Figure 1
Delimitation of a drainage basin at the crossing point of a watercourse
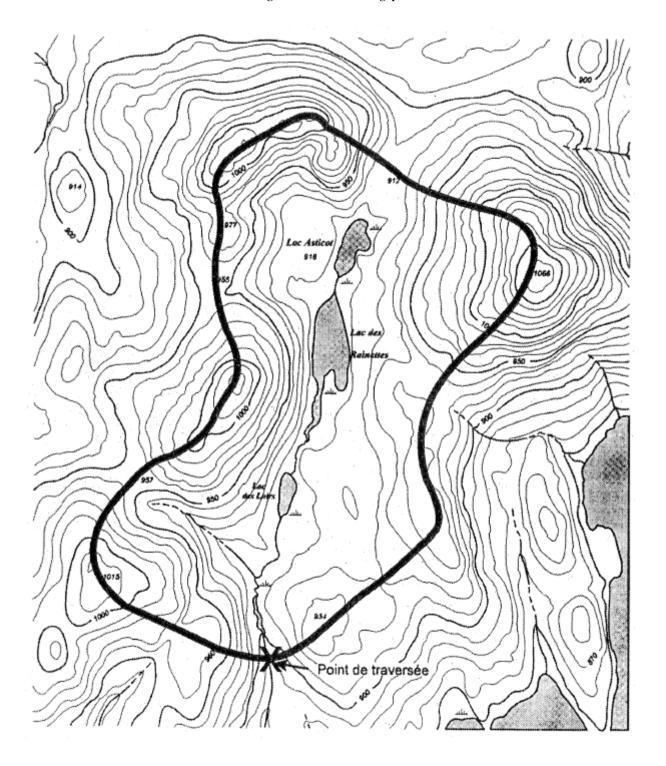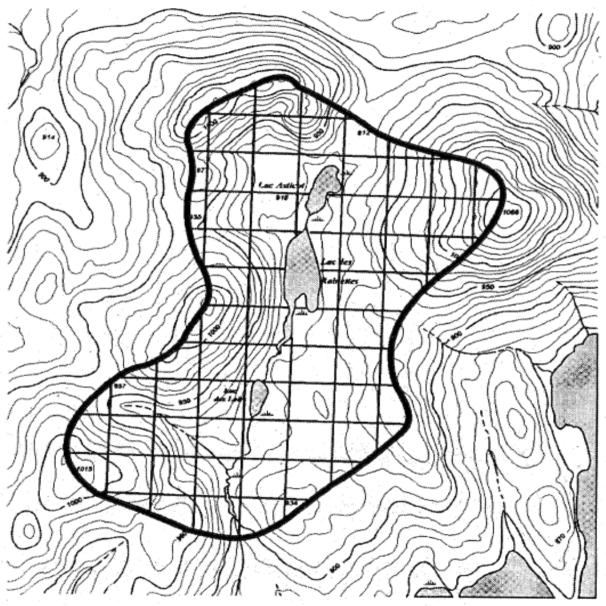
Figure 2
Calculation of the average slope of the drainage basin (S_b)

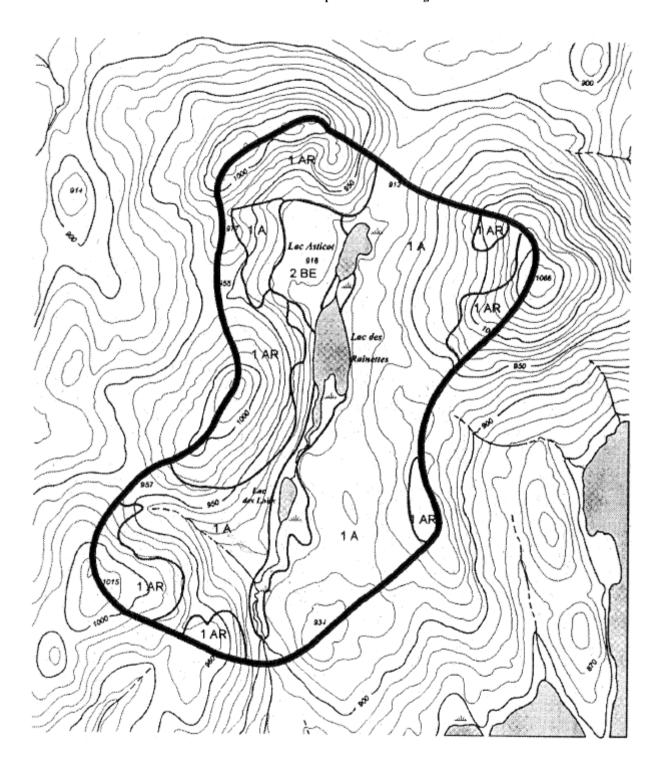$$S_b = \frac{(N_h + N_v) \times Eq_c}{(L_h + L_v)}$$

S_b : Average slope of the drainage basin
$N_{h,v}$: Number of times the horizontal and vertical
lines cross a contour line
Eq_c : Equidistance of contour lines (m)
$L_{h,v}$: Length of horizontal and vertical lines (m)

$$S_b = \frac{(180 + 111) \times 10}{(16\,460 + 16\,410)} = 0{,}089 \text{ or } 8{,}9\%$$

Figure 3
Identification of surface deposits in the drainage basint

Figure 4
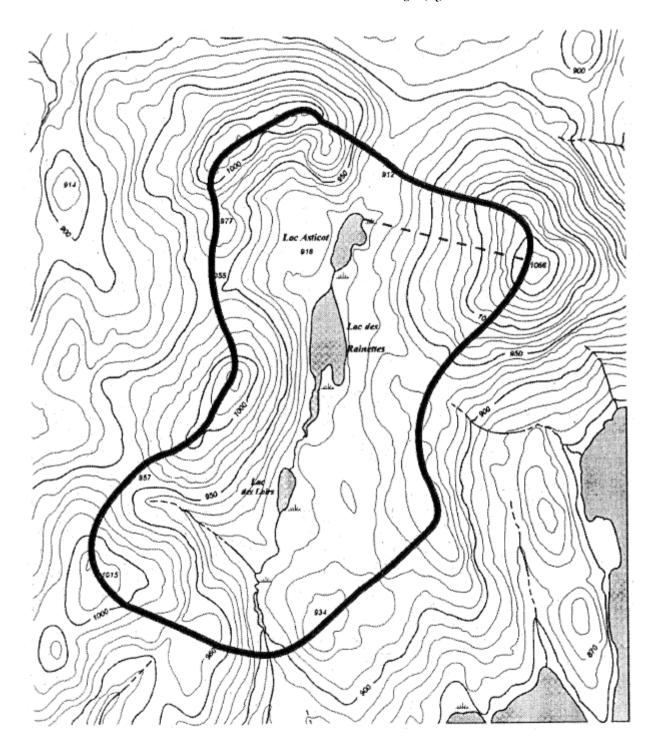**Determination of the watercourse's length (L_c)**

Figure 5
Calculation of the «85-10» slope of the watercourse (S_c)

Length of the watercourse (L_c)
3600 m

0.15 x 3600   0.75 x 3600   0.1 x 3600

Slope «85-10» (S_c) = $\dfrac{(952m - 900m) \times 100}{2700m}$ = 1.9%

- - - - Longitudinal profile of the watercourse extended to the watershed divide

——— Longitudinal profile of the watercourse

Watershed divide

Crossing point of the watercourse

952

900

ELEVATION (m)

1080
1040
1000
960
920
890

DISTANCE (m)
0   500   1000   1500   2000   2500   3000   3500

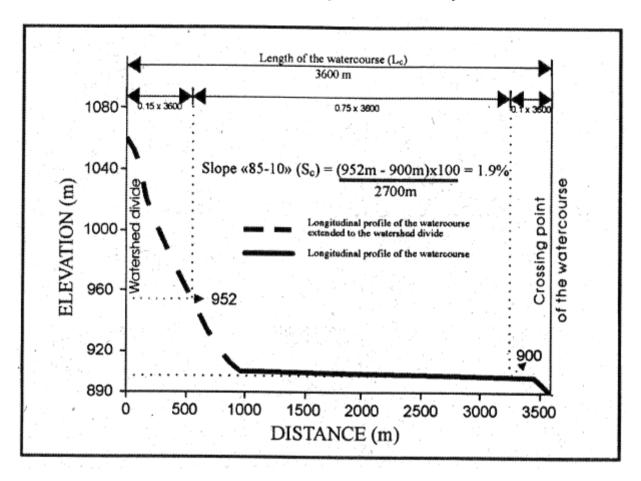**Figure 6**
Isohyet of the average total rainfall (mm) of a 1-hour duration

Figure 6
Isohyet of the average
total rainfall (mm)
of a 1-hour duration

Source: Rainfall Frequency Atlas for Canada
Environment Canada

Figure 7
Isohyet of the standard deviation for total rainfall (mm) of a 1-hour duration

Figure 7
Isohyet of the standard deviation
for total rainfall (mm)
of a 1-hour duration

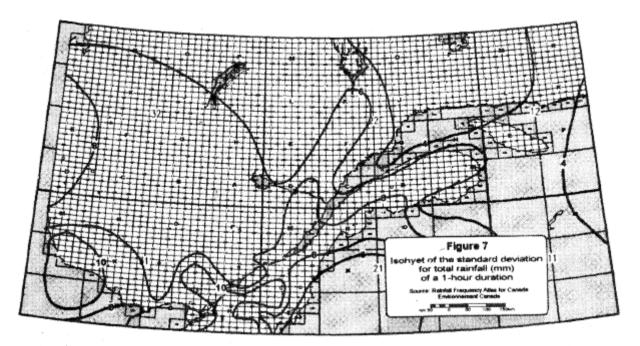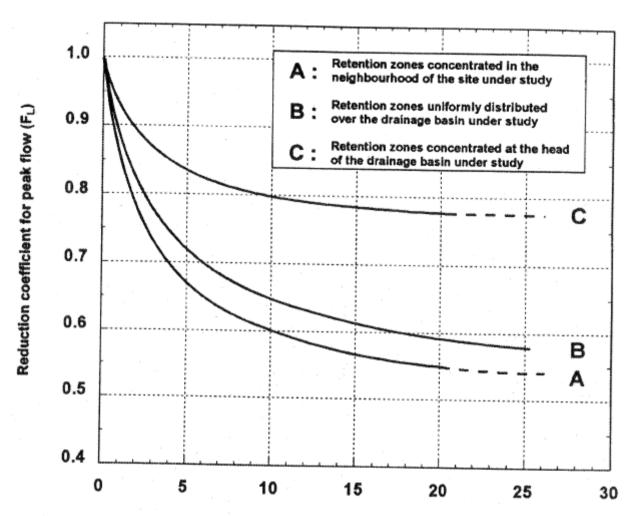Source: Rainfall Frequency Atlas for Canada
Environment Canada

Figure 8
Routing effect of lakes and bare and semi-bare wetlands

A : Retention zones concentrated in the neighbourhood of the site under study

B : Retention zones uniformly distributed over the drainage basin under study

C : Retention zones concentrated at the head of the drainage basin under study

Percentage of the area of the drainage basin covered by lakes and bare and semi-bare wetlands

Source : Manuel de conception des ponceaux, MTQ