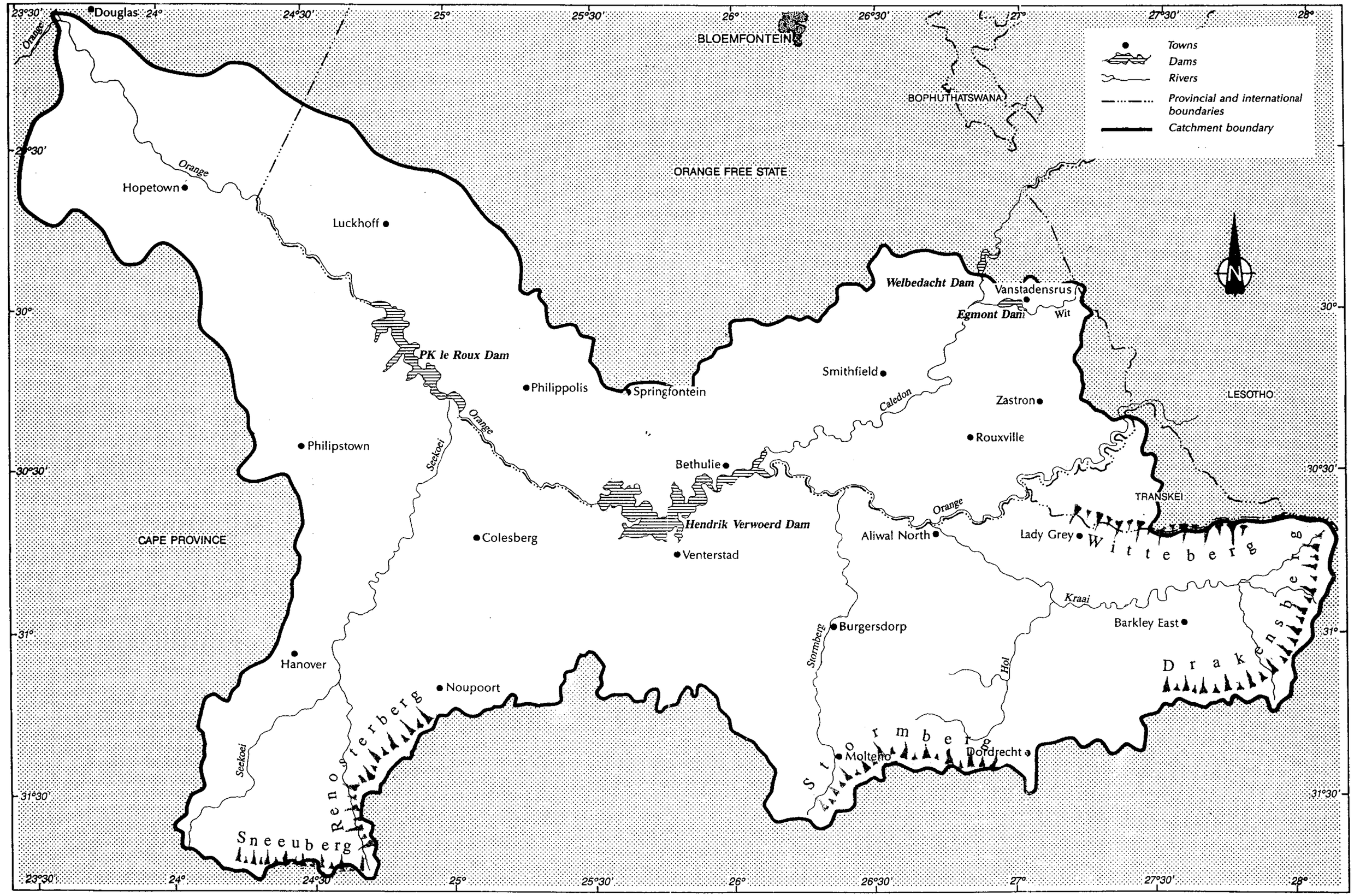
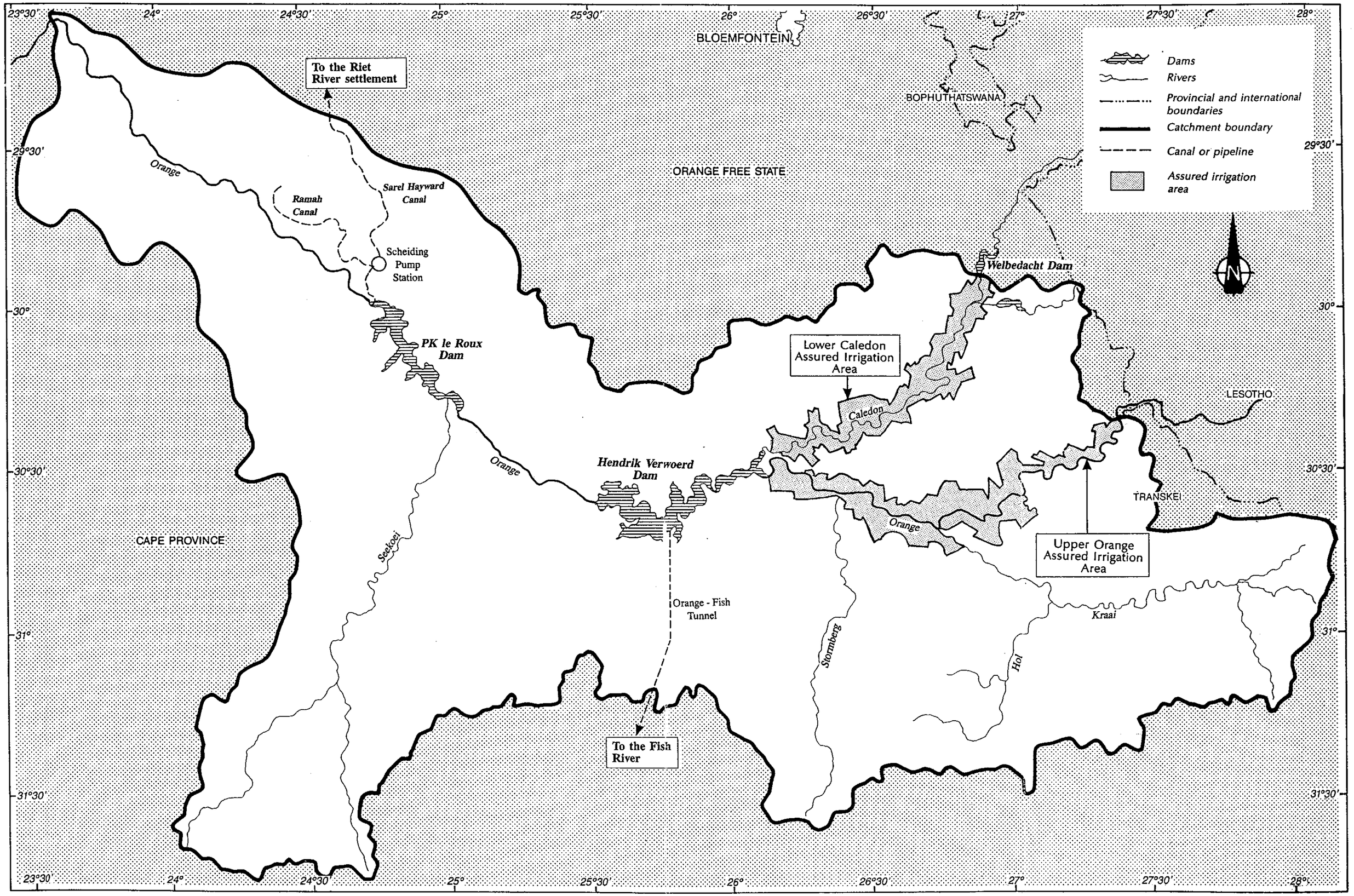


ORANGE RIVER SYSTEM ANALYSIS

General Layout

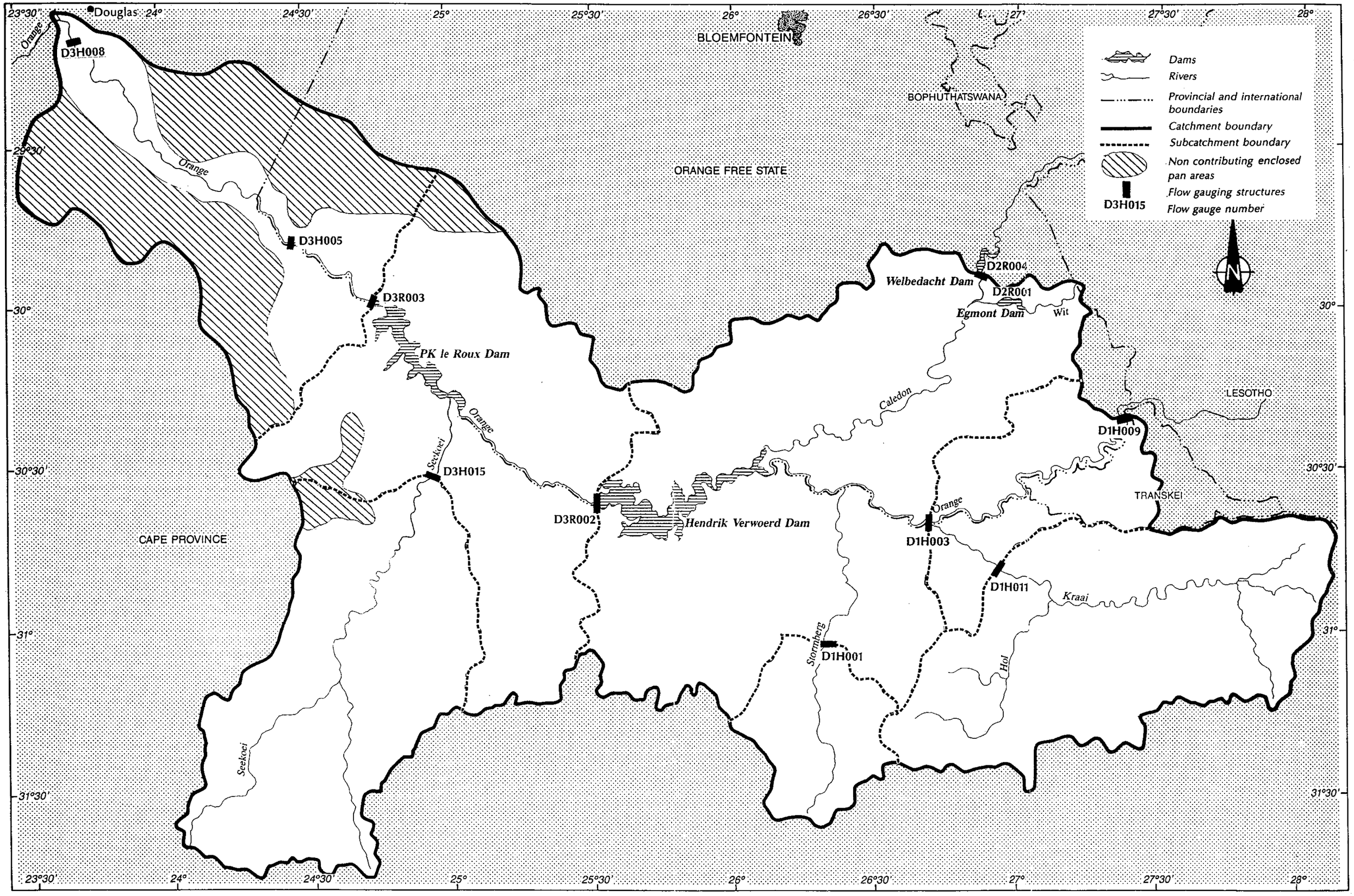
A-1



ORANGE RIVER SYSTEM ANALYSIS

Developments in the Upper Orange River Basin

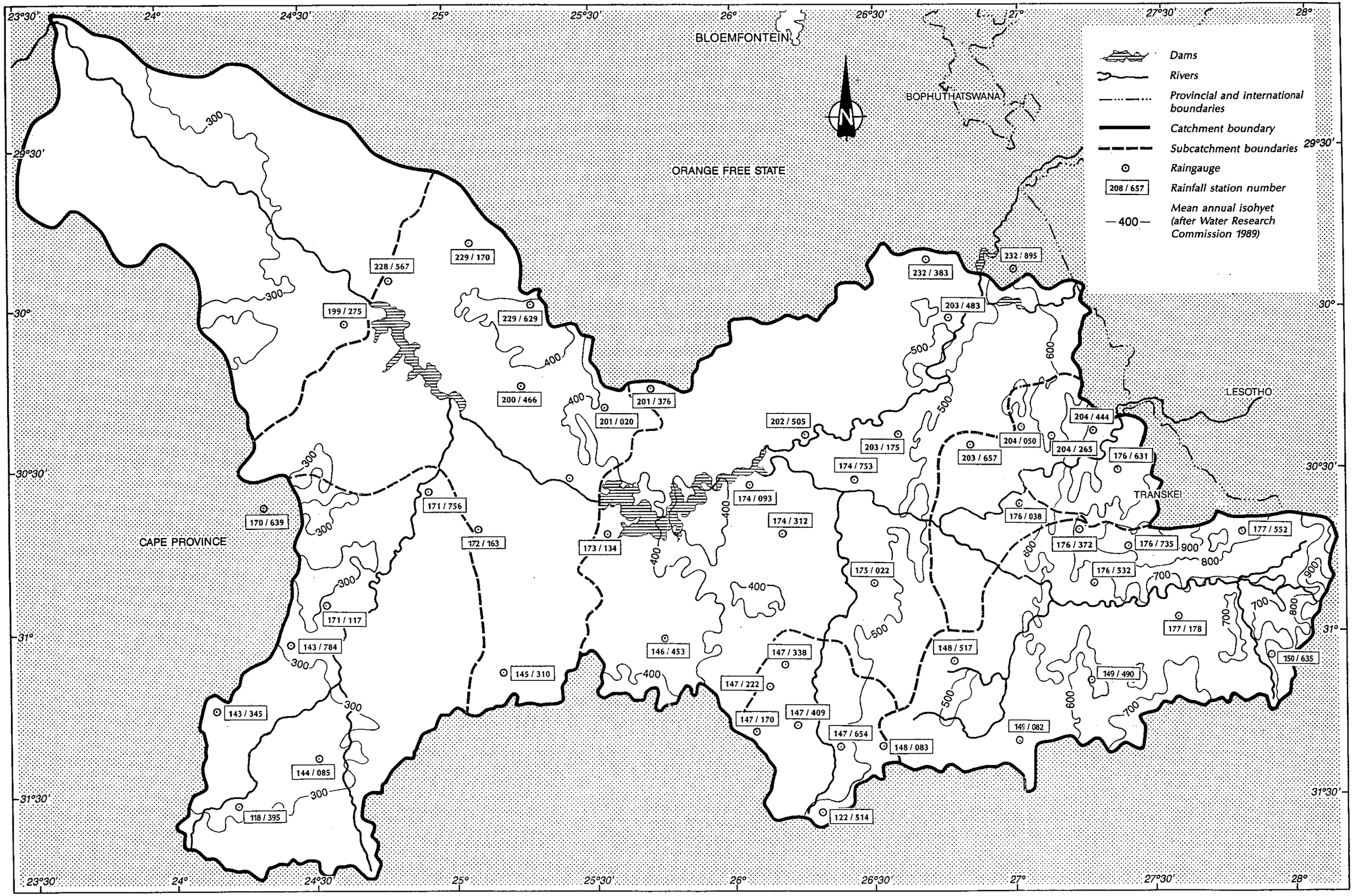
A-2

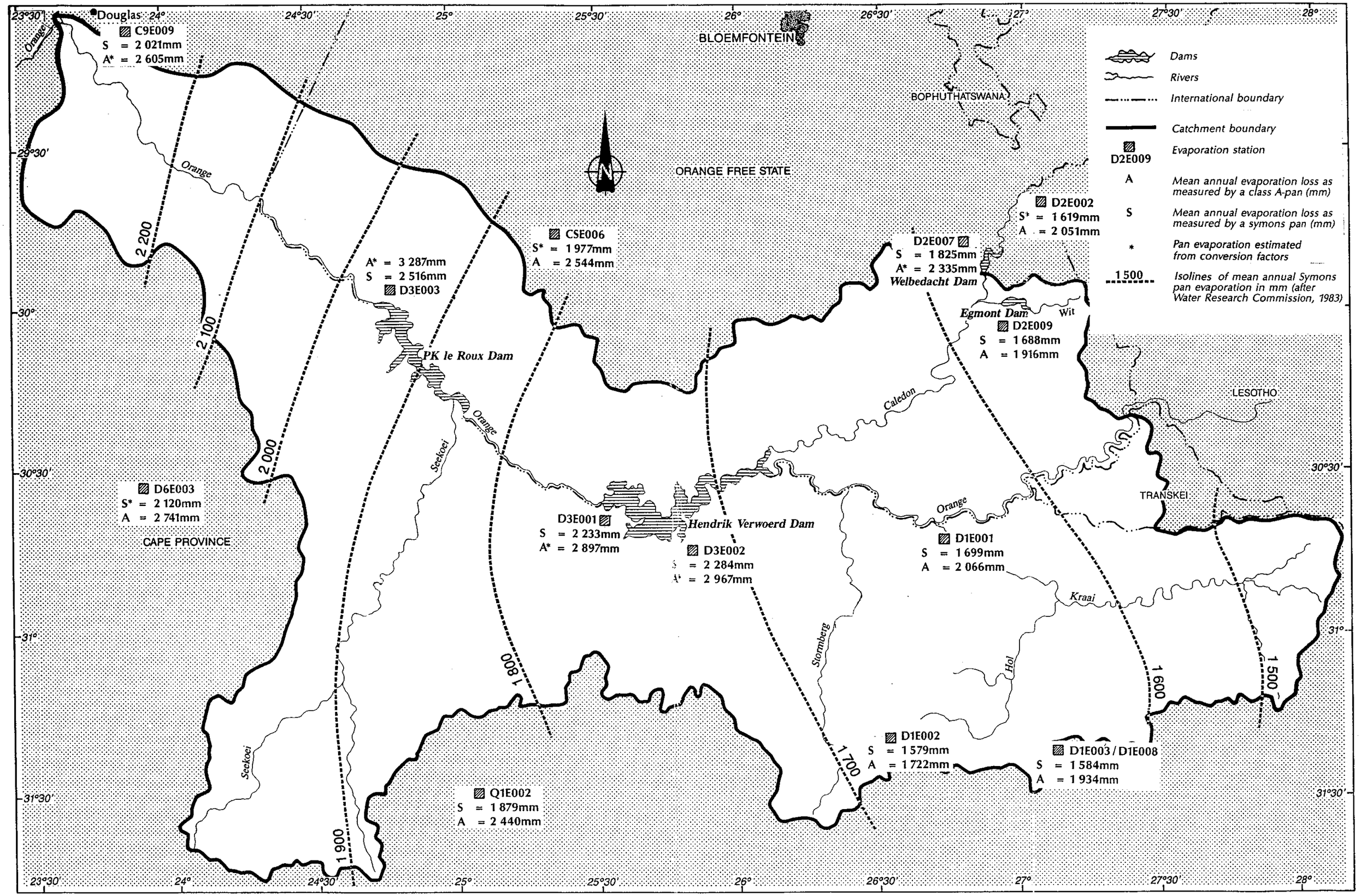


ORANGE RIVER SYSTEM ANALYSIS

Flow gauges and subcatchment locations

A-3


BLOEMFONTEIN
BOPHUTHATSWANA
ORANGE FREE STATE
CAPE PROVINCE
LESOTHO
TRANSKEI
Dams
Rivers
Provincial and international boundaries
Catchment boundary
Subcatchment boundaries
Raingauge
208 / 657
Rainfall station number
400
Mean annual isohyet (after Water Research Commission 1989)
23°30'
24°
24°30'
25°
25°30'
26°
26°30'
27°
27°30'
28°
29°30'
30°
30°30'
31°
31°30'
228 / 567
229 / 170
199 / 275
229 / 629
200 / 466
201 / 376
201 / 020
232 / 383
232 / 895
203 / 483
202 / 505
203 / 175
174 / 753
174 / 093
174 / 312
204 / 050
203 / 657
204 / 444
204 / 265
176 / 631
176 / 038
176 / 372
176 / 735
176 / 532
177 / 552
177 / 178
150 / 635
149 / 490
149 / 082
148 / 517
148 / 083
175 / 022
147 / 338
147 / 222
147 / 170
147 / 409
147 / 654
146 / 453
145 / 310
173 / 134
172 / 163
171 / 756
170 / 639
171 / 117
143 / 784
143 / 345
144 / 085
118 / 395
122 / 514
300
400
500
600
700
800
900


Douglas
C9E009
S = 2 021mm
A* = 2 605mm
BLOEMFONTEIN
BOPHUTHATSWANA
ORANGE FREE STATE
Orange
Dams
Rivers
International boundary
Catchment boundary
D2E009
Evaporation station
A
Mean annual evaporation loss as measured by a class A-pan (mm)
S
Mean annual evaporation loss as measured by a symons pan (mm)
*
Pan evaporation estimated from conversion factors
1 500
Isolines of mean annual Symons pan evaporation in mm (after Water Research Commission, 1983)
D2E002
S* = 1 619mm
A = 2 051mm
CSE006
S* = 1 977mm
A = 2 544mm
A* = 3 287mm
S = 2 516mm
D3E003
D2E007
S = 1 825mm
A* = 2 335mm
Welbedacht Dam
Egmont Dam
Wit
D2E009
S = 1 688mm
A = 1 916mm
PK le Roux Dam
Caledon
LESOTHO
TRANSKEI
Seekoei
D6E003
S* = 2 120mm
A = 2 741mm
CAPE PROVINCE
D3E001
S = 2 233mm
A* = 2 897mm
Hendrik Verwoerd Dam
D3E002
S = 2 284mm
A* = 2 967mm
D1E001
S = 1 699mm
A = 2 066mm
Kraai
Stormberg
Hol
D1E002
S = 1 579mm
A = 1 722mm
D1E003 / D1E008
S = 1 584mm
A = 1 934mm
Q1E002
S = 1 879mm
A = 2 440mm
2 200
2 100
2 000
1 900
1 800
1 700
1 600
1 500
23°30'
24°
24°30'
25°
25°30'
26°
26°30'
27°
27°30'
28°
29°30'
30°
30°30'
31°
31°30'