

Wood River Valley Modeling Technical Advisory Committee: Model Construction to Date

Jason C. Fisher

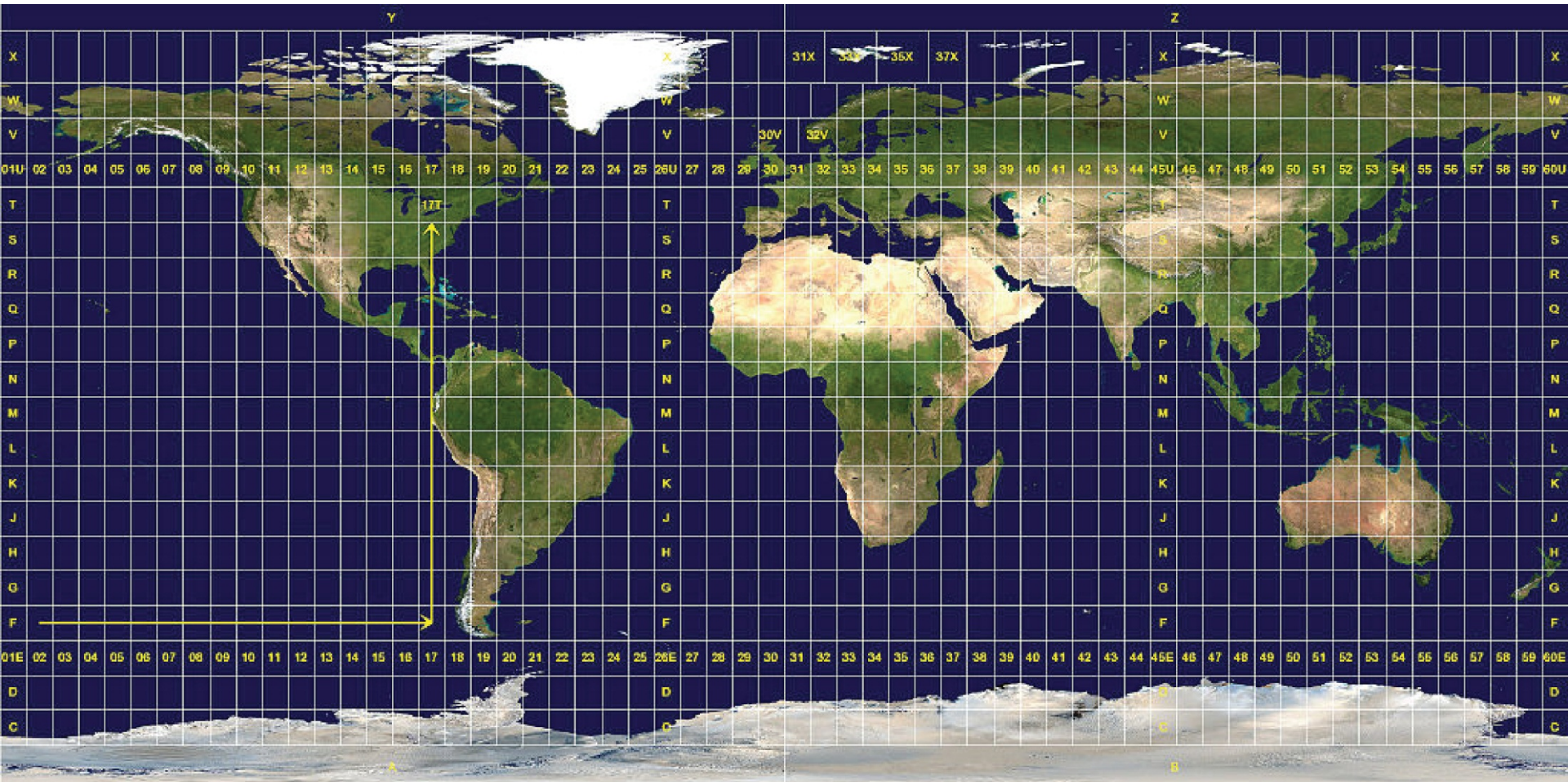
PROVISIONAL: FOR INFORMATIONAL PURPOSES ONLY

These slides were presented at the Wood River Valley Modeling Technical Advisory Committee meeting Thursday, 11Apr2013, 10am-4pm at the Community Campus, Rm 200, in Hailey. Taken outside the context of the original presentation, these slides may not provide a complete or accurate representation of the speaker's intent.

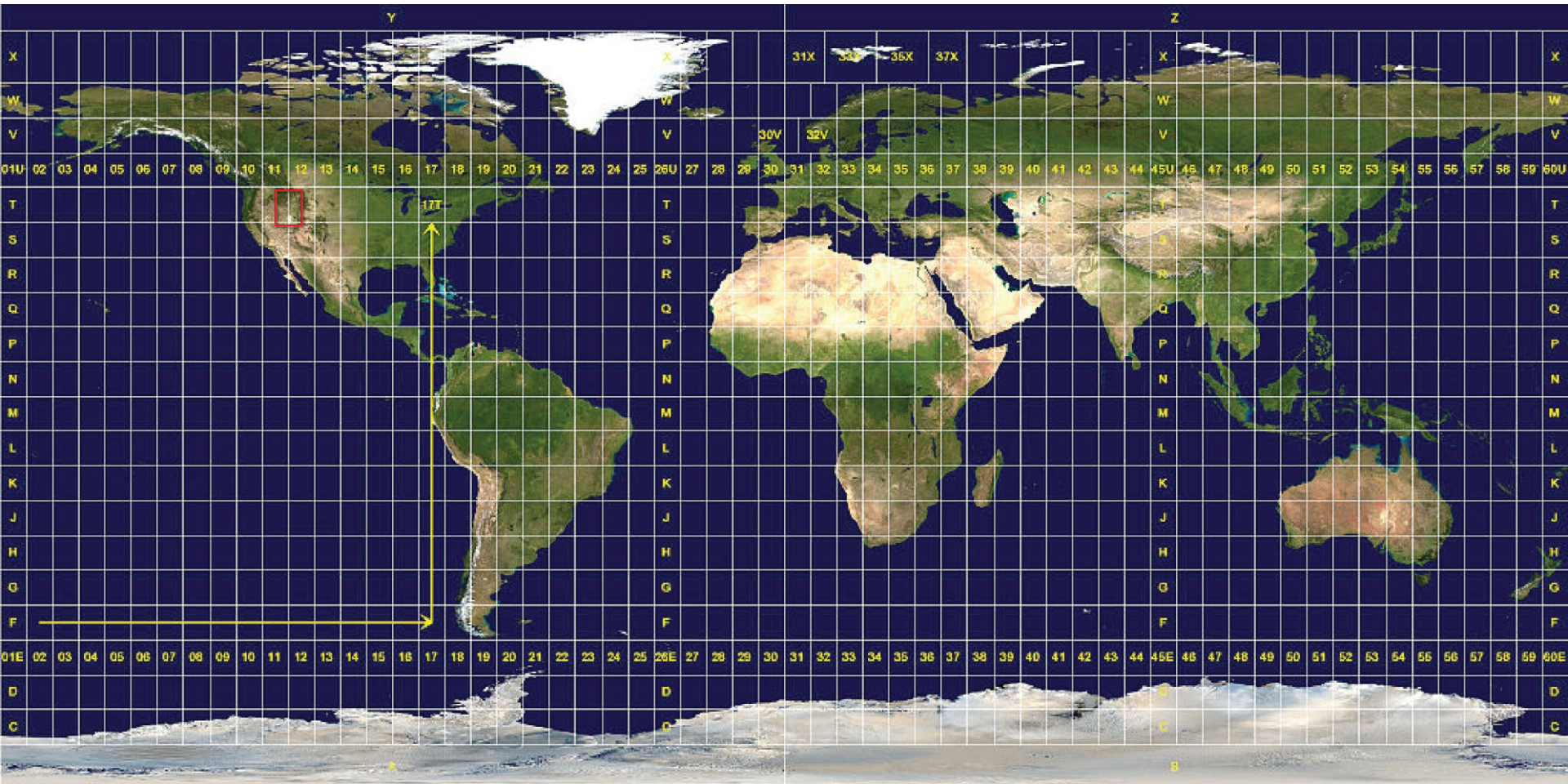




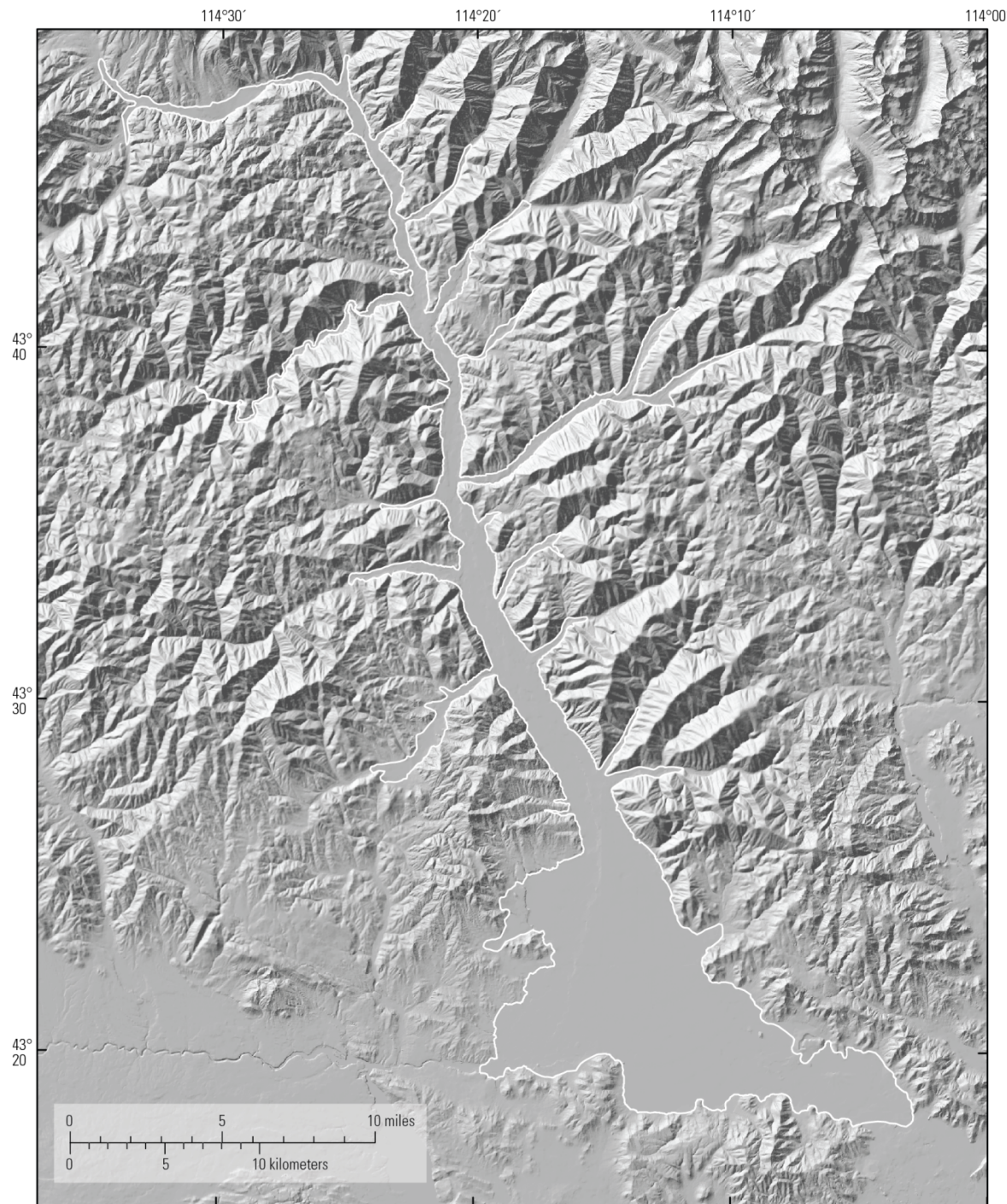
Universal Transverse Mercator (UTM) coordinate system



Universal Transverse Mercator (UTM) coordinate system



Idaho Transverse Mercator (IDTM) coordinate system



Coordinate system:

NAD 1983 Idaho TM (meters)

NAVD 1988 (meters)

Land surface elevation raster:

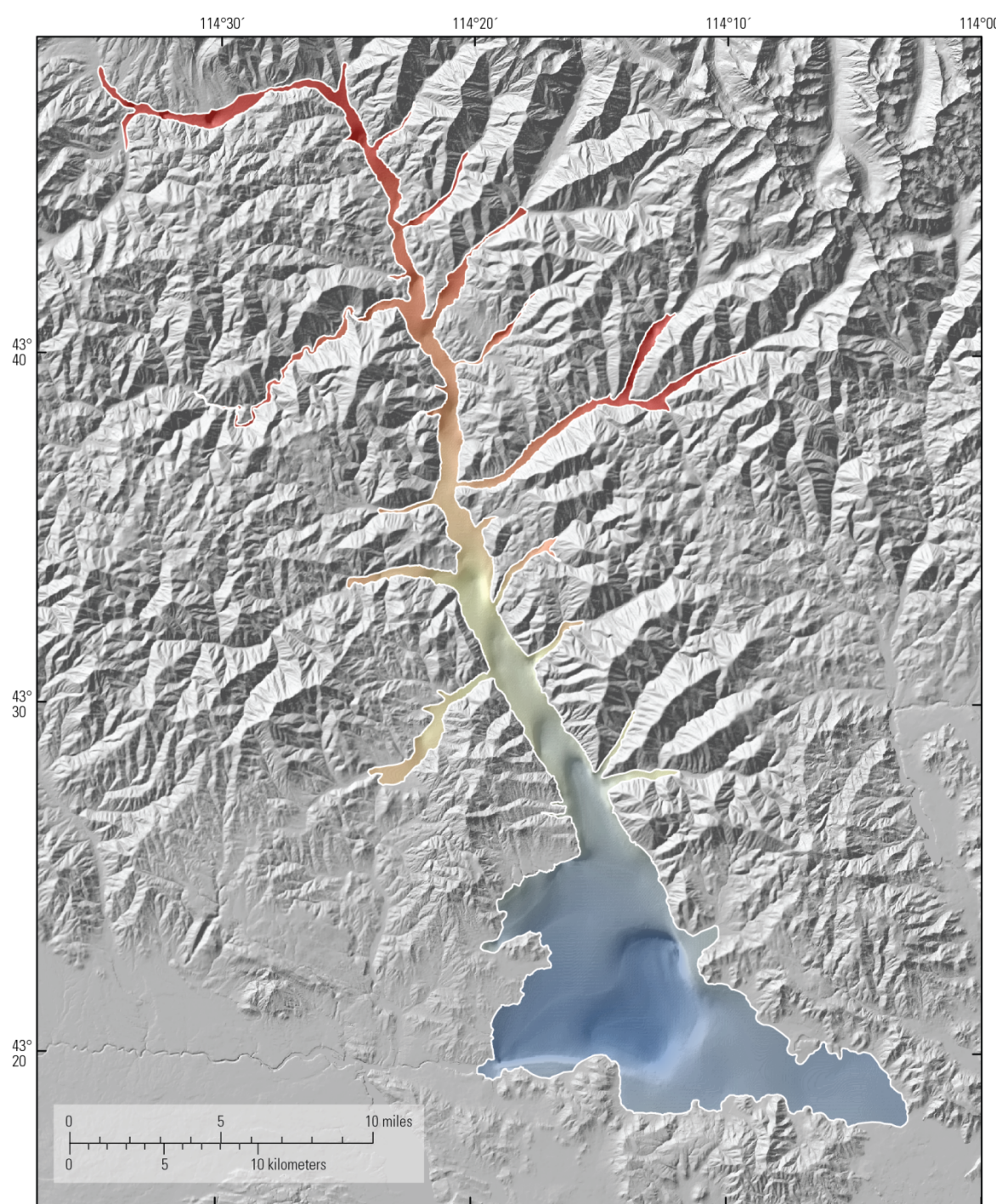
National Elevation Dataset (NED)

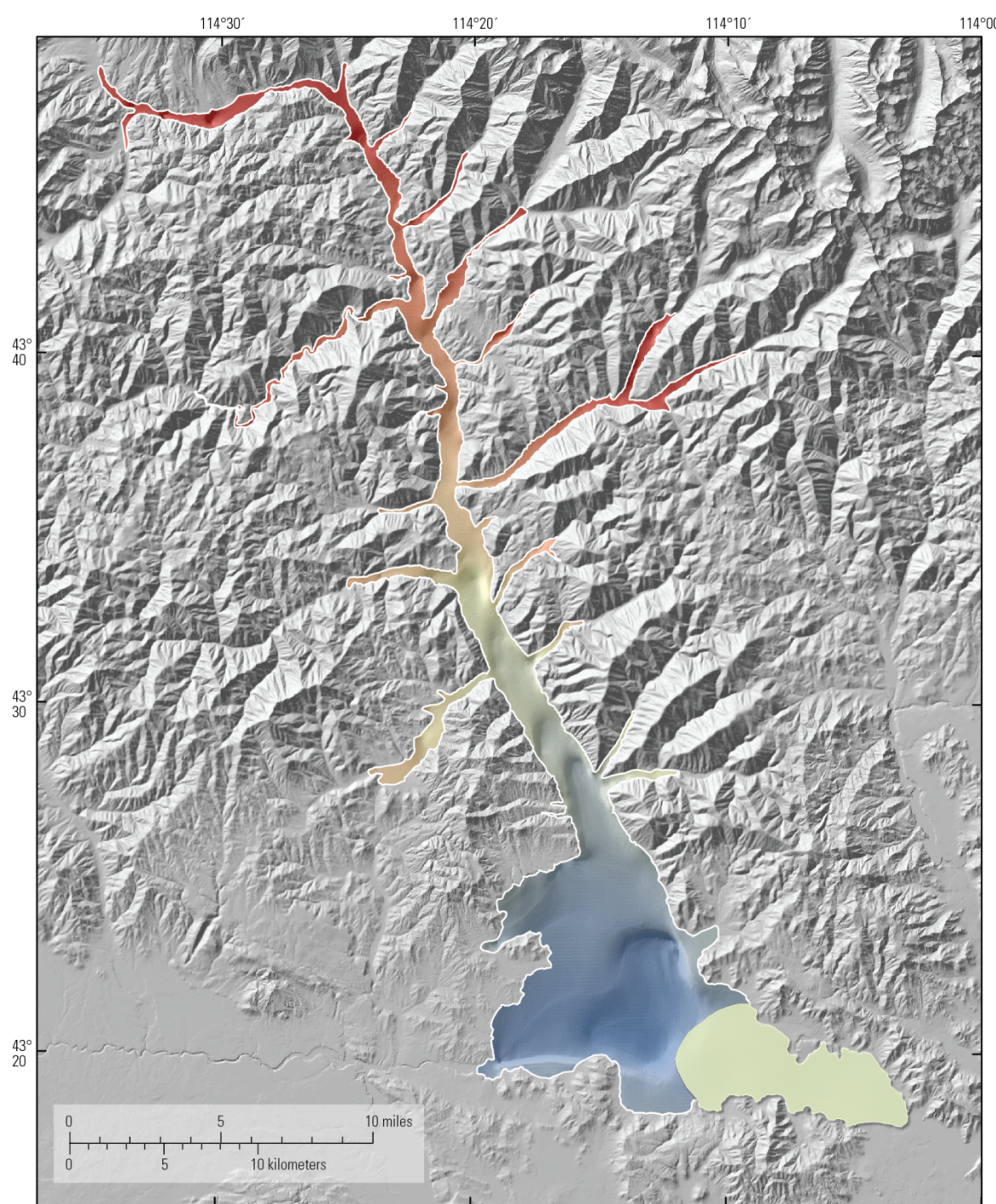
Resolution: about 10 meters

Line and polygon shapefiles:



Aquifer extent (SIR 2012-5053)





Coordinate system:

NAD 1983 Idaho TM (meters)

NAVD 1988 (meters)

Land surface elevation raster:

National Elevation Dataset (NED)

Resolution: about 10 meters

Line and polygon shapefiles:

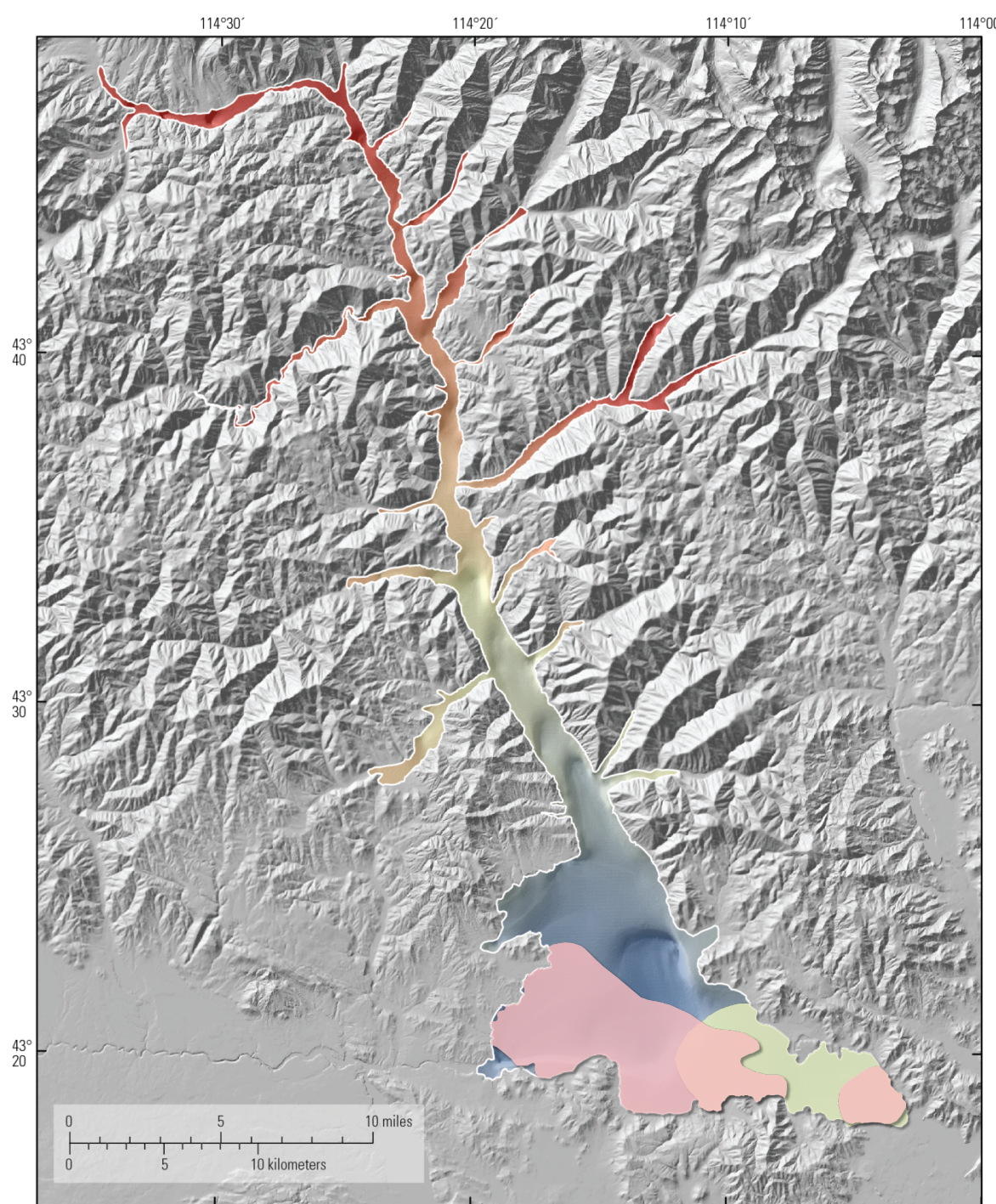
Aquifer extent (SIR 2012-5053)

Basalt extent (SIR 2007-5258)

Base of alluvium aquifer raster:

Resolution: about 26 meters

SIR 2012-5053



Coordinate system:

NAD 1983 Idaho TM (meters)

NAVD 1988 (meters)

Land surface elevation raster:

National Elevation Dataset (NED)

Resolution: about 10 meters

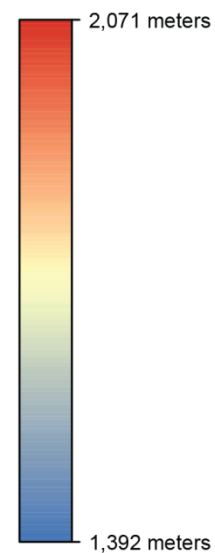
Line and polygon shapefiles:

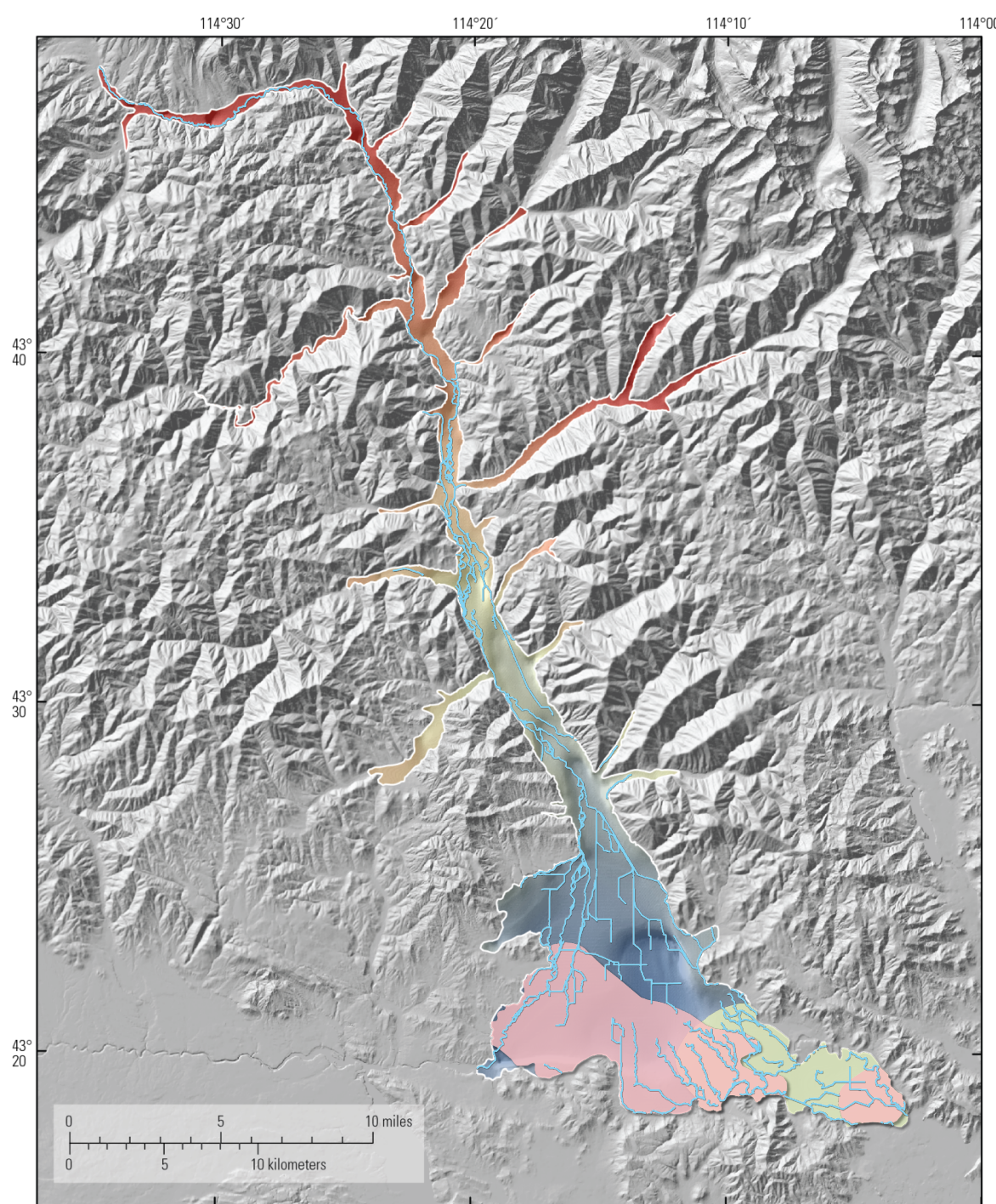
-  Aquifer extent (SIR 2012-5053)
-  Basalt extent (SIR 2007-5258)
-  Aquitard extent (OFR 1977-456)

Base of alluvium aquifer raster:

Resolution: about 26 meters

SIR 2012-5053





Coordinate system:

NAD 1983 Idaho TM (meters)

NAVD 1988 (meters)

Land surface elevation raster:

National Elevation Dataset (NED)

Resolution: about 10 meters

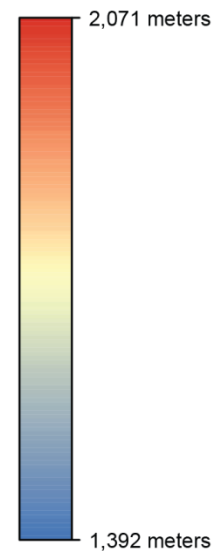
Line and polygon shapefiles:

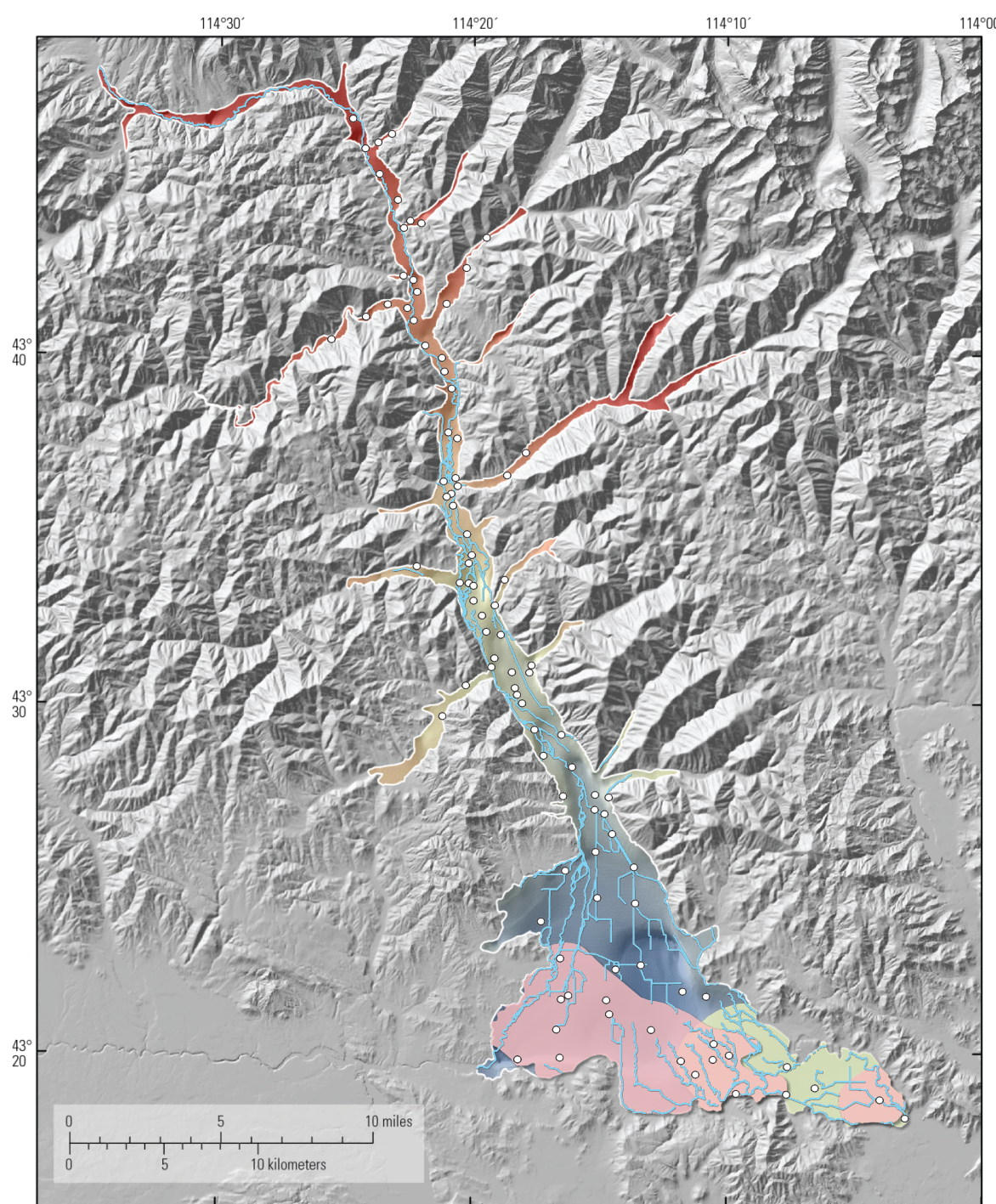
-  Aquifer extent (SIR 2012-5053)
-  Basalt extent (SIR 2007-5258)
-  Aquitard extent (OFR 1977-456)
-  Surface water (IDWR NHD 2013)

Base of alluvium aquifer raster:

Resolution: about 26 meters

SIR 2012-5053





Coordinate system:

NAD 1983 Idaho TM (meters)

NAVD 1988 (meters)

Land surface elevation raster:

National Elevation Dataset (NED)

Resolution: about 10 meters

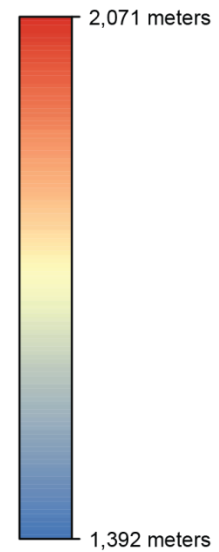
Line and polygon shapefiles:

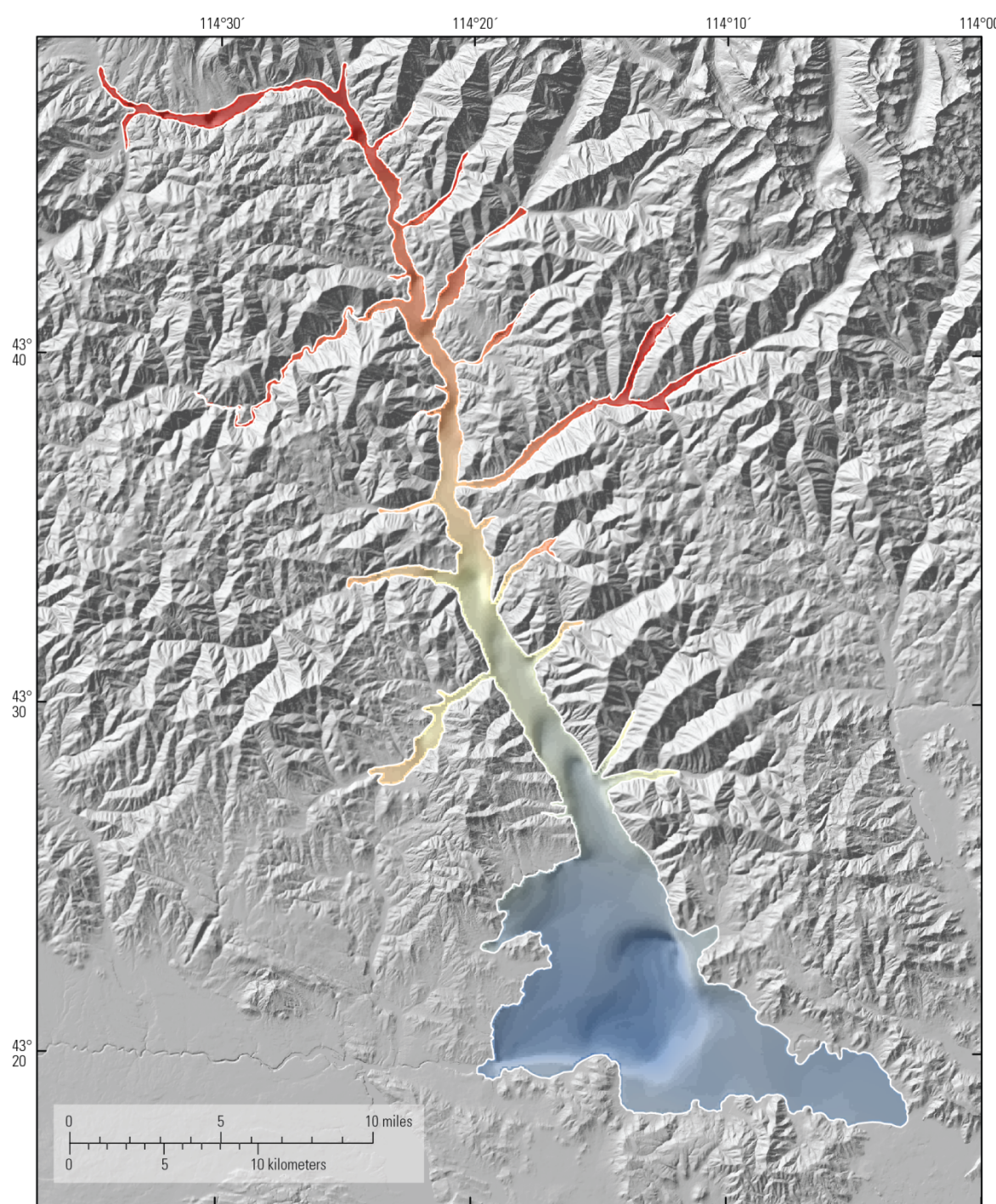
-  Aquifer extent (SIR 2012-5053)
-  Basalt extent (SIR 2007-5258)
-  Aquitard extent (OFR 1977-456)
-  Surface water (IDWR NHD 2013)
-  Wells and stream gauges

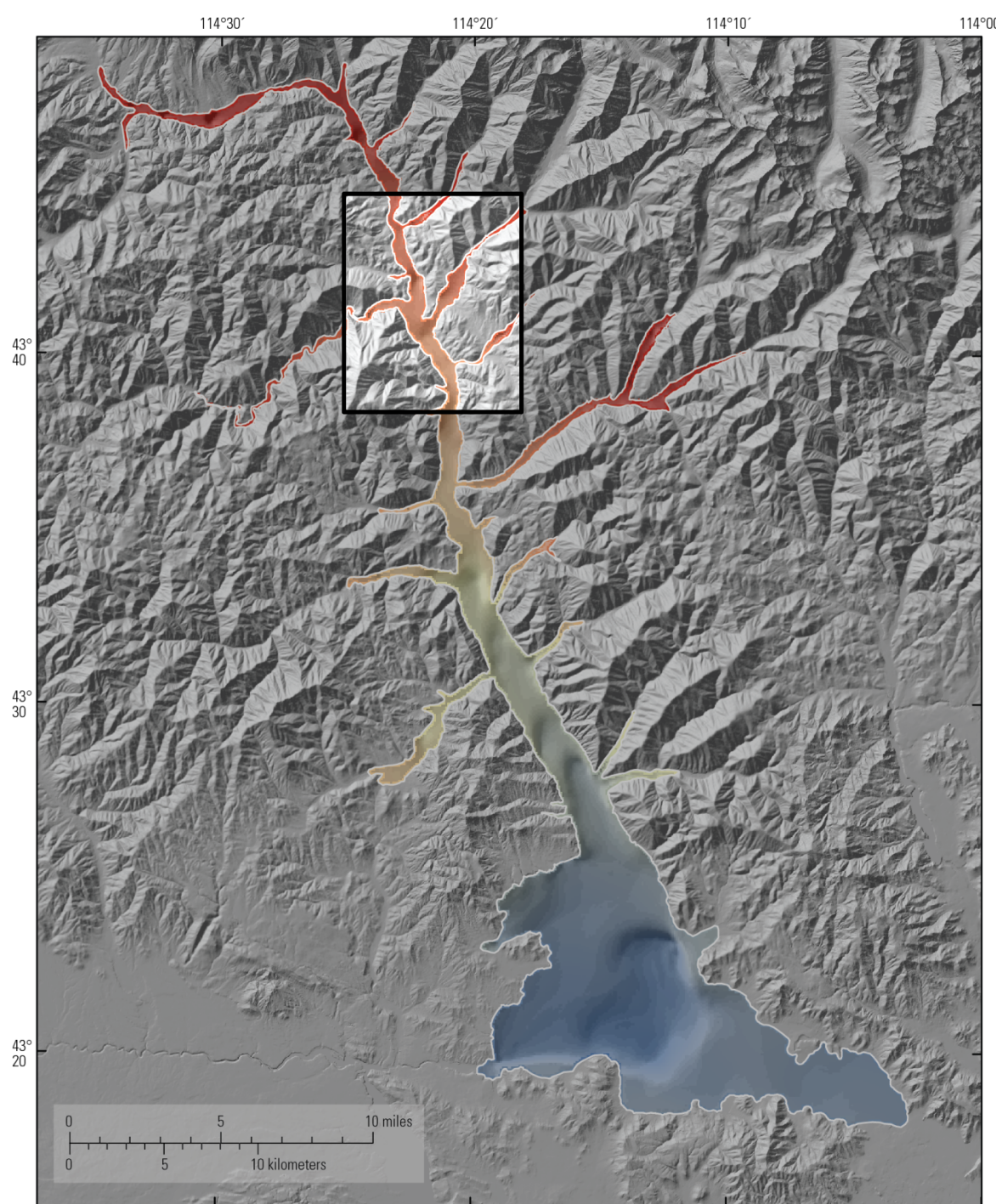
Base of alluvium aquifer raster:

Resolution: about 26 meters

SIR 2012-5053







Coordinate system:

NAD 1983 Idaho TM (meters)

NAVD 1988 (meters)

Land surface elevation raster:

National Elevation Dataset (NED)

Resolution: about 10 meters

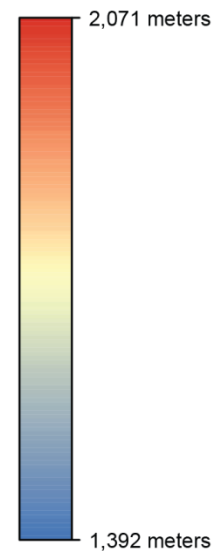
Line and polygon shapefiles:

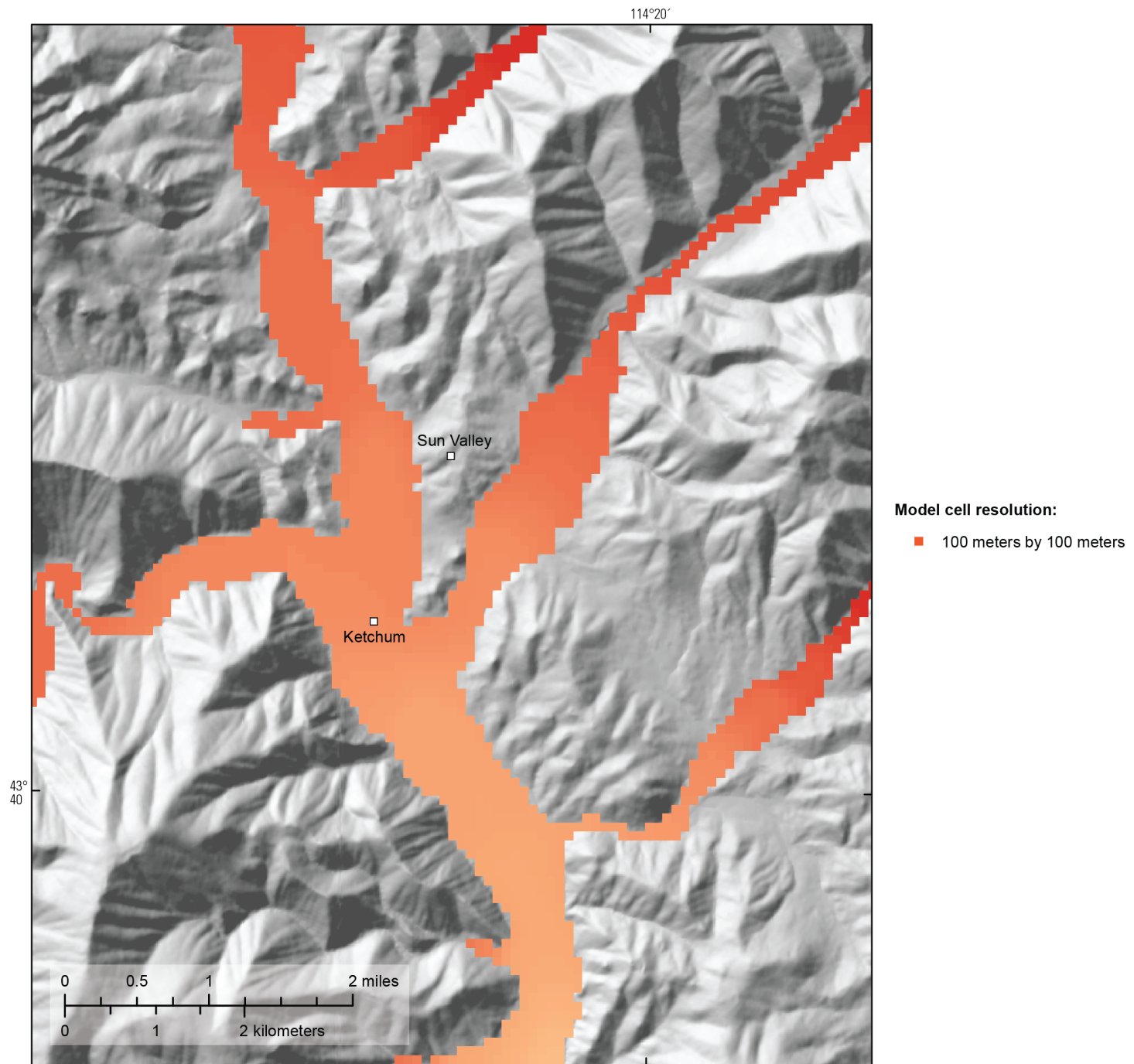


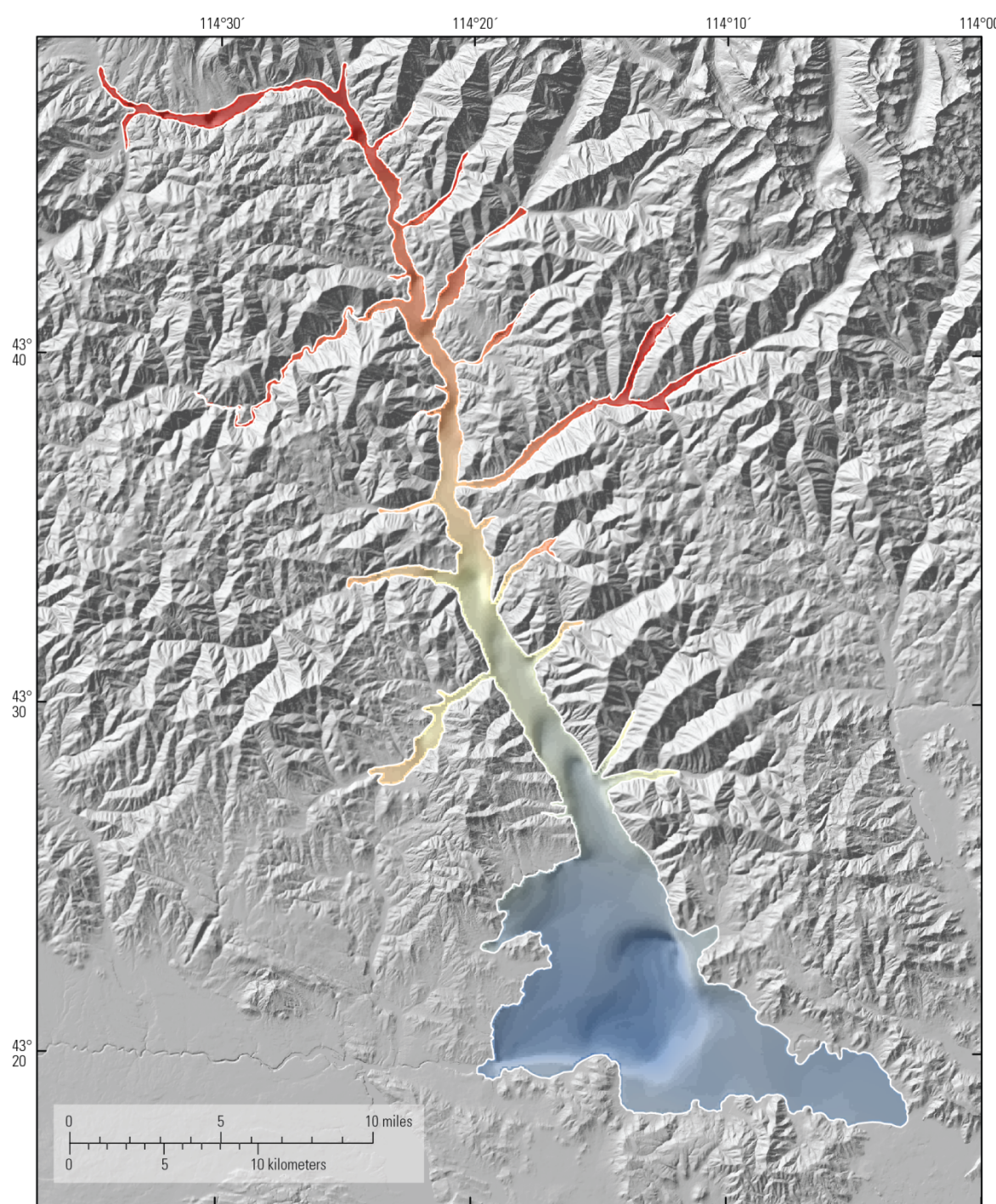
Aquifer extent (SIR 2012-5053)

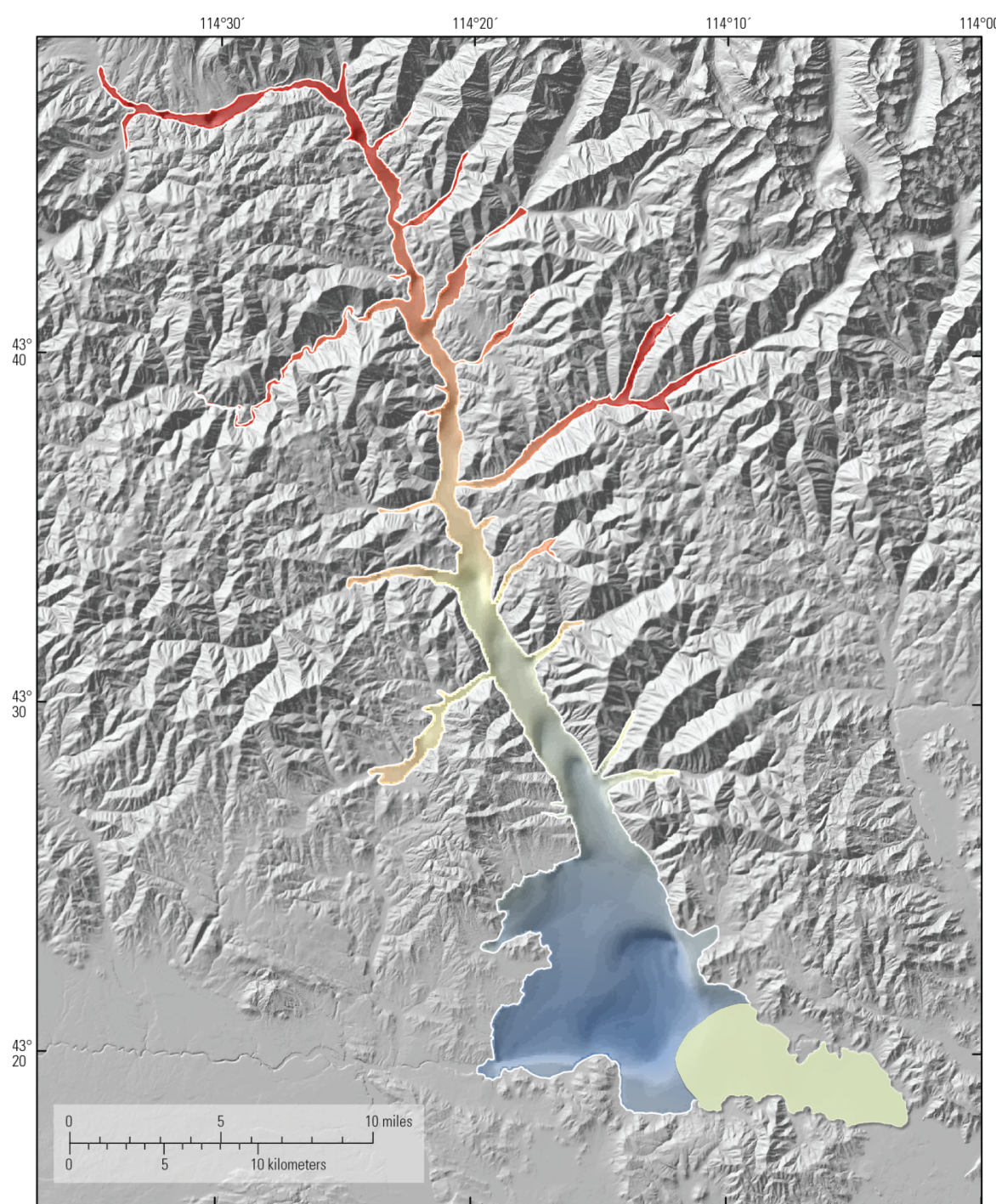
Base of alluvium aquifer raster:

Model resolution: 100 meters









Coordinate system:

NAD 1983 Idaho TM (meters)

NAVD 1988 (meters)

Land surface elevation raster:

National Elevation Dataset (NED)

Resolution: about 10 meters

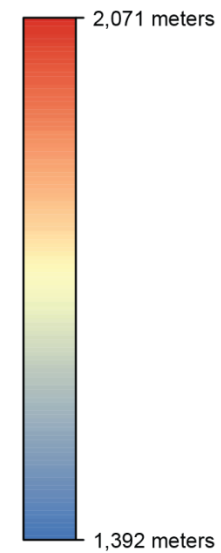
Line and polygon shapefiles:

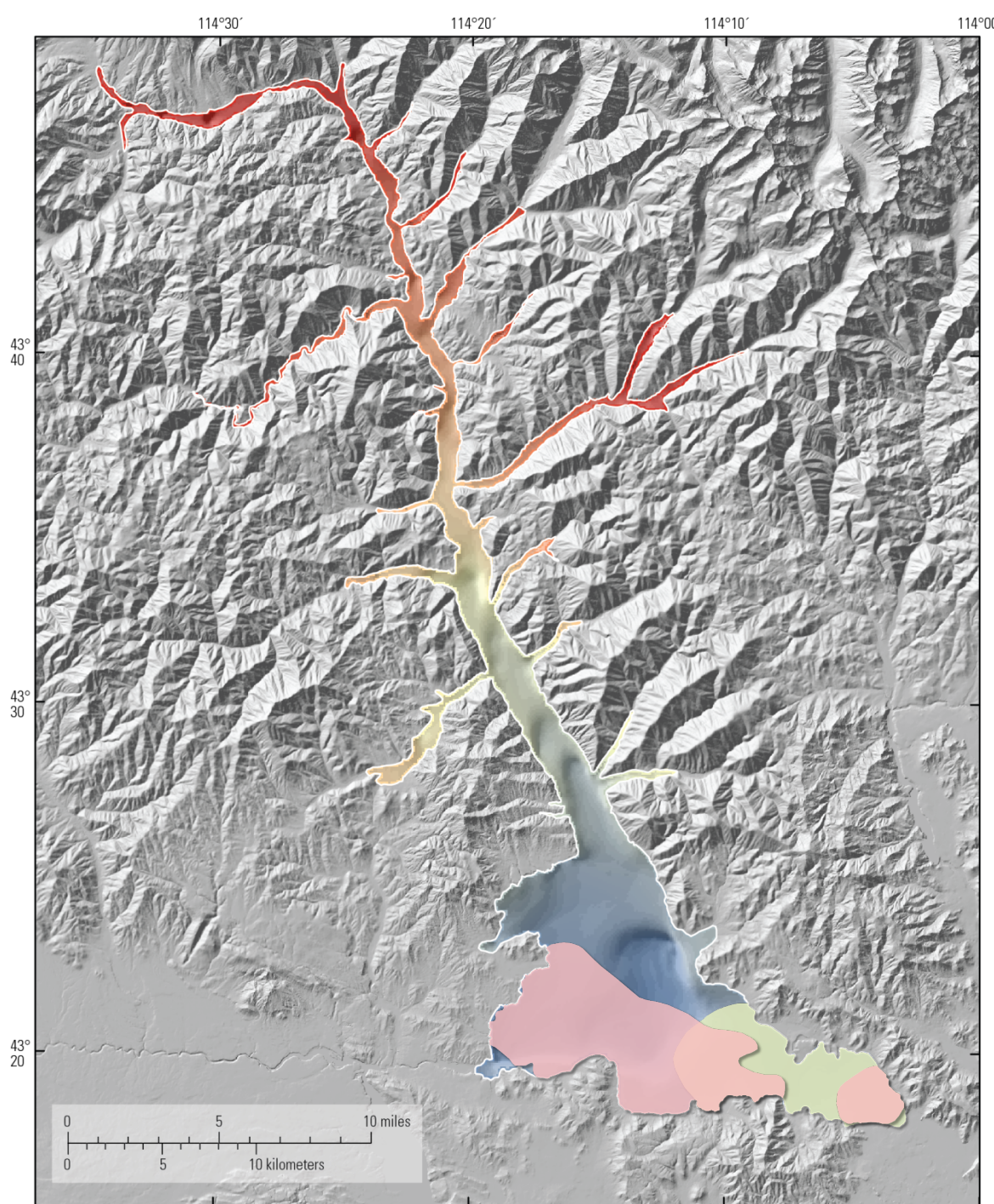
 Aquifer extent (SIR 2012-5053)

 Basalt extent (SIR 2007-5258)

Base of alluvium aquifer raster:

Model resolution: 100 meters





Coordinate system:

NAD 1983 Idaho TM (meters)

NAVD 1988 (meters)

Land surface elevation raster:

National Elevation Dataset (NED)

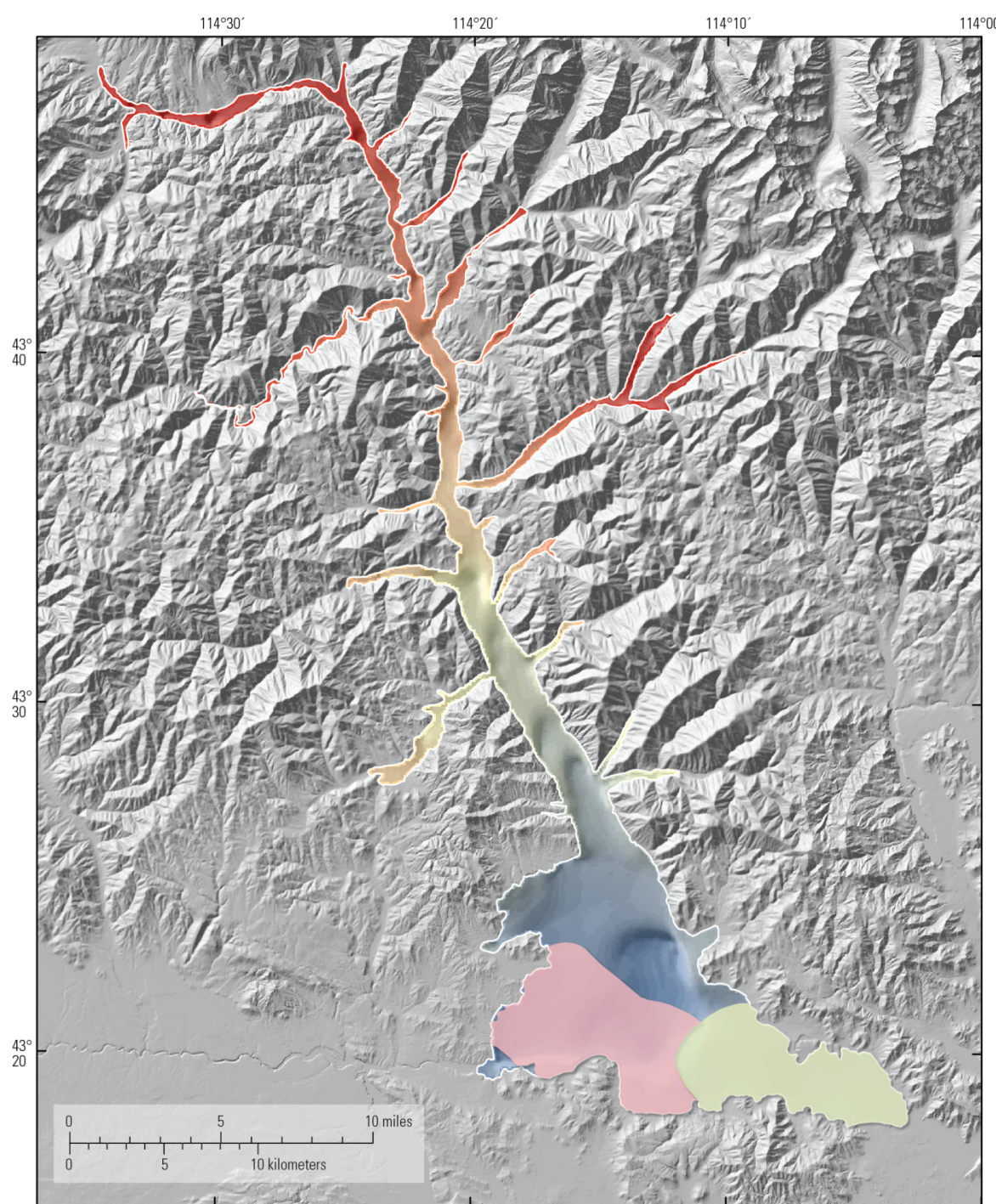
Resolution: about 10 meters

Line and polygon shapefiles:

- Aquifer extent (SIR 2012-5053)
- Basalt extent (SIR 2007-5258)
- Aquitard extent (OFR 1977-456)

Base of alluvium aquifer raster:

Model resolution: 100 meters



Coordinate system:

NAD 1983 Idaho TM (meters)

NAVD 1988 (meters)

Land surface elevation raster:

National Elevation Dataset (NED)

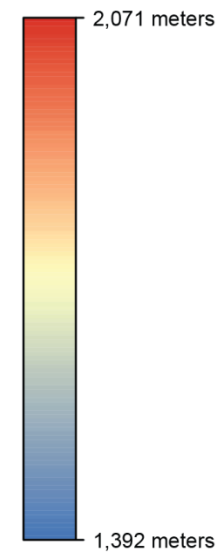
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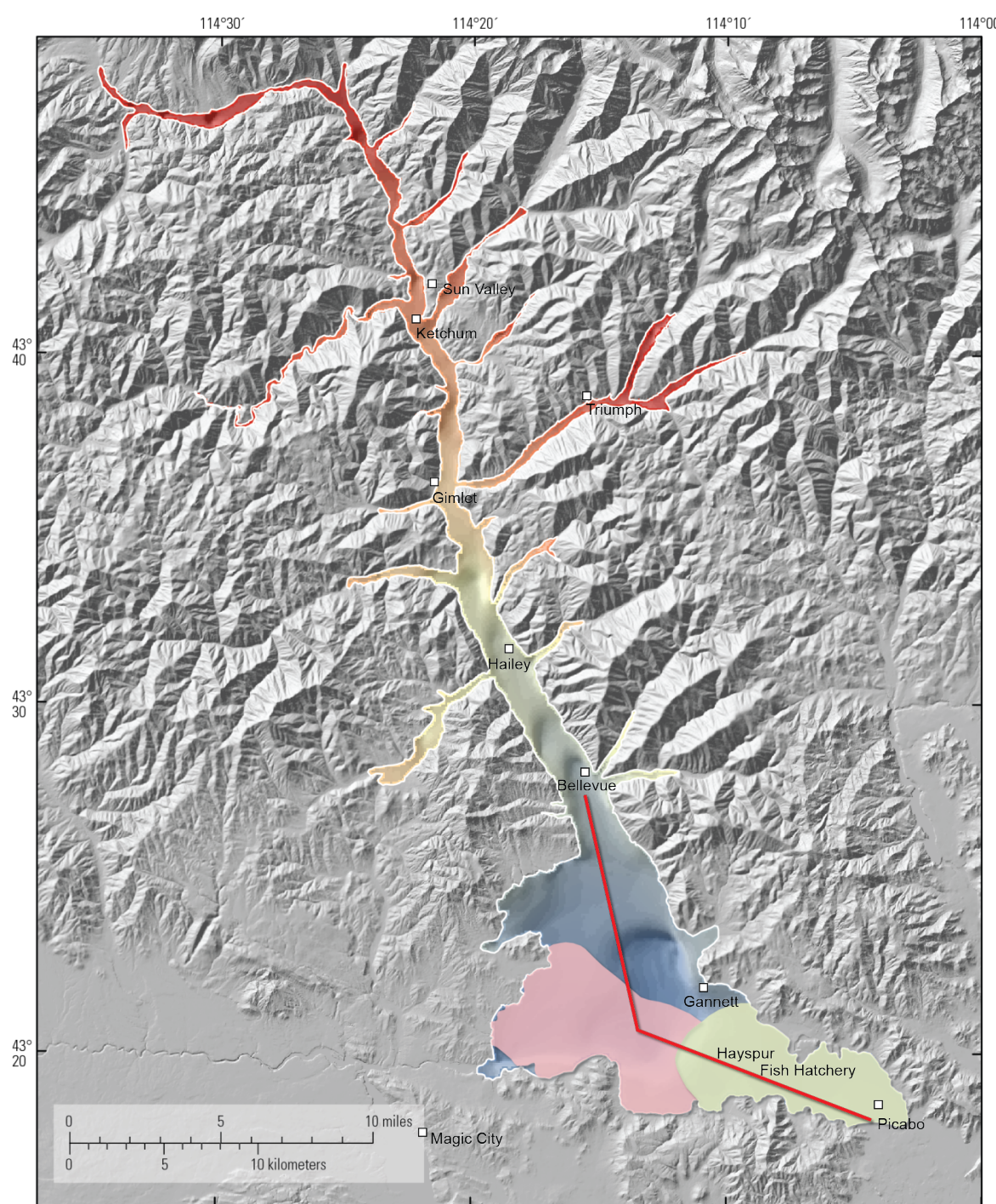
Line and polygon shapefiles:

-  Aquifer extent (SIR 2012-5053)
-  Basalt extent (SIR 2007-5258)
-  Aquitard extent (Modified)

Base of alluvium aquifer raster:

Model resolution: 100 meters





Coordinate system:

NAD 1983 Idaho TM (meters)

NAVD 1988 (meters)

Land surface elevation raster:

National Elevation Dataset (NED)

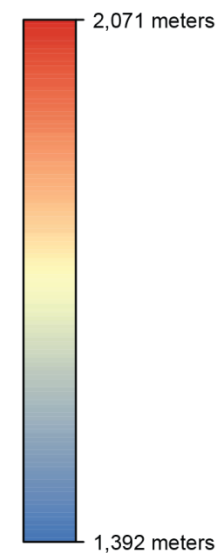
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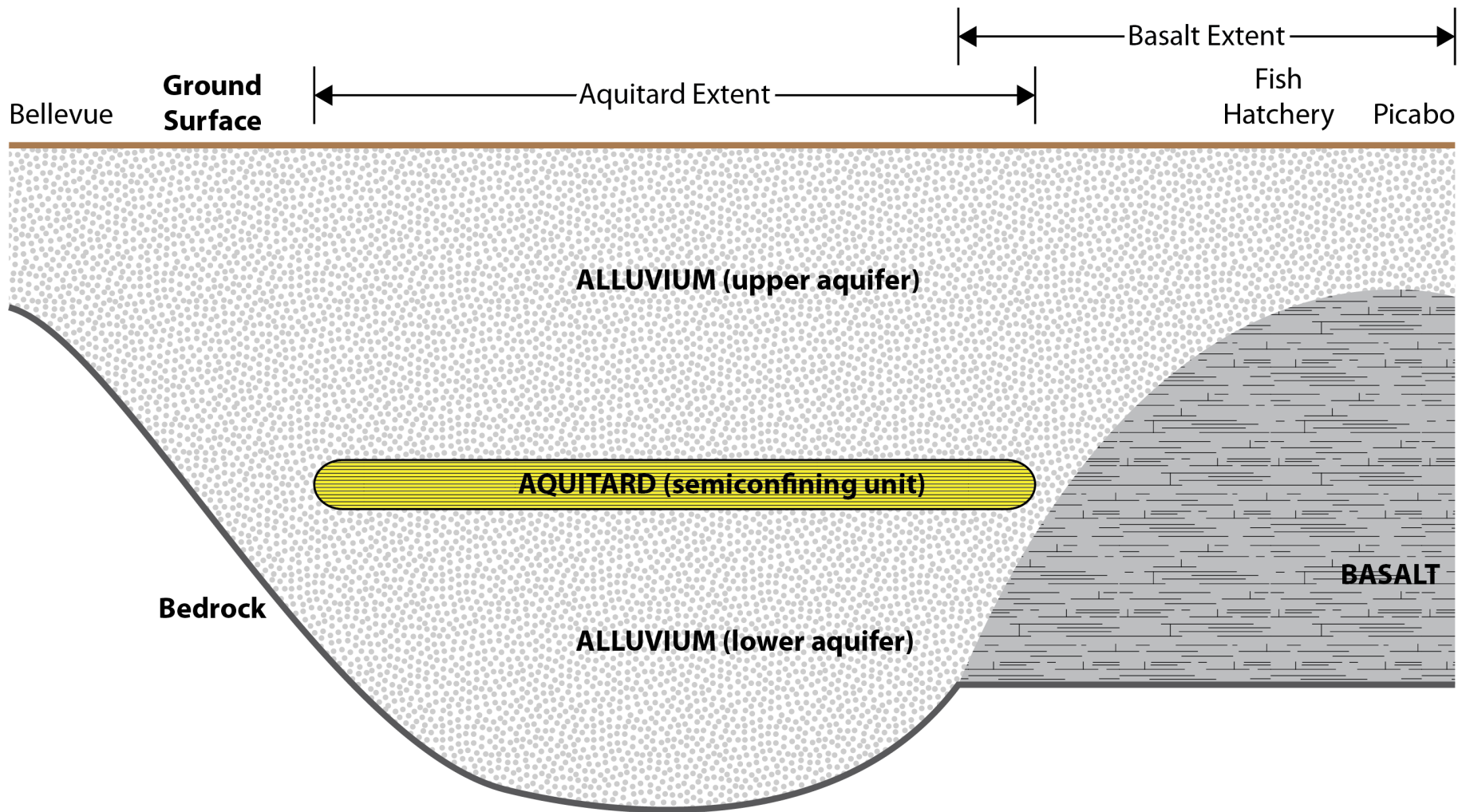
Line and polygon shapefiles:

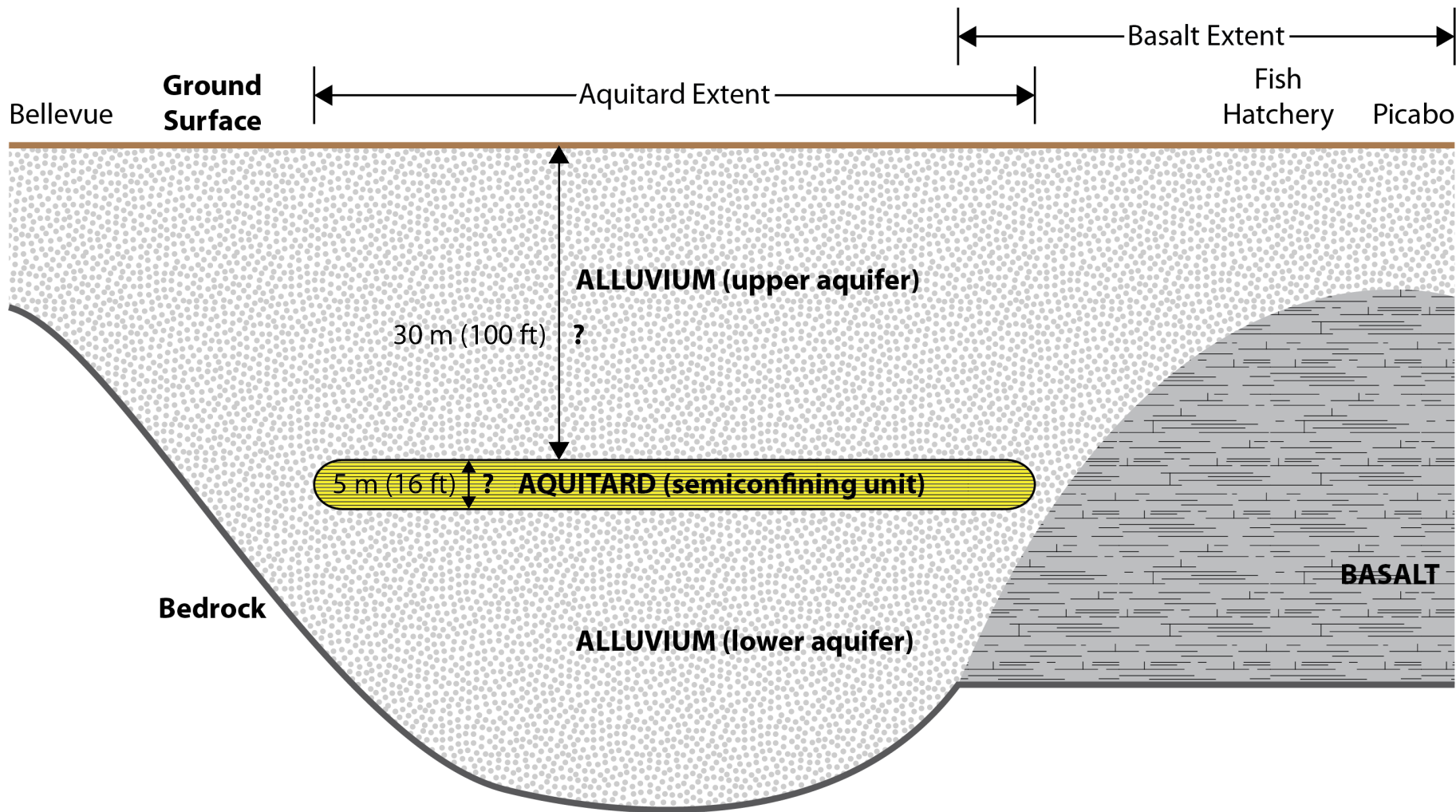
-  Aquifer extent (SIR 2012-5053)
-  Basalt extent (SIR 2007-5258)
-  Aquitard extent (Modified)
-  Trace of section

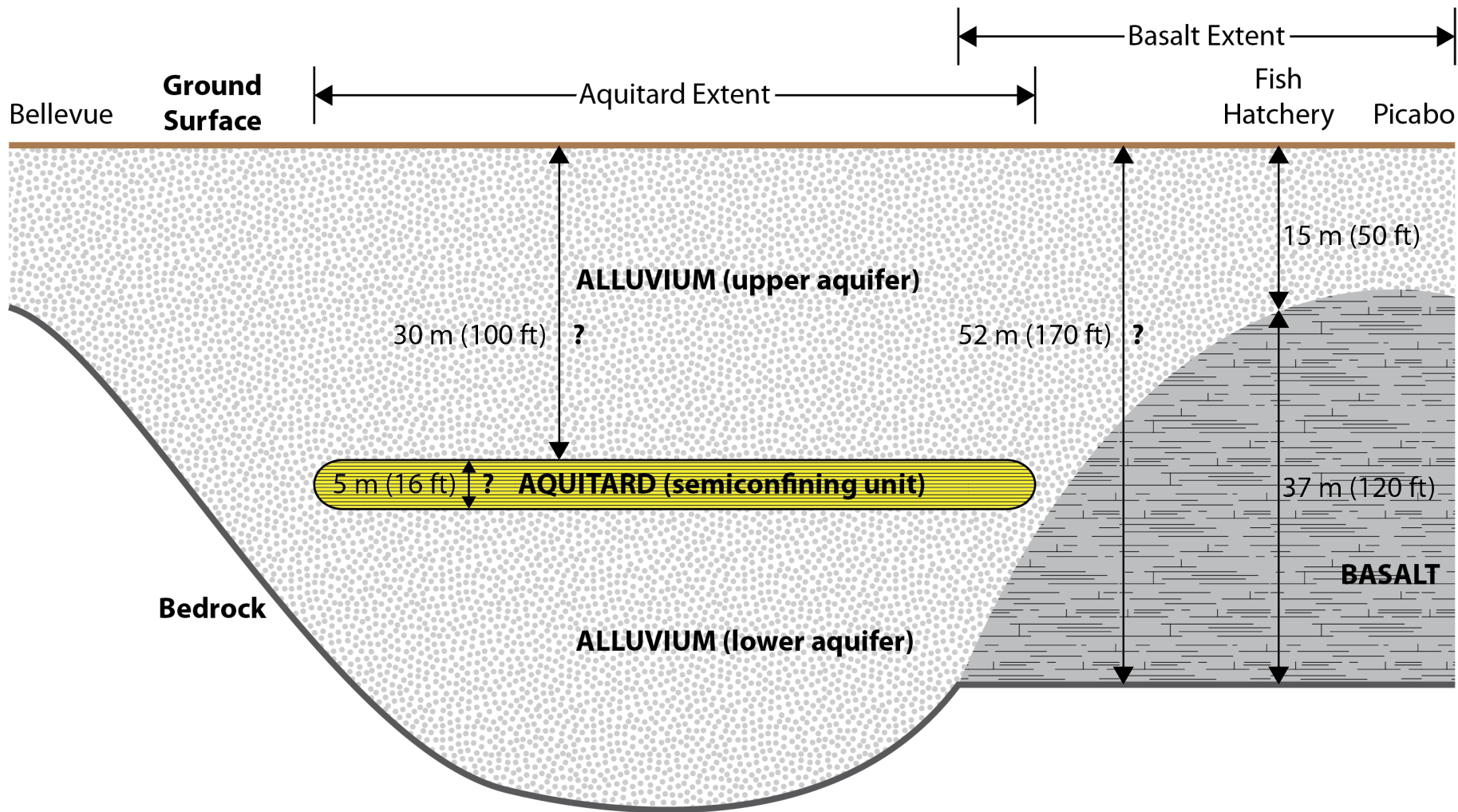
Base of alluvium aquifer raster:

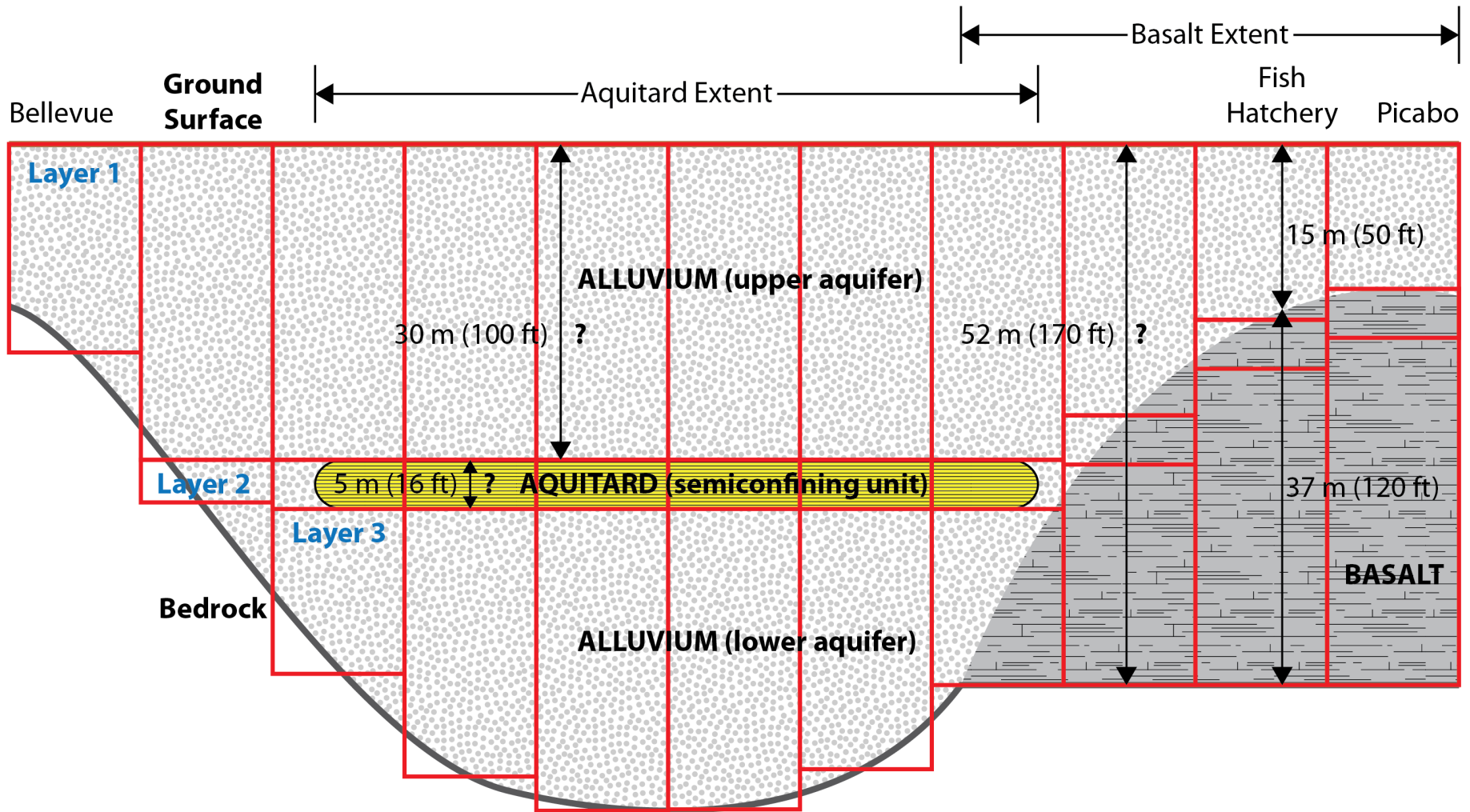
Model resolution: 100 meters

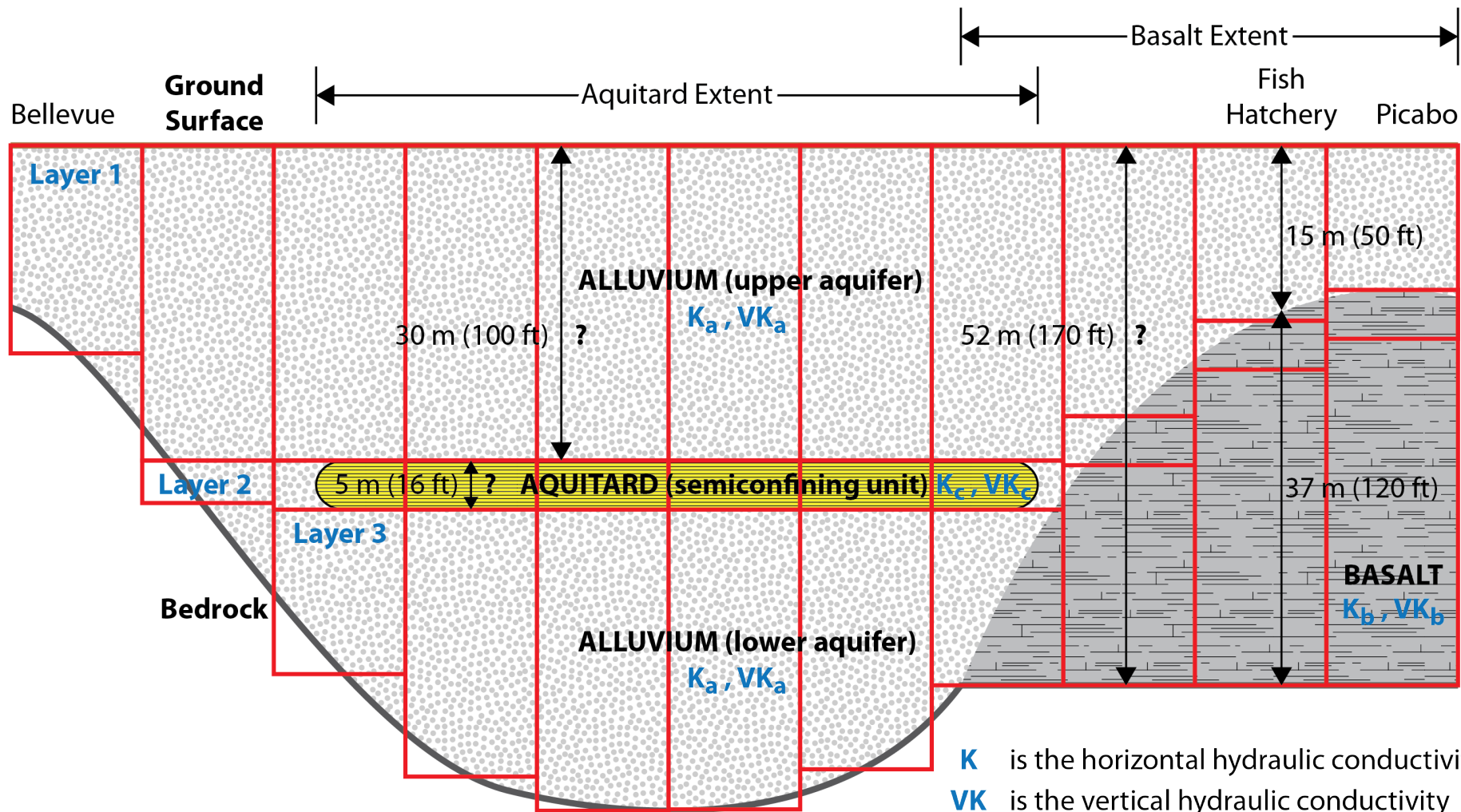


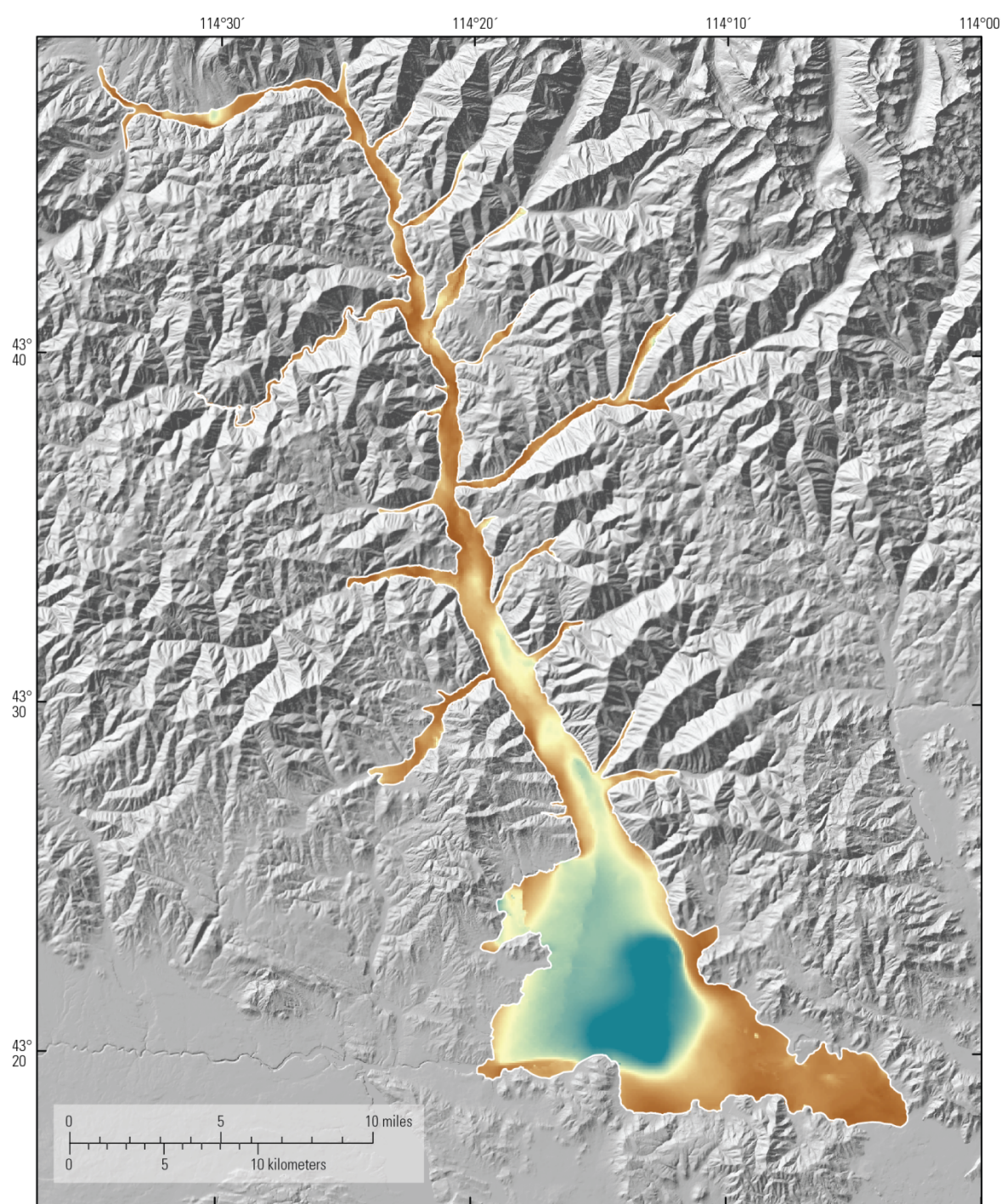


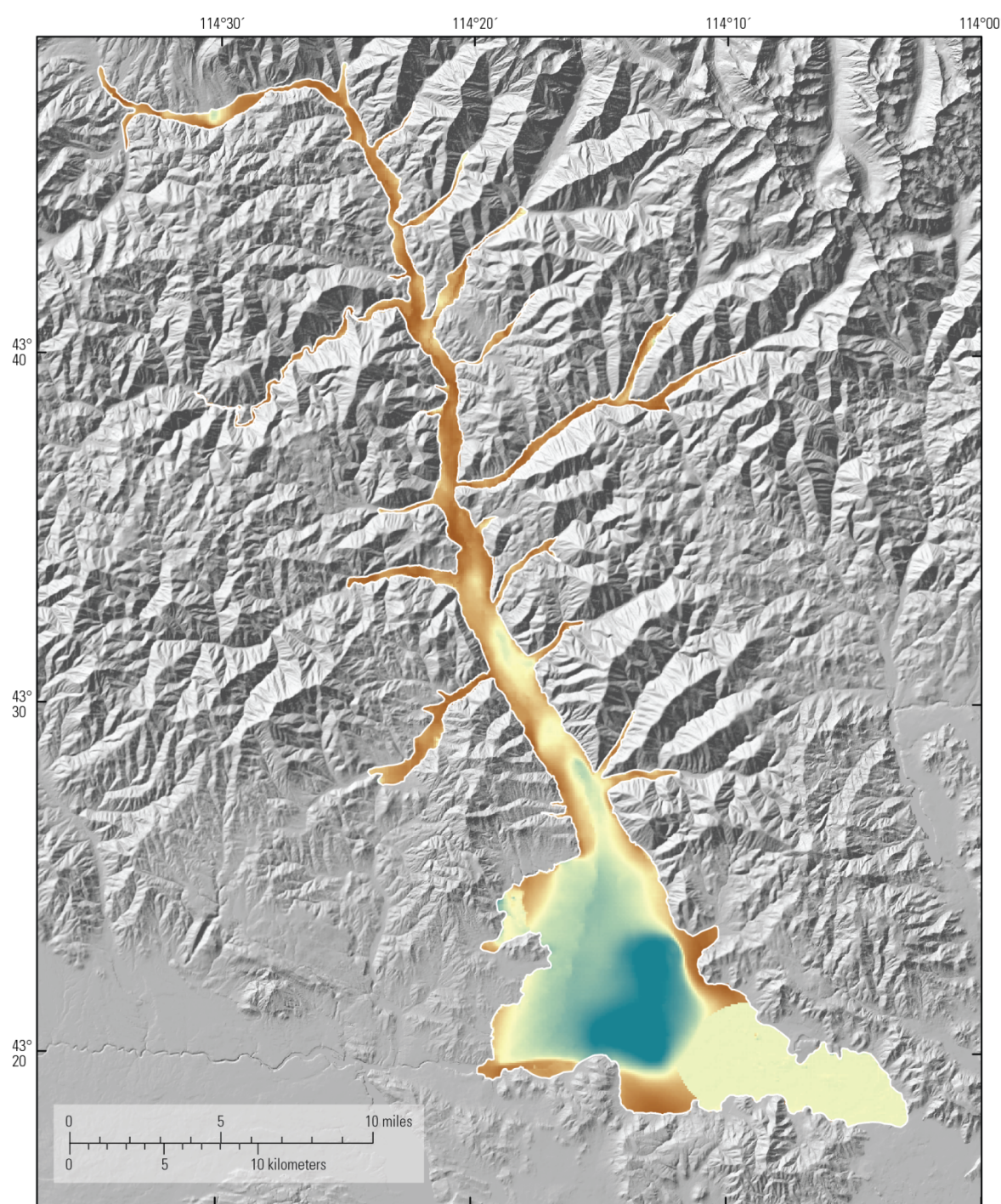












Coordinate system:

NAD 1983 Idaho TM (meters)

NAVD 1988 (meters)

Land surface elevation raster:

National Elevation Dataset (NED)

Resolution: about 10 meters

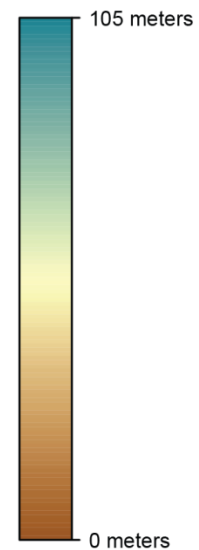
Line and polygon shapefiles:

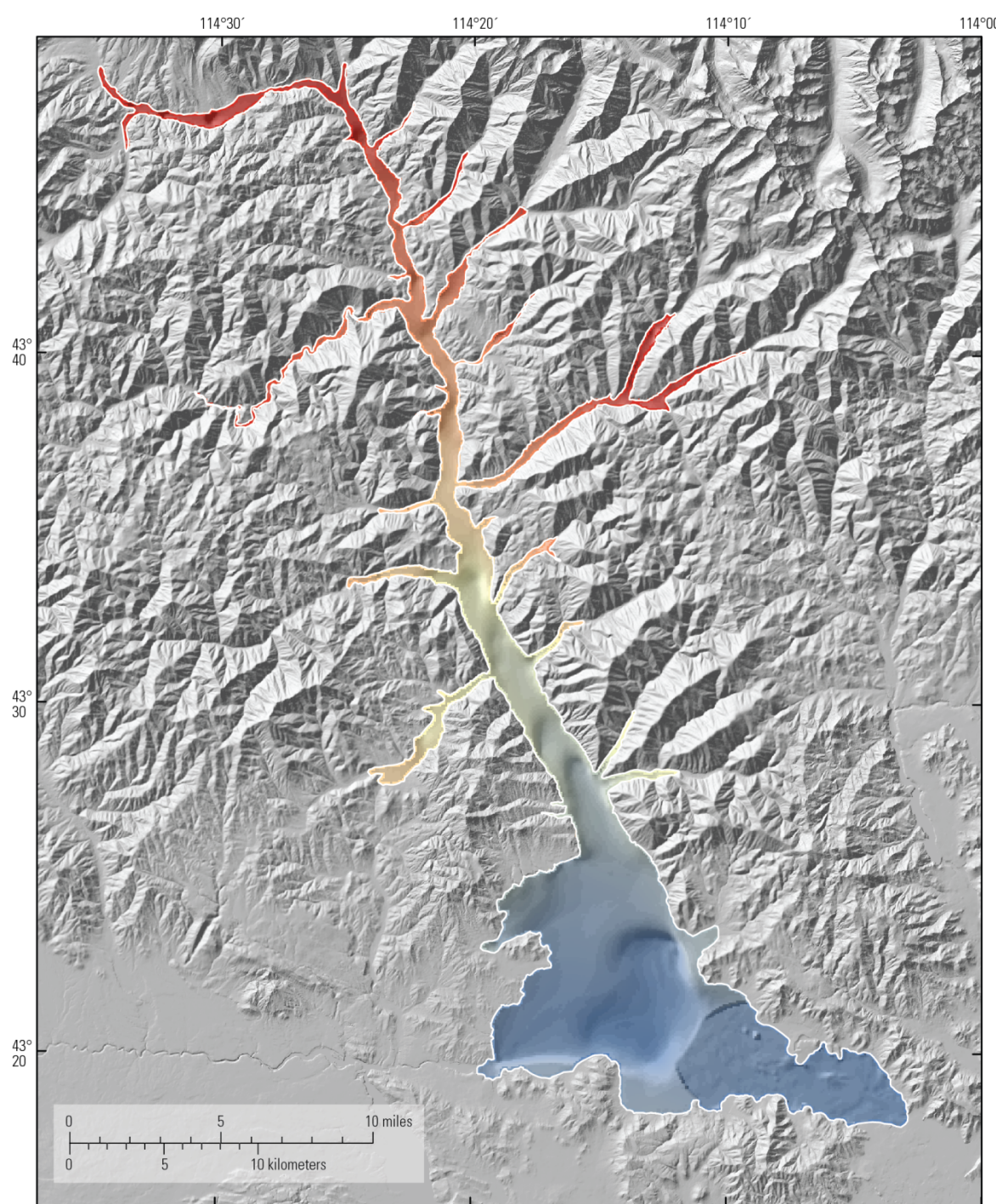


Aquifer extent (SIR 2012-5053)

Thickness of modeled aquifer raster:

Model resolution: 100 meters





Coordinate system:

NAD 1983 Idaho TM (meters)

NAVD 1988 (meters)

Land surface elevation raster:

National Elevation Dataset (NED)

Resolution: about 10 meters

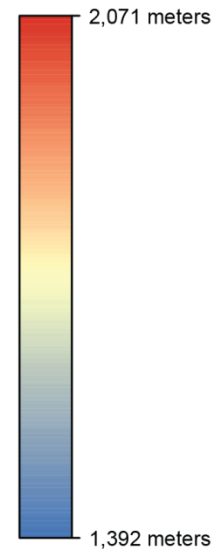
Line and polygon shapefiles:

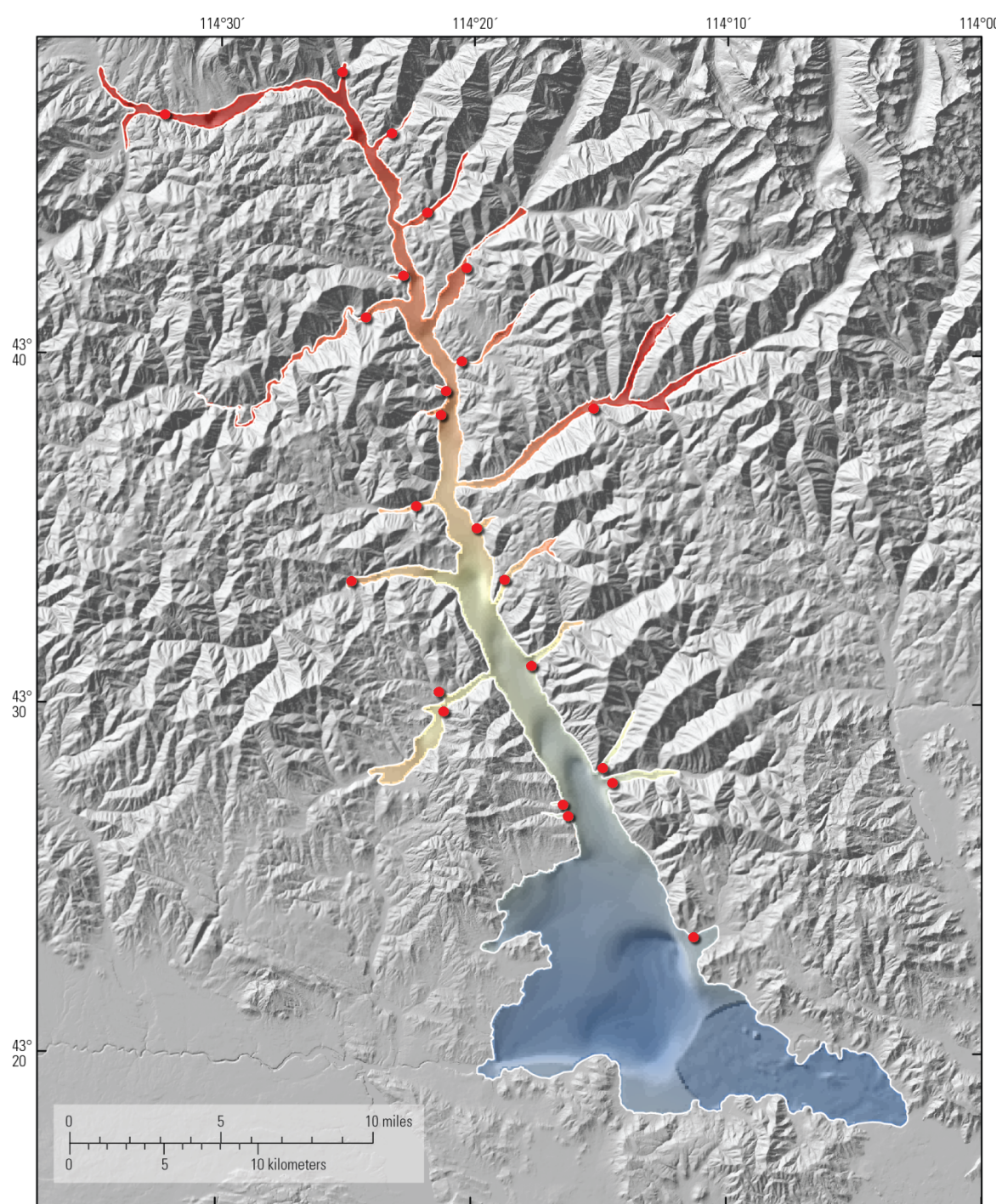


Aquifer extent (SIR 2012-5053)

Base of modeled aquifer raster:

Model resolution: 100 meters





Coordinate system:

NAD 1983 Idaho TM (meters)

NAVD 1988 (meters)

Land surface elevation raster:

National Elevation Dataset (NED)

Resolution: about 10 meters

Line and polygon shapefiles:



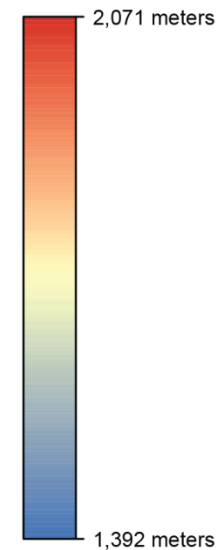
Aquifer extent (SIR 2012-5053)

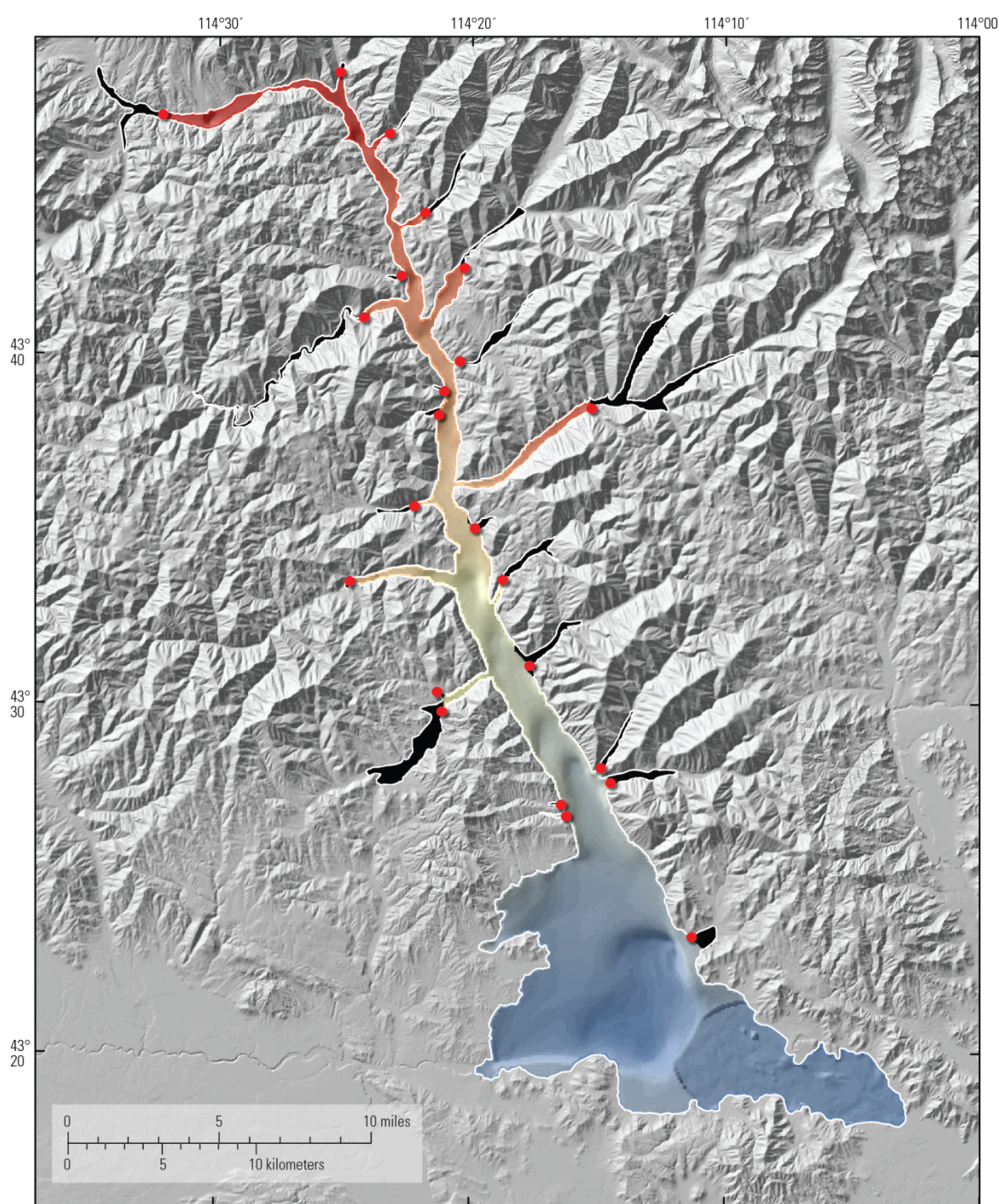


Source location

Base of modeled aquifer raster:

Model resolution: 100 meters





Coordinate system:

NAD 1983 Idaho TM (meters)

NAVD 1988 (meters)

Land surface elevation raster:

National Elevation Dataset (NED)

Resolution: about 10 meters

Line and polygon shapefiles:

 Aquifer extent (SIR 2012-5053)

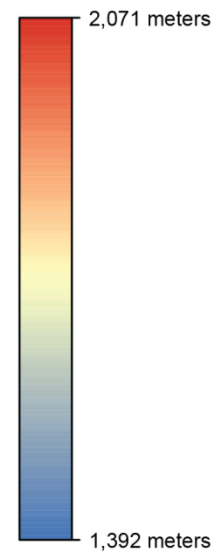
 Source location

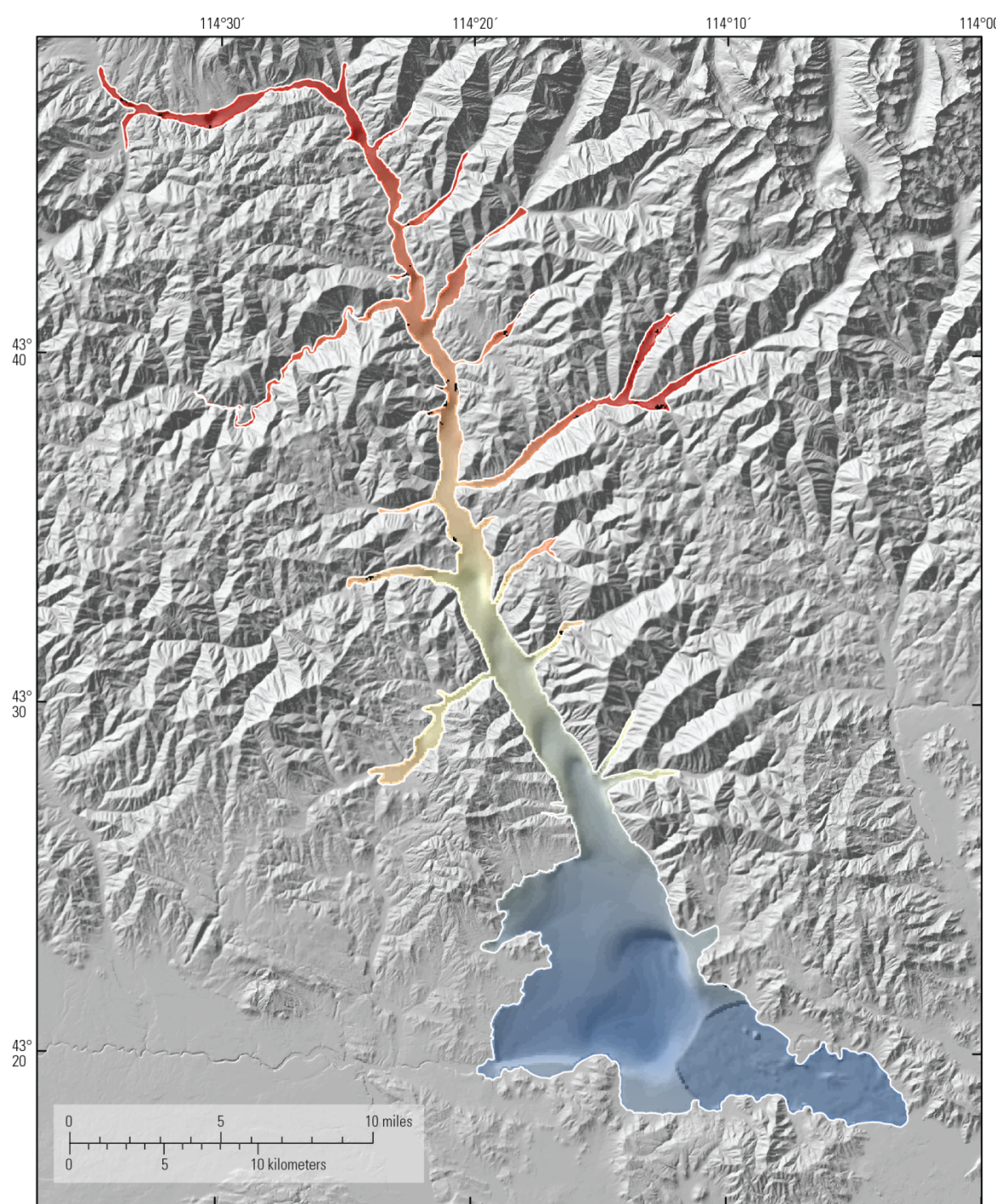
 Removed cells



Base of modeled aquifer raster:

Model resolution: 100 meters





Coordinate system:

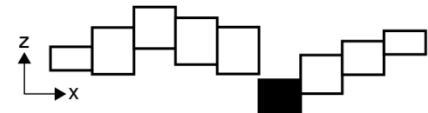
NAD 1983 Idaho TM (meters)
NAVD 1988 (meters)

Land surface elevation raster:

National Elevation Dataset (NED)
Resolution: about 10 meters

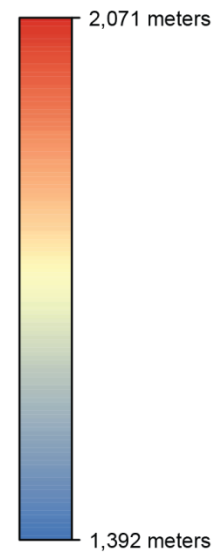
Line and polygon shapefiles:

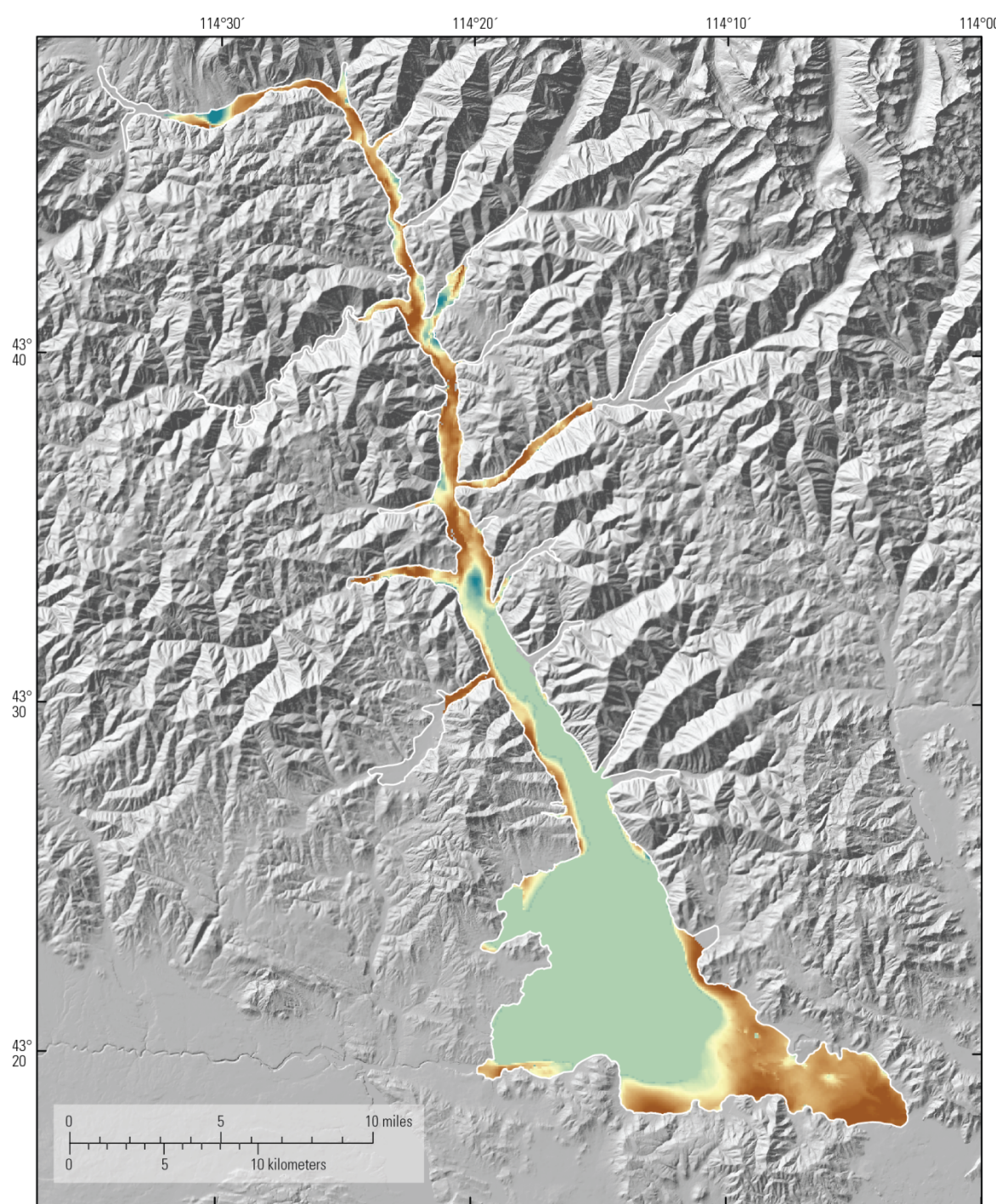
-  Aquifer extent (SIR 2012-5053)
-  Removed cells



Base of modeled aquifer raster:

Model resolution: 100 meters





Coordinate system:

NAD 1983 Idaho TM (meters)
NAVD 1988 (meters)

Land surface elevation raster:

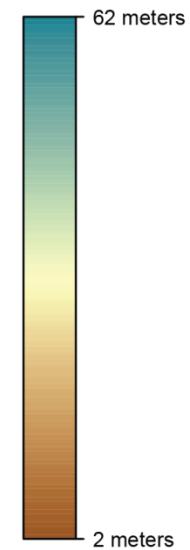
National Elevation Dataset (NED)
Resolution: about 10 meters

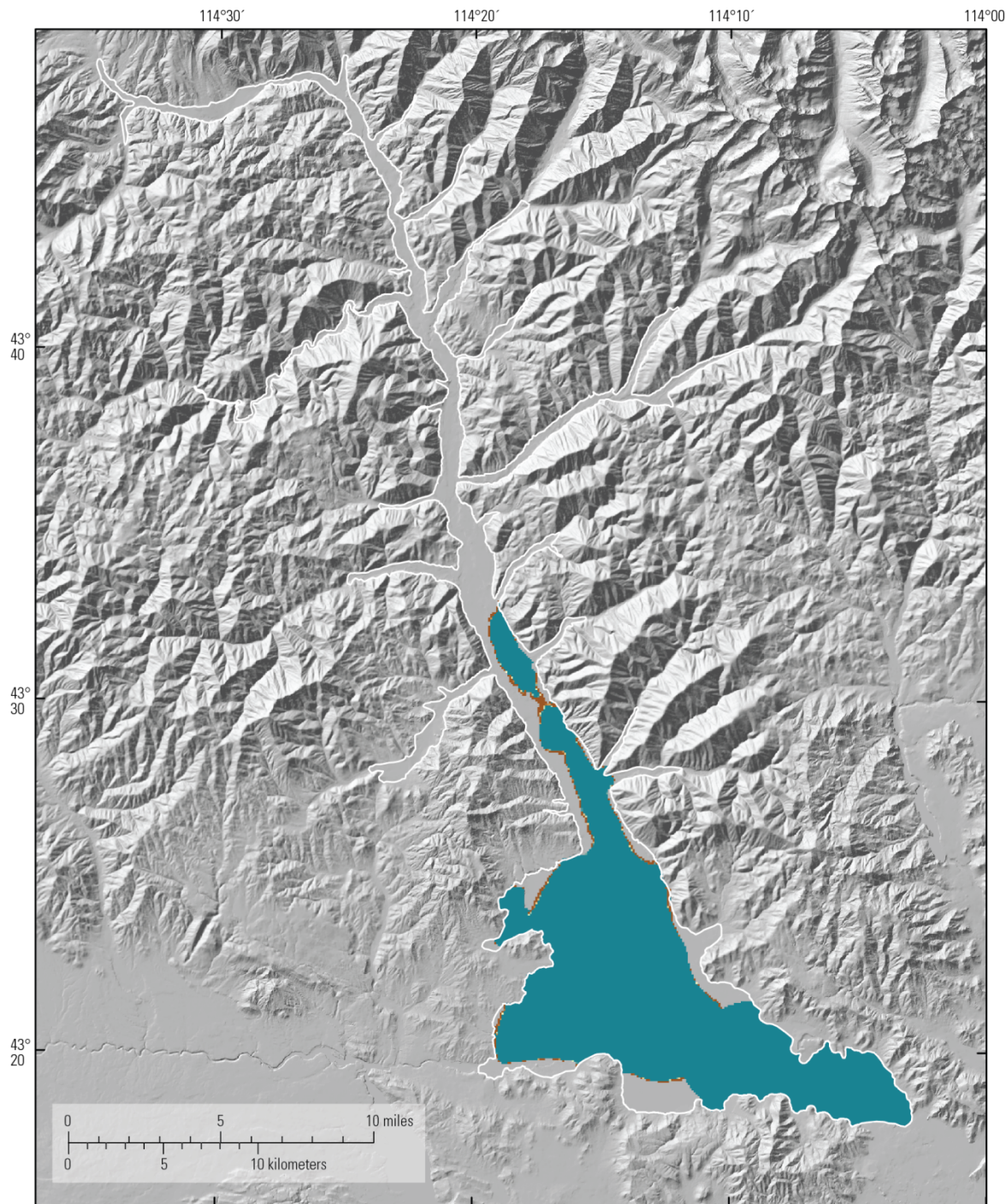
Line and polygon shapefiles:

 Aquifer extent (SIR 2012-5053)

Thickness of model layer 1 raster:

Model resolution: 100 meters





Coordinate system:

NAD 1983 Idaho TM (meters)

NAVD 1988 (meters)

Land surface elevation raster:

National Elevation Dataset (NED)

Resolution: about 10 meters

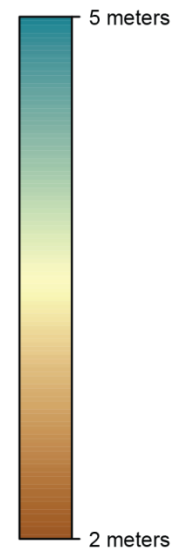
Line and polygon shapefiles:

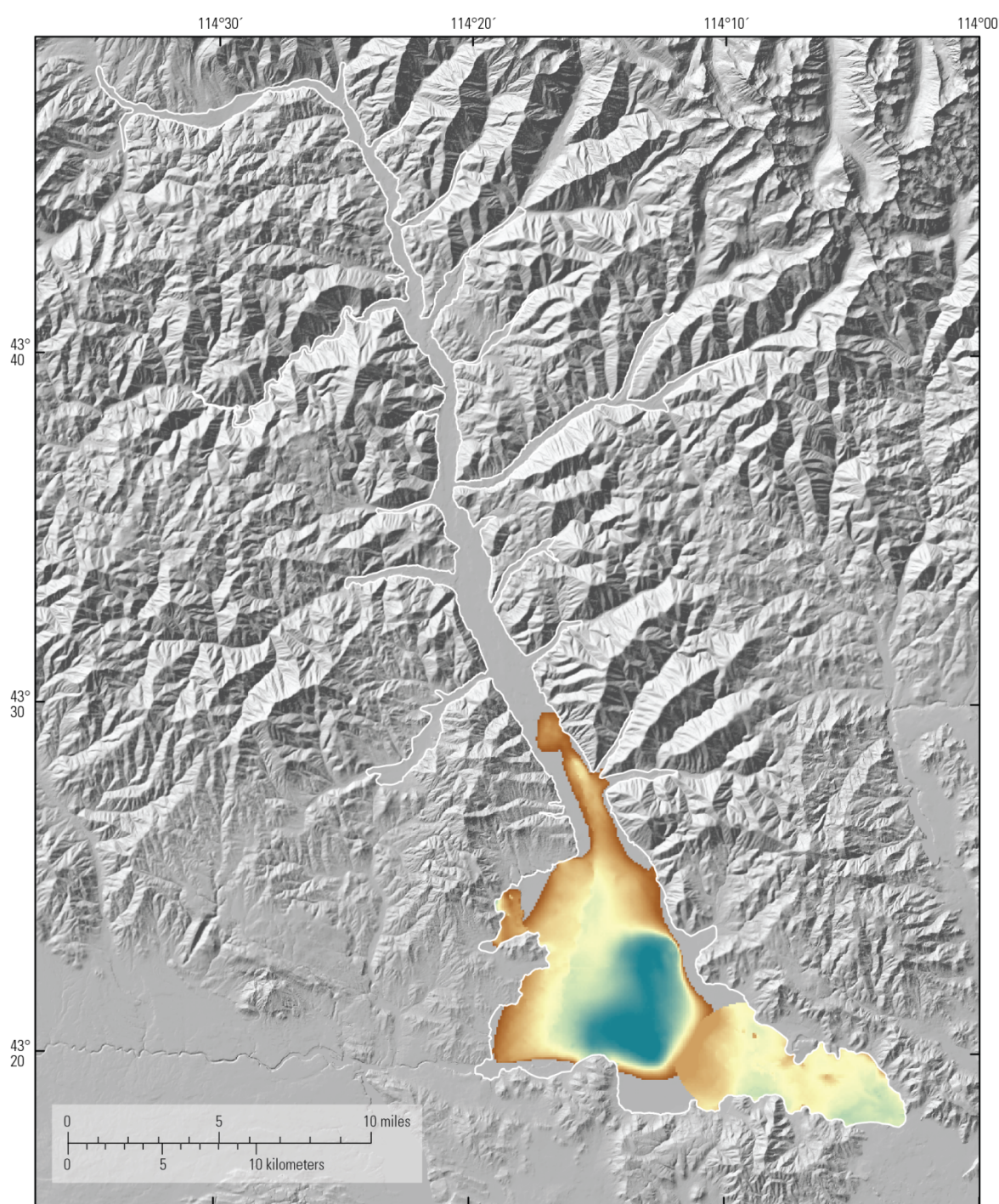


Aquifer extent (SIR 2012-5053)

Thickness of model layer 2 raster:

Model resolution: 100 meters





Coordinate system:

NAD 1983 Idaho TM (meters)
NAVD 1988 (meters)

Land surface elevation raster:

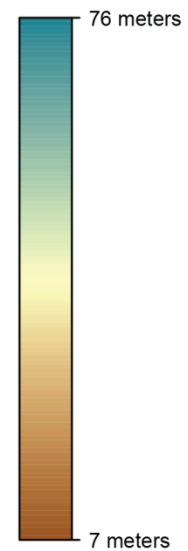
National Elevation Dataset (NED)
Resolution: about 10 meters

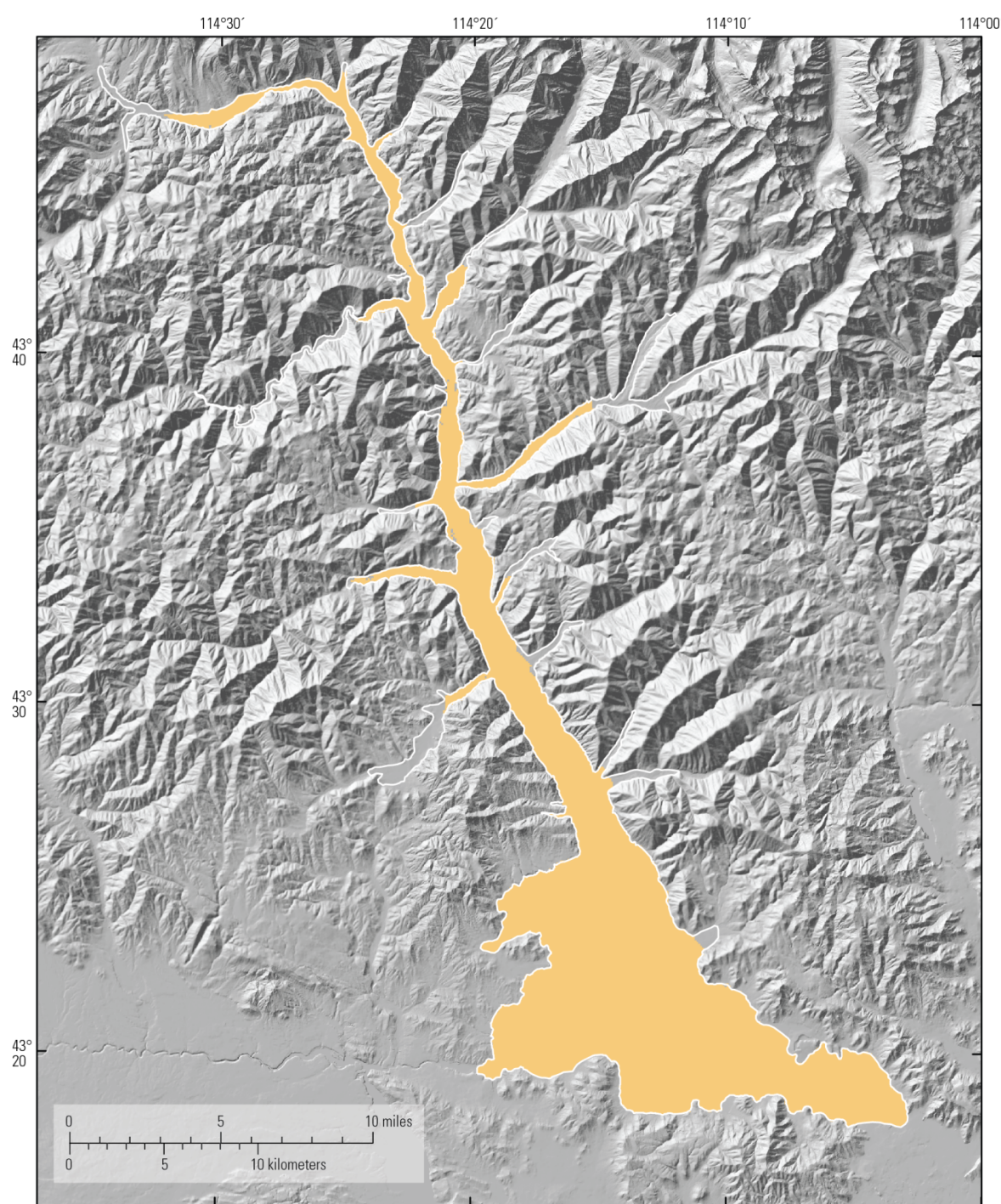
Line and polygon shapefiles:

 Aquifer extent (SIR 2012-5053)

Thickness of model layer 3 raster:

Model resolution: 100 meters





Coordinate system:

NAD 1983 Idaho TM (meters)

NAVD 1988 (meters)

Land surface elevation raster:

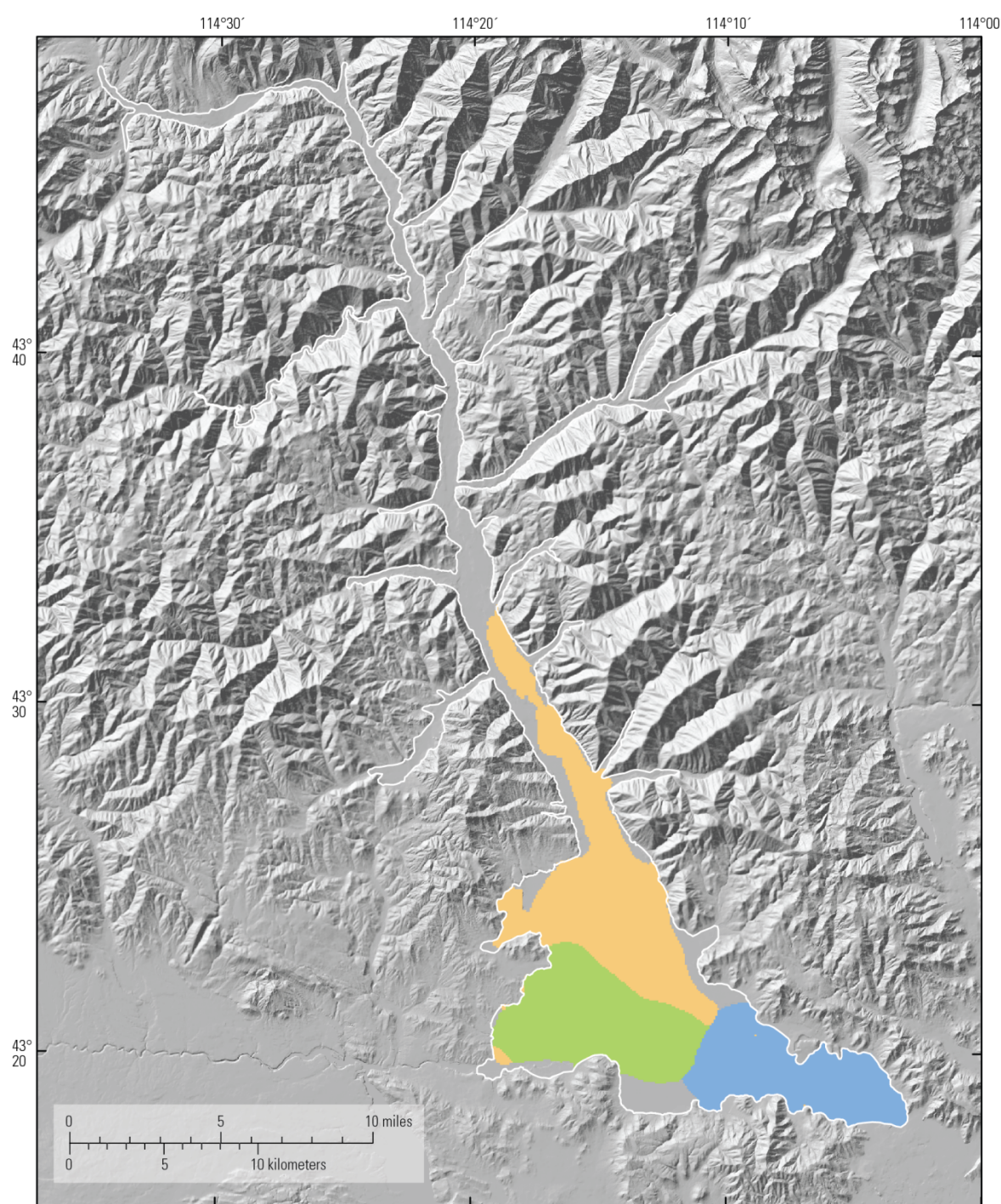
National Elevation Dataset (NED)

Resolution: about 10 meters

Line and polygon shapefiles:

 Aquifer extent (SIR 2012-5053)

 Alluvium (Model layer 1)



Coordinate system:

NAD 1983 Idaho TM (meters)

NAVD 1988 (meters)

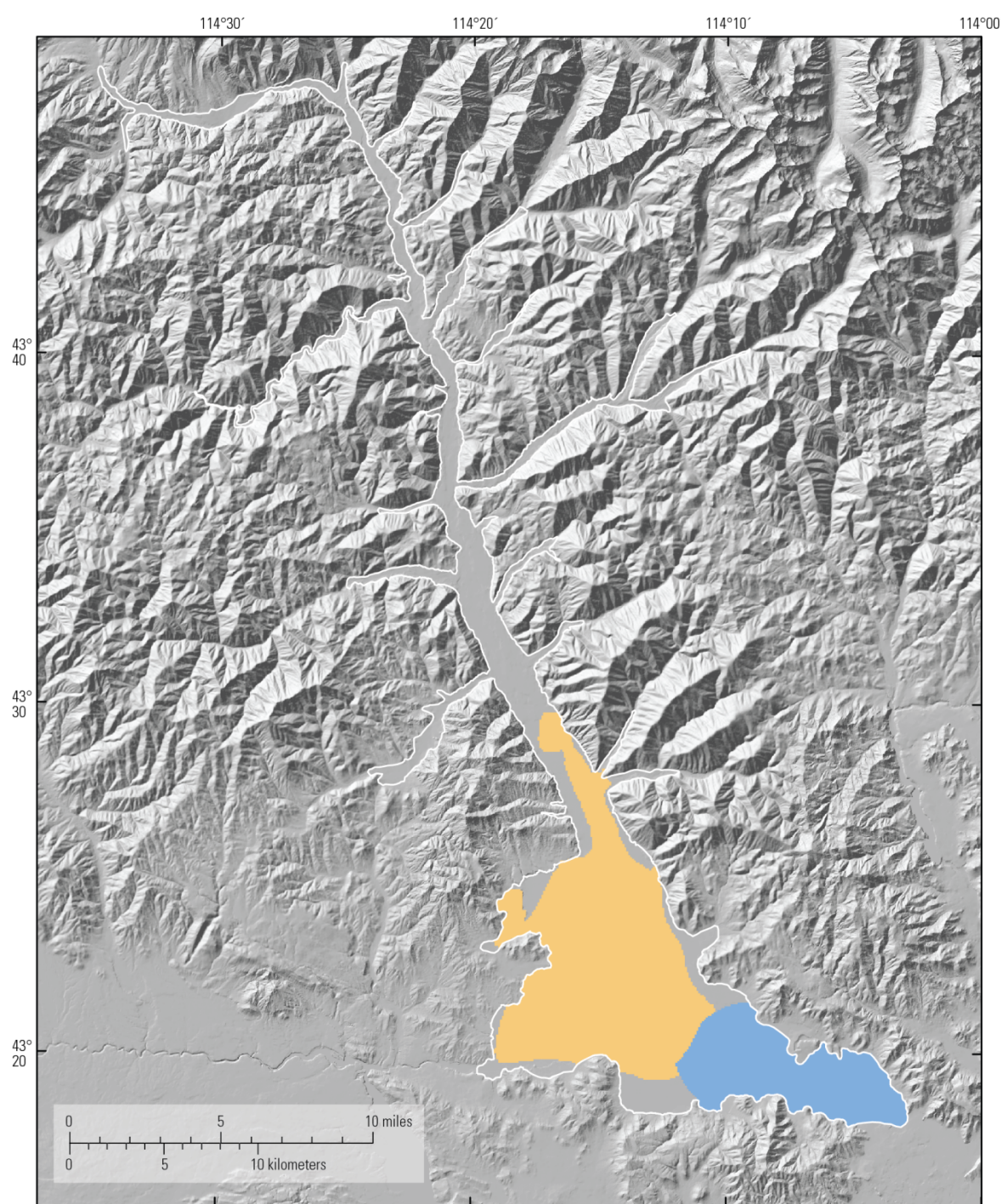
Land surface elevation raster:

National Elevation Dataset (NED)

Resolution: about 10 meters

Line and polygon shapefiles:

-  Aquifer extent (SIR 2012-5053)
-  Alluvium (Model layer 2)
-  Basalt (Model layer 2)
-  Aquitard (Model layer 2)



Coordinate system:

NAD 1983 Idaho TM (meters)

NAVD 1988 (meters)

Land surface elevation raster:

National Elevation Dataset (NED)

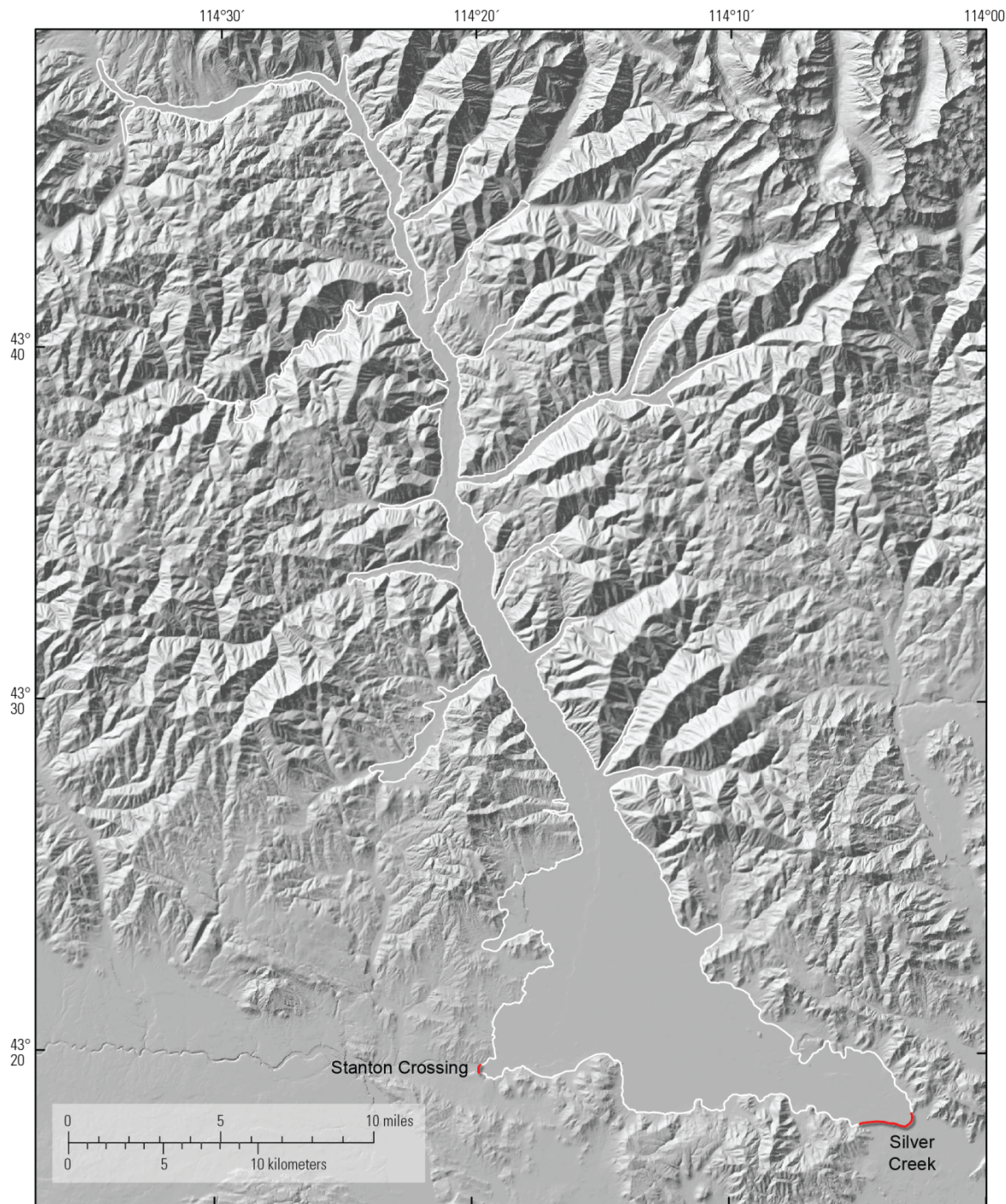
Resolution: about 10 meters

Line and polygon shapefiles:

 Aquifer extent (SIR 2012-5053)

 Alluvium (Model layer 3)

 Basalt (Model layer 3)



Coordinate system:

NAD 1983 Idaho TM (meters)

NAVD 1988 (meters)

Land surface elevation raster:

National Elevation Dataset (NED)

Resolution: about 10 meters

Line and polygon shapefiles:



Aquifer extent (SIR 2012-5053)



Groundwater outflow

Numerical Model:

- USGS MODFLOW-2005 or MODFLOW-NWT
- Temporal simulation from 1995 to 2010
- Model calibration using PEST





github
SOCIAL CODING

Questions

