	3.5	5.0	7.5	12.9	25.3	38.7	43.7
EC-IDF	2008	2.6	4.8	7.1	12.9	17.6	24.8	46.9	53.3	54.5
EC-IDF	2009	1.2	1.4	2.0	3.7	5.7	9.8	19.0	24.5	32.5
EC-IDF	2010	2.7	3.9	5.8	7.8	8.0	13.3	-99.9	-99.9	58.0
EC-IDF	2011	3.3	4.4	4.6	7.4	11.5	18.5	33.0	39.8	41.6
EC-IDF	2012	3.8	6.0	7.2	9.0	15.2	18.8	23.0	30.2	47.4
EC-IDF	2013	3.2	4.8	5.6	8.8	9.8	9.8	19.2	21.6	27.8
	# Yrs. / Années	18	18	18	18	18	19	17	17	19
	Mean / Moyenne	2.9	4.2	5.1	7.0	9.8	14.2	25.1	33.9	42.9
	Std. Dev. / Écart-type	1.2	1.6	1.8	2.4	3.1	4.0	8.1	9.2	10.9
	Skew. / Dissymétrie	1.48	-0.13	-0.29	0.65	1.03	1.11	1.36	0.44	0.04
	Kurtosis	7.05	2.51	2.11	4.10	4.28	4.60	5.32	3.08	2.32

*-99.9 Indicates Missing Data/Données manquantes

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

Duration/Durée	2 yr/ans	5 yr/ans	10 yr/ans	20 yr/ans	25 yr/ans	50 yr/ans	100 yr/ans	#Years Années
EC-IDF 5 min	2.7	3.7	4.5	5.1	5.3	6.0	6.7	18
EC-IDF 10 min	3.9	5.3	6.3	7.1	7.4	8.3	9.2	18
EC-IDF 15 min	4.8	6.4	7.5	8.6	8.9	9.9	10.9	18
EC-IDF 30 min	6.6	8.7	10.1	11.4	11.8	13.1	14.4	18
EC-IDF 1 h	9.3	12.1	13.9	15.7	16.2	18.0	19.7	18
EC-IDF 2 h	13.6	17.1	19.4	21.6	22.3	24.5	26.6	19
EC-IDF 6 h	23.8	31.0	35.7	40.3	41.8	46.2	50.7	17
EC-IDF 12 h	32.3	40.4	45.8	50.9	52.6	57.6	62.6	17
EC-IDF 24 h	41.1	50.7	57.1	63.2	65.1	71.1	77.0	19

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 yr/ans	5 yr/ans	10 yr/ans	20 yr/ans	25 yr/ans	50 yr/ans	100 yr/ans	#Years Années
EC-IDF 5 min	32.2	45.0	53.5	61.6	64.2	72.1	80.0	18
	+/- 6.1	+/- 10.4	+/- 14.0	+/- 17.7	+/- 18.9	+/- 22.6	+/- 26.3	18
EC-IDF 10 min	23.4	31.9	37.5	42.9	44.6	49.9	55.1	18
	+/- 4.1	+/- 6.9	+/- 9.3	+/- 11.7	+/- 12.5	+/- 14.9	+/- 17.4	18
EC-IDF 15 min	19.2	25.7	30.1	34.2	35.5	39.6	43.6	18
	+/- 3.1	+/- 5.3	+/- 7.1	+/- 9.0	+/- 9.6	+/- 11.5	+/- 13.4	18
EC-IDF 30 min	13.1	17.3	20.1	22.8	23.7	26.3	28.9	18
	+/- 2.0	+/- 3.4	+/- 4.6	+/- 5.8	+/- 6.2	+/- 7.4	+/- 8.6	18
EC-IDF 1 h	9.3	12.1	13.9	15.7	16.2	18.0	19.7	18
	+/- 1.3	+/- 2.2	+/- 3.0	+/- 3.8	+/- 4.1	+/- 4.9	+/- 5.7	18
EC-IDF 2 h	6.8	8.5	9.7	10.8	11.2	12.2	13.3	19
	+/- 0.8	+/- 1.4	+/- 1.9	+/- 2.3	+/- 2.5	+/- 3.0	+/- 3.5	19
EC-IDF 6 h	4.0	5.2	6.0	6.7	7.0	7.7	8.4	17
	+/- 0.6	+/- 1.0	+/- 1.3	+/- 1.7	+/- 1.8	+/- 2.2	+/- 2.5	17
EC-IDF 12 h	2.7	3.4	3.8	4.2	4.4	4.8	5.2	17
	+/- 0.3	+/- 0.6	+/- 0.8	+/- 1.0	+/- 1.0	+/- 1.2	+/- 1.4	17
EC-IDF 24 h	1.7	2.1	2.4	2.6	2.7	3.0	3.2	19
	+/- 0.2	+/- 0.3	+/- 0.4	+/- 0.5	+/- 0.6	+/- 0.7	+/- 0.8	19

Table 3 : Interpolation Equation / Équation d'interpolation: R = A*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 yr/ans	5 yr/ans	10 yr/ans	20 yr/ans	25 yr/ans	50 yr/ans	100 yr/ans
Mean of RR/Moyenne de RR	12.5	16.8	19.7	22.4	23.3	25.9	28.6
Std. Dev. /Écart-type (RR)	10.5	14.7	17.5	20.1	21.0	23.6	26.2
Std. Error/Erreur-type	0.4	0.4	0.4	0.4	0.4	0.5	0.6
Coefficient (A)	9.4	12.3	14.2	16.0	16.6	18.4	20.2
Exponent/Exposant (B)	-0.510	-0.529	-0.538	-0.544	-0.546	-0.550	-0.554
Mean % Error/% erreur moyenne	2.9	2.8	3.0	3.2	3.2	3.4	3.5

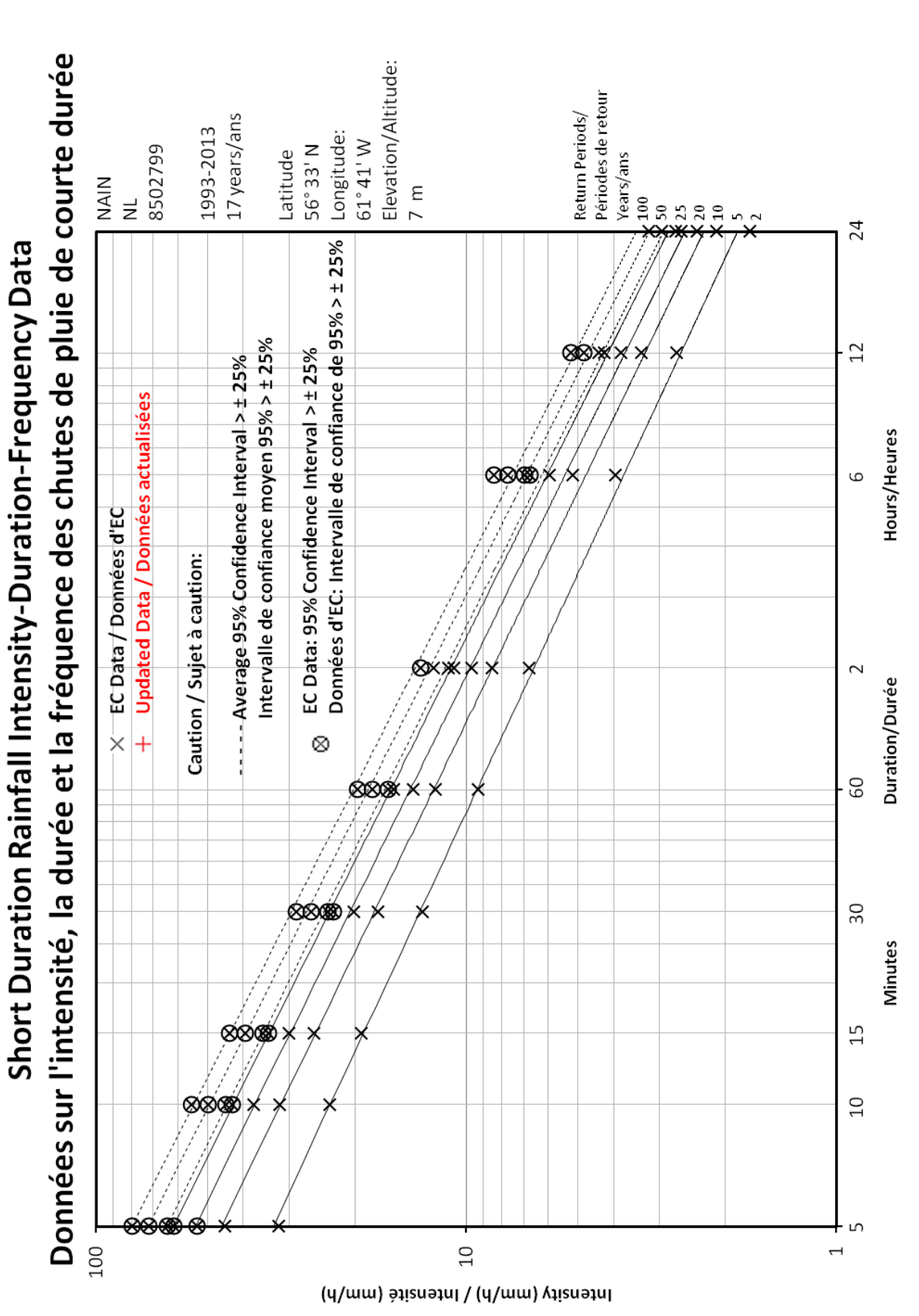

Figure 18.1 Nain IDF Curve – EC IDF V2.3

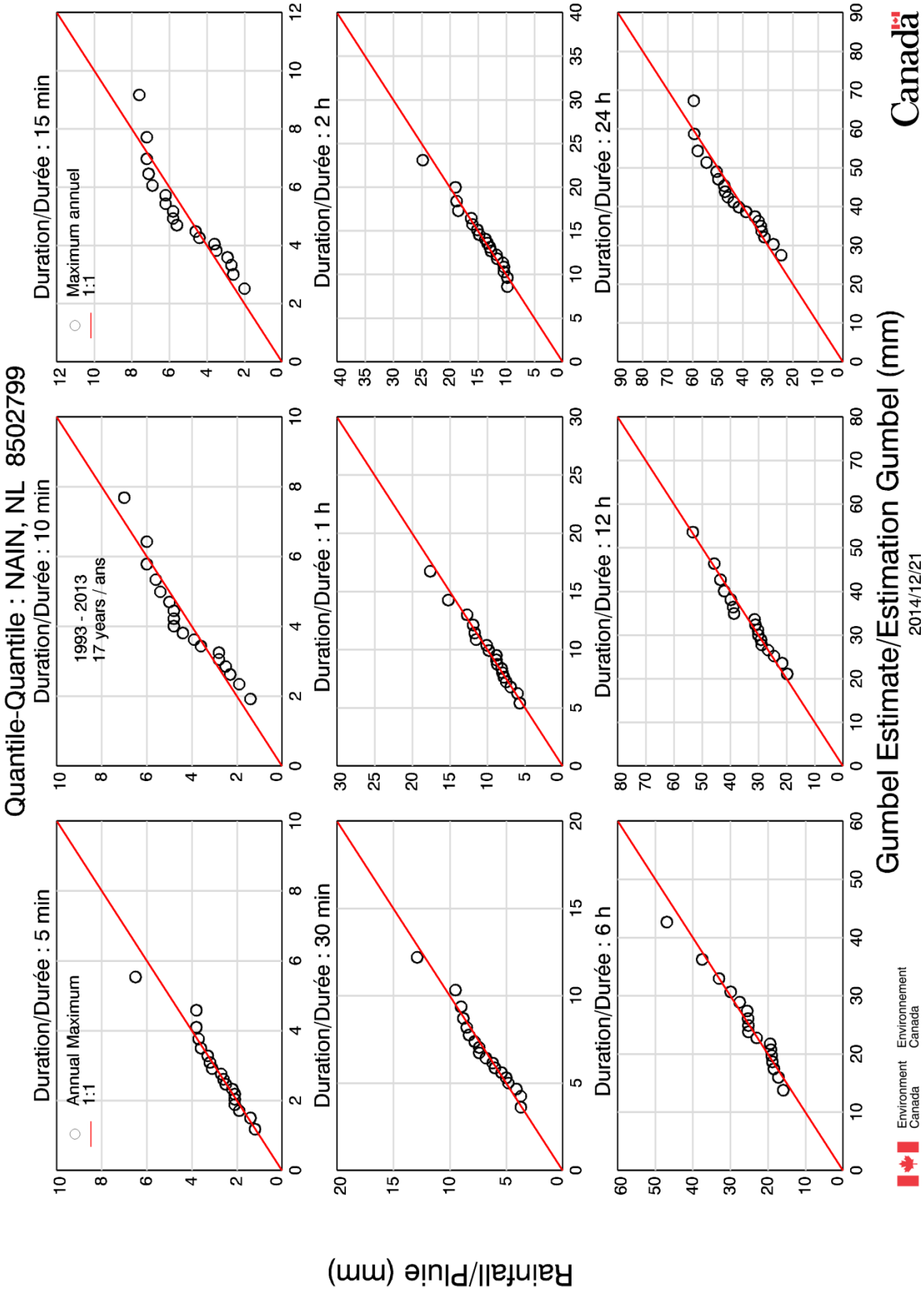

Figure 18.2 Nain Quantile-Quantile Plot – EC IDF V2.3

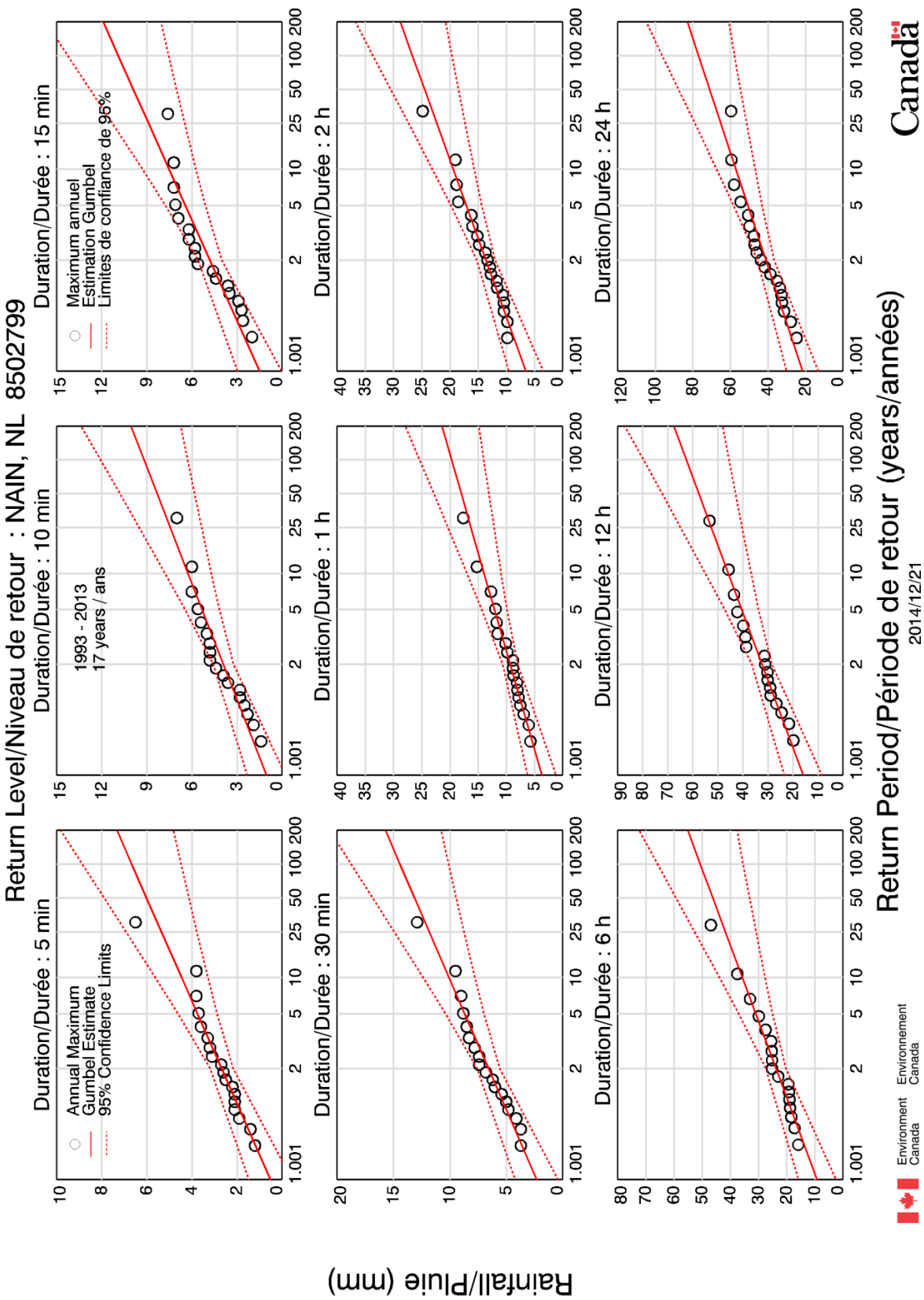

Figure 18.3 Nain Return Level Plot – EC IDF V2.3

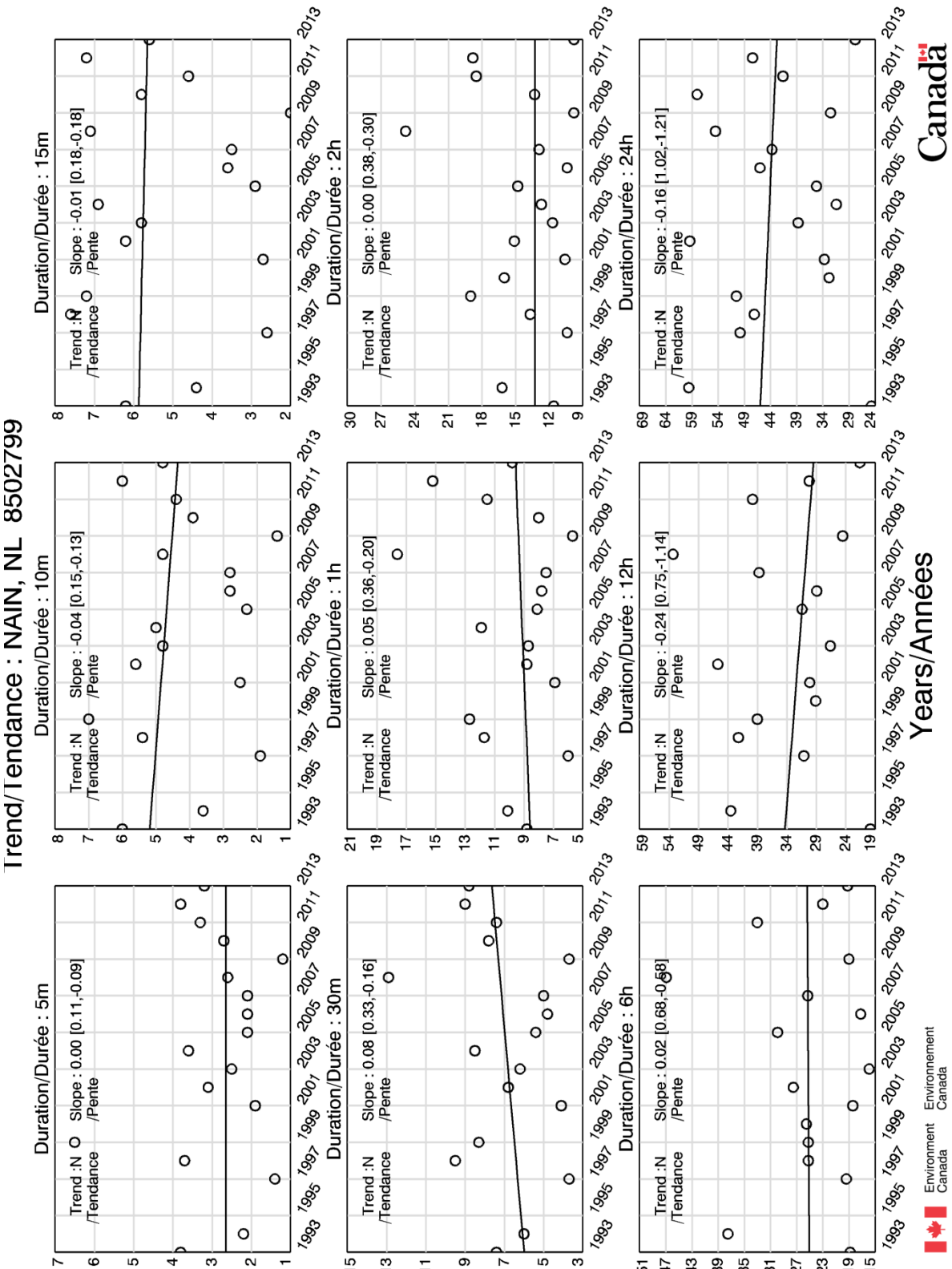

Figure 18.4 Nain Trend Plot – EC IDF V2.3