Three Model Runs

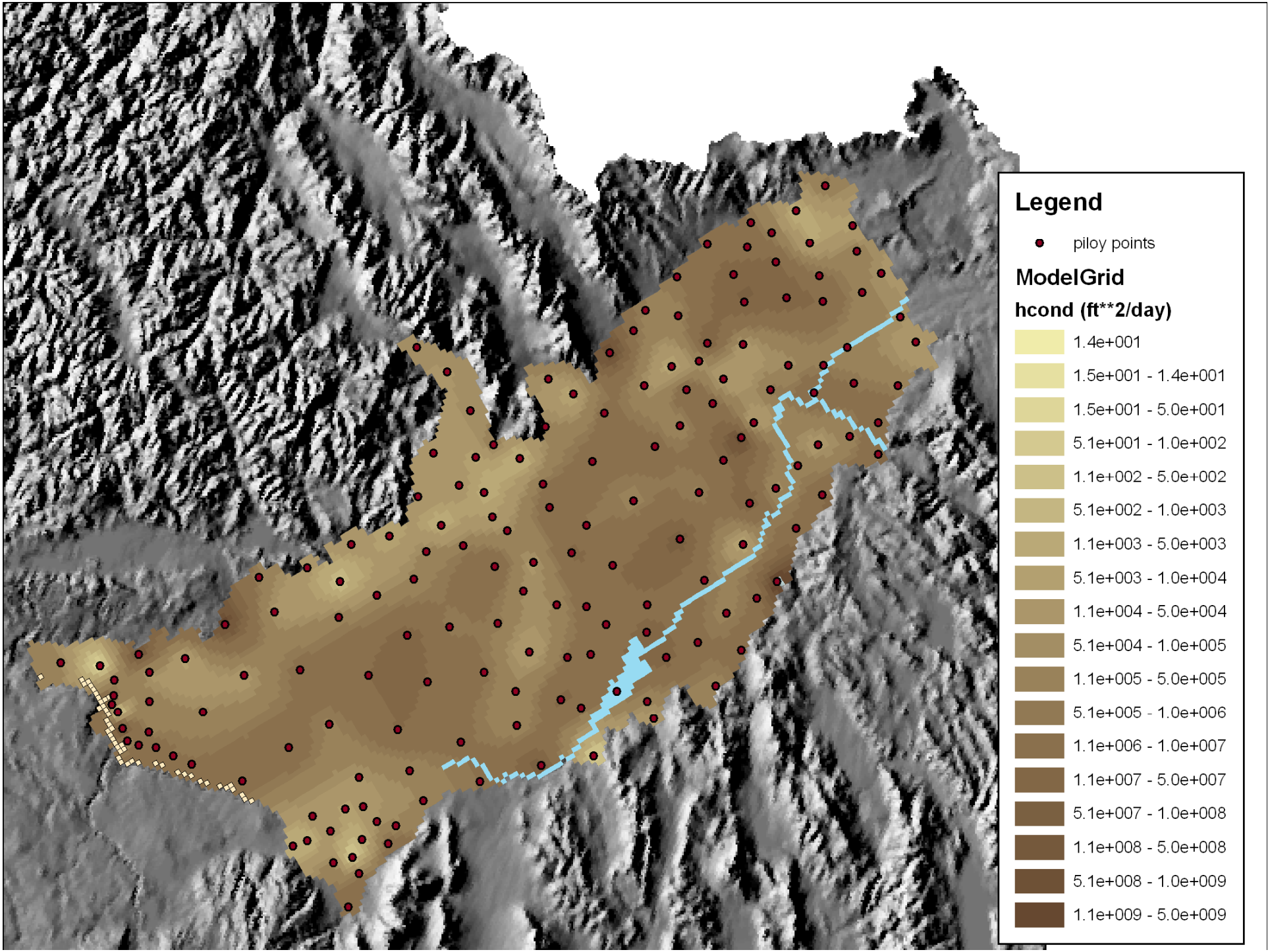
Allan Wylie
IDWR

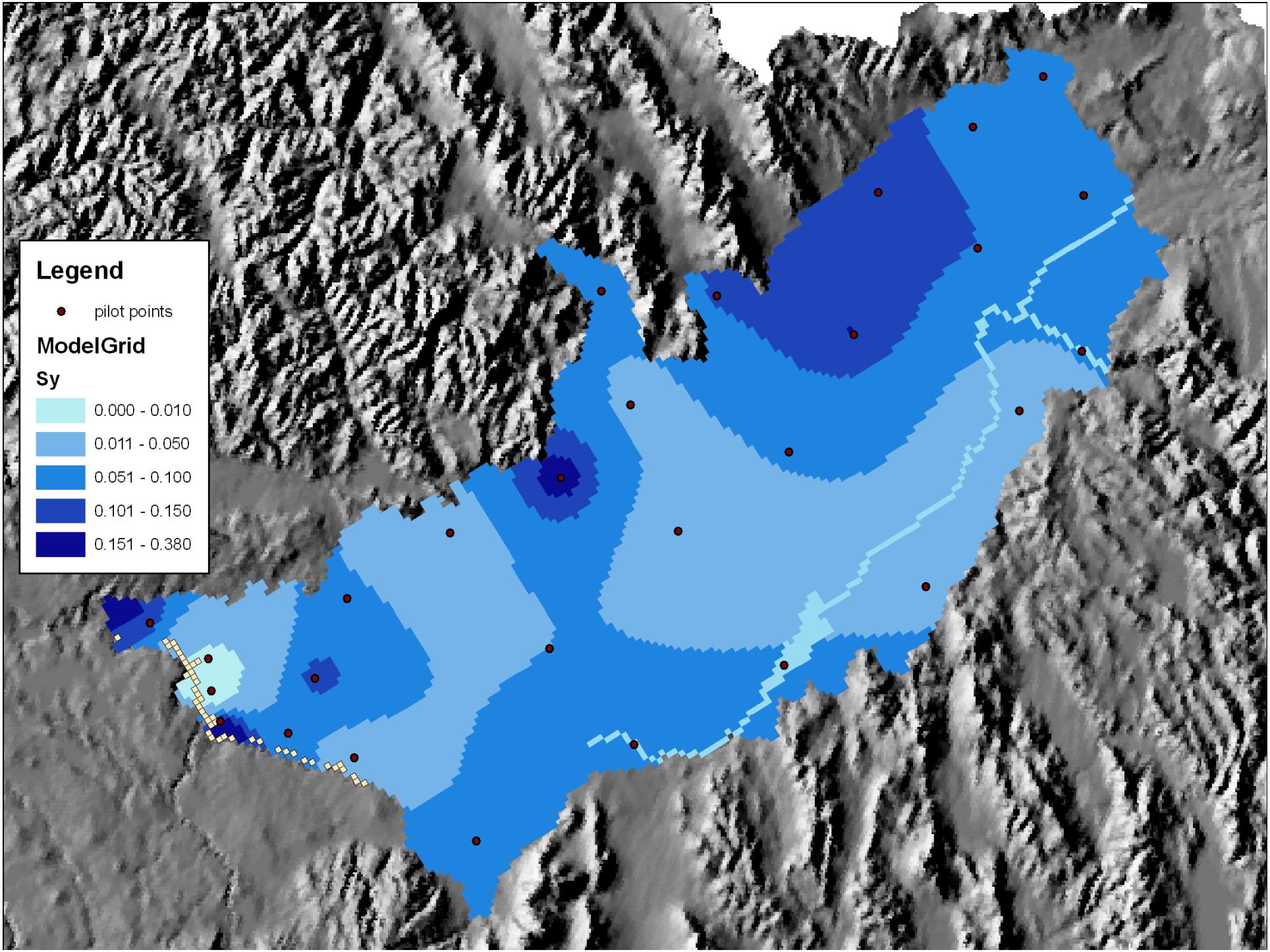
Outline

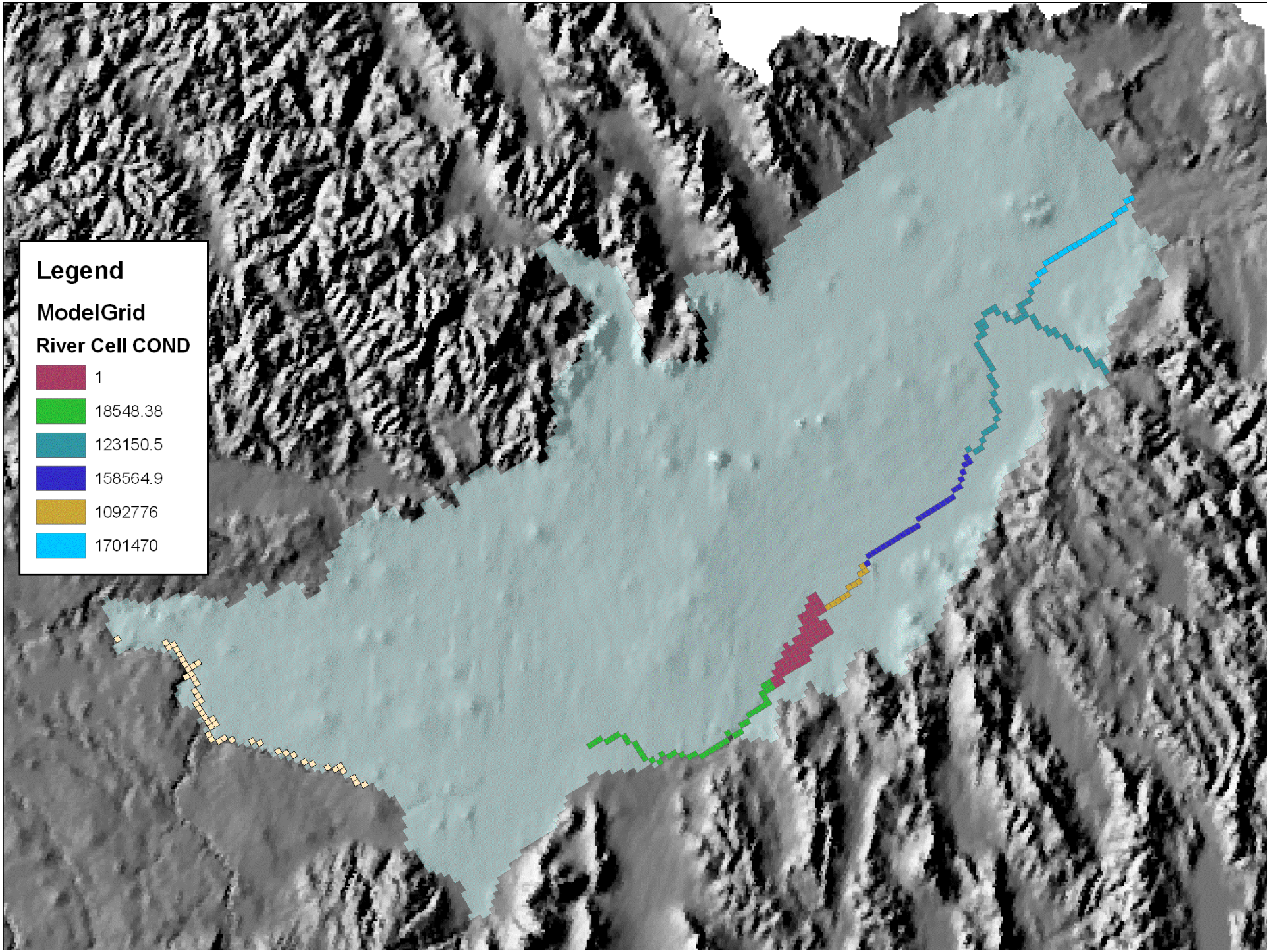
- All runs same as ESPAM 1.1 with the following exceptions
  - Adjust non-irrigated recharge with American Falls Reservoir conductance held at 1
  - Adjust tributary underflow with American Falls Reservoir conductance held at 1
  - Adjust ET adjustment factor with American Falls Reservoir conductance held at 1

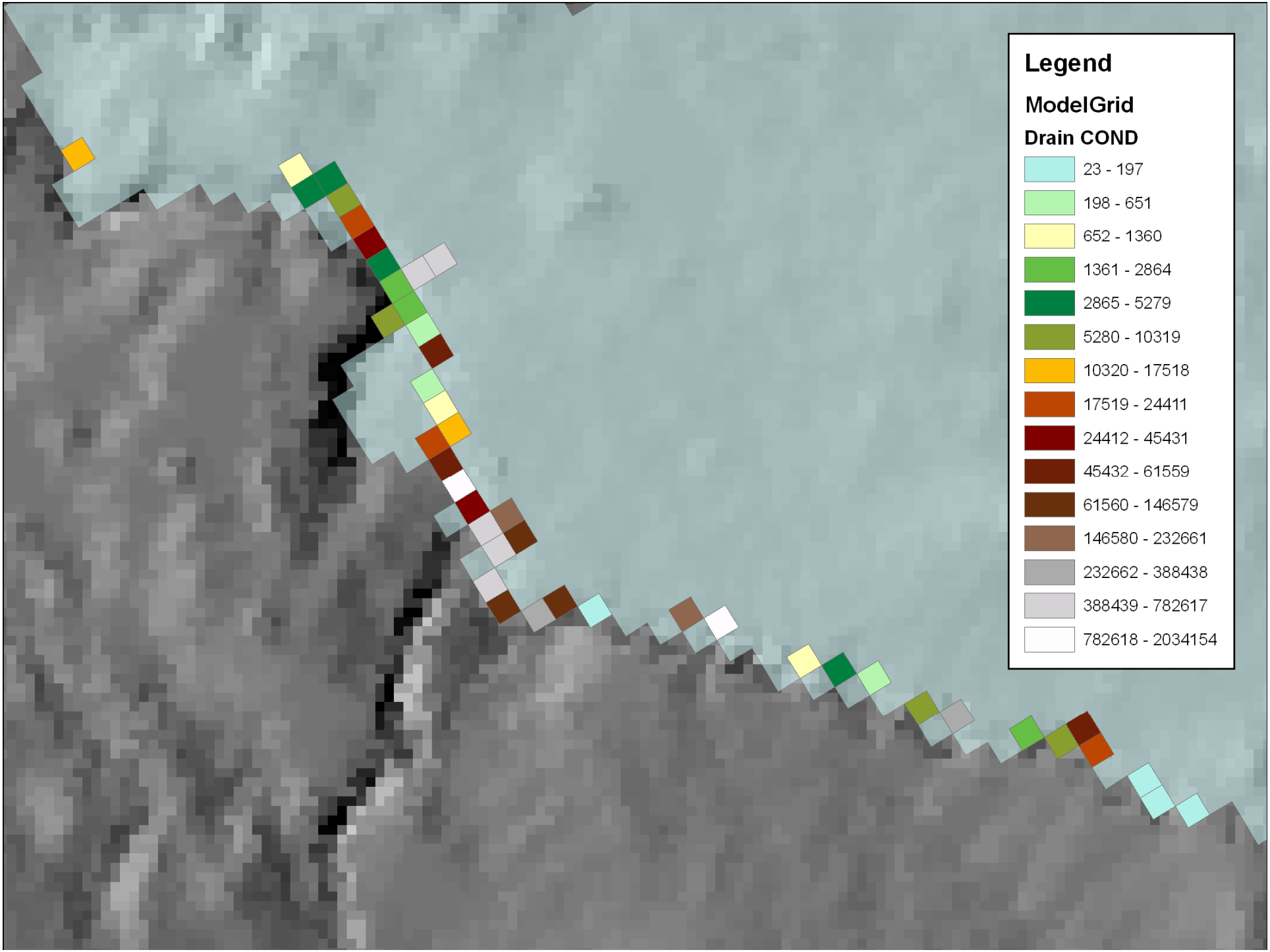
Non-irrigated recharge

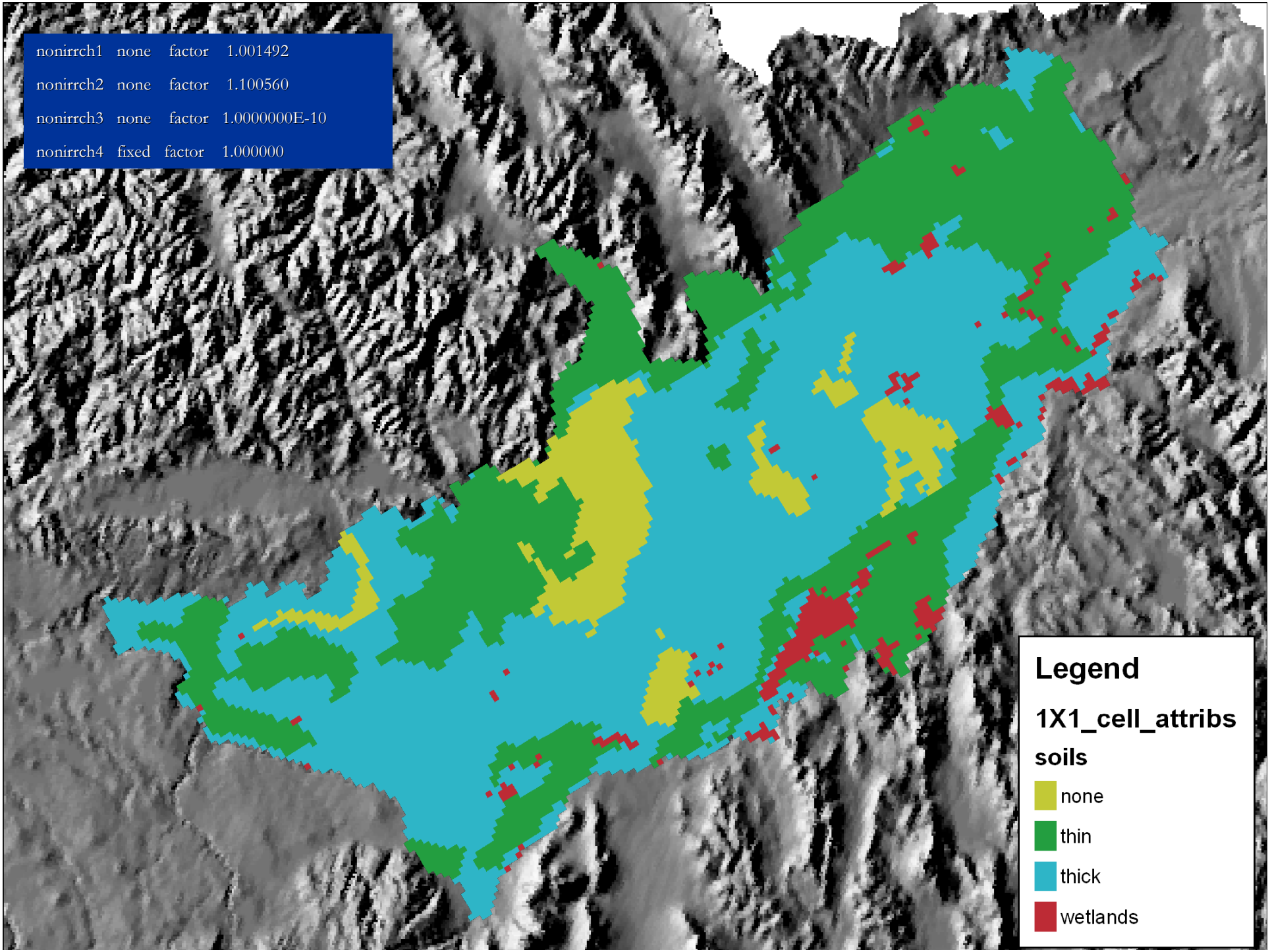
- Adjust transmissivity, storage, river and drain conductance, and 3 non-irrigated recharge factors


Legend
piloy points
ModelGrid
hcond (ft**2/day)
1.4e+001
1.5e+001 - 1.4e+001
1.5e+001 - 5.0e+001
5.1e+001 - 1.0e+002
1.1e+002 - 5.0e+002
5.1e+002 - 1.0e+003
1.1e+003 - 5.0e+003
5.1e+003 - 1.0e+004
1.1e+004 - 5.0e+004
5.1e+004 - 1.0e+005
1.1e+005 - 5.0e+005
5.1e+005 - 1.0e+006
1.1e+006 - 1.0e+007
1.1e+007 - 5.0e+007
5.1e+007 - 1.0e+008
1.1e+008 - 5.0e+008
5.1e+008 - 1.0e+009
1.1e+009 - 5.0e+009


Legend
pilot points
ModelGrid
Sy
0.000 - 0.010
0.011 - 0.050
0.051 - 0.100
0.101 - 0.150
0.151 - 0.380


Legend
ModelGrid
River Cell COND
1
18548.38
123150.5
158564.9
1092776
1701470


Legend
ModelGrid
Drain COND
23 - 197
198 - 651
652 - 1360
1361 - 2864
2865 - 5279
5280 - 10319
10320 - 17518
17519 - 24411
24412 - 45431
45432 - 61559
61560 - 146579
146580 - 232661
232662 - 388438
388439 - 782617
782618 - 2034154

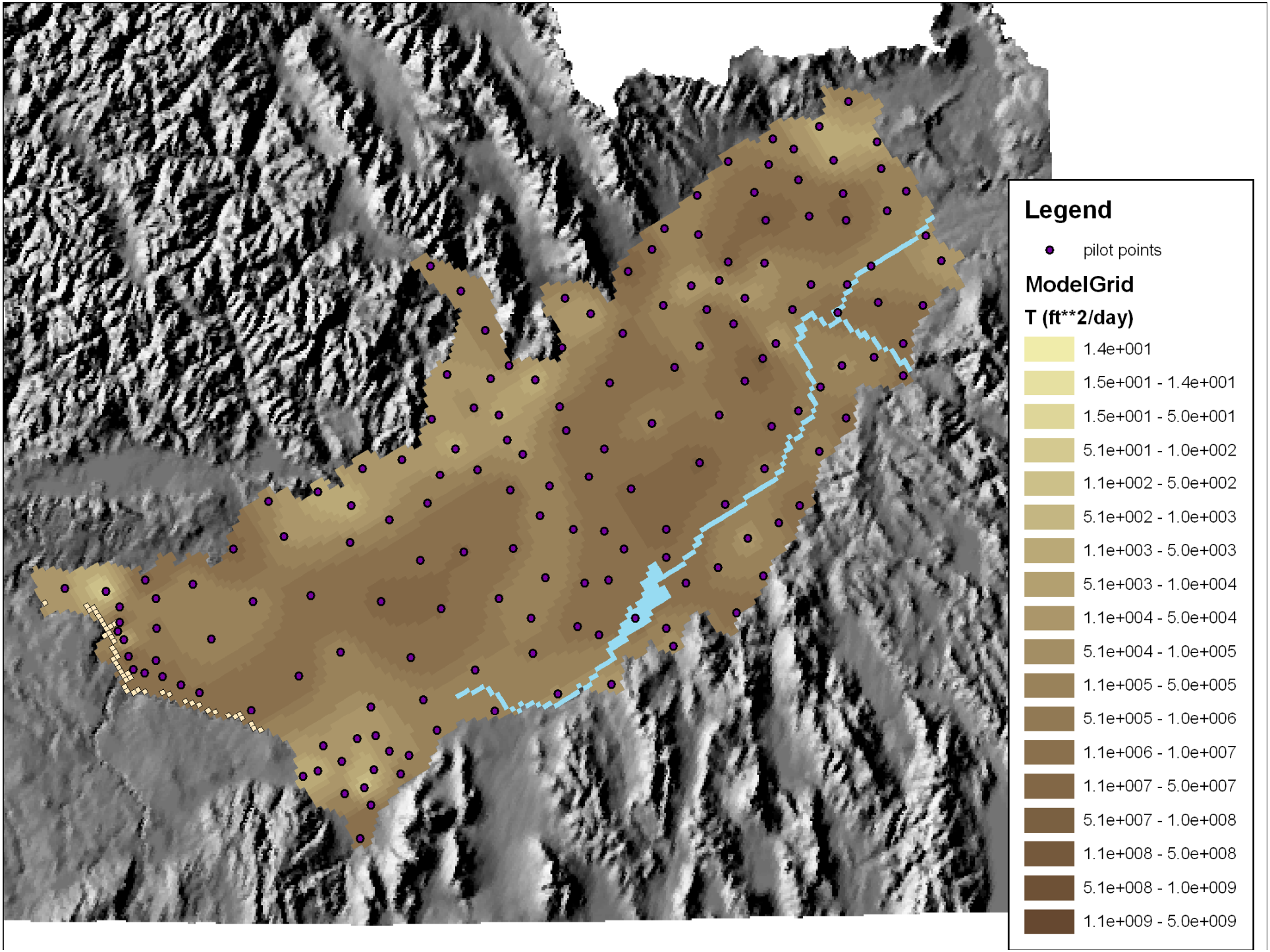

nonirrch1 none factor 1.001492
nonirrch2 none factor 1.100560
nonirrch3 none factor 1.0000000E-10
nonirrch4 fixed factor 1.000000
Legend
1X1_cell_attribs
soils
none
thin
thick
wetlands

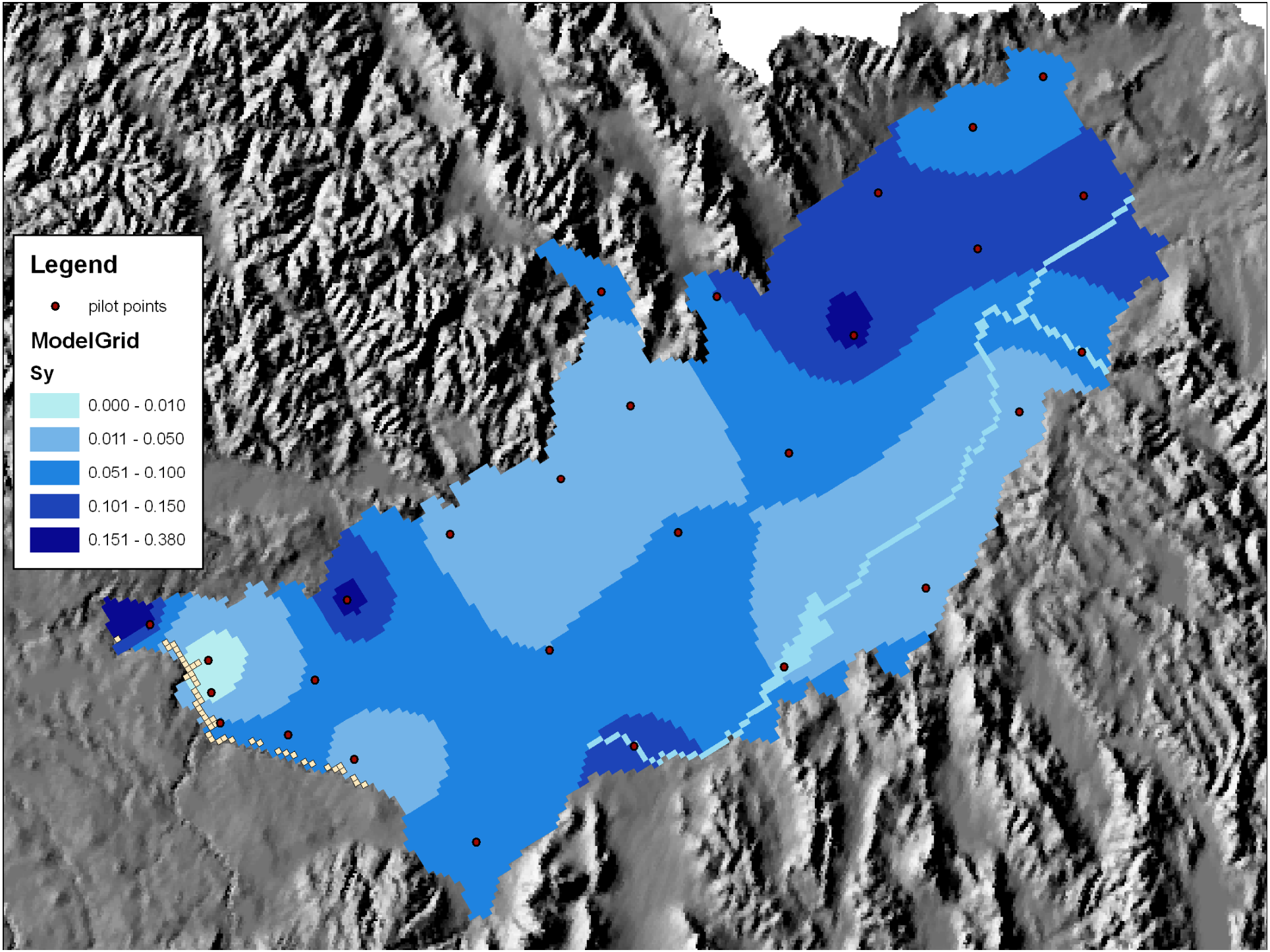
Statistics

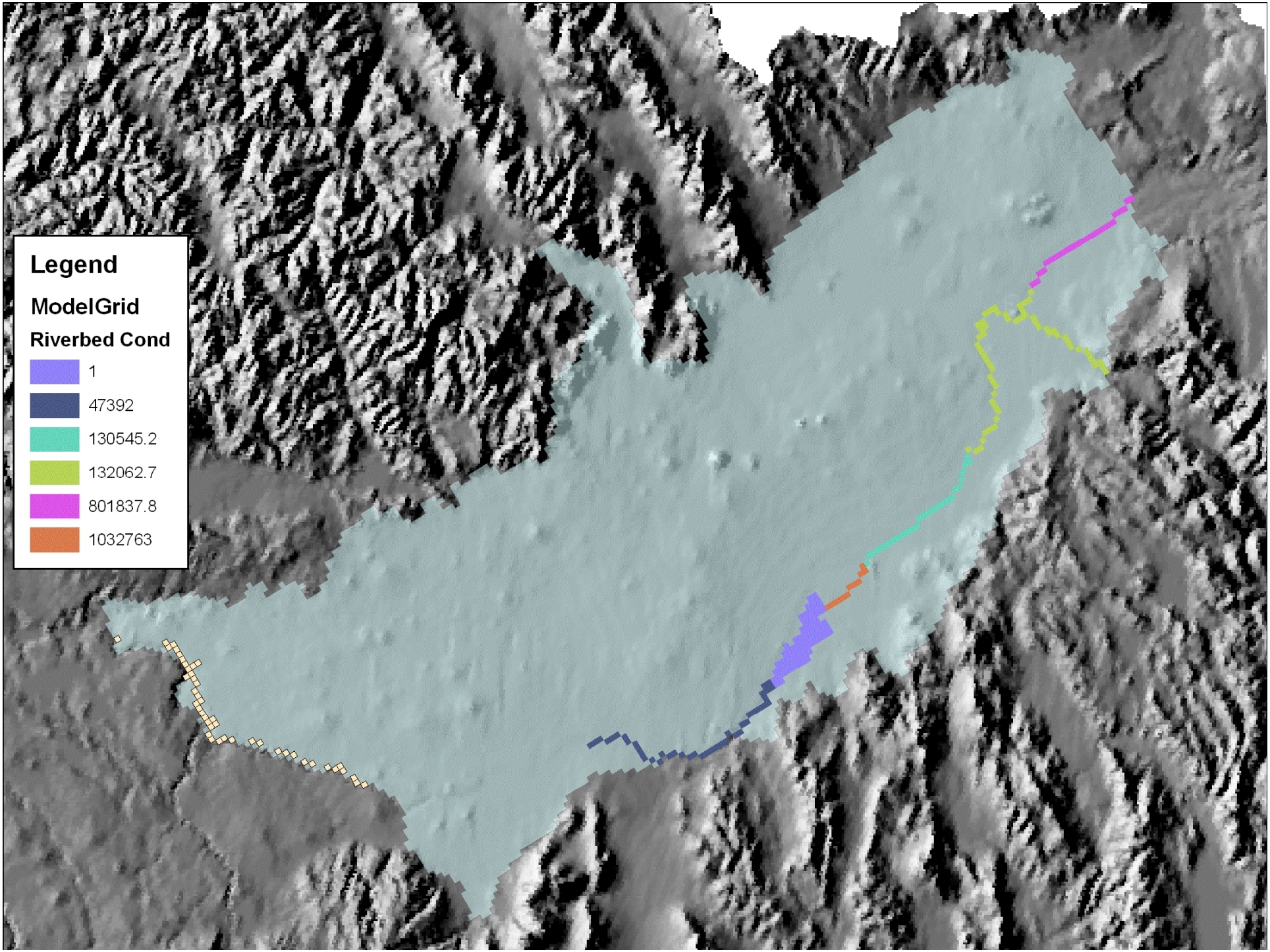
Observation Group	Standard Error
All	6.531
Steady State head	17.97
Reach Gain	43.71
Seasonal	1.887
Mass Measurement	5.228
Trend	5.865
Ashton - Rexburg	5.779
Heise Shelley	10.38
Shelley nr Blackfoot	5.163
nr Blackfoot Neeley	4.876
Neeley Minidoka	8.433
Devils Washbowl	0.4403
Devils Corral	6.286
Blue Lakes	7.116
Crystal Spgs	16.62
Clear Lakes	2.857
Briggs	2.593
Box Canyon	2.11
Thousand Springs	2.855
Malad	5.274

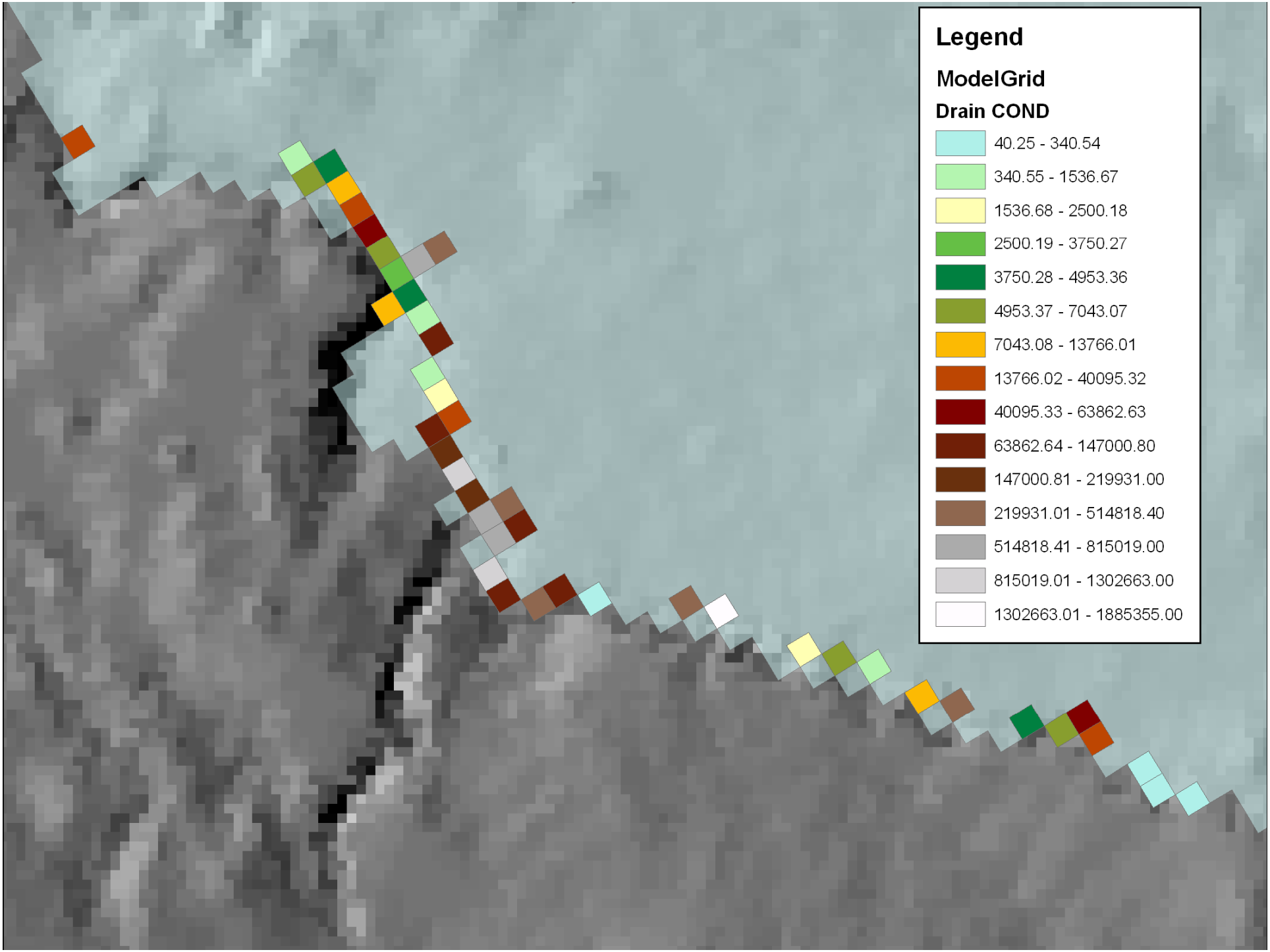
Tributary Underflow

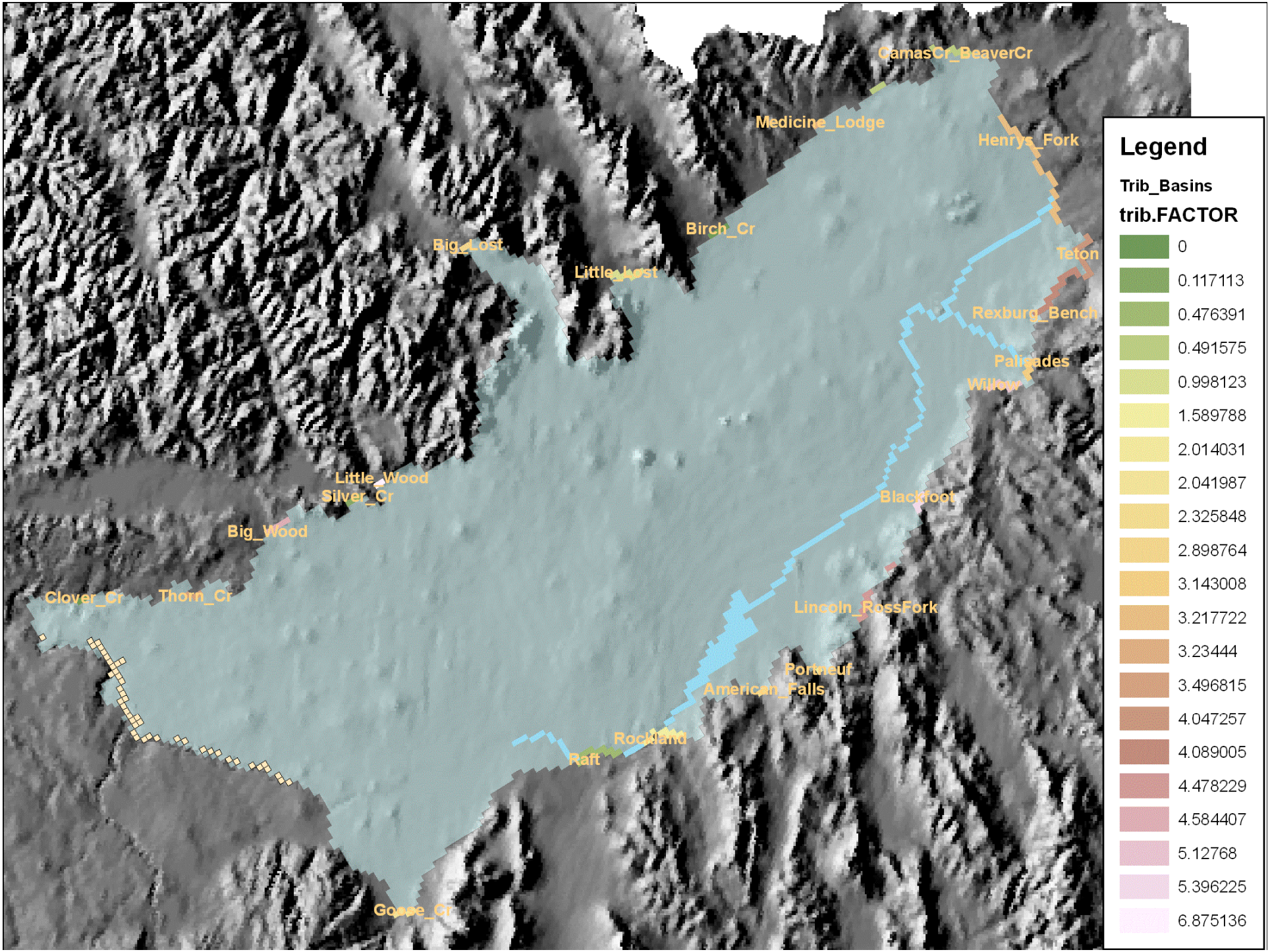
- Adjust transmissivity, storage, river and drain conductance, and 3 non-irrigated recharge factors


Legend
pilot points
ModelGrid
T (ft**2/day)
1.4e+001
1.5e+001 - 1.4e+001
1.5e+001 - 5.0e+001
5.1e+001 - 1.0e+002
1.1e+002 - 5.0e+002
5.1e+002 - 1.0e+003
1.1e+003 - 5.0e+003
5.1e+003 - 1.0e+004
1.1e+004 - 5.0e+004
5.1e+004 - 1.0e+005
1.1e+005 - 5.0e+005
5.1e+005 - 1.0e+006
1.1e+006 - 1.0e+007
1.1e+007 - 5.0e+007
5.1e+007 - 1.0e+008
1.1e+008 - 5.0e+008
5.1e+008 - 1.0e+009
1.1e+009 - 5.0e+009


Legend
pilot points
ModelGrid
Sy
0.000 - 0.010
0.011 - 0.050
0.051 - 0.100
0.101 - 0.150
0.151 - 0.380


Legend
ModelGrid
Riverbed Cond
1
47392
130545.2
132062.7
801837.8
1032763


Legend
ModelGrid
Drain COND
40.25 - 340.54
340.55 - 1536.67
1536.68 - 2500.18
2500.19 - 3750.27
3750.28 - 4953.36
4953.37 - 7043.07
7043.08 - 13766.01
13766.02 - 40095.32
40095.33 - 63862.63
63862.64 - 147000.80
147000.81 - 219931.00
219931.01 - 514818.40
514818.41 - 815019.00
815019.01 - 1302663.00
1302663.01 - 1885355.00

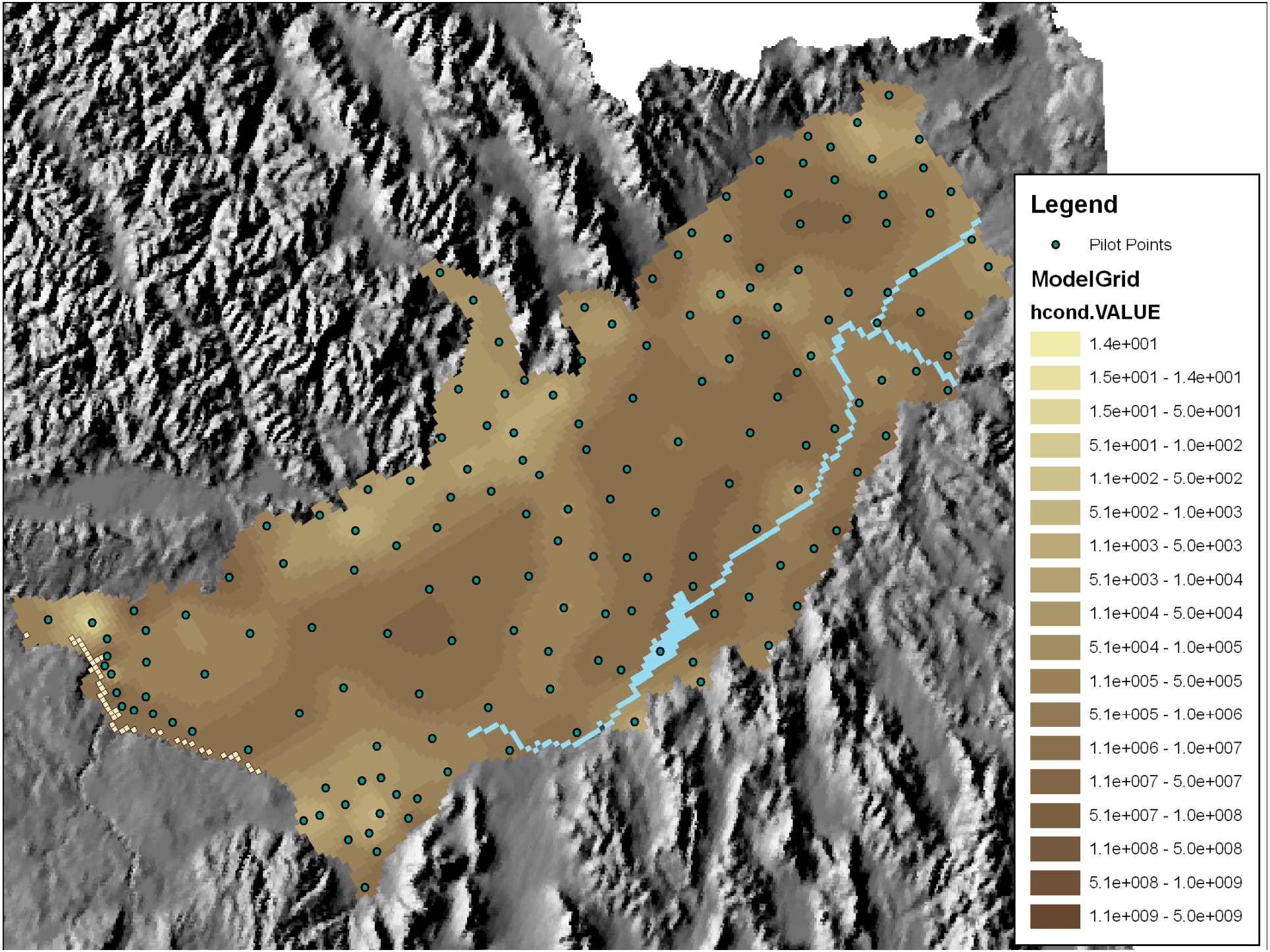

CamasCr_BeaverCr
Medicine_Lodge
Henrys_Fork
Birch_Cr
Big_Lost
Little_Lost
Teton
Rexburg_Bench
Palisades
Willow
Little_Wood
Silver_Cr
Blackfoot
Big_Wood
Clover_Cr
Thorn_Cr
Lincoln_RossFork
Portneuf
American_Falls
Rockland
Raft
Goose_Cr
Legend
Trib_Basins
trib.FACTOR
0
0.117113
0.476391
0.491575
0.998123
1.589788
2.014031
2.041987
2.325848
2.898764
3.143008
3.217722
3.23444
3.496815
4.047257
4.089005
4.478229
4.584407
5.12768
5.396225
6.875136

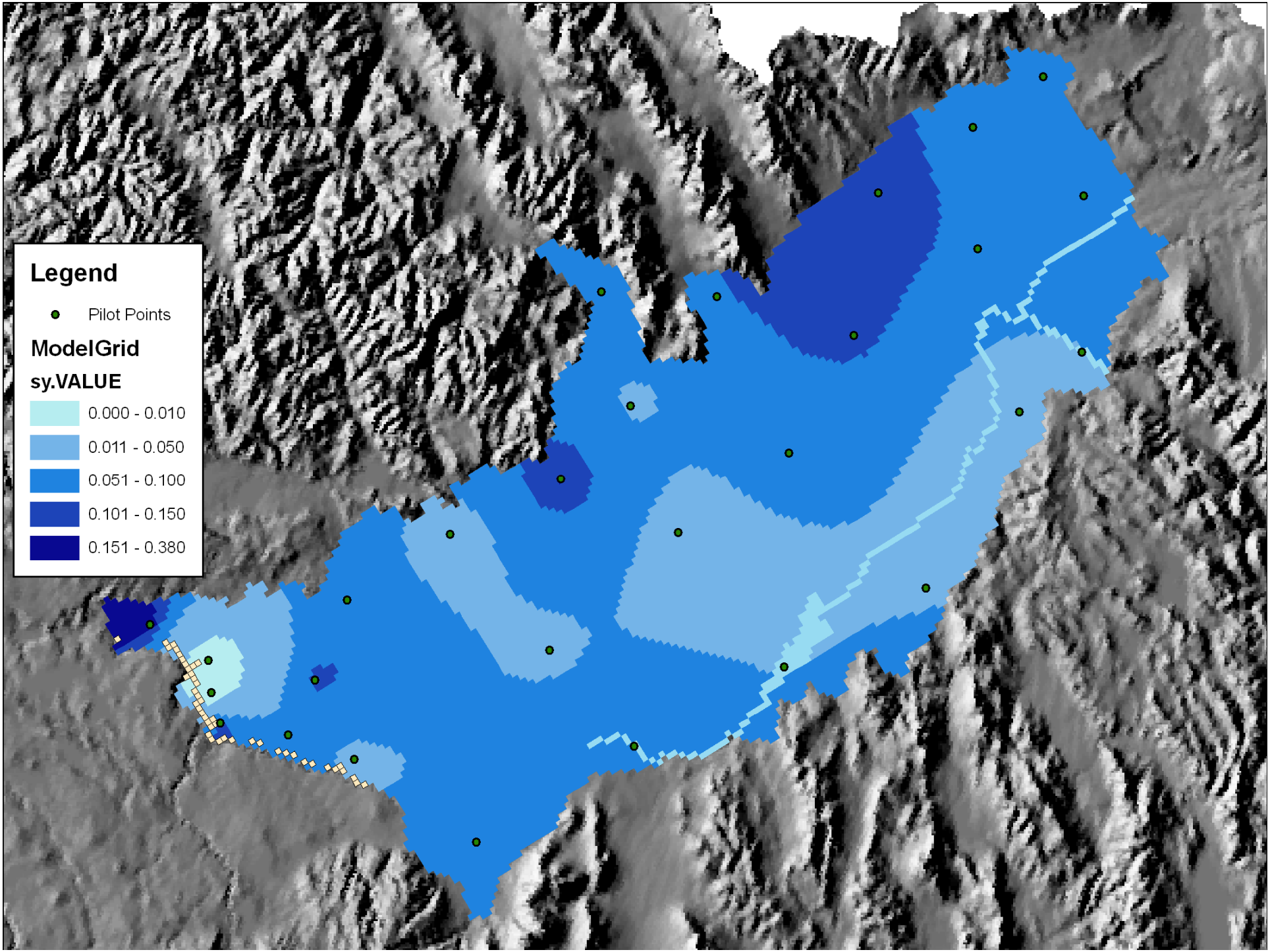
Statistics

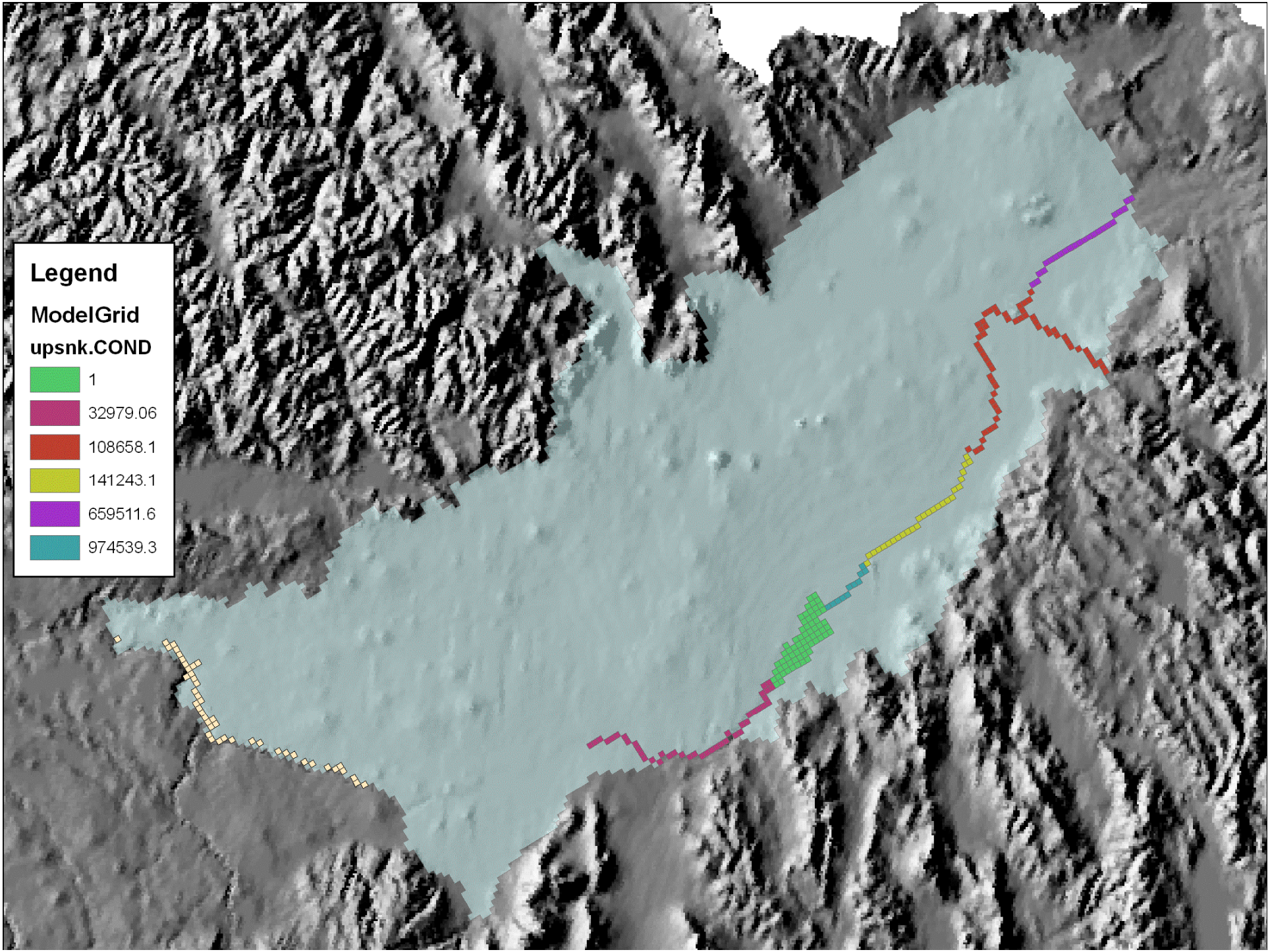
Observation Group	Standard Error
All	6.445
Steady State head	17.40
Reach Gain	33.31
Seasonal	1.869
Mass Measurement	4.966
Trend	5.730
Ashton - Rexburg	5.817
Heise Shelley	10.15
Shelley nr Blackfoot	5.660
nr Blackfoot Neeley	4.903
Neeley Minidoka	8.686
Devils Washbowl	1.744
Devils Corral	6.579
Blue Lakes	7.197
Crystal Spgs	18.36
Clear Lakes	2.892
Briggs	2.693
Box Canyon	2.161
Thousand Springs	2.928
Malad	5.289

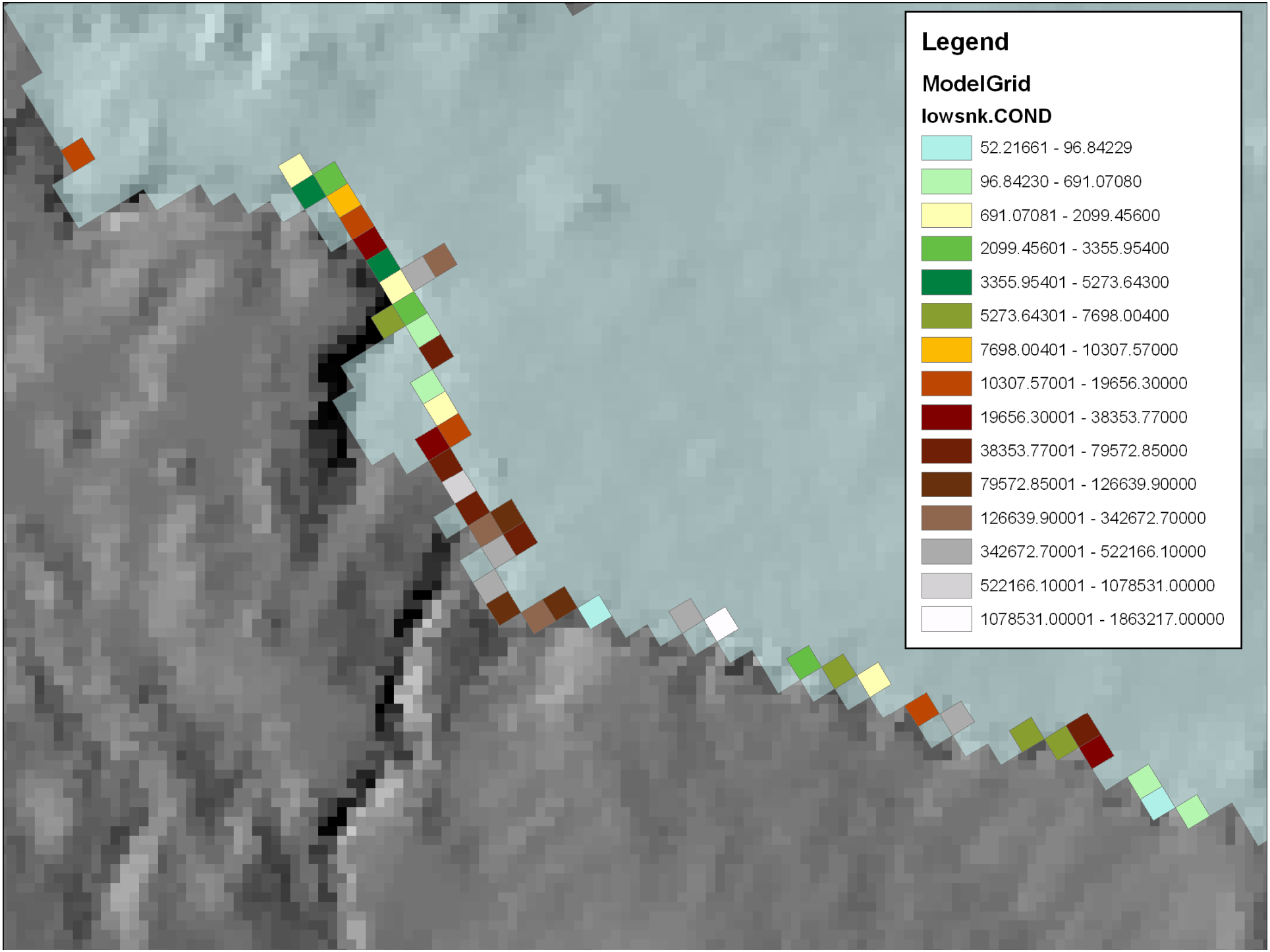
ET Adjustment

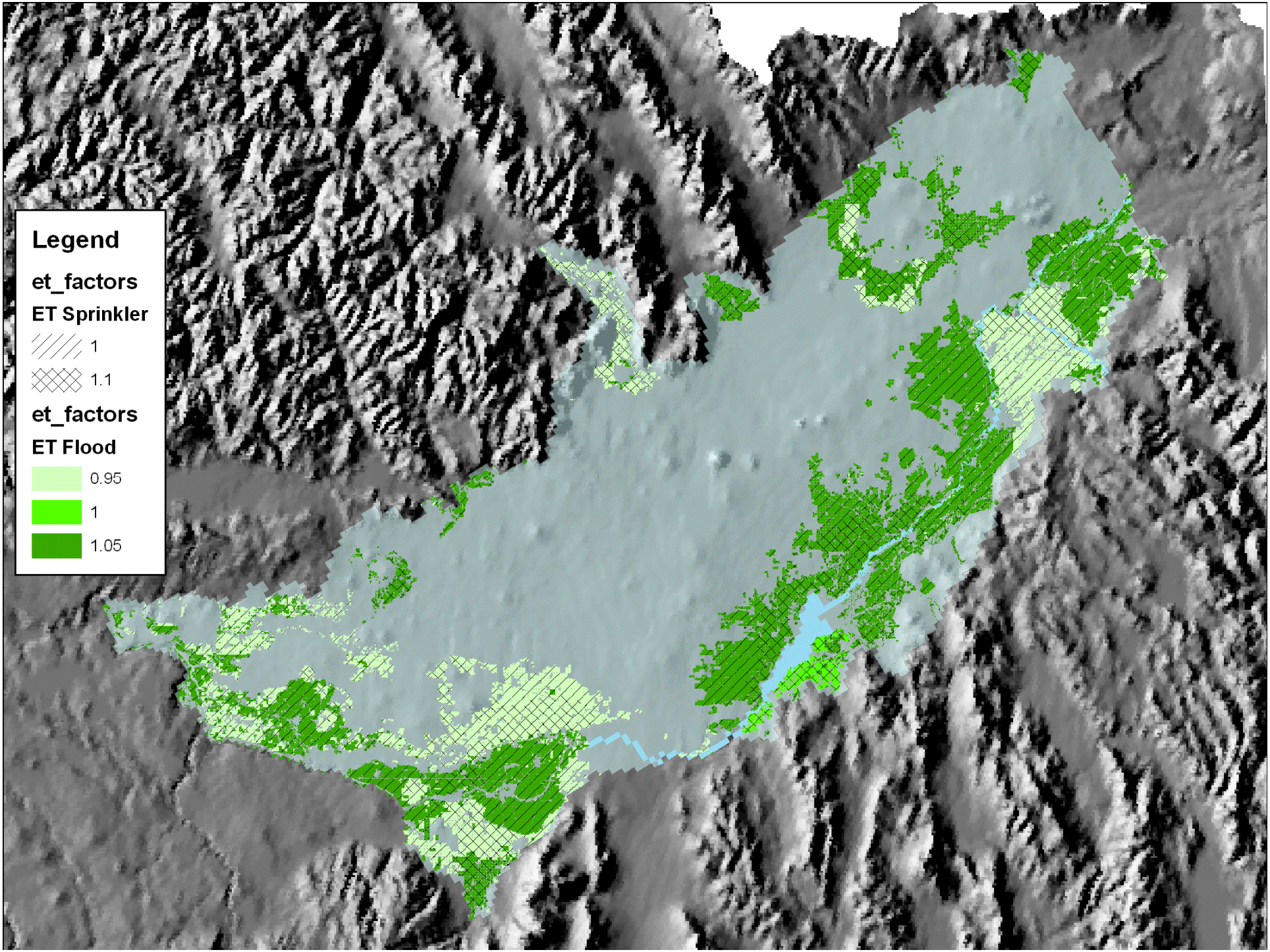
- Adjust transmissivity, storage, river and drain conductance, and 3 non-irrigated recharge factors


Legend
Pilot Points
ModelGrid
hcond.VALUE
1.4e+001
1.5e+001 - 1.4e+001
1.5e+001 - 5.0e+001
5.1e+001 - 1.0e+002
1.1e+002 - 5.0e+002
5.1e+002 - 1.0e+003
1.1e+003 - 5.0e+003
5.1e+003 - 1.0e+004
1.1e+004 - 5.0e+004
5.1e+004 - 1.0e+005
1.1e+005 - 5.0e+005
5.1e+005 - 1.0e+006
1.1e+006 - 1.0e+007
1.1e+007 - 5.0e+007
5.1e+007 - 1.0e+008
1.1e+008 - 5.0e+008
5.1e+008 - 1.0e+009
1.1e+009 - 5.0e+009


Legend
Pilot Points
ModelGrid
sy.VALUE
0.000 - 0.010
0.011 - 0.050
0.051 - 0.100
0.101 - 0.150
0.151 - 0.380

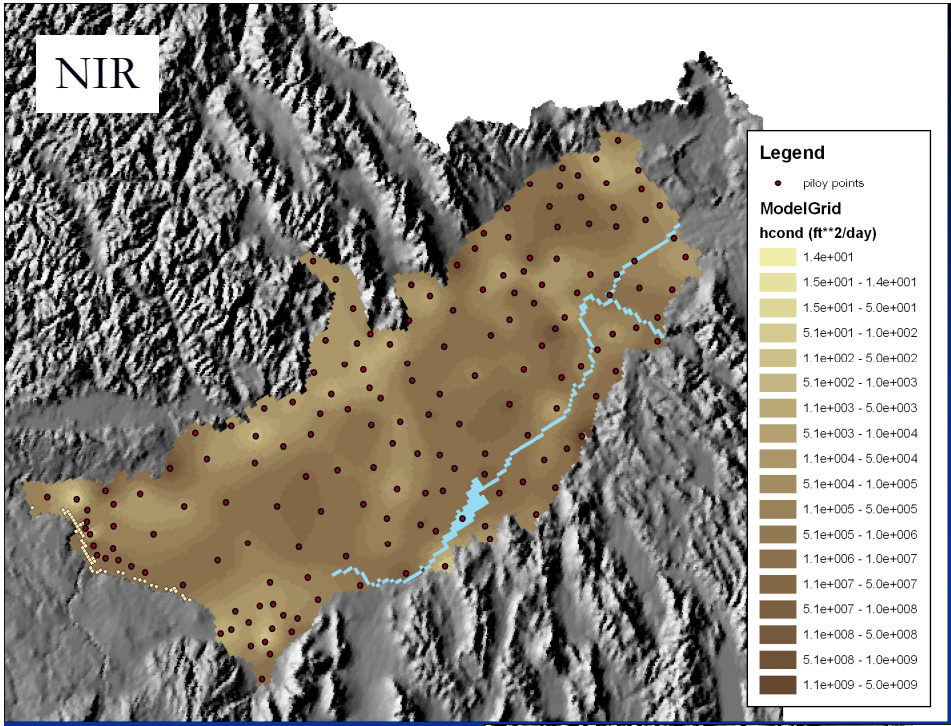

Legend
ModelGrid
upsnk.COND
1
32979.06
108658.1
141243.1
659511.6
974539.3

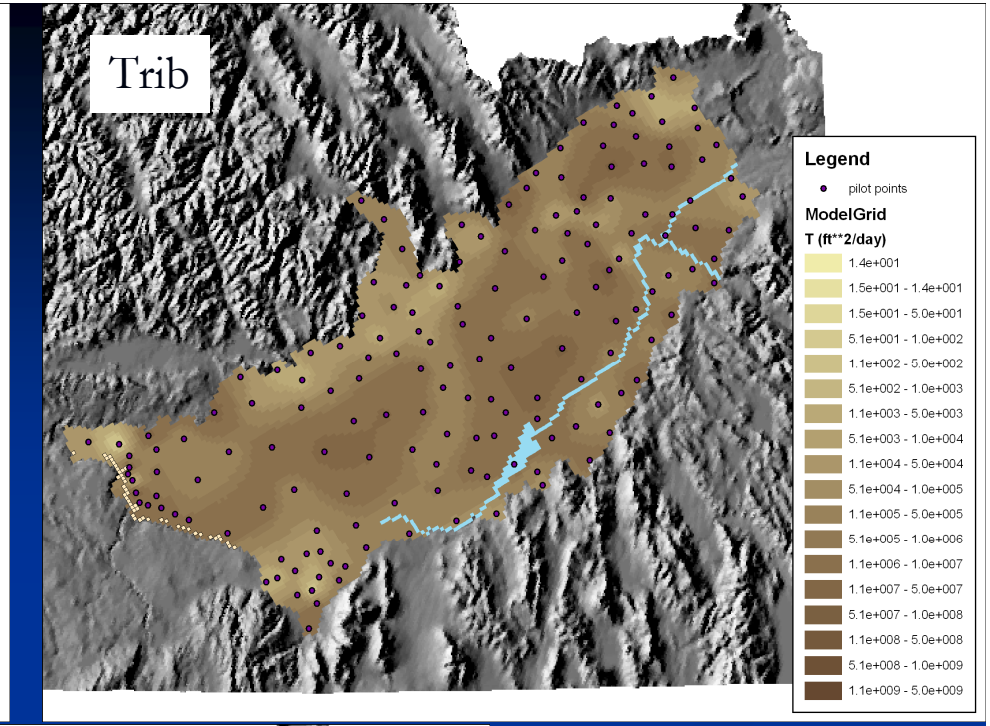

Legend
ModelGrid
lowsnk.COND
52.21661 - 96.84229
96.84230 - 691.07080
691.07081 - 2099.45600
2099.45601 - 3355.95400
3355.95401 - 5273.64300
5273.64301 - 7698.00400
7698.00401 - 10307.57000
10307.57001 - 19656.30000
19656.30001 - 38353.77000
38353.77001 - 79572.85000
79572.85001 - 126639.90000
126639.90001 - 342672.70000
342672.70001 - 522166.10000
522166.10001 - 1078531.00000
1078531.00001 - 1863217.00000

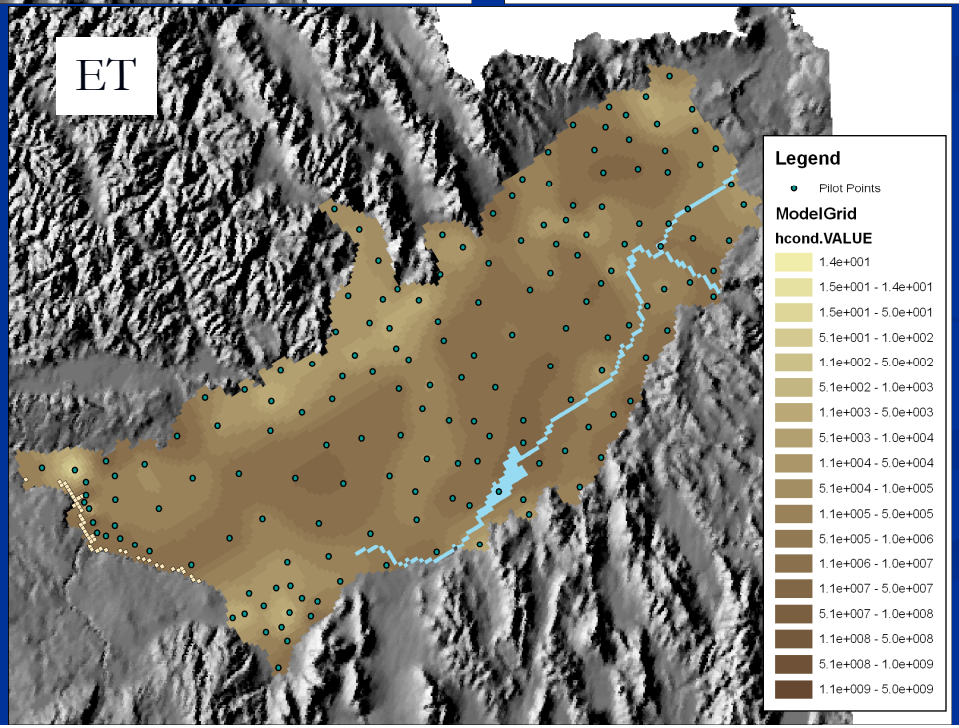

Legend
et_factors
ET Sprinkler
1
1.1
et_factors
ET Flood
0.95
1
1.05

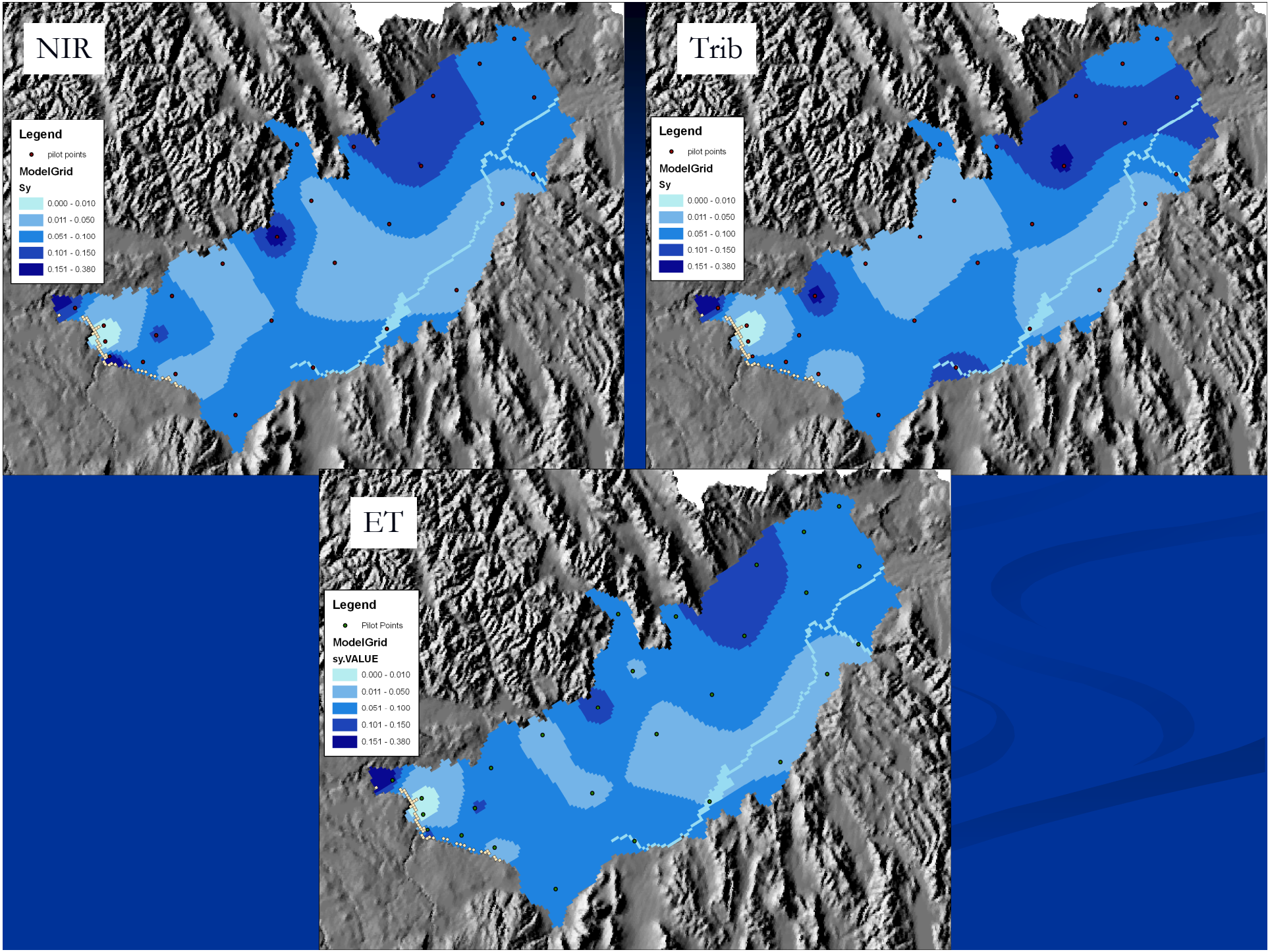
Statistics

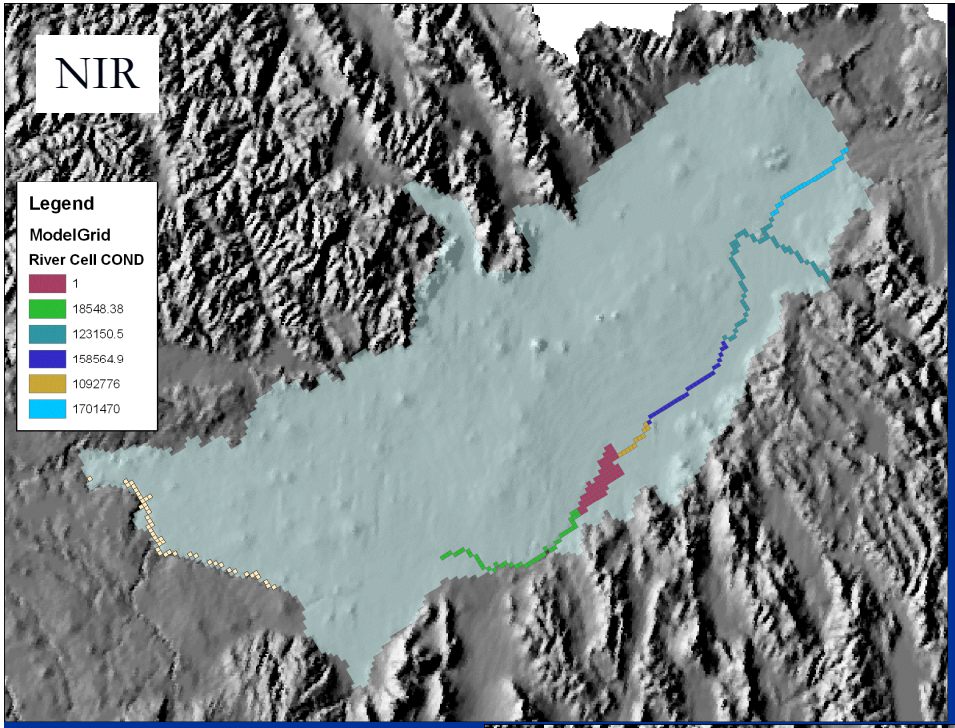
Observation Group	Standard Error
All	9.817
Steady State head	20.12
Reach Gain	54.13
Seasonal	2.015
Mass Measurement	5.111
Trend	5.934
Ashton - Rexburg	6.461
Heise Shelley	10.44
Shelley nr Blackfoot	5.953
nr Blackfoot Neeley	4.891
Neeley Minidoka	8.793
Devils Washbowl	0.8258
Devils Corral	6.693
Blue Lakes	7.128
Crystal Spgs	19.09
Clear Lakes	2.933
Briggs	2.648
Box Canyon	2.158
Thousand Springs	2.977
Malad	5.263

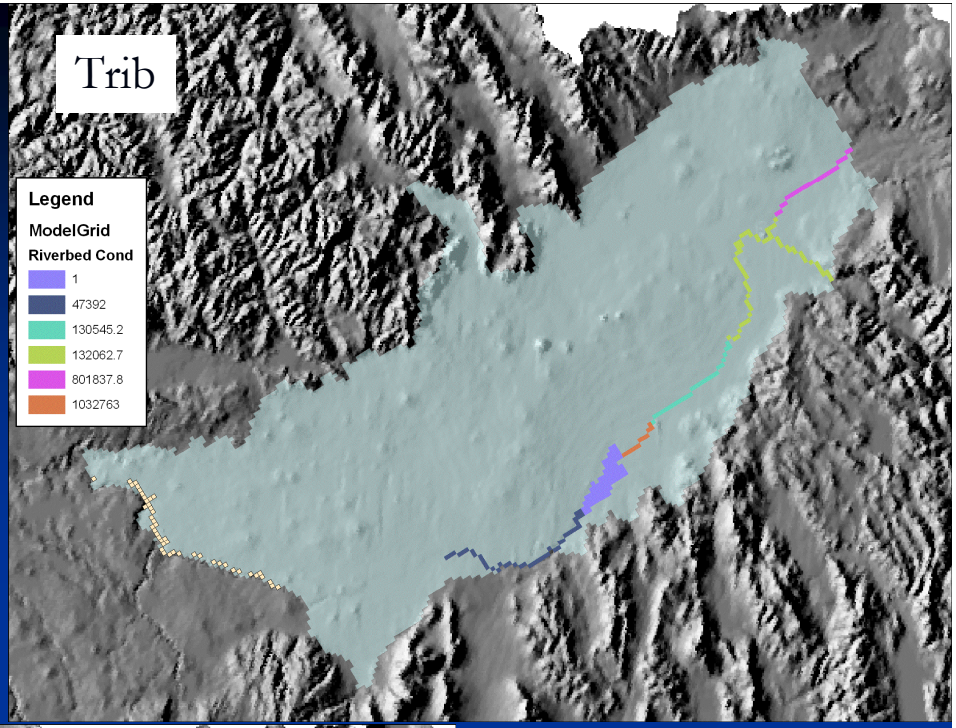

NIR
Legend
piloy points
ModelGrid
hcond (ft**2/day)
1.4e+001
1.5e+001 - 1.4e+001
1.5e+001 - 5.0e+001
5.1e+001 - 1.0e+002
1.1e+002 - 5.0e+002
5.1e+002 - 1.0e+003
1.1e+003 - 5.0e+003
5.1e+003 - 1.0e+004
1.1e+004 - 5.0e+004
5.1e+004 - 1.0e+005
1.1e+005 - 5.0e+005
5.1e+005 - 1.0e+006
1.1e+006 - 1.0e+007
1.1e+007 - 5.0e+007
5.1e+007 - 1.0e+008
1.1e+008 - 5.0e+008
5.1e+008 - 1.0e+009
1.1e+009 - 5.0e+009

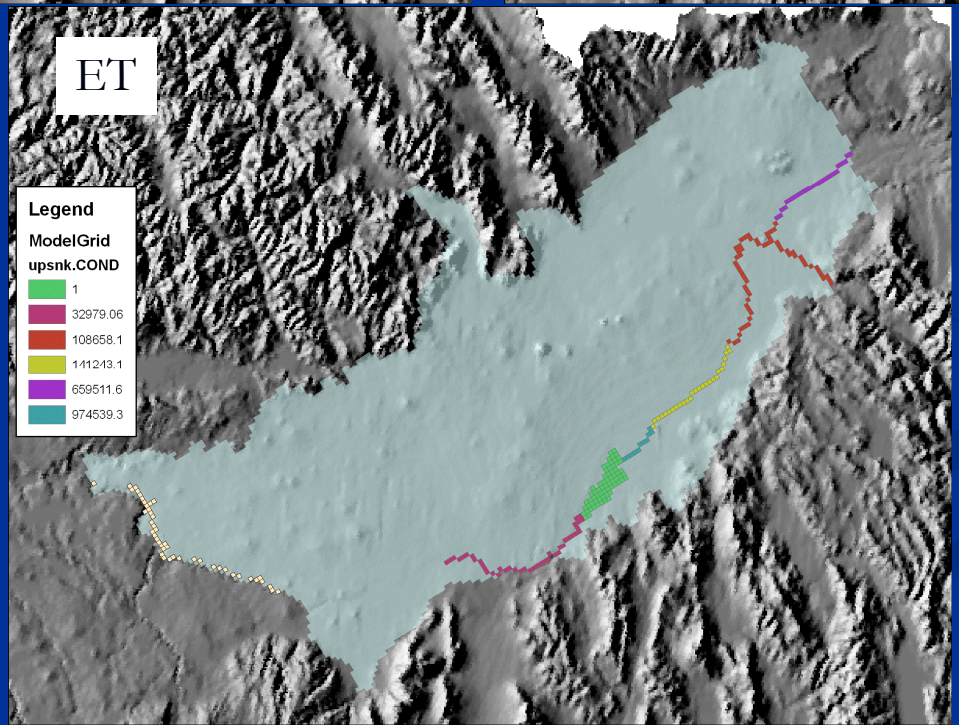

Trib
Legend
pilot points
ModelGrid
T (ft**2/day)
1.4e+001
1.5e+001 - 1.4e+001
1.5e+001 - 5.0e+001
5.1e+001 - 1.0e+002
1.1e+002 - 5.0e+002
5.1e+002 - 1.0e+003
1.1e+003 - 5.0e+003
5.1e+003 - 1.0e+004
1.1e+004 - 5.0e+004
5.1e+004 - 1.0e+005
1.1e+005 - 5.0e+005
5.1e+005 - 1.0e+006
1.1e+006 - 1.0e+007
1.1e+007 - 5.0e+007
5.1e+007 - 1.0e+008
1.1e+008 - 5.0e+008
5.1e+008 - 1.0e+009
1.1e+009 - 5.0e+009


ET
Legend
Pilot Points
ModelGrid
hcond.VALUE
1.4e+001
1.5e+001 - 1.4e+001
1.5e+001 - 5.0e+001
5.1e+001 - 1.0e+002
1.1e+002 - 5.0e+002
5.1e+002 - 1.0e+003
1.1e+003 - 5.0e+003
5.1e+003 - 1.0e+004
1.1e+004 - 5.0e+004
5.1e+004 - 1.0e+005
1.1e+005 - 5.0e+005
5.1e+005 - 1.0e+006
1.1e+006 - 1.0e+007
1.1e+007 - 5.0e+007
5.1e+007 - 1.0e+008
1.1e+008 - 5.0e+008
5.1e+008 - 1.0e+009
1.1e+009 - 5.0e+009


NIR
Legend
pilot points
ModelGrid
Sy
0.000 - 0.010
0.011 - 0.050
0.051 - 0.100
0.101 - 0.150
0.151 - 0.380
Trib
Legend
pilot points
ModelGrid
Sy
0.000 - 0.010
0.011 - 0.050
0.051 - 0.100
0.101 - 0.150
0.151 - 0.380
ET
Legend
Pilot Points
ModelGrid
sy.VALUE
0.000 - 0.010
0.011 - 0.050
0.051 - 0.100
0.101 - 0.150
0.151 - 0.380


NIR
Legend
ModelGrid
River Cell COND
1
18548.38
123150.5
158564.9
1092776
1701470


Trib
Legend
ModelGrid
Riverbed Cond
1
47392
130545.2
132062.7
801837.8
1032763


ET
Legend
ModelGrid
upsnk.COND
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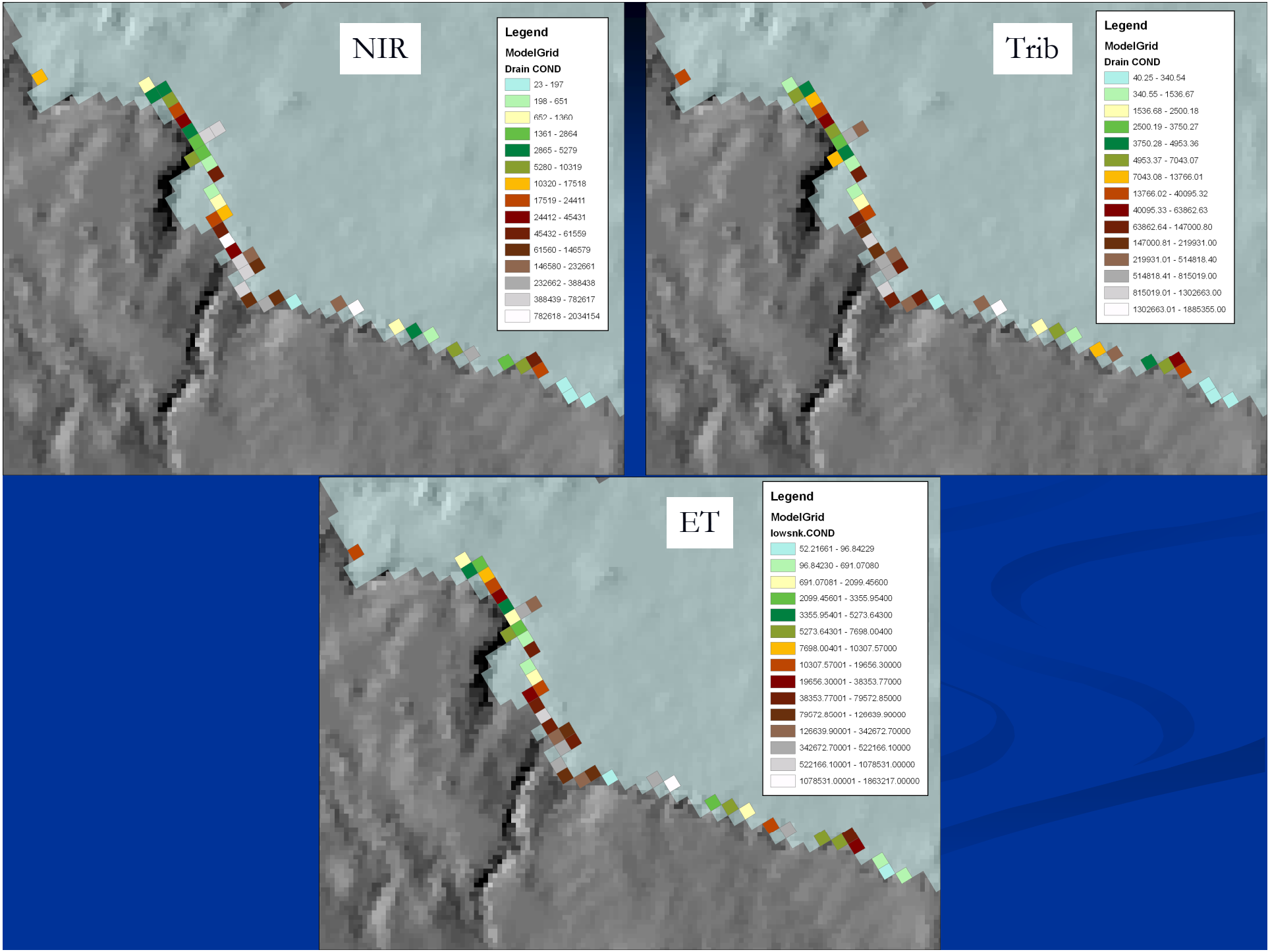
32979.06
108658.1
141243.1
659511.6
974539.3


NIR
Legend
ModelGrid
Drain COND
23 - 197
198 - 651
652 - 1360
1361 - 2864
2865 - 5279
5280 - 10319
10320 - 17518
17519 - 24411
24412 - 45431
45432 - 61559
61560 - 146579
146580 - 232661
232662 - 388438
388439 - 782617
782618 - 2034154
Trib
Legend
ModelGrid
Drain COND
40.25 - 340.54
340.55 - 1536.67
1536.68 - 2500.18
2500.19 - 3750.27
3750.28 - 4953.36
4953.37 - 7043.07
7043.08 - 13766.01
13766.02 - 40095.32
40095.33 - 63862.63
63862.64 - 147000.80
147000.81 - 219931.00
219931.01 - 514818.40
514818.41 - 815019.00
815019.01 - 1302663.00
1302663.01 - 1885355.00
ET
Legend
ModelGrid
lowsnk.COND
52.21661 - 96.84229
96.84230 - 691.07080
691.07081 - 2099.45600
2099.45601 - 3355.95400
3355.95401 - 5273.64300
5273.64301 - 7698.00400
7698.00401 - 10307.57000
10307.57001 - 19656.30000
19656.30001 - 38353.77000
38353.77001 - 79572.85000
79572.85001 - 126639.90000
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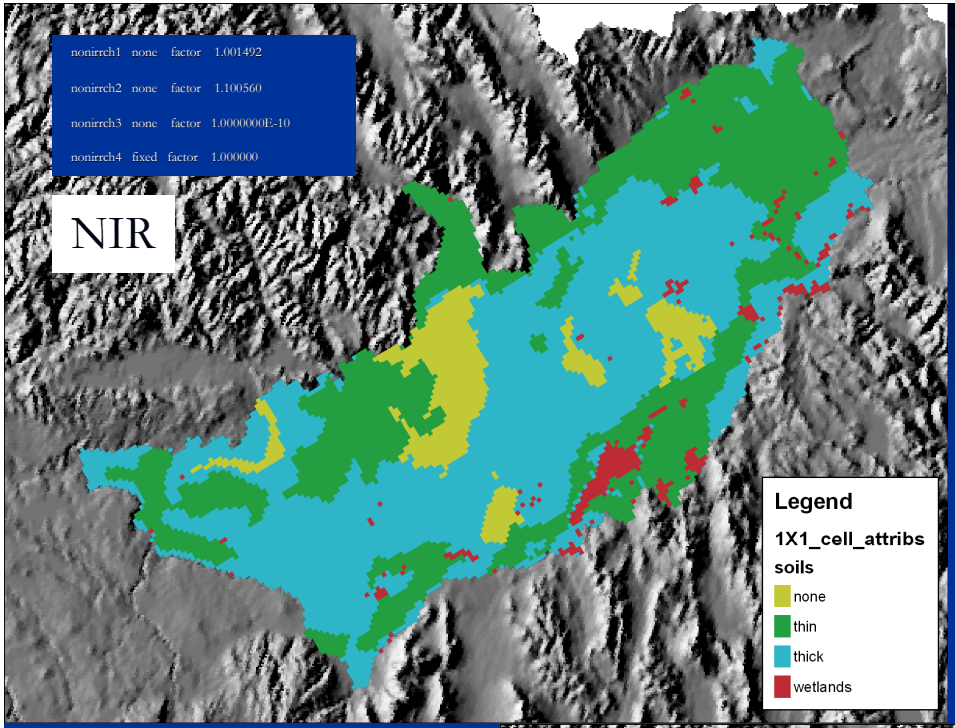
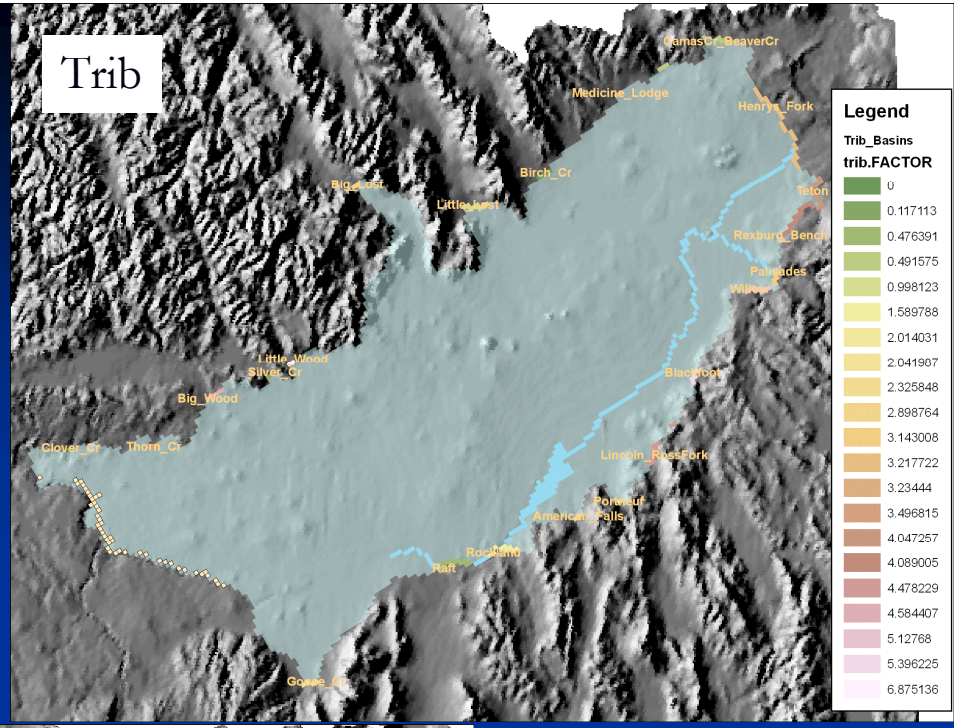
342672.70001 - 522166.10000
522166.10001 - 1078531.00000
1078531.00001 - 1863217.00000


nonirrch1 none factor 1.001492
nonirrch2 none factor 1.100560
nonirrch3 none factor 1.0000000E-10
nonirrch4 fixed factor 1.000000
NIR
Legend
1X1_cell_attribs
soils
none
thin
thick
wetlands


Trib
CamasCr_BeaverCr
Medicine_Lodge
Henrys_Fork
Birch_Cr
Teton
Rexburg_Bench
Palisades
Willow
Little_Wood
Silver_Cr
Big_Wood
Blackfoot
Clover_Cr
Thorn_Cr
Lincoln_RossFork
Portneuf
American_Falls
Rockland
Raft
Goose_Cr
Legend
Trib_Basins
trib.FACTOR
0
0.117113
0.476391
0.491575
0.998123
1.589788
2.014031
2.041907
2.325848
2.898764
3.143008
3.217722
3.23444
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4.047257
4.089005
4.478229
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5.12768
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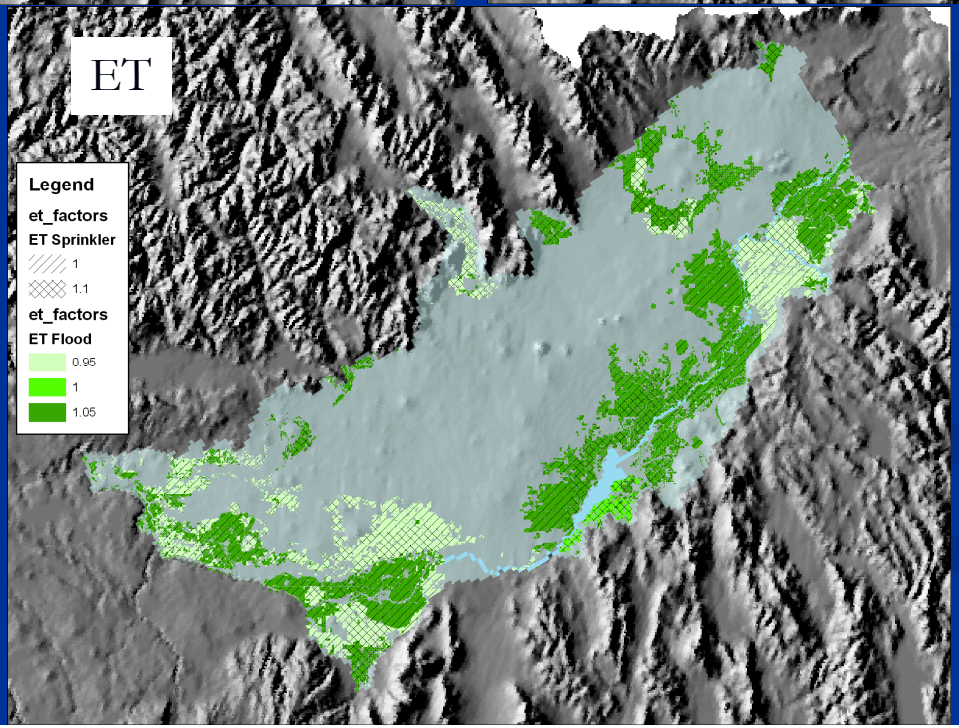
6.875136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Legend
et_factors
ET Sprinkler
1
1.1
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ET Flood
0.95
1
1.05

Observation Group	Standard Error Non-Irrigated	Standard Error Trib Underflow	Standard Error ET Factor
All	6.531	6.445	9.817
Steady State head	17.97	17.4	20.12
Reach Gain	43.71	33.31	54.13
Seasonal	1.887	1.869	2.015
Mass Measurement	5.228	4.966	5.111
Trend	5.865	5.73	5.934
Ashton - Rexburg	5.779	5.817	6.461
Heise Shelley	10.38	10.15	10.44
Shelley nr Blackfoot	5.163	5.66	5.953
nr Blackfoot Neeley	4.876	4.903	4.891
Neeley Minidoka	8.433	8.686	8.793
Devils Washbowl	0.4403	1.744	0.8258
Devils Corral	6.286	6.579	6.693
Blue Lakes	7.116	7.197	7.128
Crystal Spgs	16.62	18.36	19.09
Clear Lakes	2.857	2.892	2.933
Briggs	2.593	2.693	2.648
Box Canyon	2.11	2.161	2.158
Thousand Springs	2.855	2.928	2.977
Malad	5.274	5.289	5.263

End