Appendix C URBS Vectors

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Mitta Mitta River to Tallandoon
{Post Dartmouth Dam}
MODEL: SPLIT
{Developed using CatchmentSIM by Terry Malone on 18-07-2016}
USES: L, I
{The default parameters are for information only}
DEFAULT PARAMETERS: alpha = 0.3 m = 0.8 beta = 2.5 n = 1 x = 0.25
CATCHMENT DATA FILE = ..\..\VECTORS\mitta.dat
RAIN #29 L = 9.00
STORE.
RAIN #30 L = 19.51
GET.
ROUTE THRU #5 L = 0.38
ADD RAIN #5 L = 0.38

PRINT.JOKERS_CK :B0=0 BR=0.95 BC=0.025 BM=1

ROUTE THRU #43 L = 3.30
ADD RAIN #43 L = 3.30
STORE.
RAIN #37 L = 14.46
STORE.
RAIN #38 L = 19.87
GET.
ROUTE THRU #41 L = 6.78
ADD RAIN #41 L = 6.78
STORE.
RAIN #42 L = 16.26
GET.
GET.
ROUTE THRU #45 L = 5.77
ADD RAIN #45 L = 5.77
STORE.
RAIN #35 L = 7.66
STORE.
RAIN #36 L = 10.18
GET.
ROUTE THRU #40 L = 7.56
ADD RAIN #40 L = 7.56
STORE.
RAIN #39 L = 6.14
GET.
ROUTE THRU #44 L = 6.85
ADD RAIN #44 L = 6.85
GET.

PRINT.HINNOMUNJIE :B0=0 BR=0.95 BC=0.025 BM=1

ROUTE THRU #6 L = 0.43
ADD RAIN #6 L = 0.43
STORE.
RAIN #18 L = 7.44
GET.
ROUTE THRU #24 L = 8.55
ADD RAIN #24 L = 8.55
STORE.
RAIN #48 L = 12.13
STORE.
RAIN #49 L = 9.99
GET.
ROUTE THRU #17 L = 8.99
ADD RAIN #17 L = 8.99
STORE.
RAIN #16 L = 9.13
GET.
ROUTE THRU #20 L = 6.26
ADD RAIN #20 L = 6.26
STORE.
RAIN #19 L = 8.84
GET.
ROUTE THRU #22 L = 4.05
ADD RAIN #22 L = 4.05
STORE.
RAIN #33 L = 5.71
STORE.
RAIN #34 L = 13.83
GET.
ROUTE THRU #31 L = 4.02
ADD RAIN #31 L = 4.02
STORE.
RAIN #32 L = 6.05
GET.
ROUTE THRU #4 L = 3.32
ADD RAIN #4 L = 3.32

PRINT.GIBBO_PK :B0=0 BR=0.95 BC=0.025 BM=1

ROUTE THRU #21 L = 0.99
ADD RAIN #21 L = 0.99
STORE.
RAIN #23 L = 12.80
GET.
GET.
GET.
ROUTE THRU #26 L = 11.81
ADD RAIN #26 L = 11.81
STORE.
RAIN #25 L = 9.29
GET.
ROUTE THRU #47 L = 1.76
ADD RAIN #47 L = 1.76
STORE.
RAIN #46 L = 15.10
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GET.
ROUTE THRU #28 L = 1.60
ADD RAIN #28 L = 1.60
STORE.
RAIN #27 L = 5.80
GET.
ROUTE THRU #3 L = 1.28
ADD RAIN #3 L = 1.28

{DARTMOUTH DAM 1979}
baseflow=1
PRINT.DD_INFLOW :B0=0 BR=0.95 BC=0.025 BM=1
{To generate a reverse routed inflow, first put an asterisk after the location dartmouth, subsequent calibration runs should exclude the asterisk}
DAM ROUTE FSL=486.0 datafile=dartmouth.els location=dartmouth il=DARTMOUTH file=dartmouth.sq

{PRINT.DARTMOUTH_DAM}

ROUTE THRU #2 L = 4.19
ADD RAIN #2 L = 4.19

PRINT.COLEMANS :B0=2 BR=0.95 BC=0.025 BM=1

ROUTE THRU #14 L = 7.28
ADD RAIN #14 L = 7.28
STORE.
RAIN #50 L = 10.20
STORE.
RAIN #51 L = 9.98
GET.
ROUTE THRU #12 L = 6.25
ADD RAIN #12 L = 6.25
STORE.
RAIN #11 L = 11.44
GET.
ROUTE THRU #13 L = 4.09
ADD RAIN #13 L = 4.09
STORE.
RAIN #15 L = 8.07
GET.
GET.
ROUTE THRU #8 L = 10.26
ADD RAIN #8 L = 10.26
STORE.
RAIN #7 L = 14.36
GET.
ROUTE THRU #10 L = 2.69
ADD RAIN #10 L = 2.69
STORE.
RAIN #9 L = 8.07
GET.
ROUTE THRU #1 L = 2.23
ADD RAIN #1 L = 2.23

PRINT.TALLANDOON :B0=2 BR=0.95 BC=0.025 BM=1

END OF CATCHMENT DATA.

51 PLUVIOGRAPHS:
LOCATION. mitta001
1 SUBAREAS: 1
……
LOCATION. mitta051
1 SUBAREAS: 51
END OF PLUVIOGRAPH DATA.

6 RATING CURVES:
LOCATION. JOKERS_CK
LOCATION. HINNOMUNJIE
LOCATION. GIBBO_PK
LOCATION. DARTMOUTH_DAM
LOCATION. COLEMANS
LOCATION. TALLANDOON
END OF RATING CURVE DATA.

7 GAUGING STATIONS:
LOCATION. JOKERS_CK
LOCATION. HINNOMUNJIE
LOCATION. GIBBO_PK
LOCATION. DD_INFLOW
LOCATION. DARTMOUTH_DAM
LOCATION. COLEMANS
LOCATION. TALLANDOON
END OF GAUGING STATIONS.

Upper Murray to Hume Dam
MODEL: SPLIT
{Developed using CatchmentSIM by Terry Malone on 18-07-2016}
USES: L, I
{The default parameters are for information only}
DEFAULT PARAMETERS: alpha = 0.3 m = 0.8 beta = 2.5 n = 1 x = 0.25
CATCHMENT DATA FILE = ..\..\vectors\upper.dat
RAIN #16 L = 12.40
STORE.
RAIN #17 L = 8.34
GET.
ROUTE THRU #19 L = 1.69
ADD RAIN #19 L = 1.69
STORE.
RAIN #18 L = 7.35
GET.
ROUTE THRU #21 L = 20.08
ADD RAIN #21 L = 20.08
STORE.
RAIN #20 L = 16.21
GET.
ROUTE THRU #23 L = 3.18
ADD RAIN #23 L = 3.18
STORE.
RAIN #22 L = 9.90
GET.
ROUTE THRU #30 L = 4.91
ADD RAIN #30 L = 4.91
STORE.
RAIN #31 L = 7.13
GET.
ROUTE THRU #3 L = 9.72
ADD RAIN #3 L = 9.72

{BASEFLOW=0.14}
PRINT.BIGGARA :B0=0 BR=0.975 BC=0.025 BM=1

STORE.
RAIN #24 L = 7.86
STORE.
RAIN #25 L = 21.91
GET.
ROUTE THRU #27 L = 2.75
ADD RAIN #27 L = 2.75
STORE.
RAIN #26 L = 15.16
GET.
ROUTE THRU #29 L = 9.19
ADD RAIN #29 L = 9.19
STORE.
RAIN #28 L = 11.19
GET.
ROUTE THRU #4 L = 0.58
ADD RAIN #4 L = 0.58
STORE.
{INFLOWS FROM MURRAY 1 POWER STATION}
INPUT. MURRAY_1
PRINT. MURRAY_1 {:B0=0 BR=0.01 BC=0 BM=1}
GET.

PRINT.KP_INFLOW

{DAM ROUTE VBF=0 A=1 B=1.0}

PRINT.KHANCOBAN

GET.
ROUTE THRU #5 L = 5.27
ADD RAIN #5 L = 5.27

{BASEFLOW=0.30}
PRINT.BRINGENBONG :B0=1 BR=0.975 BC=0.025 BM=1

ROUTE THRU #53 L = 1.76
ADD RAIN #53 L = 1.76
STORE.
RAIN #52 L = 8.94
GET.
ROUTE THRU #55 L = 4.00
ADD RAIN #55 L = 4.00
STORE.
RAIN #50 L = 25.04
STORE.
RAIN #51 L = 41.16
GET.
ROUTE THRU #54 L = 4.63
ADD RAIN #54 L = 4.63
GET.
ROUTE THRU #57 L = 1.74
ADD RAIN #57 L = 1.74
STORE.
RAIN #38 L = 25.60
STORE.
RAIN #39 L = 29.34
GET.
ROUTE THRU #37 L = 1.54
ADD RAIN #37 L = 1.54
STORE.
RAIN #14 L = 8.81
STORE.
RAIN #15 L = 14.44
GET.
ROUTE THRU #6 L = 0.66
ADD RAIN #6 L = 0.66

{BASEFLOW=0.04}
PRINT.MARAGLE :B0=0 BR=0.975 BC=0.025 BM=1

ROUTE THRU #36 L = 3.79
ADD RAIN #36 L = 3.79

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GET.
ROUTE THRU #35 L = 1.68
ADD RAIN #35 L = 1.68
STORE.
RAIN #40 L = 6.78
STORE.
RAIN #41 L = 3.67
GET.
ROUTE THRU #8 L = 7.07
ADD RAIN #8 L = 7.07

LOSS F=1
PRINT.TOOMA

ROUTE THRU #34 L = 16.67
ADD RAIN #34 L = 16.67
STORE.
RAIN #32 L = 1.48
STORE.
RAIN #33 L = 8.29
GET.
GET.
GET.
ROUTE THRU #7 L = 2.44
ADD RAIN #7 L = 2.44

{BASEFLOW=0.25}
PRINT.PINEGROVE :B0=0 BR=0.975 BC=0.025
BM=1

ROUTE THRU #56 L = 4.65
ADD RAIN #56 L = 4.65
GET.

FACTOR=2.00

ROUTE THRU #59 L = 4.20
ADD RAIN #59 L = 4.20
STORE.

FACTOR=1.00
RAIN #42 L = 8.86
STORE.
RAIN #43 L = 11.66
GET.
ROUTE THRU #13 L = 1.17
ADD RAIN #13 L = 1.17

{BASEFLOW=0.07}
PRINT.BERRINGAMA :B0=0 BR=0.975 BC=0.025
BM=1

ROUTE THRU #45 L = 0.82
ADD RAIN #45 L = 0.82
STORE.
RAIN #44 L = 16.86
GET.
ROUTE THRU #9 L = 13.86
ADD RAIN #9 L = 13.86

{BASEFLOW=0.13}
PRINT.CUDGEWA_NORTH :B0=0 BR=0.975
BC=0.025 BM=1

ROUTE THRU #58 L = 2.49
ADD RAIN #58 L = 2.49
GET.

FACTOR=2.00
ROUTE THRU #61 L = 5.73
ADD RAIN #61 L = 5.73
STORE.

FACTOR=1.00
RAIN #60 L = 7.69
GET.
ROUTE THRU #63 L = 6.27
ADD RAIN #63 L = 6.27
STORE.
RAIN #62 L = 9.55
GET.

FACTOR=2.00
ROUTE THRU #11 L = 1.90
ADD RAIN #11 L = 1.90

{BASEFLOW=0.69}
PRINT.R_JINGELLIC :B0=0 BR=0.975 BC=0.025
BM=1

STORE.

FACTOR=1.00
RAIN #46 L = 14.71
STORE.
RAIN #47 L = 10.14
GET.

{BASEFLOW=0.07}
PRINT.CK_JINGELLIC :B0=1 BR=0.975 BC=0.025
BM=1

ROUTE THRU #10 L = 2.76
ADD RAIN #10 L = 2.76
ROUTE THRU #85 L = 2.26
ADD RAIN #85 L = 2.26
STORE.
RAIN #86 L = 10.31
GET.
GET.
ROUTE THRU #78 L = 12.48
ADD RAIN #78 L = 12.48
STORE.
RAIN #77 L = 13.22
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GET.
ROUTE THRU #82 L = 3.64
ADD RAIN #82 L = 3.64
STORE.
RAIN #81 L = 9.68
GET.

{Drowned reach}
FACTOR=0.5
ROUTE THRU #80 L = 2.00
ADD RAIN #80 L = 2.00
STORE.

FACTOR=1.0
RAIN #79 L = 9.12
GET.

{Drowned reach}
FACTOR=0.5
ROUTE THRU #84 L = 2.95
ADD RAIN #84 L = 2.95
STORE.

FACTOR=1.0
RAIN #83 L = 7.08
GET.

{Drowned reach}
FACTOR=0.5
ROUTE THRU #71 L = 6.48
ADD RAIN #71 L = 6.48
STORE.

FACTOR=1.0
RAIN #70 L = 19.43
GET.

{Drowned reach}
FACTOR=0.5
ROUTE THRU #69 L = 1.53
ADD RAIN #69 L = 1.53
STORE.

FACTOR=1.0
RAIN #68 L = 5.42
GET.

{Drowned reach}
FACTOR=0.5
ROUTE THRU #73 L = 2.14
ADD RAIN #73 L = 2.14
STORE.

FACTOR=1.0
RAIN #72 L = 8.35
GET.

{Drowned reach}
FACTOR=0.5
ROUTE THRU #76 L = 8.47
ADD RAIN #76 L = 8.47
STORE.
FACTOR=1.0

RAIN #75 L = 7.90
GET.

{Drowned reach}
FACTOR=0.5
ROUTE THRU #74 L = 1.64
ADD RAIN #74 L = 1.64
STORE.

FACTOR=1.0
RAIN #48 L = 11.19
STORE.
RAIN #49 L = 9.61
GET.

{BASEFLOW=0.04}
PRINT.YAMBLA :B0=0 BR=0.975 BC=0.025 BM=1

ROUTE THRU #12 L = 8.42
ADD RAIN #12 L = 8.42
GET.

{Drowned reach}
FACTOR=0.5
ROUTE THRU #67 L = 6.43
ADD RAIN #67 L = 6.43
STORE.

FACTOR=1.0
RAIN #89 L = 7.33
STORE.
RAIN #90 L = 17.25
GET.
ROUTE THRU #95 L = 6.21
ADD RAIN #95 L = 6.21
STORE.
RAIN #96 L = 13.40
GET.
ROUTE THRU #94 L = 4.02
ADD RAIN #94 L = 4.02
STORE.
RAIN #87 L = 7.41
STORE.

{RAIN #1 L = 90.82}

INPUT. MITTA : A=4738
PRINT.TALLANDOON :B0=0 BR=0.975 BC=0.025
BM=1

ROUTE THRU #88 L = 7.24
ADD RAIN #88 L = 7.24
GET.
ROUTE THRU #93 L = 8.25
ADD RAIN #93 L = 8.25
GET.

{Drowned reach}
FACTOR=0.5
ROUTE THRU #92 L = 7.10
ADD RAIN #92 L = 7.10
STORE.

FACTOR=1.0
RAIN #91 L = 15.50
GET.

{Drowned reach}
FACTOR=0.5
ROUTE THRU #65 L = 0.87
ADD RAIN #65 L = 0.87
STORE.
FACTOR=1.0

RAIN #64 L = 9.01
GET.

{Drowned reach}
FACTOR=0.5
ROUTE THRU #66 L = 5.11
ADD RAIN #66 L = 5.11
GET.
ROUTE THRU #2 L = 0.48
ADD RAIN #2 L = 0.48

{HUME DAM 1929}
baseflow=1
PRINT.HD_INFLOW :B0=0 BR=0.975 BC=0.025 BM=1
{The normal fsl is 192.06. for dams with known outflows, the fsl should be the dam crest which should also be reflected in the sq curve}
{To generate a reverse routed inflow, first put an asterisk after the location hume, subsequent calibration runs should exclude the asterisk}
DAM ROUTE FSL=220 datafile=hume.els il=HUME location=hume REL=hd_outflow.g file=hume.sq

PRINT.HD_OUTFLOW

END OF CATCHMENT DATA.
95 PLUVIOGRAPHS:
LOCATION. upper002
…….
LOCATION. upper096
1 SUBAREAS: 96
END OF PLUVIOGRAPH DATA.

10 RATING CURVES:
LOCATION. BIGGARA
LOCATION. BRINGENBONG
LOCATION. MARAGLE
LOCATION. PINEGROVE
LOCATION. BERRINGAMA
LOCATION. CUDGEWA_NORTH
LOCATION. R_JINGELLIC
LOCATION. CK_JINGELLIC
LOCATION. TALLANDOON
LOCATION. YAMBLA
END OF RATING CURVE DATA.

14 GAUGING STATIONS:
LOCATION. BIGGARA
LOCATION. MURRAY_1 *
{Must be matched}
LOCATION. KHANCOBAN *
LOCATION. BRINGENBONG
LOCATION. MARAGLE
LOCATION. PINEGROVE
LOCATION. BERRINGAMA
LOCATION. CUDGEWA_NORTH
LOCATION. R_JINGELLIC
LOCATION. CK_JINGELLIC
LOCATION. YAMBLA
LOCATION. TALLANDOON
LOCATION. HD_INFLOW
LOCATION. HD_OUTFLOW
END OF GAUGING STATIONS.

Murray R - Hume Dam to Albury
MODEL: SPLIT
{Developed using CatchmentSIM by Terry Malone on 18-07-2016}
USES: L
{The default parameters are for information only}
DEFAULT PARAMETERS: alpha = 0.3 m = 0.8 beta = 2.5 n = 1 x = 0.25
CATCHMENT DATA FILE = ..\..\vectors\below.dat
RAIN #7 L = 17.72
STORE.
RAIN #8 L = 15.69
GET.
ROUTE THRU #10 L = 1.28
ADD RAIN #10 L = 1.28
STORE.
RAIN #9 L = 9.34
GET.
ROUTE THRU #6 L = 13.64
ADD RAIN #6 L = 13.64
STORE.
RAIN #5 L = 9.53
GET.
ROUTE THRU #3 L = 15.11
ADD RAIN #3 L = 15.11

PRINT.KIEWA :B0=0 BR=0.95 BC=0.025 BM=1

ROUTE THRU #12 L = 6.40
ADD RAIN #12 L = 6.40
STORE.
RAIN #11 L = 8.87
GET.
ROUTE THRU #4 L = 1.47
ADD RAIN #4 L = 1.47

PRINT.BANDIANA :B0=0 BR=0.95 BC=0.025 BM=1

ROUTE THRU #13 L = 1.34
ADD RAIN #13 L = 1.34
STORE.

{RAIN #1 L = 137.24}
INPUT. UPPER : A=15260
PRINT.HEYWOODS * :B0=0 BR=0.95 BC=0.025 BM=1

ROUTE THRU #14 L = 5.79
ADD RAIN #14 L = 5.79
GET.

PRINT.DOCTORS_PT :B0=0 BR=0.95 BC=0.025 BM=1

ROUTE THRU #2 L = 3.70
ADD RAIN #2 L = 3.70

PRINT.ALBURY :B0=0 BR=0.95 BC=0.025 BM=1

END OF CATCHMENT DATA.
13 PLUVIOGRAPHS:
LOCATION. below002
1 SUBAREAS: 2
……
LOCATION. below014
1 SUBAREAS: 14
END OF PLUVIOGRAPH DATA.

5 RATING CURVES:
LOCATION. HEYWOODS
LOCATION. KIEWA
LOCATION. BANDIANA
LOCATION. DOCTORS_PT
LOCATION. ALBURY
END OF RATING CURVE DATA.

5 GAUGING STATIONS:
LOCATION. HEYWOODS *
LOCATION. KIEWA
LOCATION. BANDIANA
LOCATION. DOCTORS_PT
LOCATION. ALBURY
END OF GAUGING STATIONS.