Figure 1.1
SRV Active Model Area with Phoenix AMA

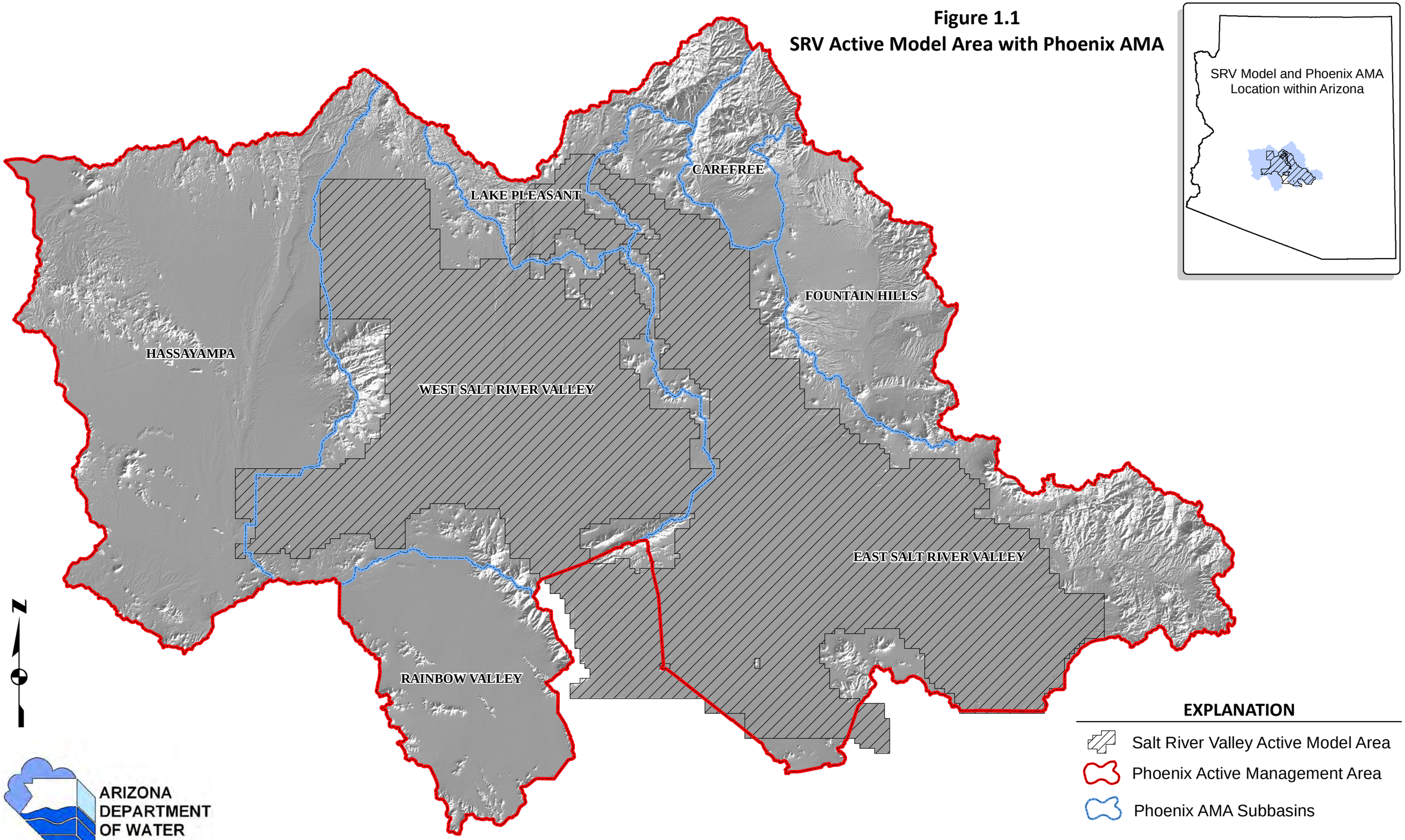

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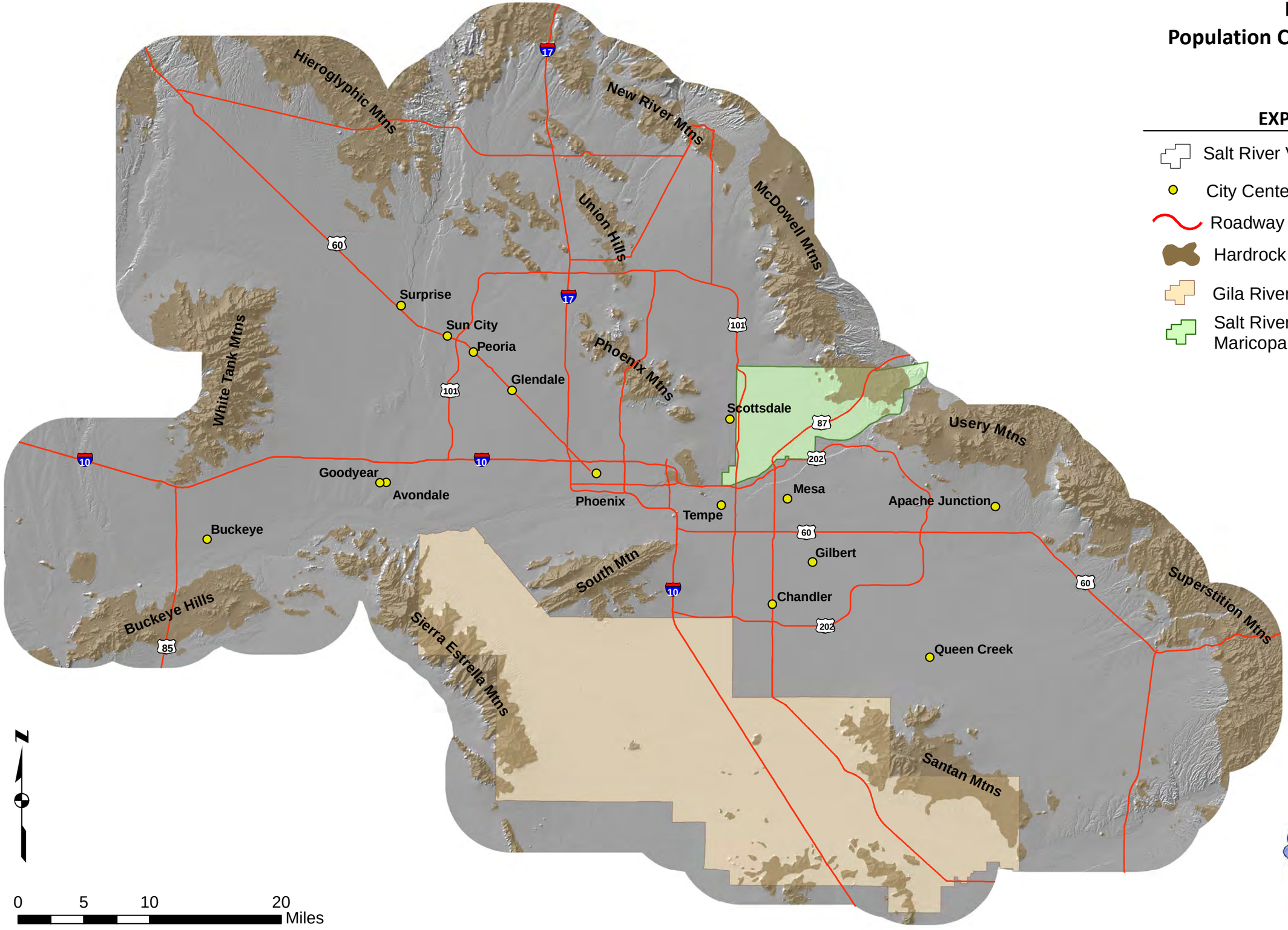
Figure 1.2
Population Centers within the SRV



EXPLANATION

- Salt River Valley Active Model Area
- City Center
- Roadway
- Hardrock
- Gila River Indian Community
- Salt River Pima - Maricopa Indian Community

N

0 5 10 20 Miles

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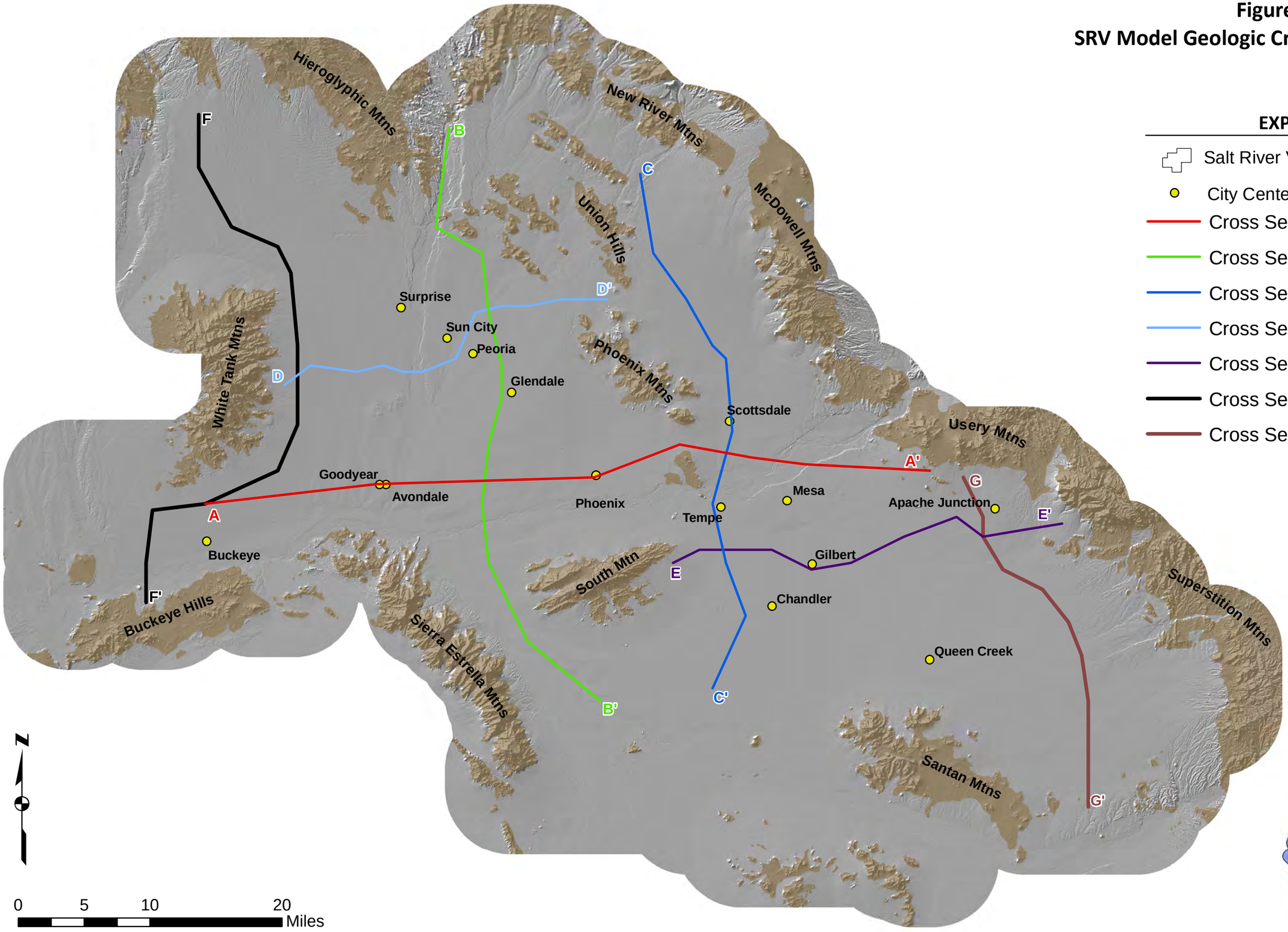
Figure 2.1
SRV Model Geologic Cross Section Locations



EXPLANATION

- Salt River Valley Active Model Area
- City Center
- Cross Section A - A'
- Cross Section B - B'
- Cross Section C - C'
- Cross Section D - D'
- Cross Section E - E'
- Cross Section F - F'
- Cross Section G - G'

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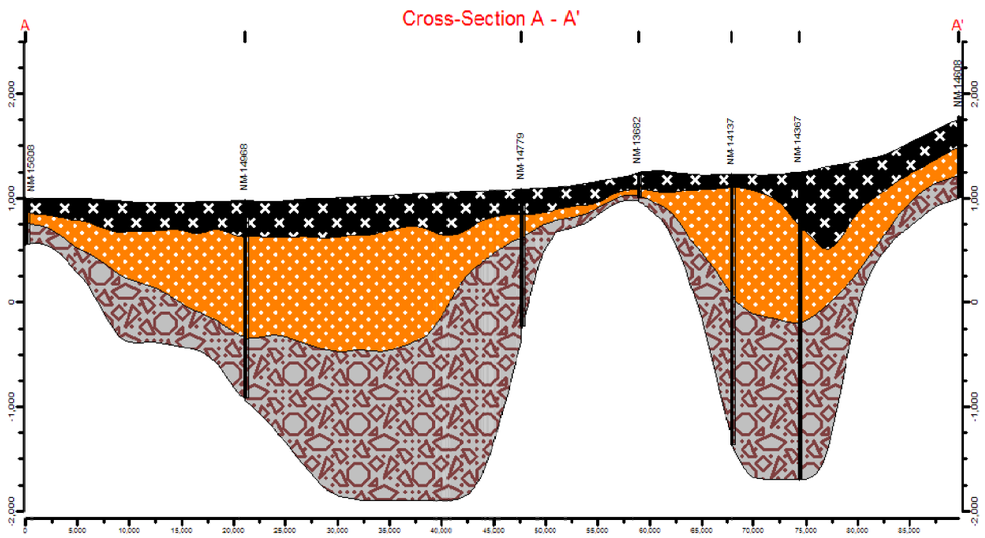
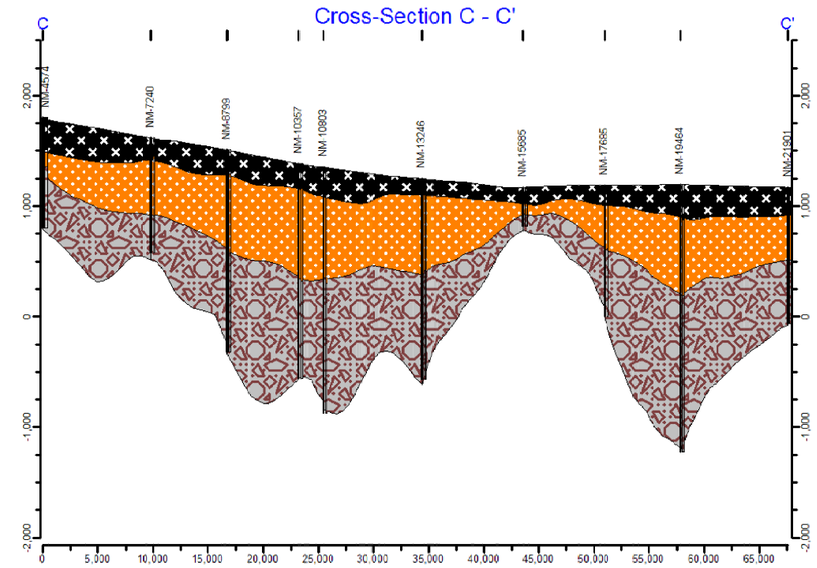
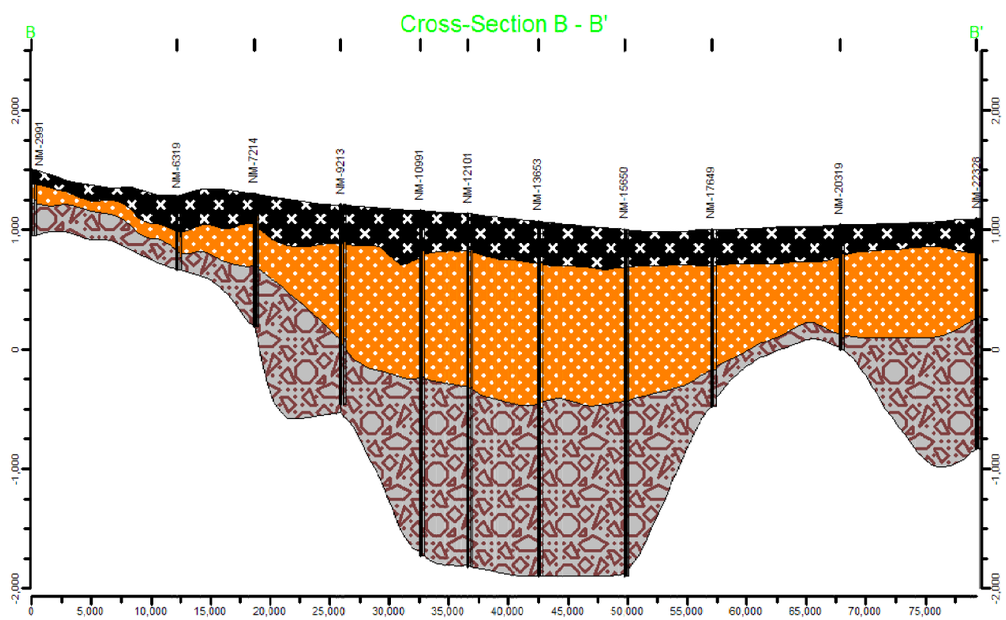
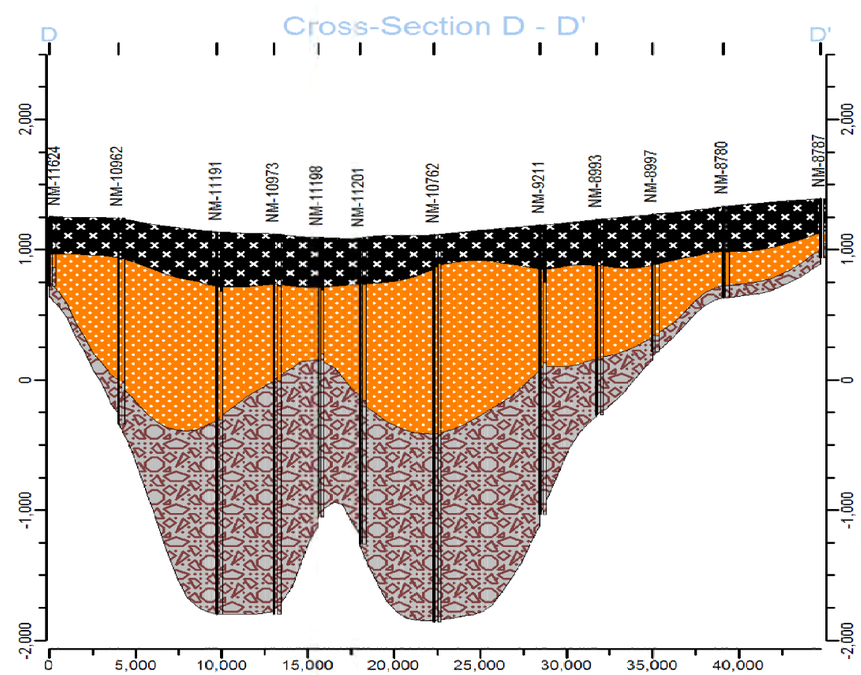
Figure 2.2
SRV Model Geologic Cross Sections (A - D)









EXPLANATION

UAU
MAU
LAU

Vertical Exaggeration 10 X

X-Axis = Easting (meters)

Y-Axis = Northing (feet A/BLS)

NM = Model Log Unique ID

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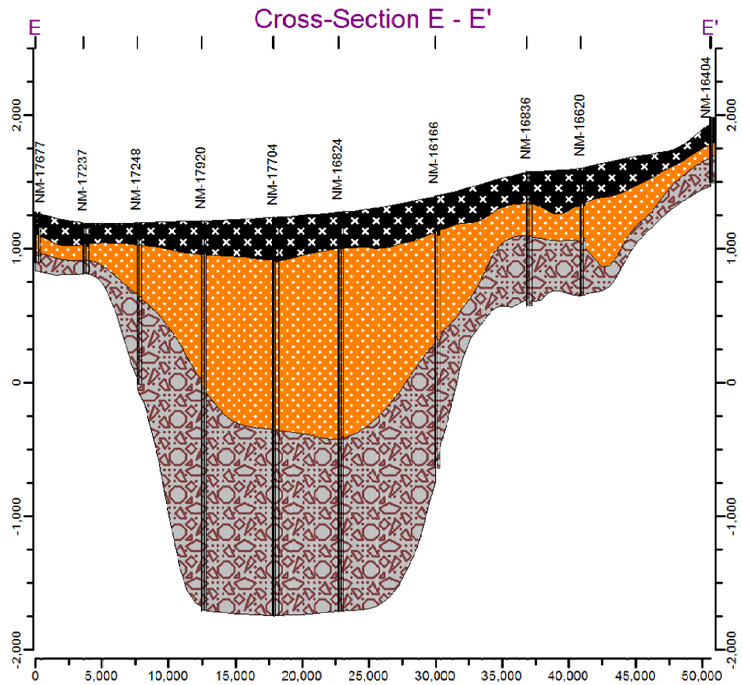
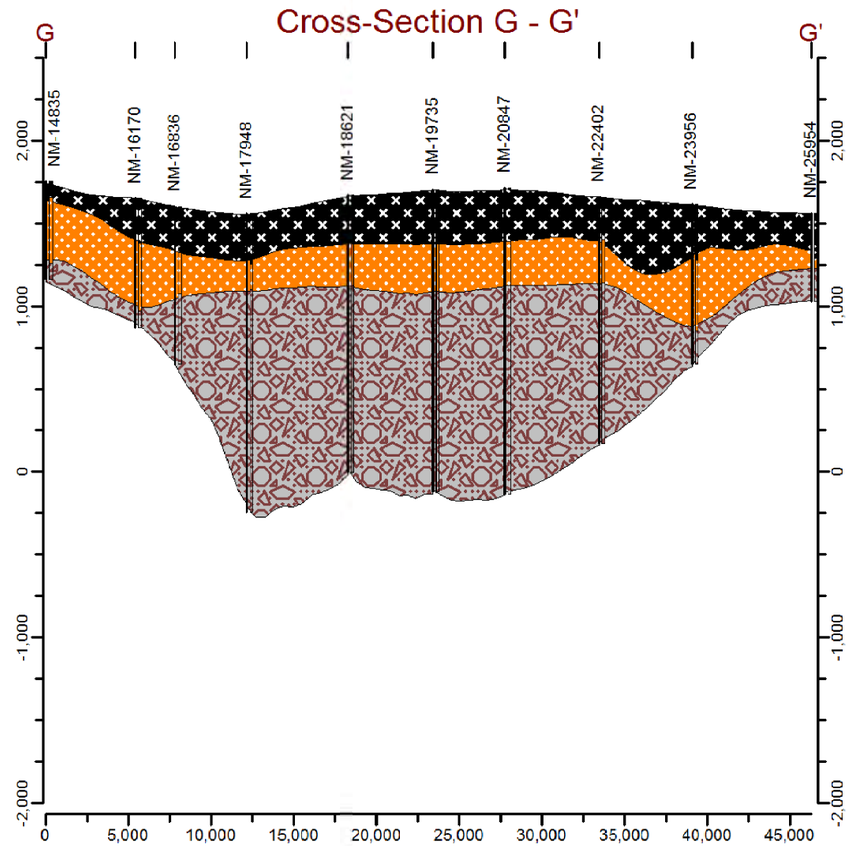
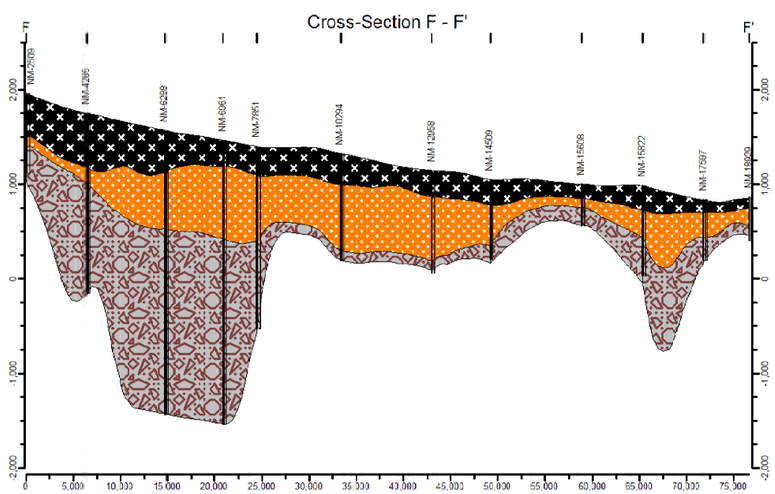
Figure 2.3
SRV Model Geologic Cross Sections (E - G)







EXPLANATION

UAU
MAU
LAU

Vertical Exaggeration 10 X
X-Axis = Easting (meters)
Y-Axis = Northing (feet A/BLS)
NM = Model Log Unique ID

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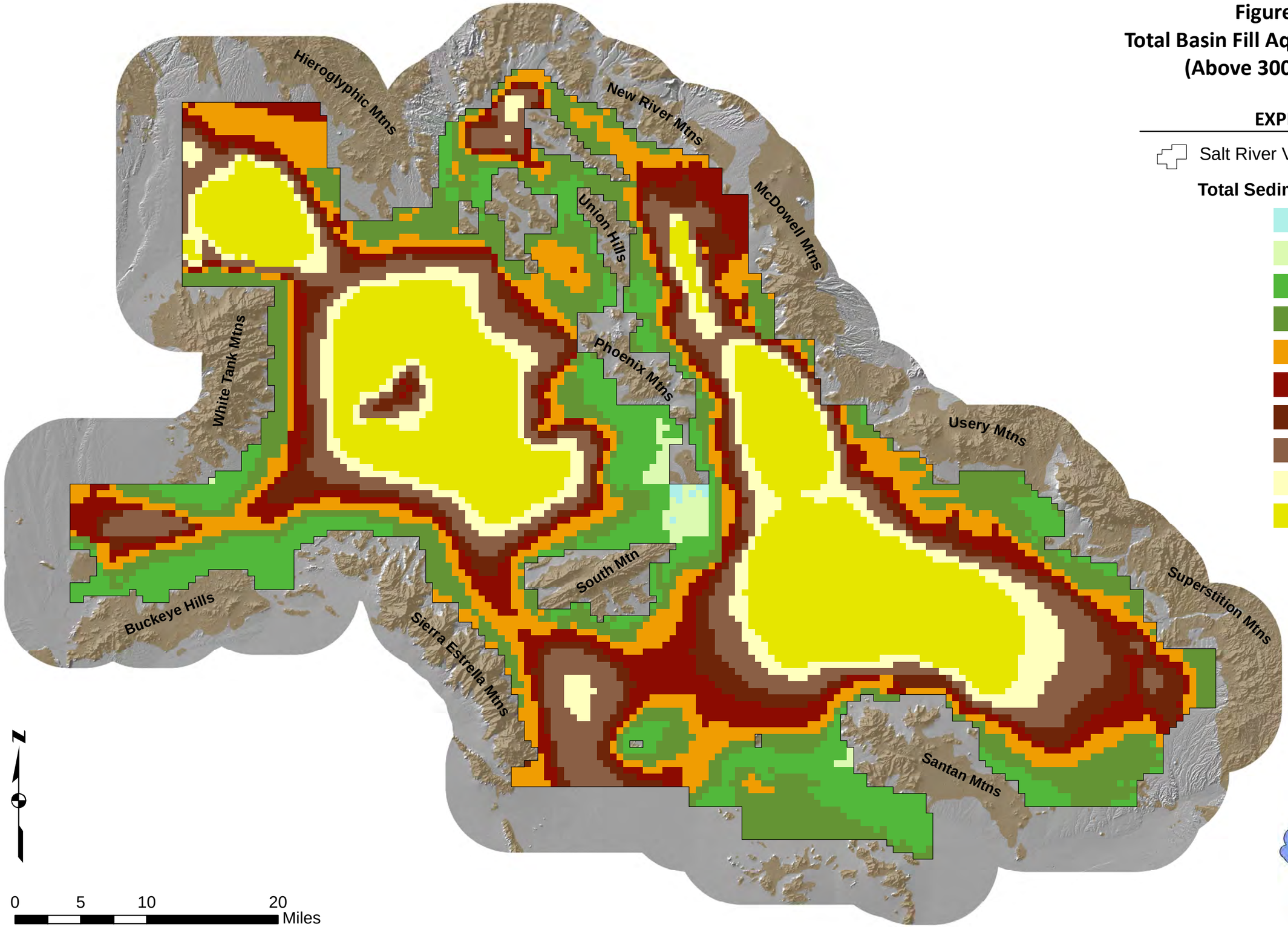
Figure 2.4
Total Basin Fill Aquifer Thickness
(Above 3000' Ft BLS)



EXPLANATION

Salt River Valley Active Model Area

Total Sedimentary Thickness (Feet)

- < 100
- 101 - 250
- 251 - 500
- 501 - 750
- 751 - 1000
- 1001 - 1250
- 1251 - 1500
- 1501 - 2000
- 2001 - 2500
- 2501 - 3000

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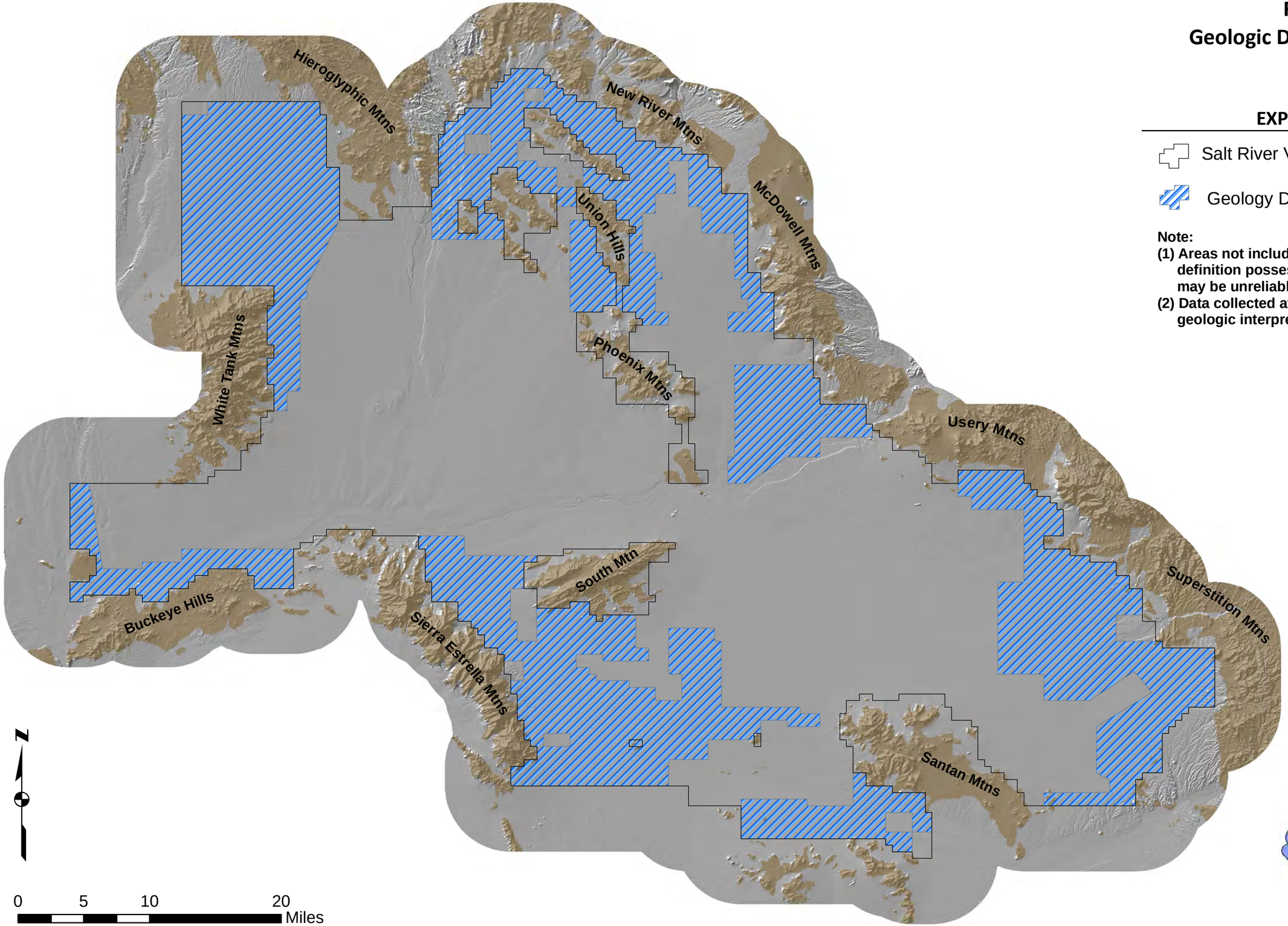
Figure 2.5
Geologic Data Deficient Areas



EXPLANATION

Salt River Valley Active Model Area

Geology Data Deficient Area[1, 2]

Note:
(1) Areas not included within the data deficient definition possessed data; however, some data may be unreliable.
(2) Data collected after 2005 not included in geologic interpretation

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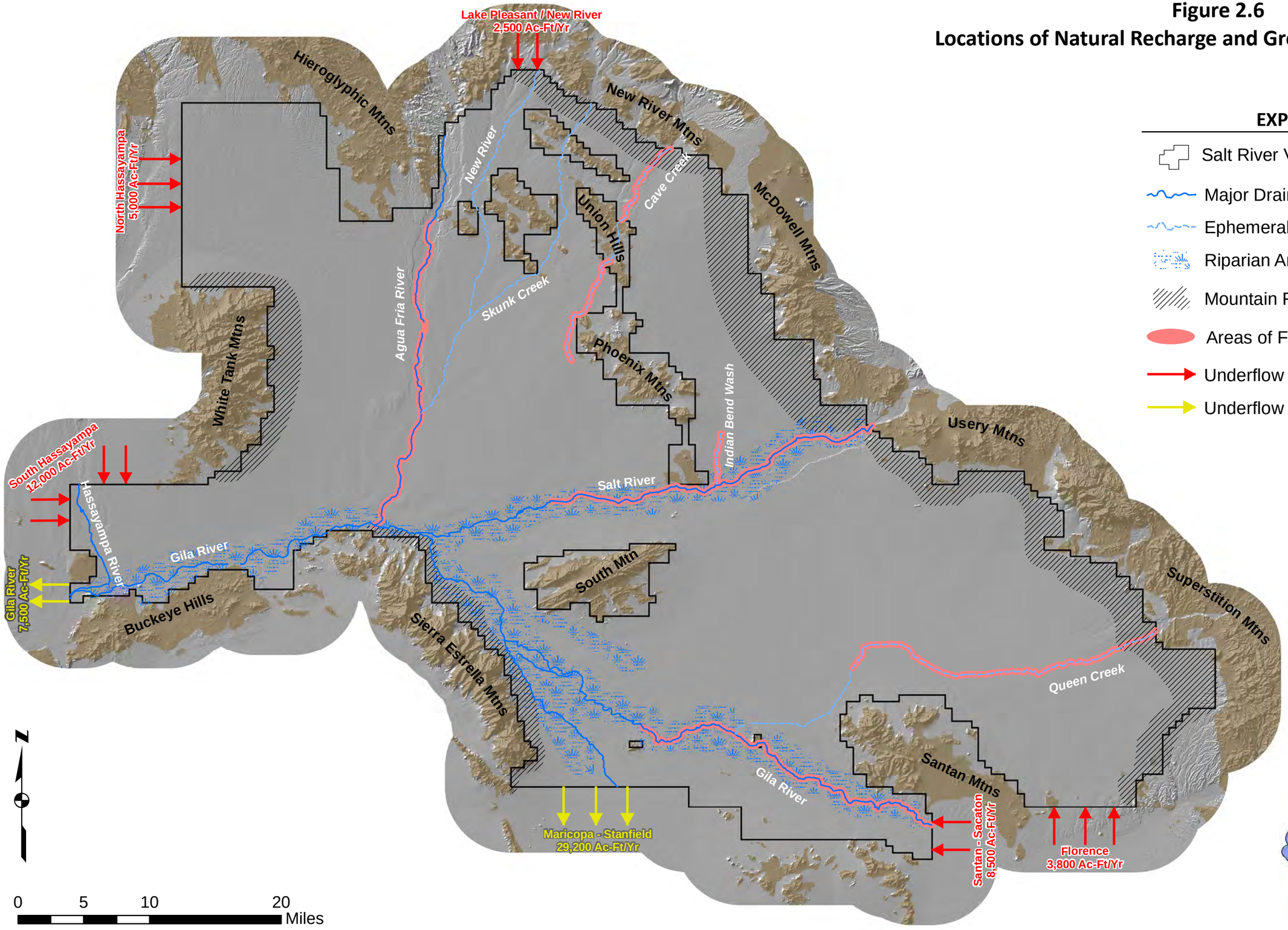
Figure 2.6
Locations of Natural Recharge and Groundwater Underflow



EXPLANATION

- Salt River Valley Active Model Area
- Major Drainage
- Ephemeral Stream Reach
- Riparian Area
- Mountain Front Recharge
- Areas of Flood Flow Recharge
- Underflow In
- Underflow Out

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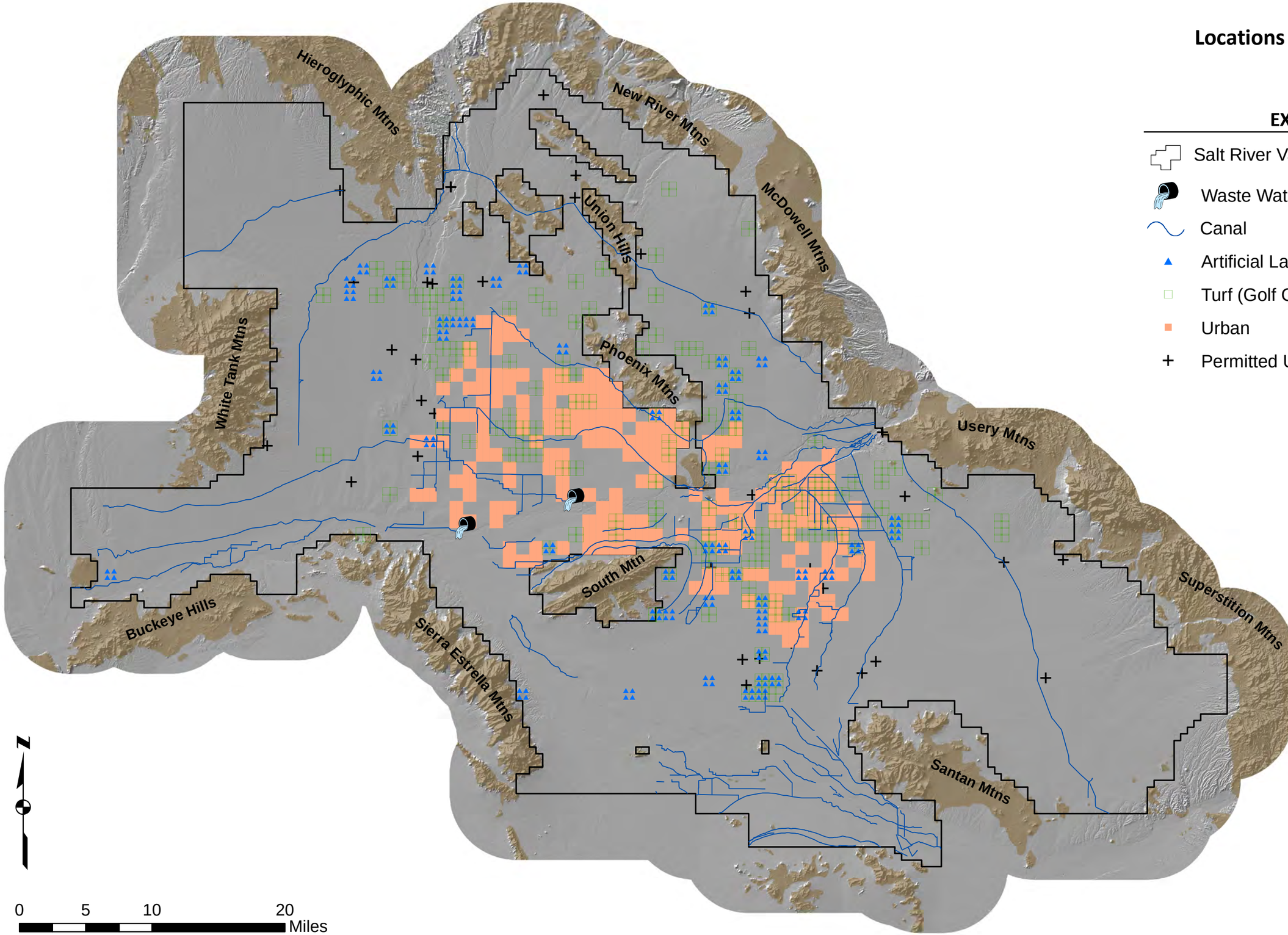
Figure 2.7
Locations of Incidental Recharge



EXPLANATION

- Salt River Valley Active Model Area
- Waste Water Treatment Plant
- Canal
- Artificial Lakes
- Turf (Golf Courses and Parks)
- Urban
- Permitted Underground Storage Facility

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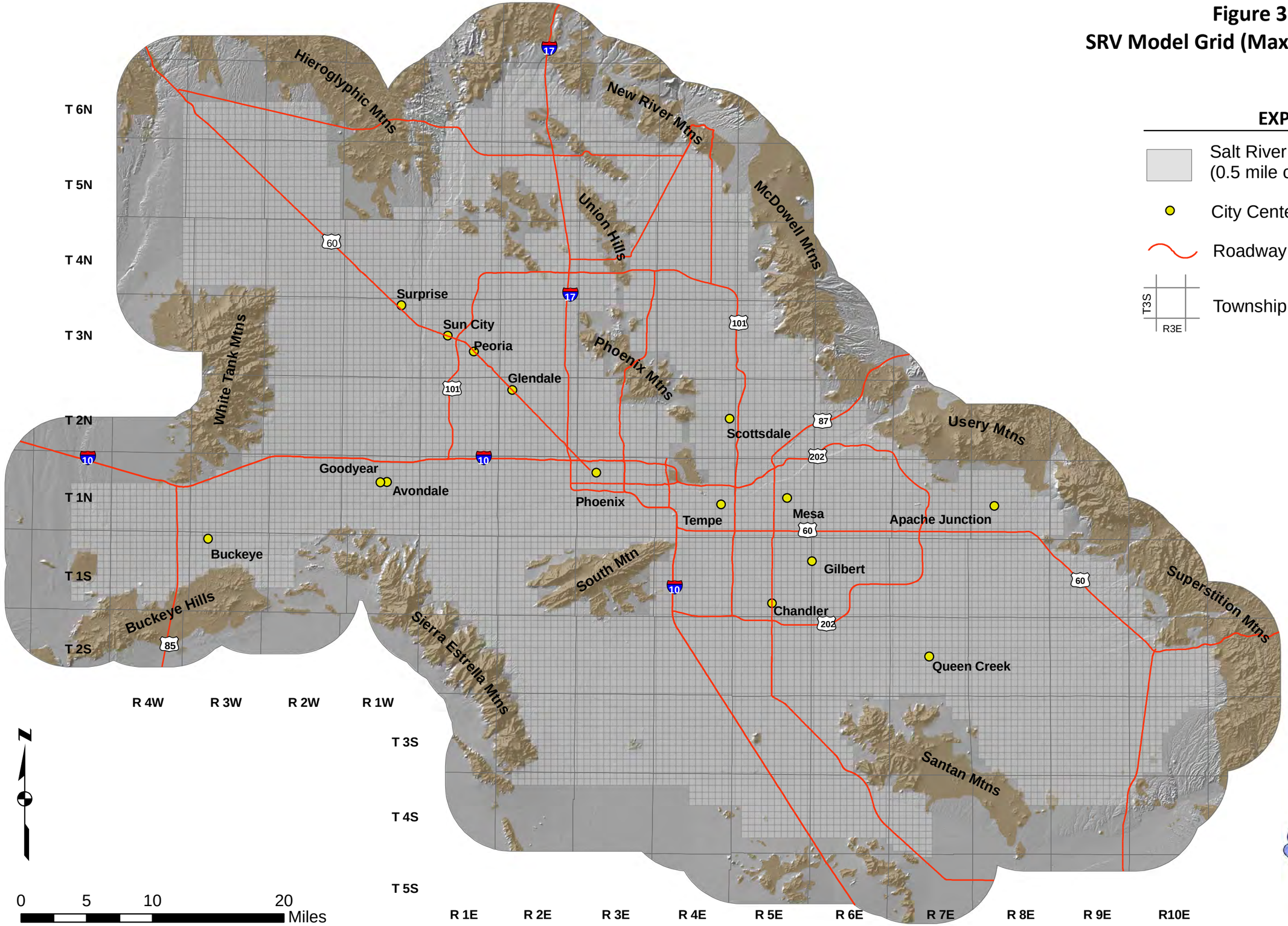
Figure 3.1
SRV Model Grid (Max. Active Extent)



EXPLANATION

Salt River Valley Active Model Cell (0.5 mile cell size)

City Center

Roadway

T3S R3E Township and Range

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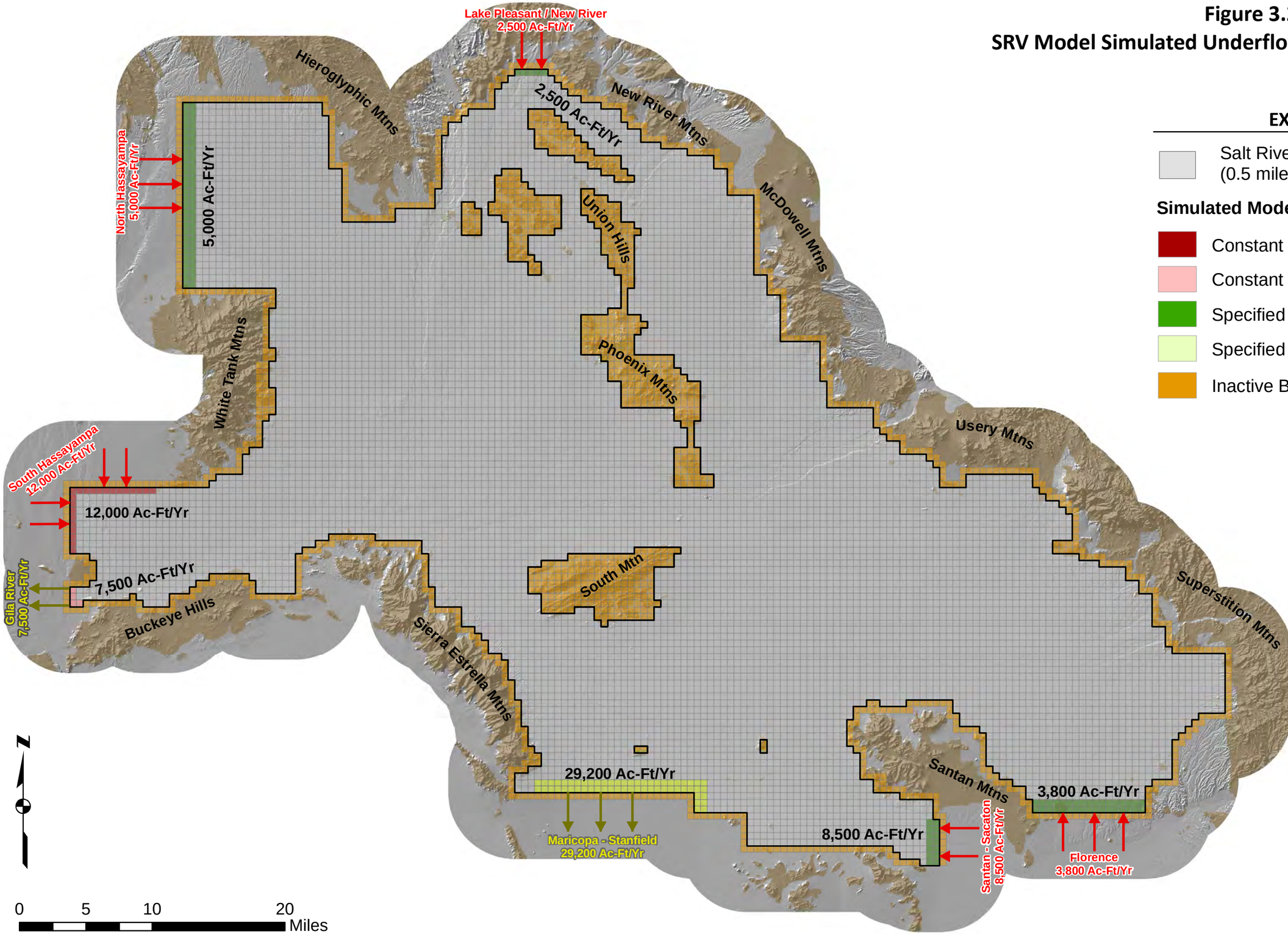
Figure 3.2
SRV Model Simulated Underflow Boundary Conditions



EXPLANATION

Salt River Valley Active Model Cell (0.5 mile cell size)

Simulated Model Boundary Conditions

- Constant Head - Inflow
- Constant Head - Outflow
- Specified Flux - Inflow
- Specified Flux - Outflow
- Inactive Boundary

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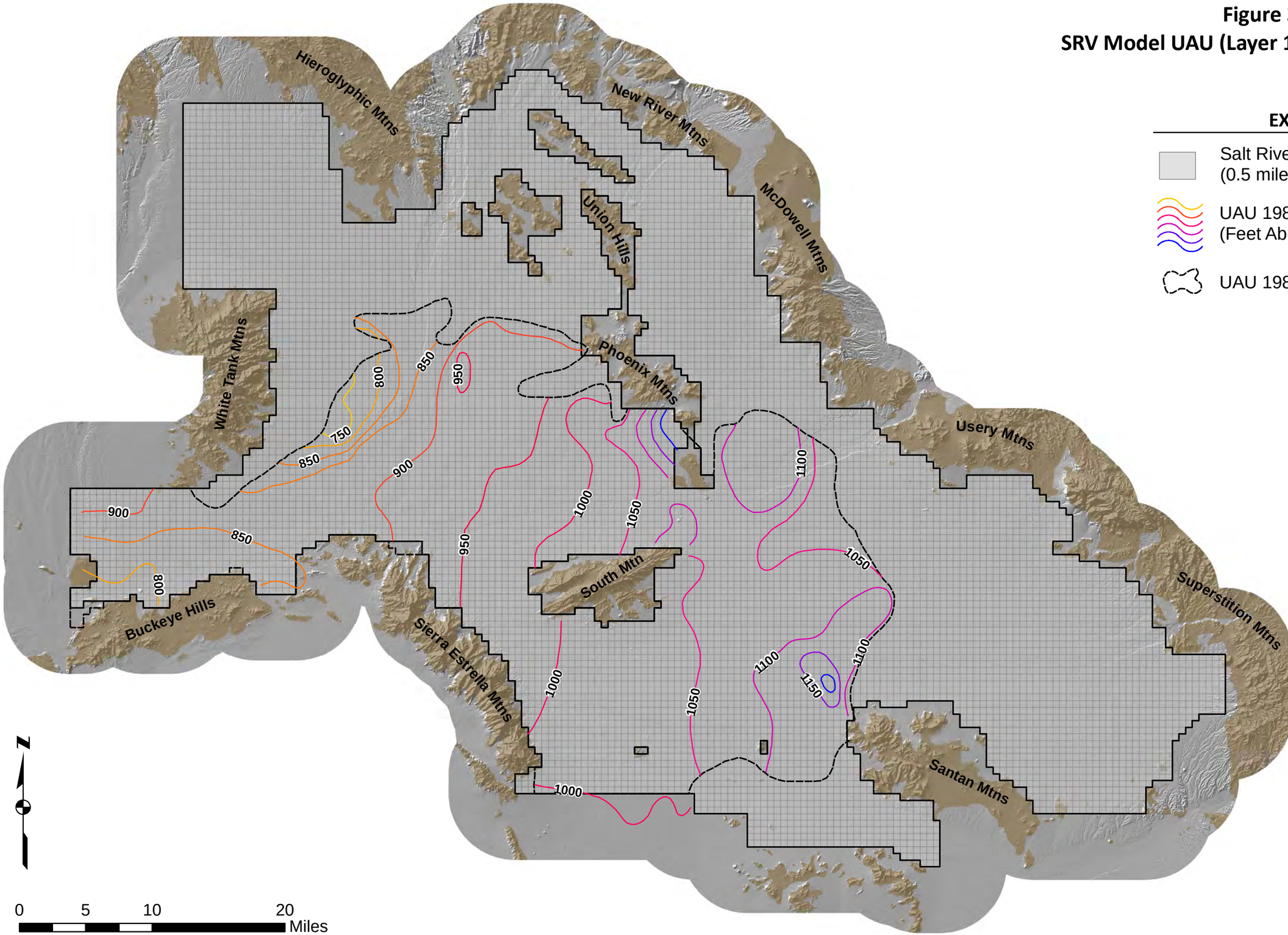
Figure 3.3
SRV Model UAU (Layer 1) 1983 Initial Heads



EXPLANATION

Salt River Valley Active Model Cell (0.5 mile cell size)

UAU 1983 Water Level Contour (Feet Above Mean Sea Level)

UAU 1983 Saturated Area

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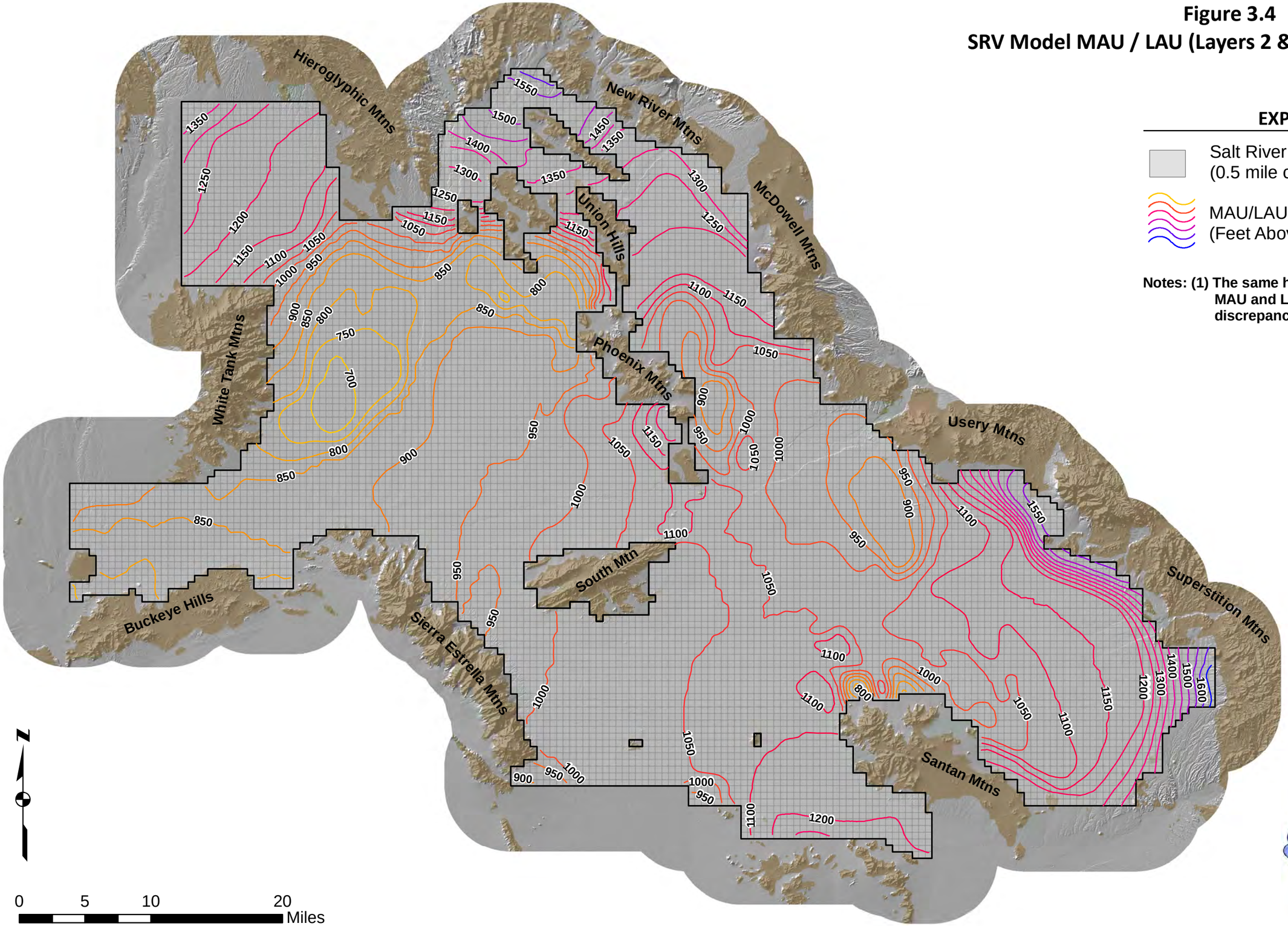
Figure 3.4
SRV Model MAU / LAU (Layers 2 & 3) 1983 Initial Heads



EXPLANATION

Salt River Valley Active Model Cell (0.5 mile cell size)

MAU/LAU 1983 Water Level Contour (Feet Above Mean Sea Level)

Notes: (1) The same head was used for both the MAU and LAU despite some localized discrepancies

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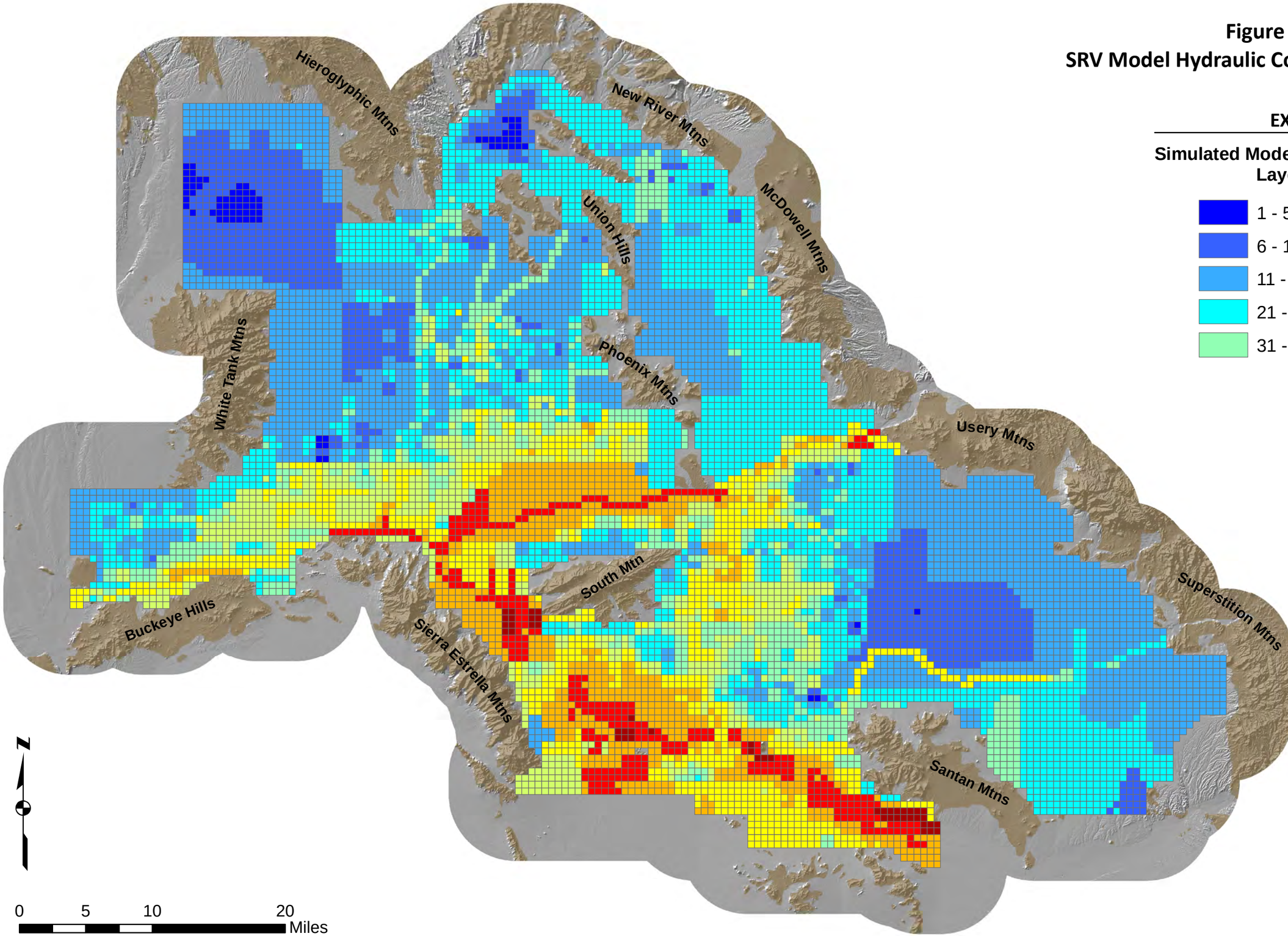
Figure 3.5
SRV Model Hydraulic Conductivity (Layer 1)



EXPLANATION

Simulated Model Hydraulic Conductivity Layer 1 (Ft / Day)

1 - 5	41 - 50
6 - 10	51 - 75
11 - 20	76 - 100
21 - 30	101 - 150
31 - 40	151 - 200

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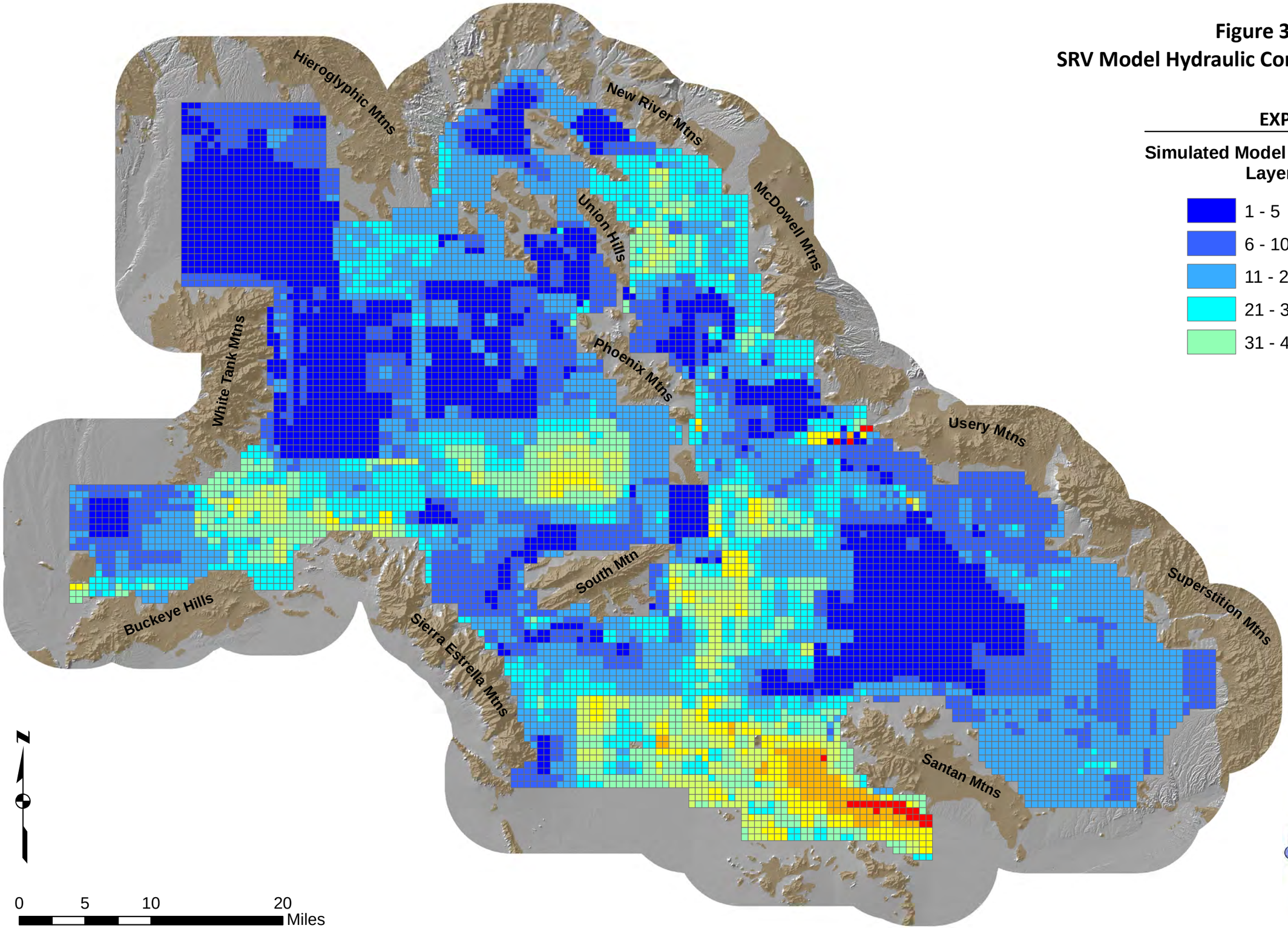
Figure 3.6
SRV Model Hydraulic Conductivity (Layer 2)



EXPLANATION

Simulated Model Hydraulic Conductivity Layer 2 (Ft / Day)

1 - 5	41 - 50
6 - 10	51 - 75
11 - 20	76 - 100
21 - 30	101 - 150
31 - 40	151 - 200

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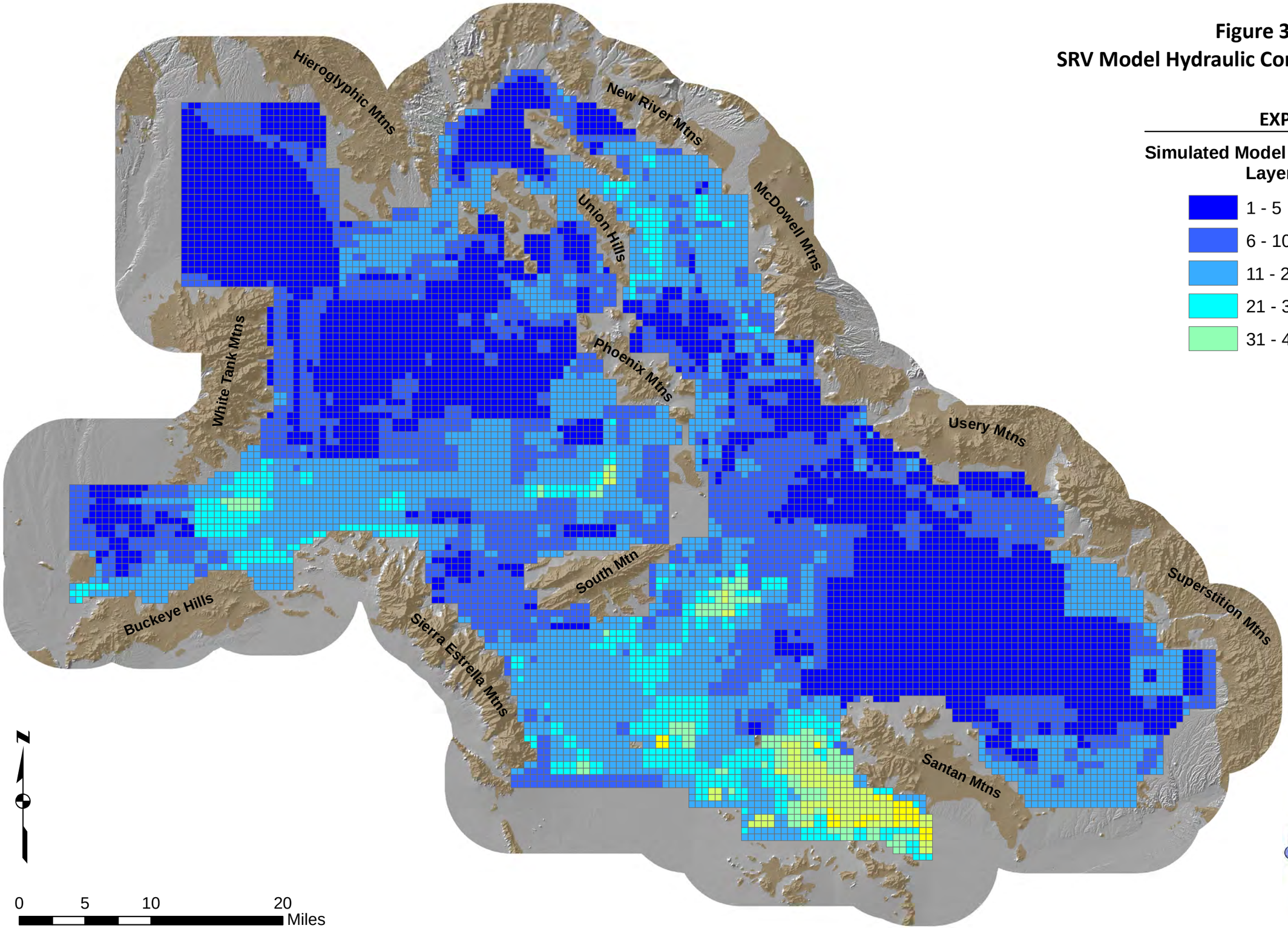
Figure 3.7
SRV Model Hydraulic Conductivity (Layer 3)



EXPLANATION

Simulated Model Hydraulic Conductivity Layer 3 (Ft / Day)

- 1 - 5
- 6 - 10
- 11 - 20
- 21 - 30
- 31 - 40
- 41 - 50
- 51 - 75
- 76 - 100

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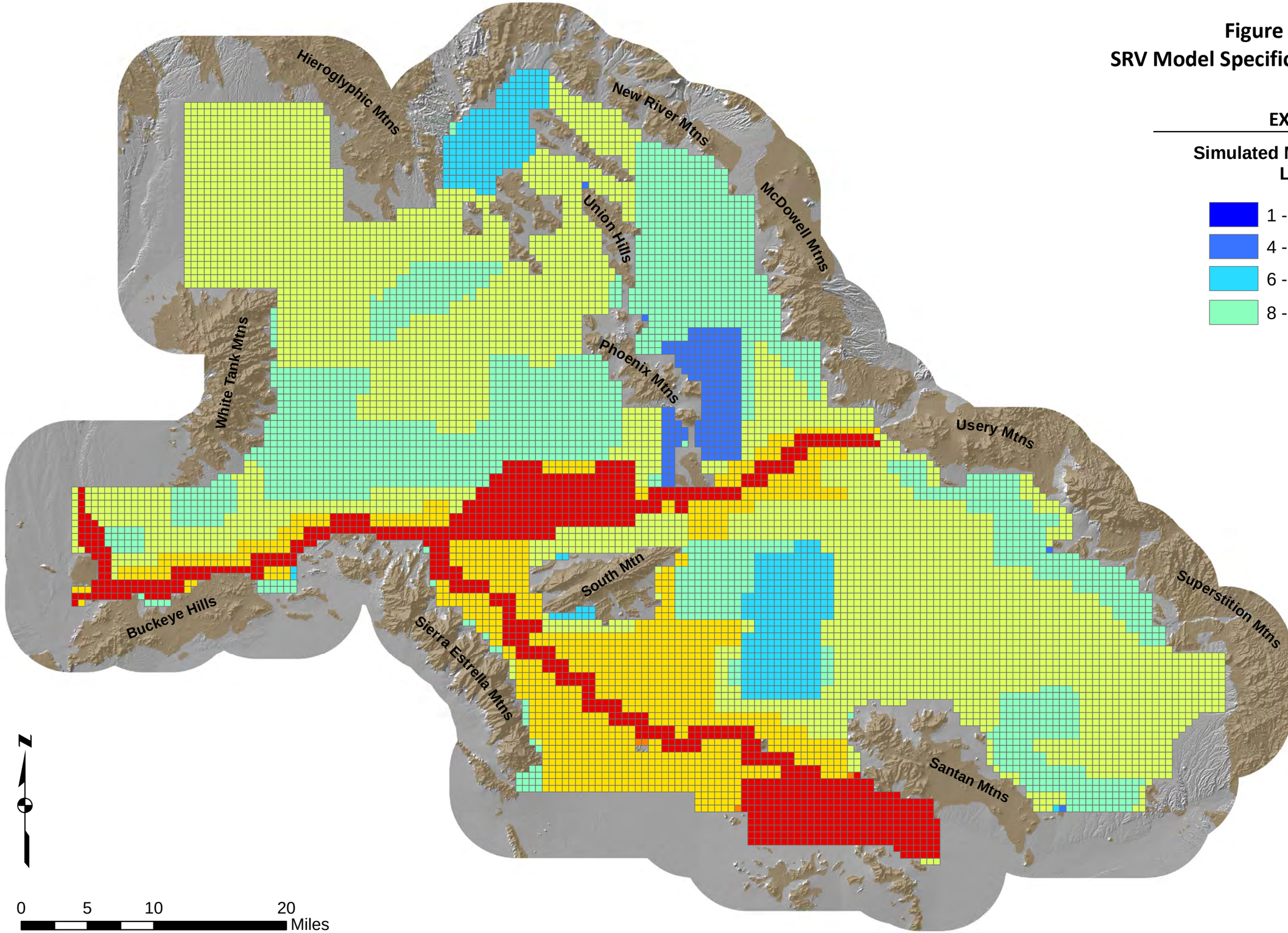
Figure 3.8
SRV Model Specific Yield (Layer 1)



EXPLANATION

Simulated Model Specific Yield Layer 1 (%)

- 1 - 3
- 4 - 5
- 6 - 7
- 8 - 9
- 10 - 12
- 13 - 16
- 17 - 18
- 19 - 20

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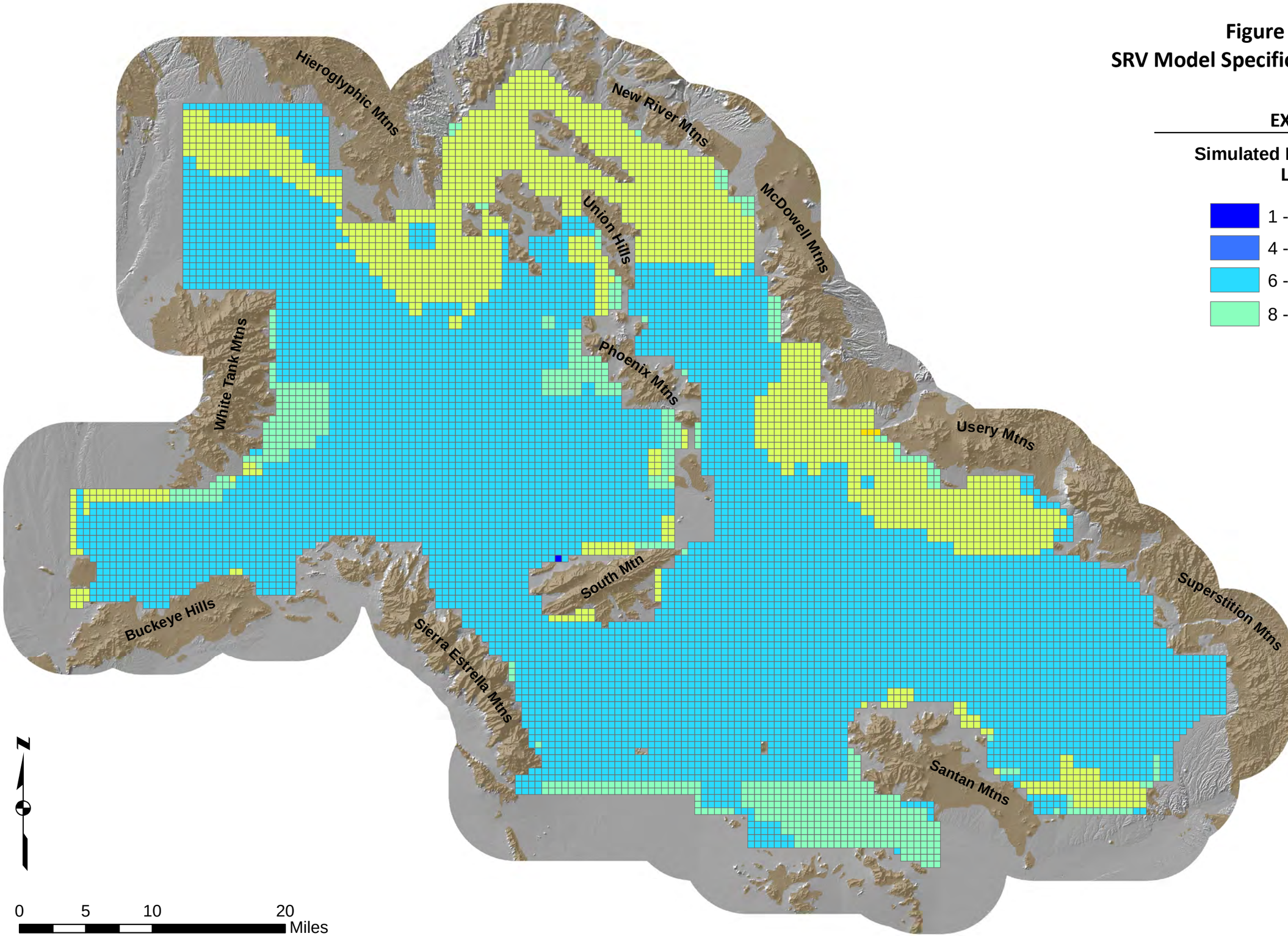
Figure 3.9
SRV Model Specific Yield (Layer 2)



EXPLANATION

Simulated Model Specific Yield Layer 2 (%)

- 1 - 3
- 4 - 5
- 6 - 7
- 8 - 9
- 10 - 12
- 13 - 16
- 17 - 18
- 19 - 20

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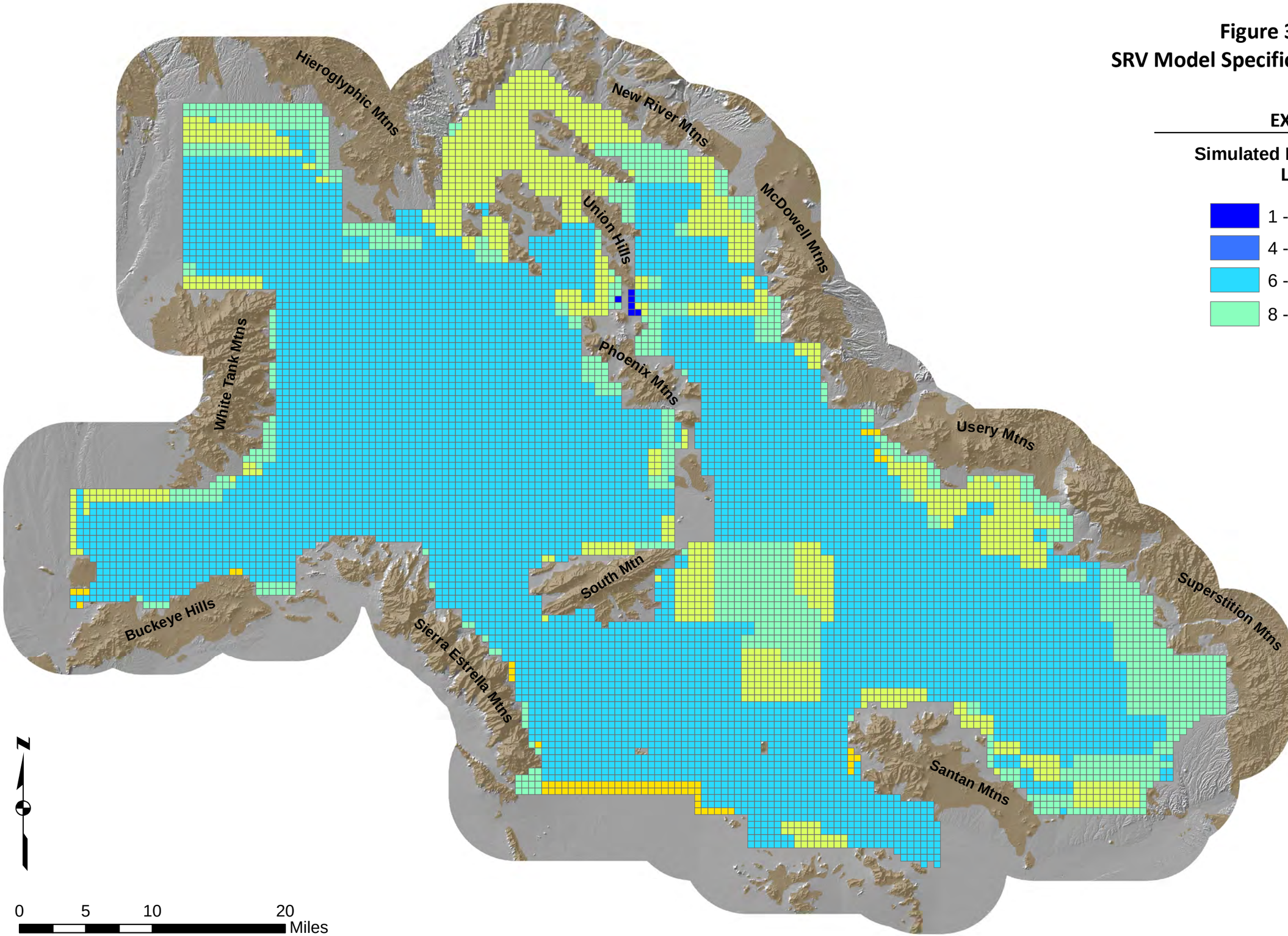
Figure 3.10
SRV Model Specific Yield (Layer 3)



EXPLANATION

Simulated Model Specific Yield Layer 3 (%)

- 1 - 3
- 4 - 5
- 6 - 7
- 8 - 9
- 10 - 12
- 13 - 16
- 17 - 18
- 19 - 20

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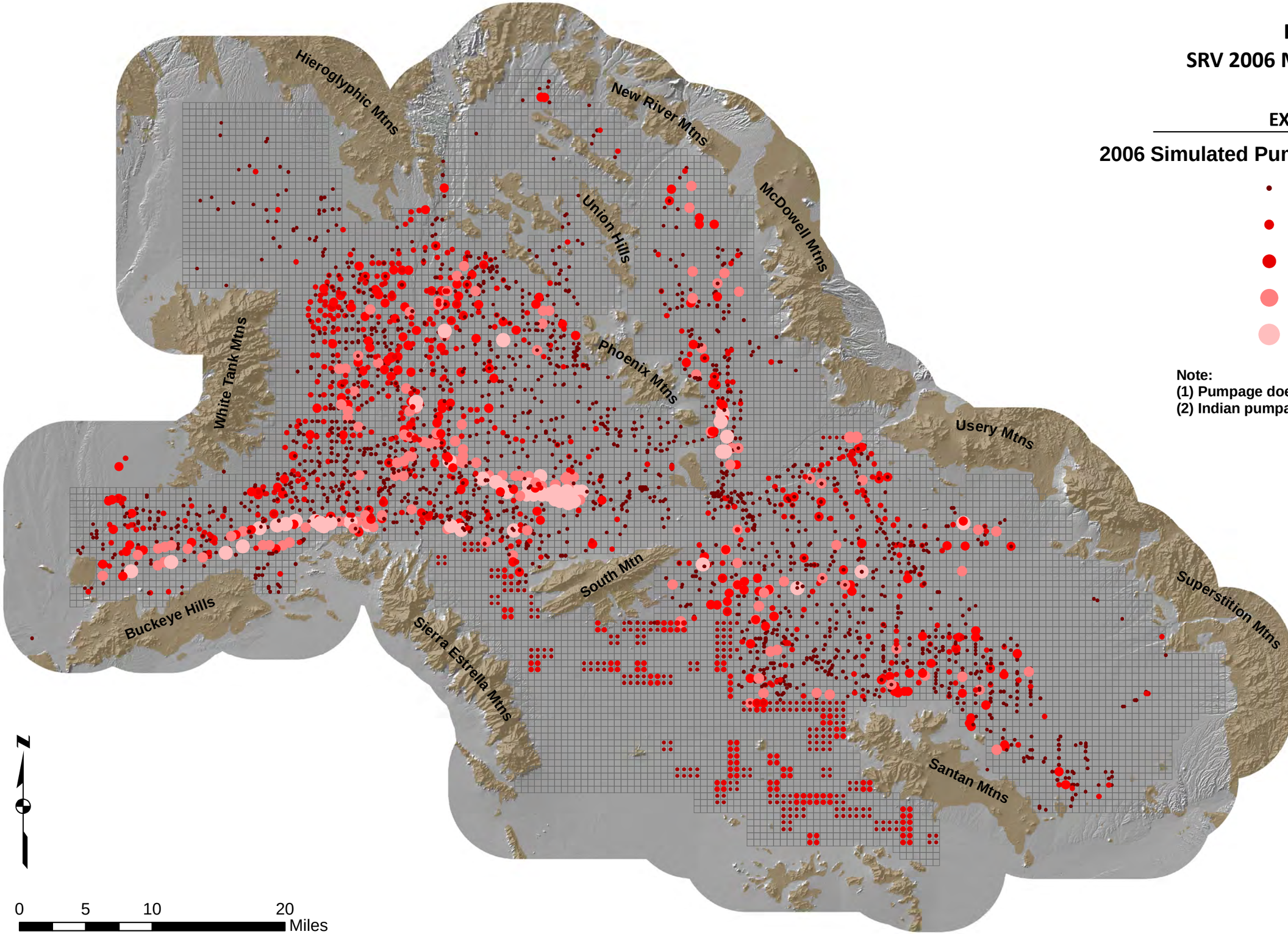
Figure 3.11
SRV 2006 Model Pumpage Rate



EXPLANATION

2006 Simulated Pumping Rate (Ac-Ft/Year)

- 1 - 100
- 101 - 500
- 501 - 1,000
- 1,001 - 2,000
- 2,001 - 5,500

Note:
(1) Pumpage does not include non-exempt wells
(2) Indian pumpage is based on estimates only

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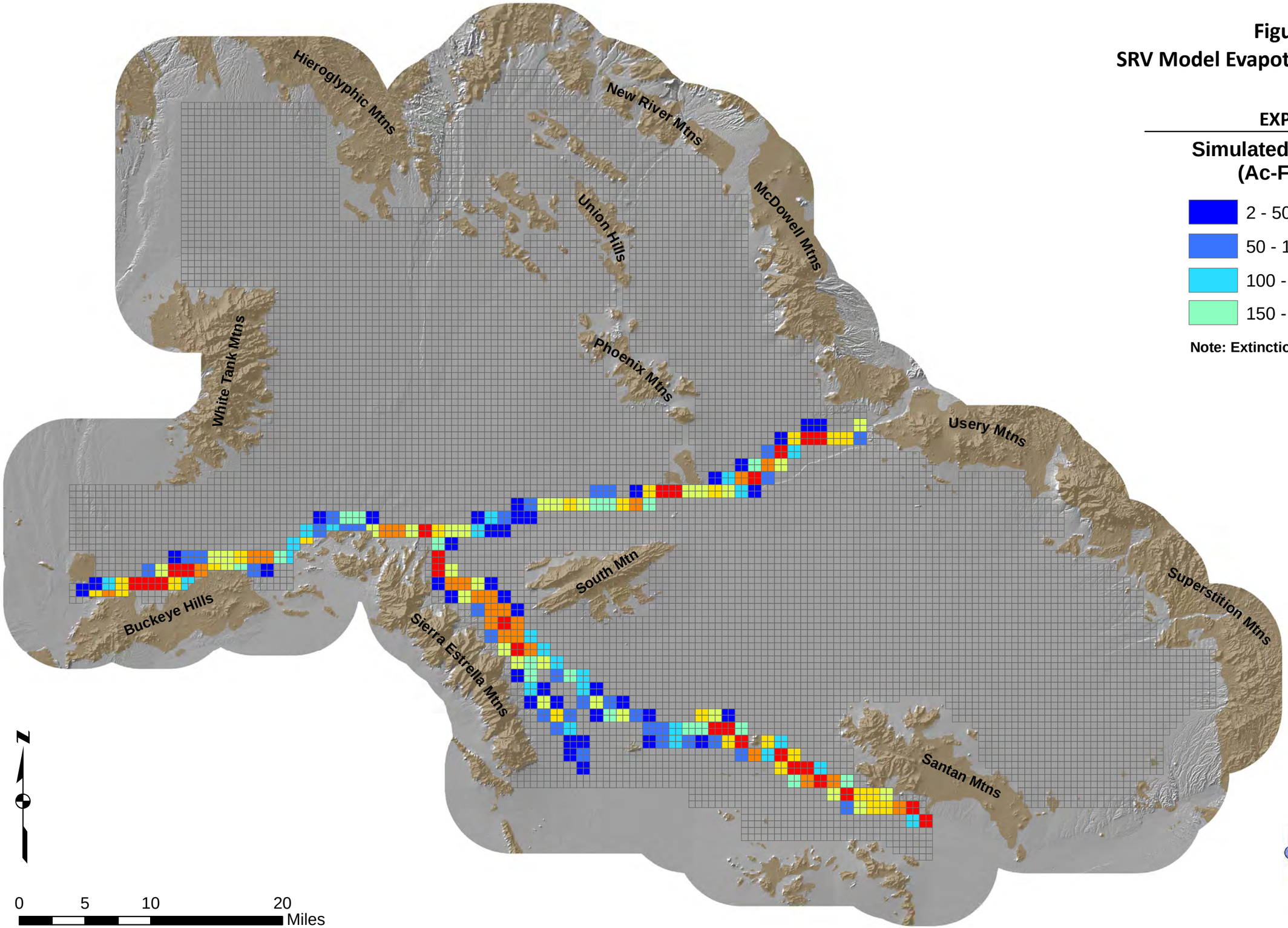
Figure 3.12
SRV Model Evapotranspiration (ET) Rate



EXPLANATION

Simulated Model ET Rate (Ac-Ft/Year/Cell)

- 2 - 50
- 50 - 100
- 100 - 150
- 150 - 200
- 200 - 300
- 300 - 400
- 400 - 500
- 500 - 800

Note: Extinction Depth = 30ft

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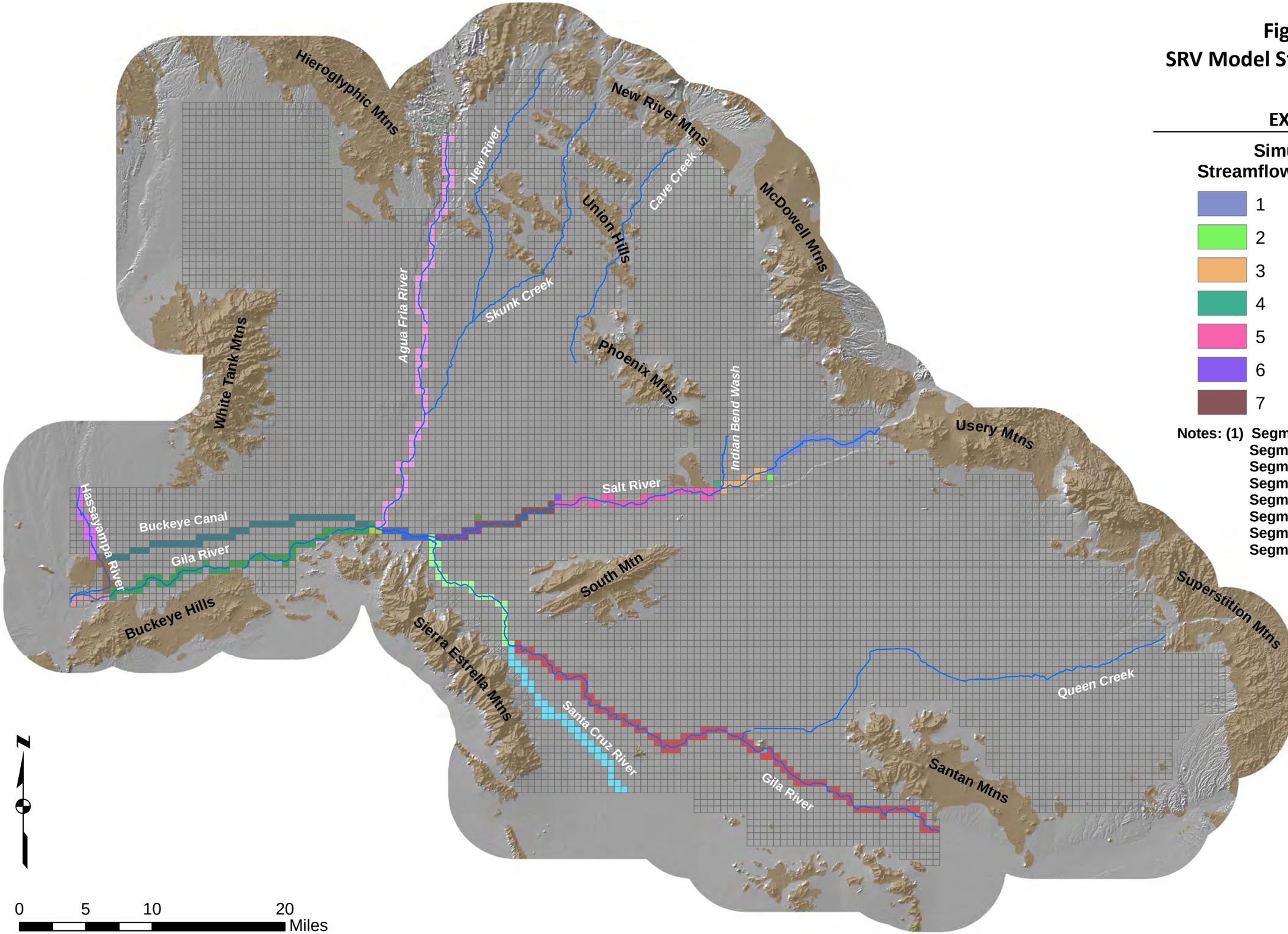
Figure 3.13
SRV Model Streamflow Routing



EXPLANATION

Simulated Model Streamflow Routing Segments

1	8	15
2	9	16
3	10	17
4	11	18
5	12	19
6	13	20
7	14	

Notes: (1) Segments 1-3, 5, 7, 9 = Salt River
Segment 4 = Indian Bend Wash
Segment 6 = 23rd Ave. WWTP
Segment 8 = 91st Ave. WWTP
Segments 10-13, 15, 17, 20 = Gila River
Segment 14 = Agua Fria River
Segment 16 = Buckeye Irrigation Canal
Segments 18-19 = Hassayampa River

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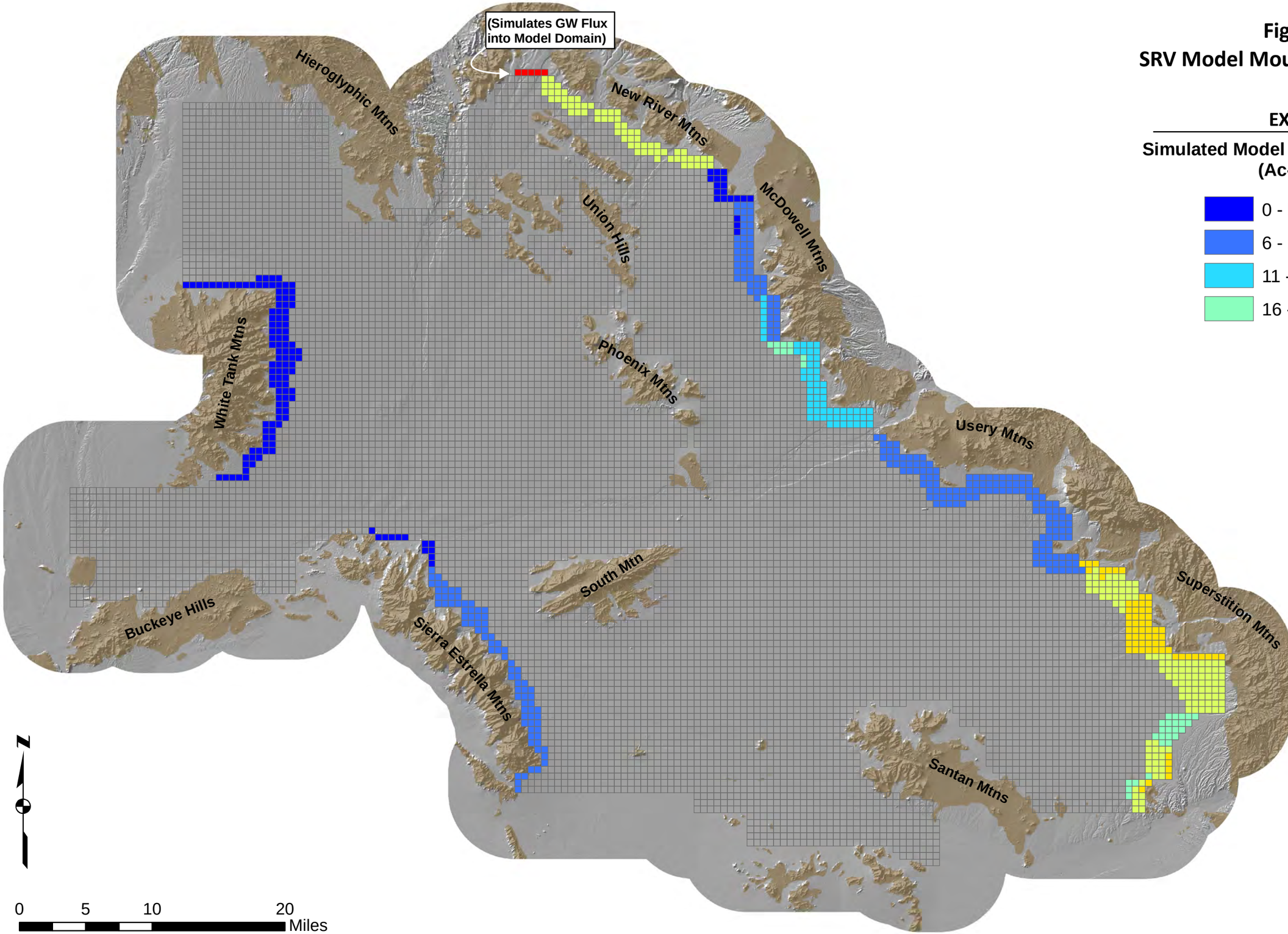
Figure 3.14
SRV Model Mountain Front Recharge



EXPLANATION

Simulated Model Mountain Front Recharge (Ac-Ft/Year/Cell)

- 0 - 5
- 6 - 10
- 11 - 15
- 16 - 20
- 21 - 50
- 51 - 100
- 101 - 150
- 151 - 600

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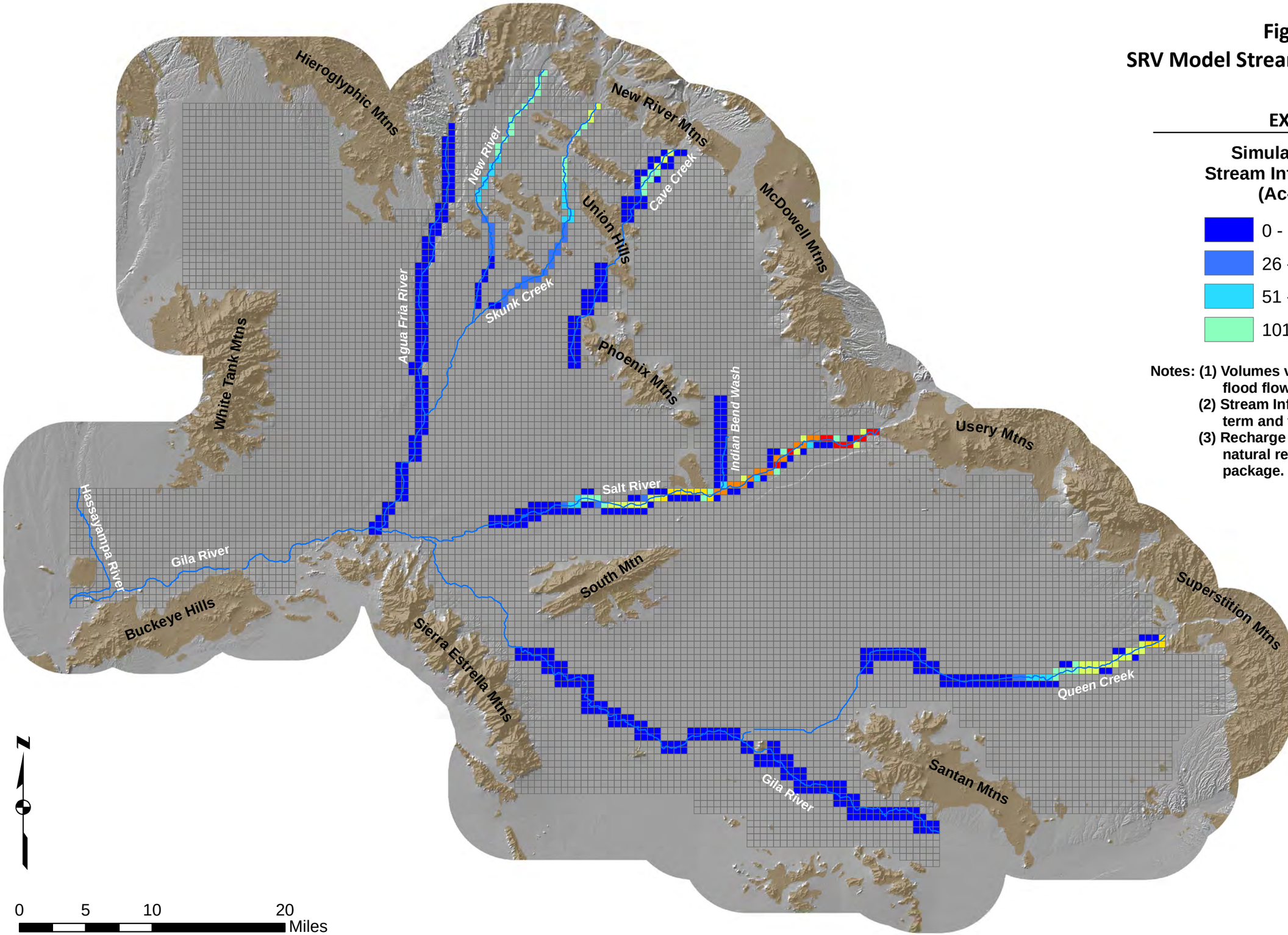
Figure 3.15
SRV Model Stream Infiltration Recharge



EXPLANATION

Simulated Model 2006
Stream Infiltration Recharge
(Ac-Ft/Year/Cell)

0 - 25	201 - 400
26 - 50	401 - 600
51 - 100	601 - 1,000
101-200	1,001 - 2,000

Notes: (1) Volumes vary per year due to variations in flood flow recharge.
(2) Stream Infiltration Recharge includes long term and flood flow recharge.
(3) Recharge representative of long-term natural recharge as applied to RCH package.

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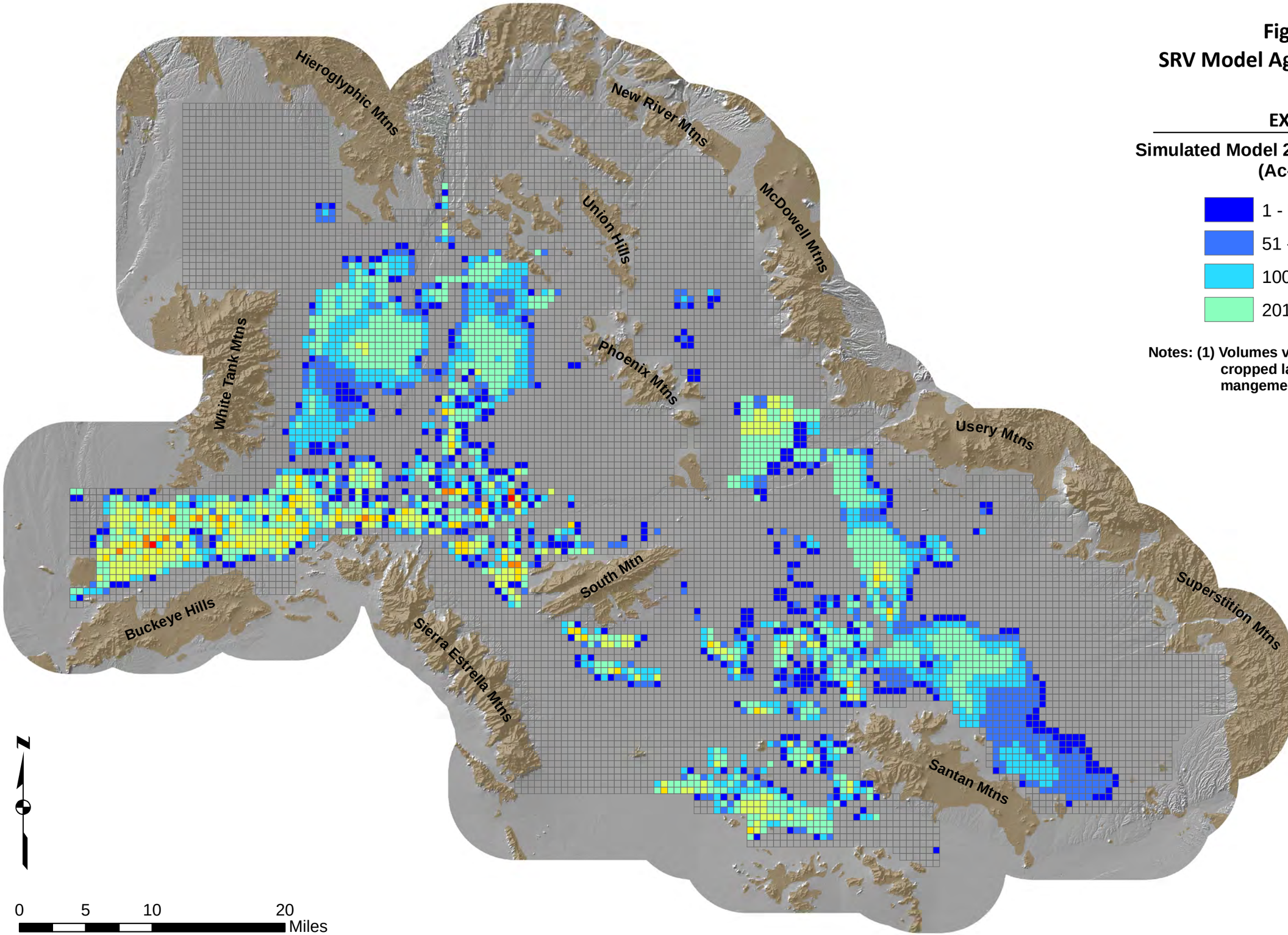
Figure 3.16
SRV Model Agricultural Recharge



EXPLANATION

Simulated Model 2006 Agricultural Recharge (Ac-Ft/Year/Cell)

1 - 50	401 - 600
51 - 100	601 - 800
100 - 200	801 - 1,000
201 - 400	1,001 - 1,200

Notes: (1) Volumes vary per year due to variations in cropped land use, climate, and land mangement.

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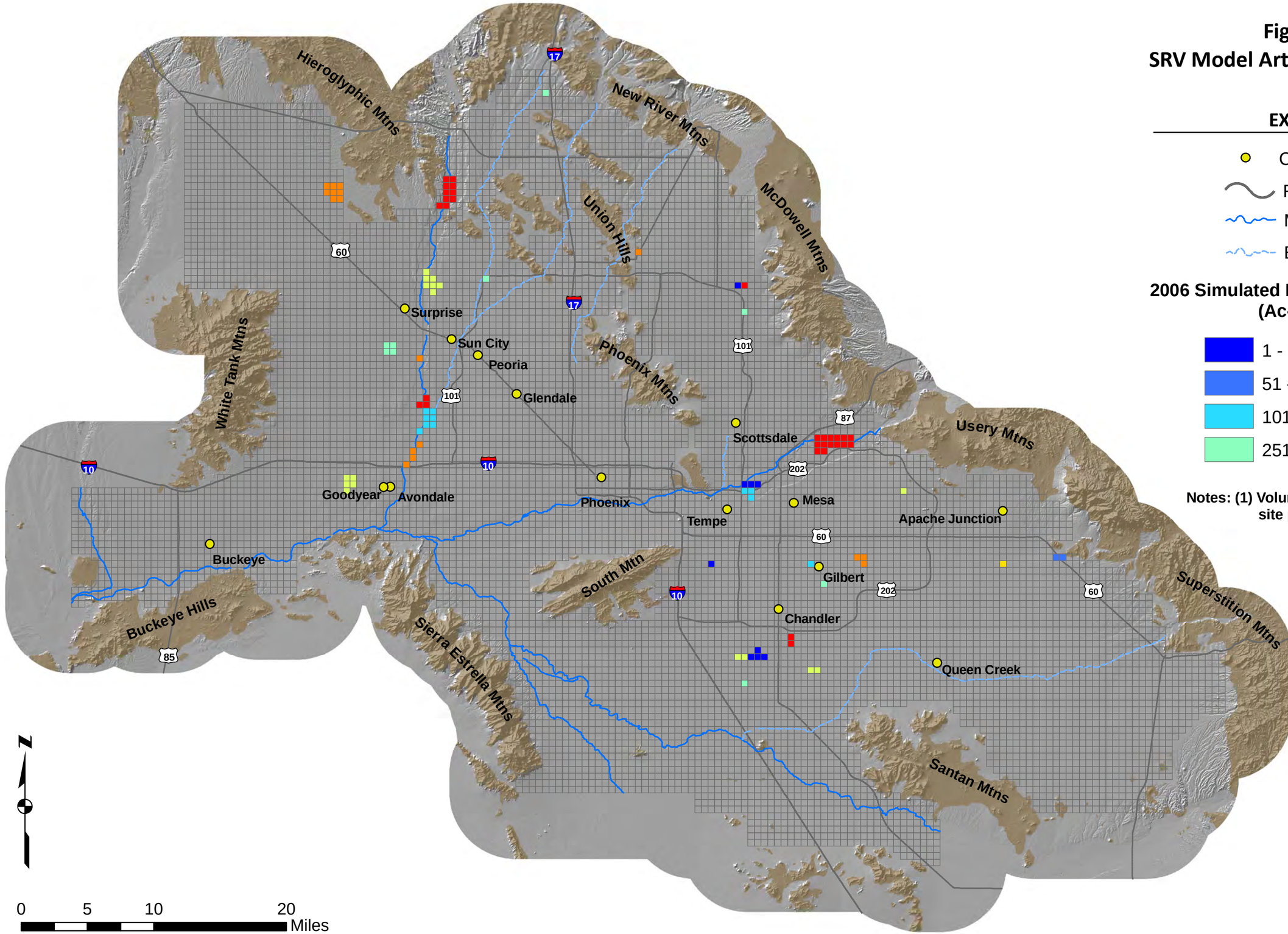
Figure 3.17
SRV Model Artificial Recharge Sites



EXPLANATION

- City Center
- Roadway
- Major Drainage
- Ephemeral Stream Reach

2006 Simulated Model Artificial Recharge (Ac-Ft/Year/Cell)

1 - 50	501 - 750
51 - 100	751 - 1,000
101 - 250	1,000 - 2,000
251 - 500	2,001 - 6,000

Notes: (1) Volumes vary per year depending on site permits.

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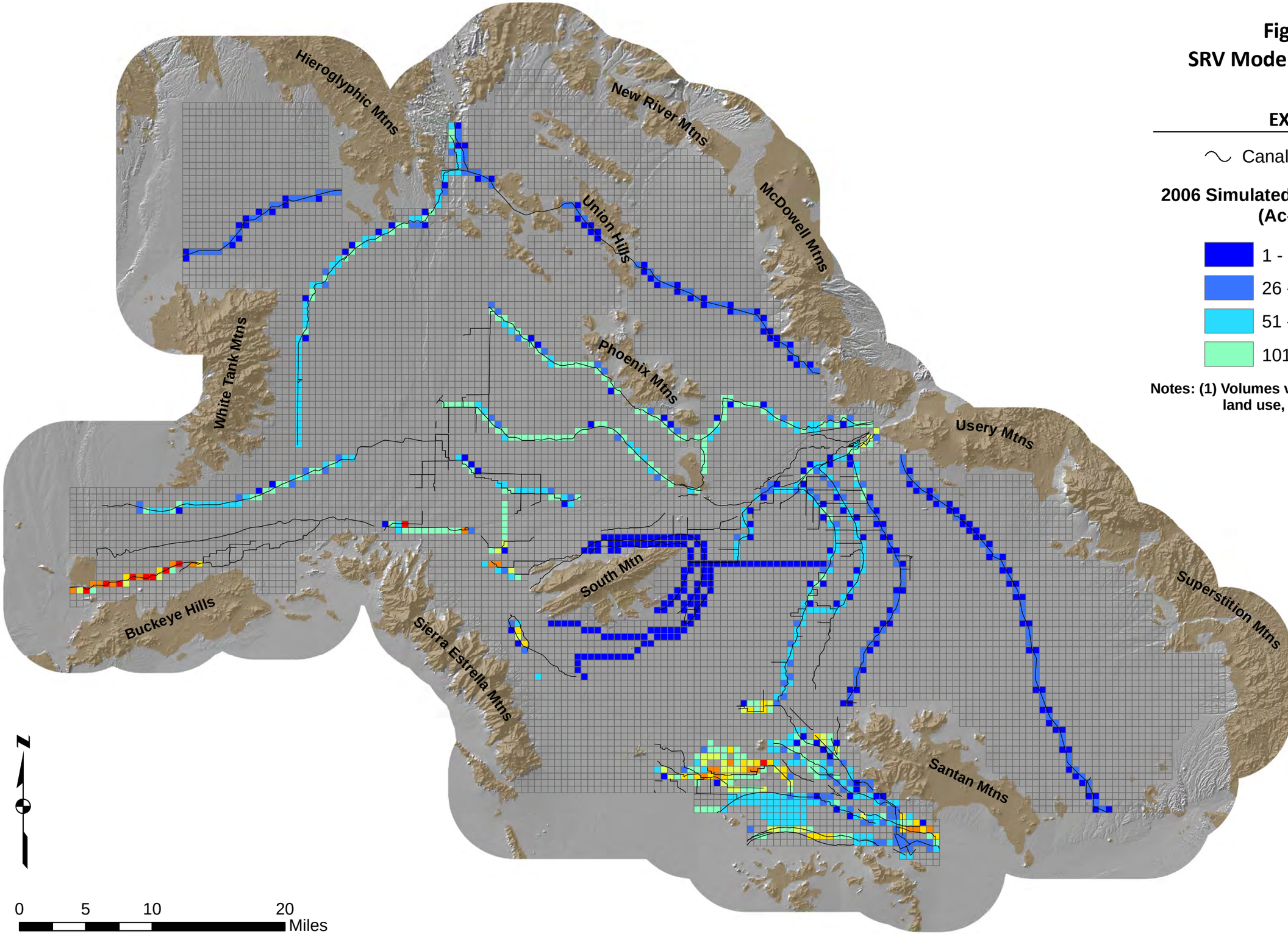
Figure 3.18
SRV Model Canal Recharge



EXPLANATION

Canal Distribution System

2006 Simulated Model Canal Recharge (Ac-Ft/Year/Cell)

1 - 25	201 - 250
26 - 50	251 - 350
51 - 100	351 - 500
101 - 200	501 - 1,120

Notes: (1) Volumes vary per year due to variations in land use, climate, and land mangement.

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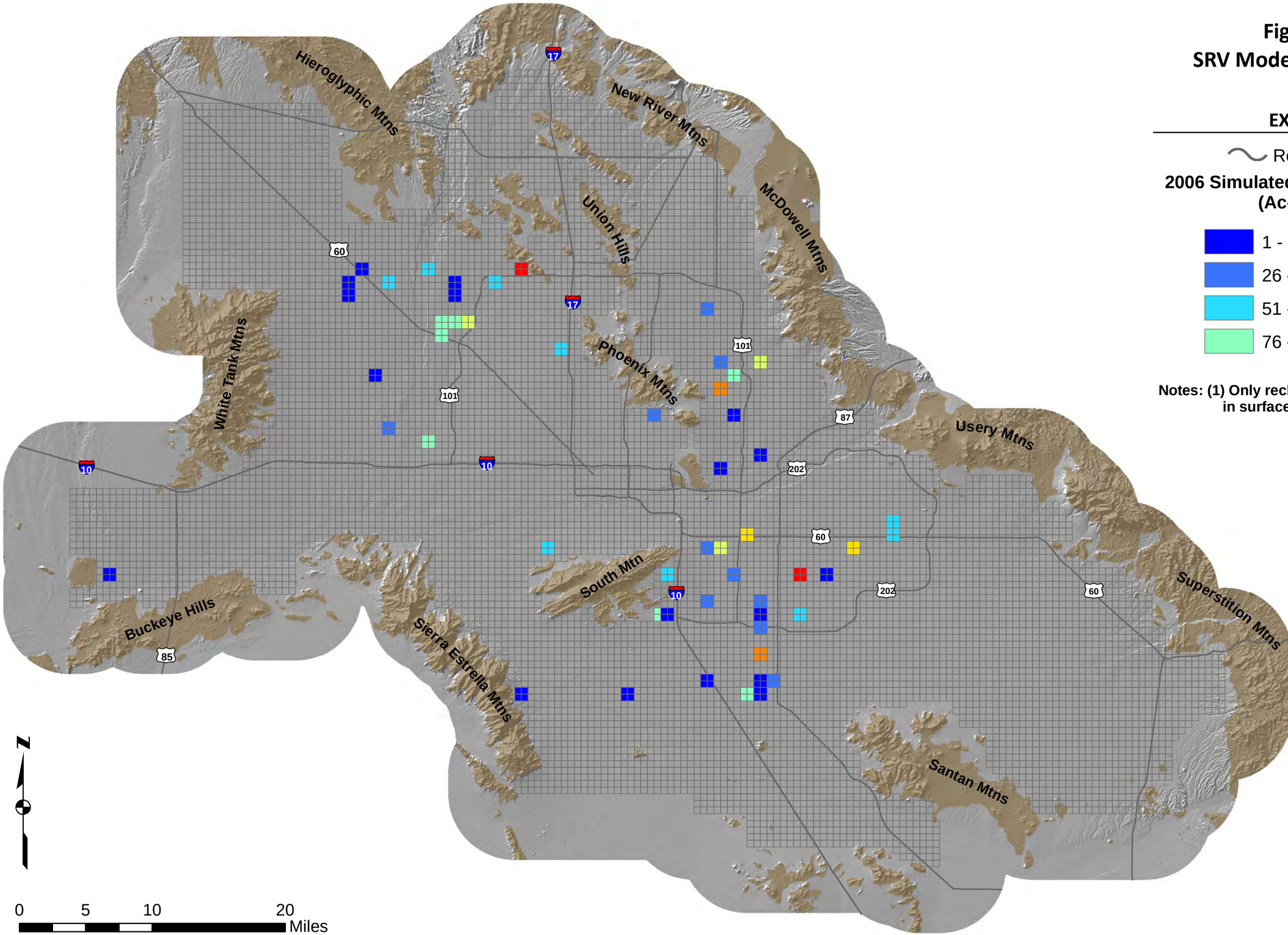
Figure 3.19
SRV Model Lake Recharge



EXPLANATION

Roadway

2006 Simulated Model Lake Recharge (Ac-Ft/Year/Cell)

1 - 25	101 - 150
26 - 50	151 - 200
51 - 75	201 - 250
76 - 100	251 - 350

Notes: (1) Only recharge applied to lakes >10 acres in surface area are shown in Figure 3.19

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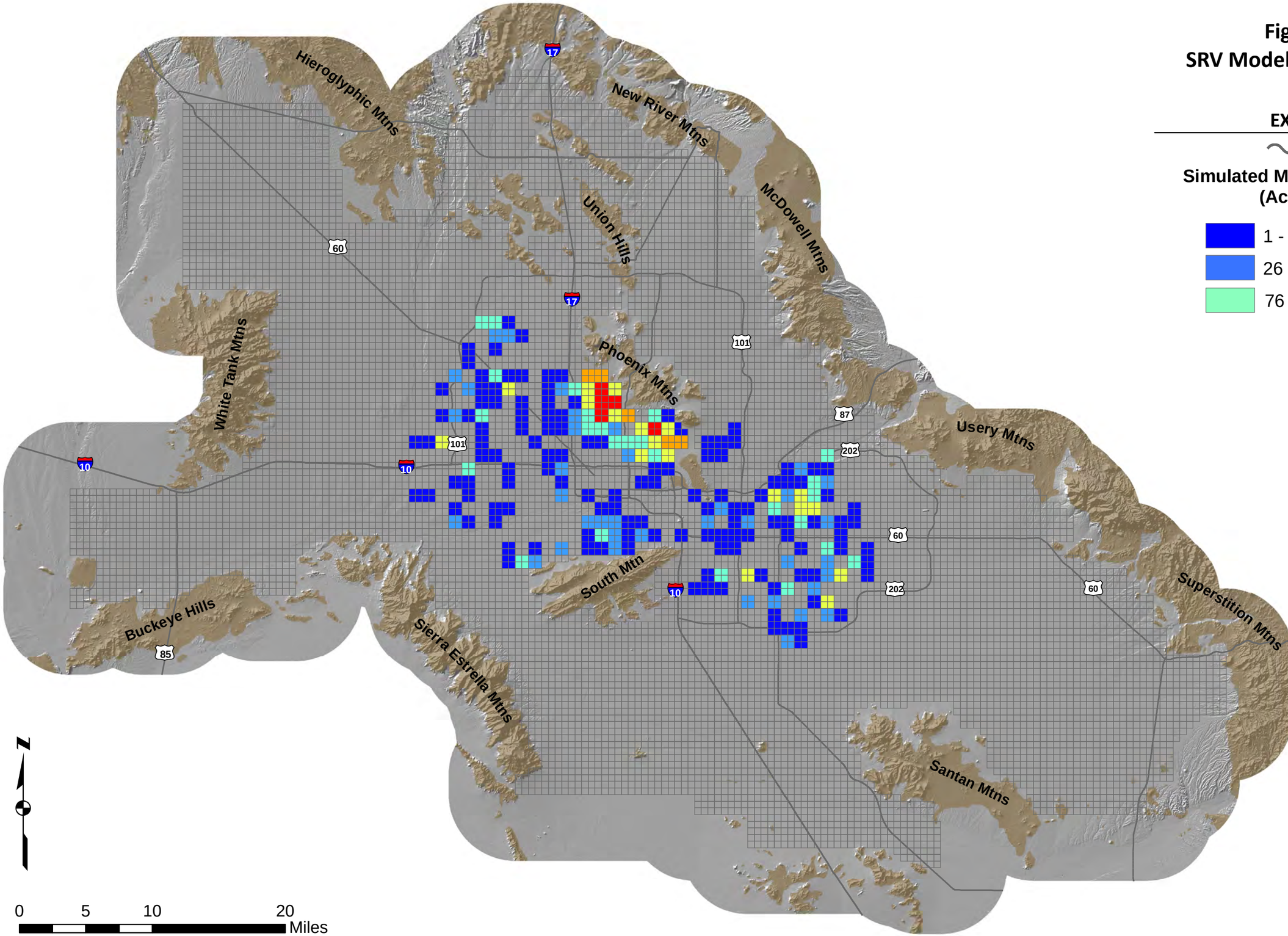
Figure 3.20
SRV Model Urban Recharge



EXPLANATION

Roadway

Simulated Model Urban Recharge (Ac-Ft/Year/Cell)

- 1 - 25
- 26 - 50
- 76 - 100
- 101 - 150
- 151 - 200
- 201 - 275

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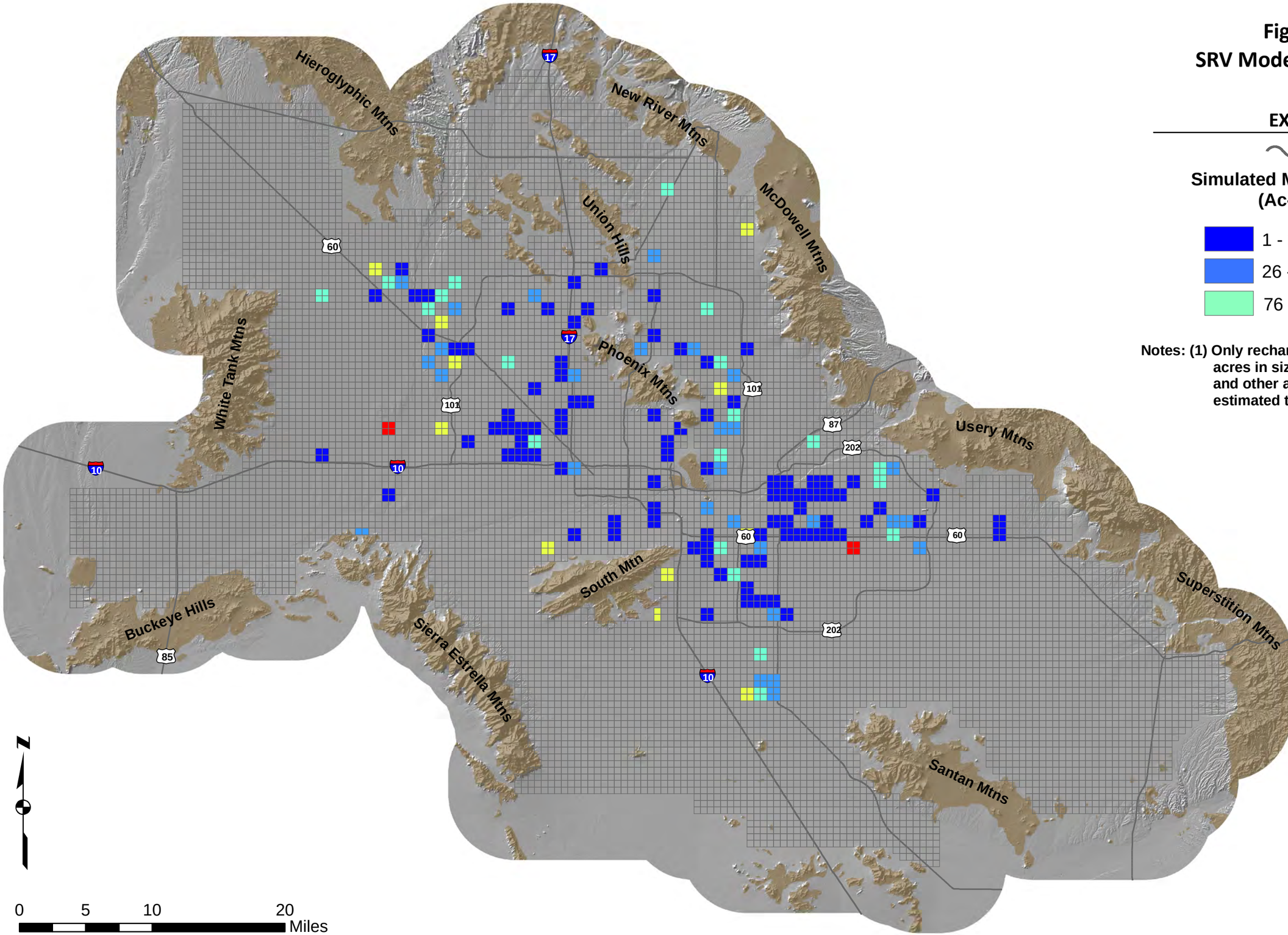
Figure 3.21
SRV Model Turf Recharge



EXPLANATION

Roadway

Simulated Model Turf Recharge (Ac-Ft/Year/Cell)

- 1 - 25
- 26 - 50
- 76 - 100
- 101 - 150
- 151 - 200
- 201 - 275

Notes: (1) Only recharge applied to turf areas >10 acres in size including parks, golf courses, and other areas where recharge is estimated to exceed consumptive use.

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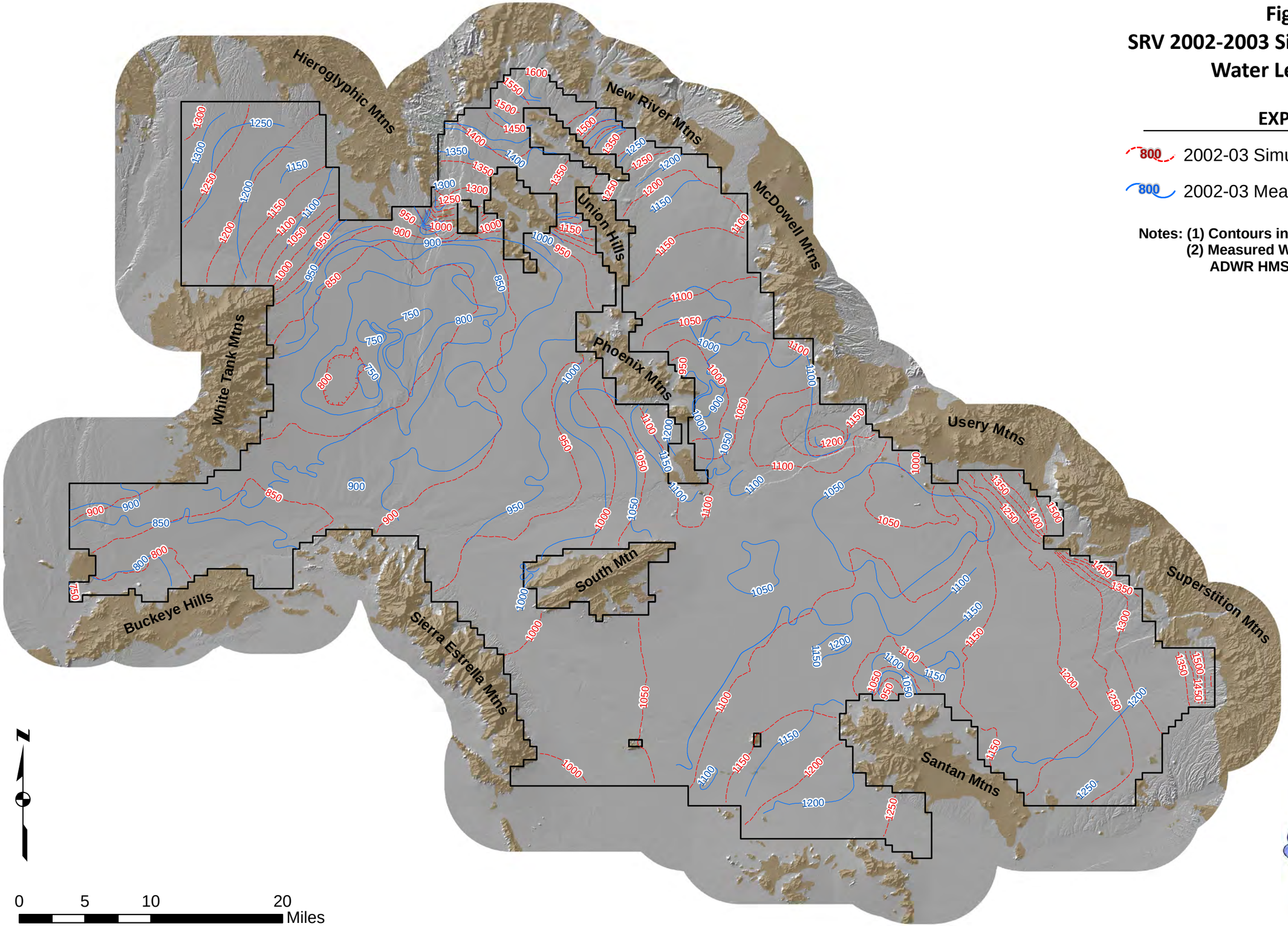
Figure 4.1
SRV 2002-2003 Simulated vs Observed Water Level Contours



EXPLANATION

800 2002-03 Simulated Water Level Contour

800 2002-03 Measured Water Level Contour

Notes: (1) Contours in Feet
(2) Measured Water Levels Developed from ADWR HMS Report 35 (Rascona, 2005)

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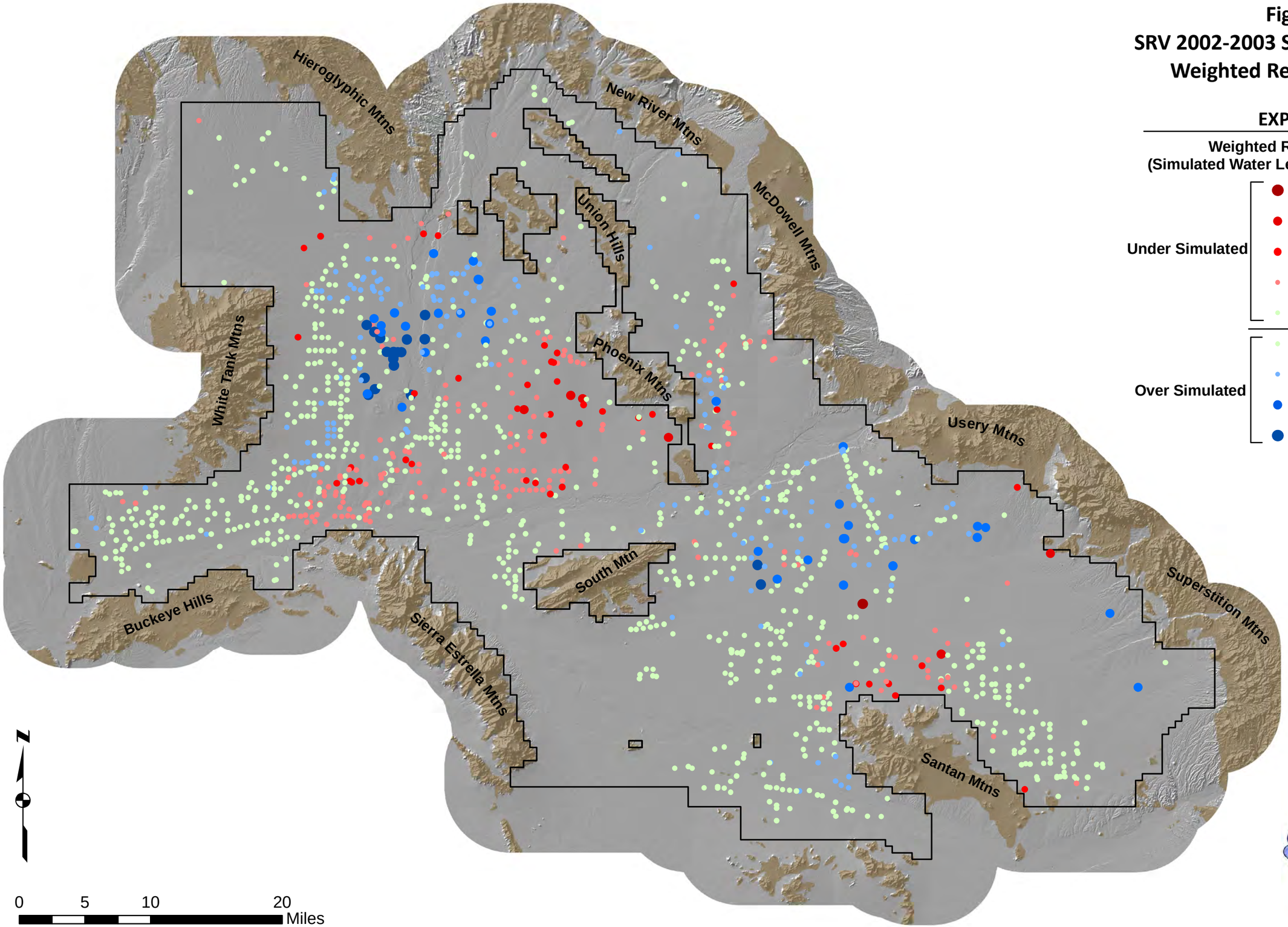
Figure 4.2
SRV 2002-2003 Simulated - Observed Weighted Residual Head Error



EXPLANATION

Weighted Residual Error (Feet)
(Simulated Water Level - Observed Water Level)

Under Simulated
- -110 - (-100)
- -99 - (-50)
- -49 - (-25)
- -24 - (-11)
- -10 - (-0.01)

Over Simulated
- 0.01 - 10
- 11 - 25
- 26 - 50
- 51 - 100

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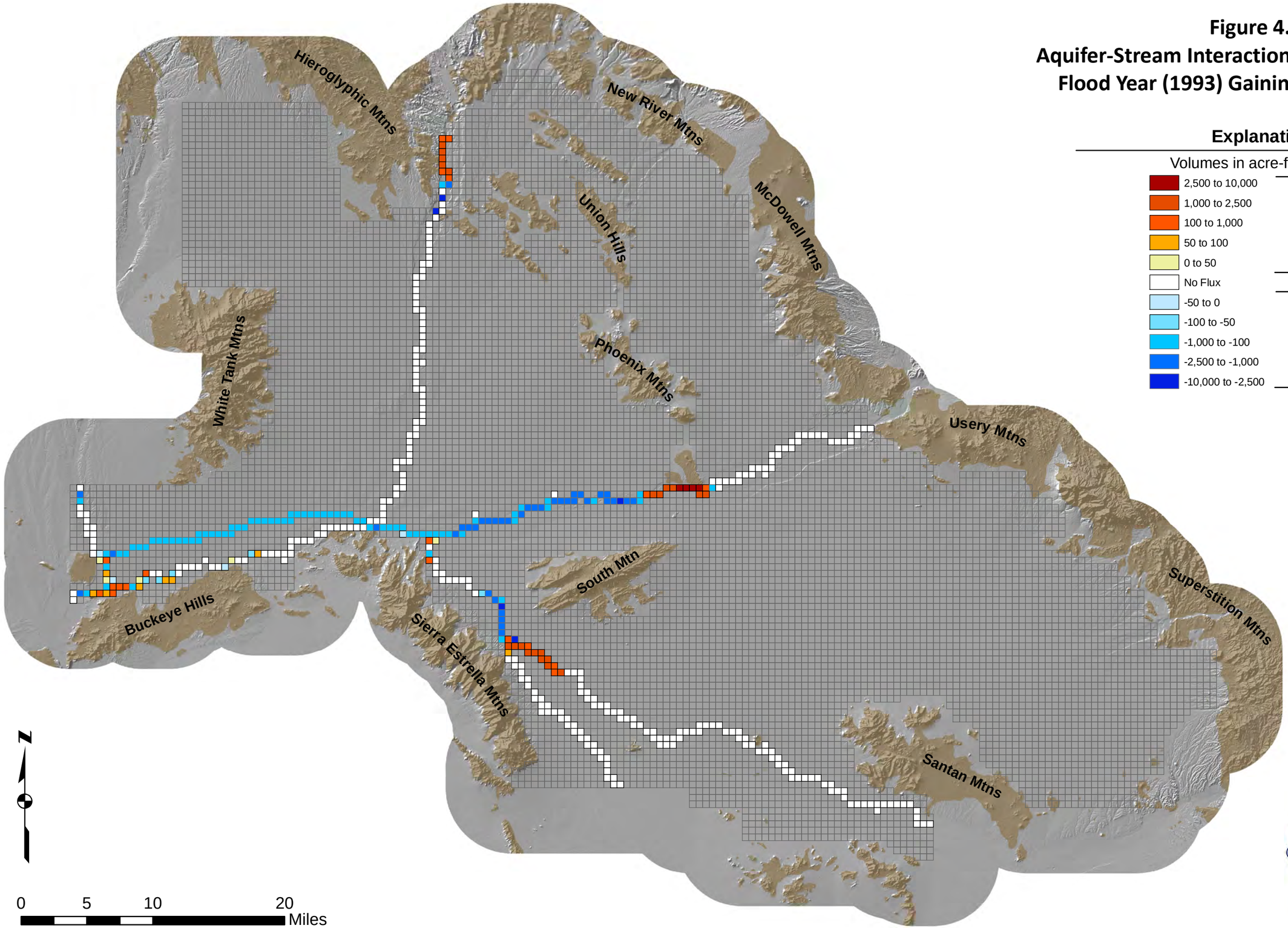
Figure 4.3
Aquifer-Stream Interaction in Stream Package: Flood Year (1993) Gaining/Losing Reaches



Explanation

Volumes in acre-feet/year

- 2,500 to 10,000
- 1,000 to 2,500
- 100 to 1,000
- 50 to 100
- 0 to 50

gaining stream reach

- No Flux
- -50 to 0
- -100 to -50
- -1,000 to -100
- -2,500 to -1,000
- -10,000 to -2,500

losing stream reach

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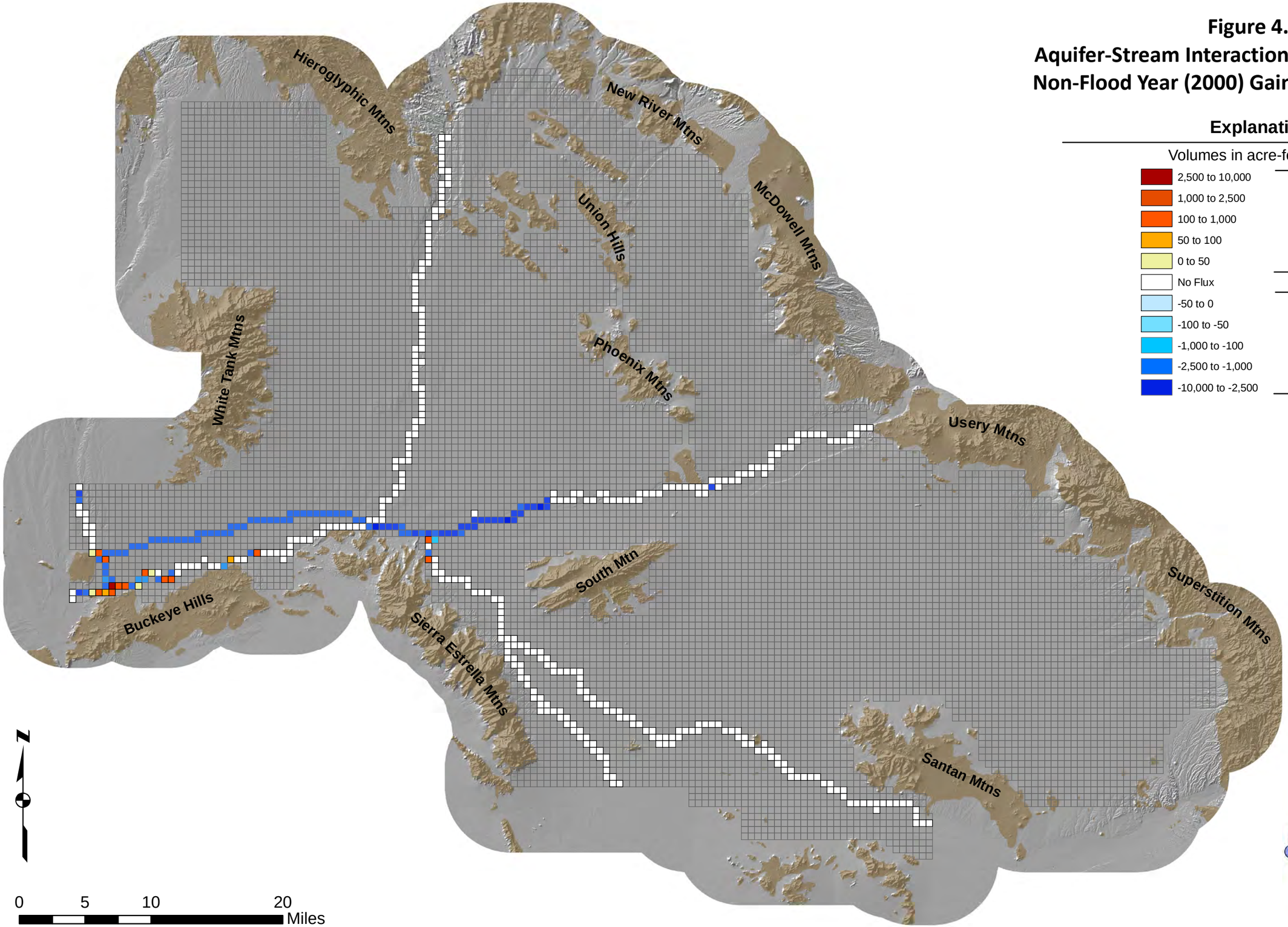
Figure 4.4
Aquifer-Stream Interaction in Stream Package: Non-Flood Year (2000) Gaining/Losing Reaches



Explanation

Volumes in acre-feet/year

- 2,500 to 10,000
- 1,000 to 2,500
- 100 to 1,000
- 50 to 100
- 0 to 50

gaining stream reach

- No Flux
- -50 to 0
- -100 to -50
- -1,000 to -100
- -2,500 to -1,000
- -10,000 to -2,500

losing stream reach

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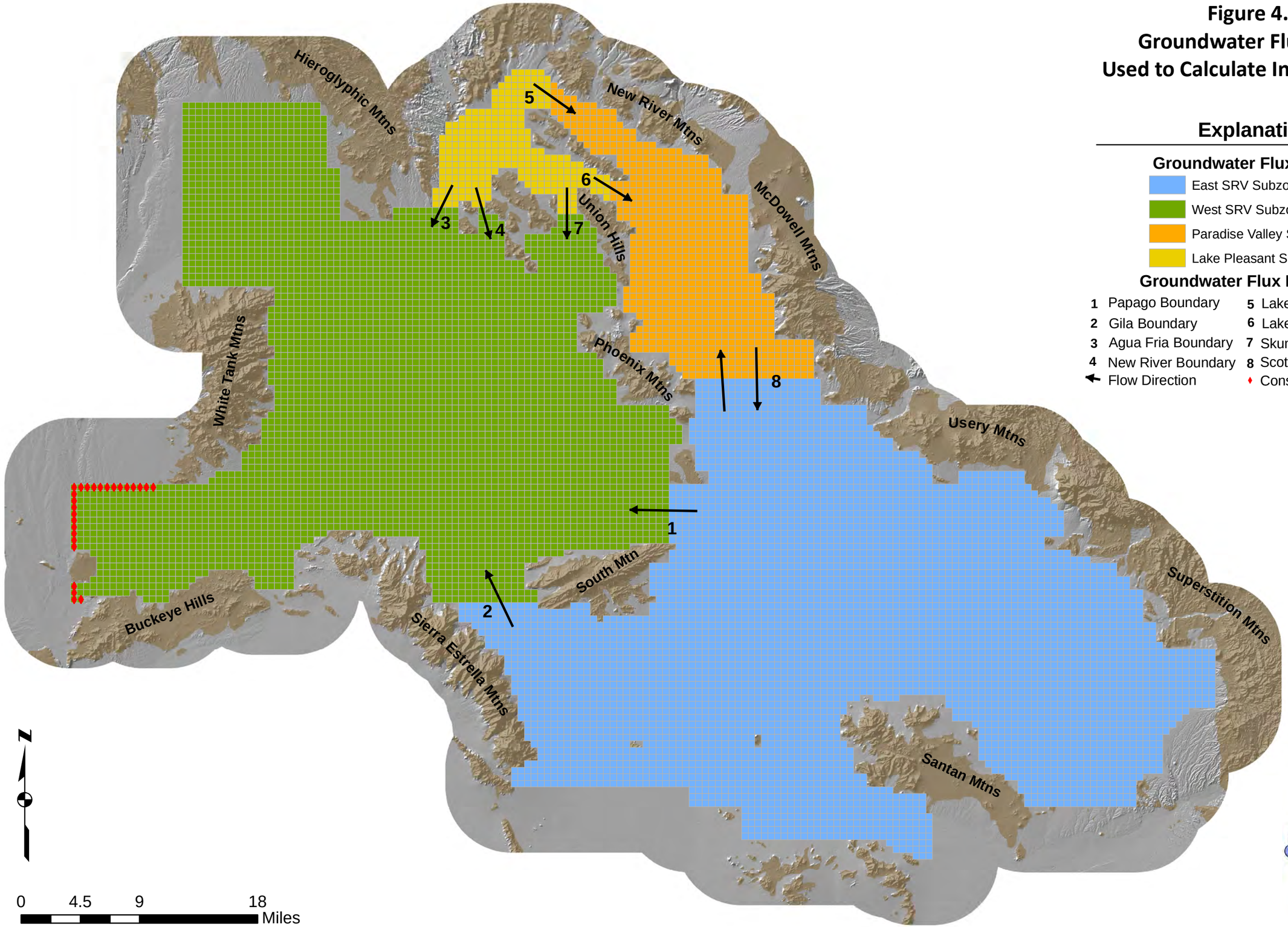
Figure 4.5
Groundwater Flux Zones
Used to Calculate Internal Flows



Explanation

Groundwater Flux Zones

- East SRV Subzone
- West SRV Subzone
- Paradise Valley Subzone
- Lake Pleasant Subzone

Groundwater Flux Boundaries

1 Papago Boundary
2 Gila Boundary
3 Agua Fria Boundary
4 New River Boundary
5 Lake Pleasant North Boundary
6 Lake Pleasant South Boundary
7 Skunk Creek Boundary
8 Scottsdale/ESRV Boundary
Flow Direction
Constant Head Boundary

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