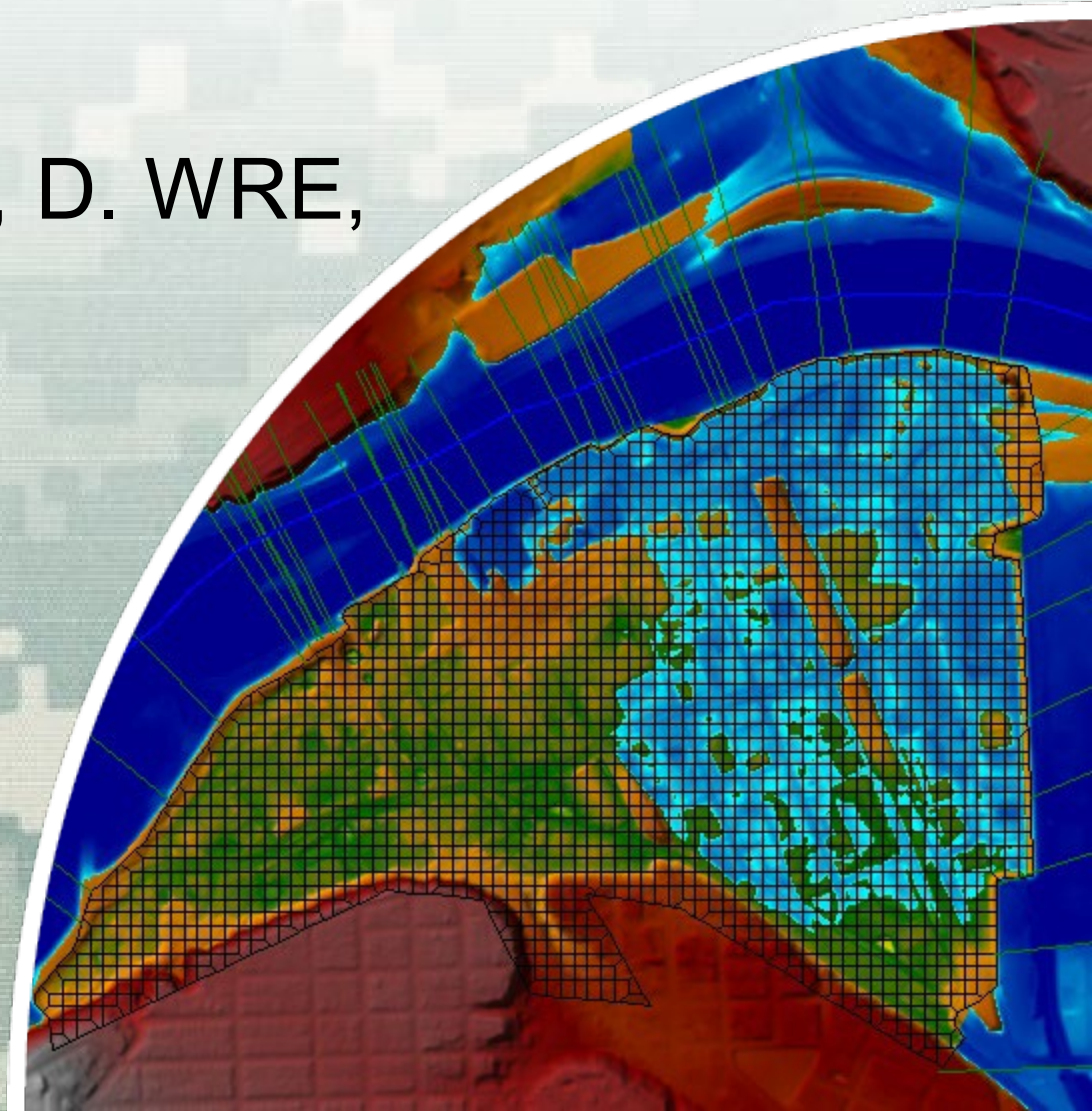


Gridded Precipitation and Infiltration

Gary Brunner, P.E., D. WRE,
M.ASCE



Spatial Precipitation

- Gridded Data
 - HEC-DSS file format (from HEC-MetView)
 - GRIB - NWS
 - NetCDF - NWS
- Point Gage Data
 - HEC-DSS time series
 - Regular Interval
 - Irregular Interval
 - User Entered into a Table

Unsteady Flow Boundary Conditions

Unsteady Flow Data - Gridded Precipitation

File Options Help

Description:

Boundary Conditions | Initial Conditions | **Meteorological Data** | Observed Data

Precipitation/Evapotranspiration: Wind:

Meteorological Stations (required for point time series data)

Meteorological Variables

Precipitation

Mode: Ratio (Optional):

DSS Data

Filename:

Path:

Projection Override (Optional):

Evapotranspiration

Mode:

Gridded Data

Boundary Conditions | Initial Conditions | **Meteorological Data** | Observed Data

Precipitation/Evapotranspiration: Wind:

Meteorological Stations (required for point time series data)

Meteorological Variables

Precipitation

Mode: Ratio (Optional):

Gridded Data

Source:

DSS Data:

Filename:

Path:

Projection Override (Optional):

Evapotranspiration

Mode:

Point Gage Data

Unsteady Flow Data - Point Precipitation Data 1972

File Options Help

Description: ...

Boundary Conditions | Initial Conditions | **Meteorological Data** | Observed Data

Precipitation/Evapotranspiration: Wind:

Meteorological Stations (required for point time series data)

Meteorological Variables

Precipitation

Mode: Ratio (Optional)

Point Time Series Data

Interpolation Method:

Station Name	Summation
1 ALVIN BUSH DAM	DSS:
2 DRIFTWOOD	DSS:
3 HOLLIDAYSBURG 2	DSS:
4 PHILIPSBURG 8 E	DSS:
5 WILLIAMSPORT RGNL AP	DSS:
6 CRESSON 1 SE	DSS:
7 CURWENSVILLE LAKE	DSS:

Evapotranspiration

Mode:

Meteorological Stations

Detailed Table

	Point Name	Gauge Height(m)	Latitude	Longitude	Project X	Project Y
1	ALVIN BUSH DAM	10	41.35	-77.9166667	1922740.6	431189.94
2	DRIFTWOOD	10	41.3383333	-78.1333333	1863234.88	427128.04
3	HOLLIDAYSBURG 2	10	40.4272222	-78.3888889	1790610.4	95591.73
4	MILROY 2 WNW	10	40.7138889	-77.5905556	2012703.14	199422.25
5	PHILIPSBURG 8 E	10	40.8963889	-78.2205556	1838408.6	266227.39
6	RAYSTOWN LAKE 2	10	40.4333333	-78.0069444	1896963.52	97268.31
7	TYRONE	10	40.6705556	-78.2386111	1832952.79	183975.72
8	WILLIAMSPORT RGNL AP	10	41.2452	-76.9188889	2197049.88	394058.28
9	CRESSON 1 SE	10	40.45	-78.5916667	1734232.01	104373.03
10	CURWENSVILLE LAKE	10	41.05	-78.41	1786461.52	322534.71
11	DU BOIS 7 E	10	41.1208333	-78.7583333	1690689.7	349266.08
12	MADERA 2 SE	10	40.8283333	-78.435	1778927.51	241828.17
13	MTI HFTM	10	40.8908333	-77.4766667	2044073.29	263969.12

Point Gage Data

Unsteady Flow Data - Point Precipitation Data 1972

File Options Help

Description:

Boundary Conditions | Initial Conditions | Meteorological Data | Observed Data

Precipitation/Evapotranspiration: Wind:

Meteorological Stations (required for point time series data)

Meteorological Variables

Precipitation

Mode: Ratio (Optional): Point Time Series Mode (Thiessen Polygon)

Point Time Series Data

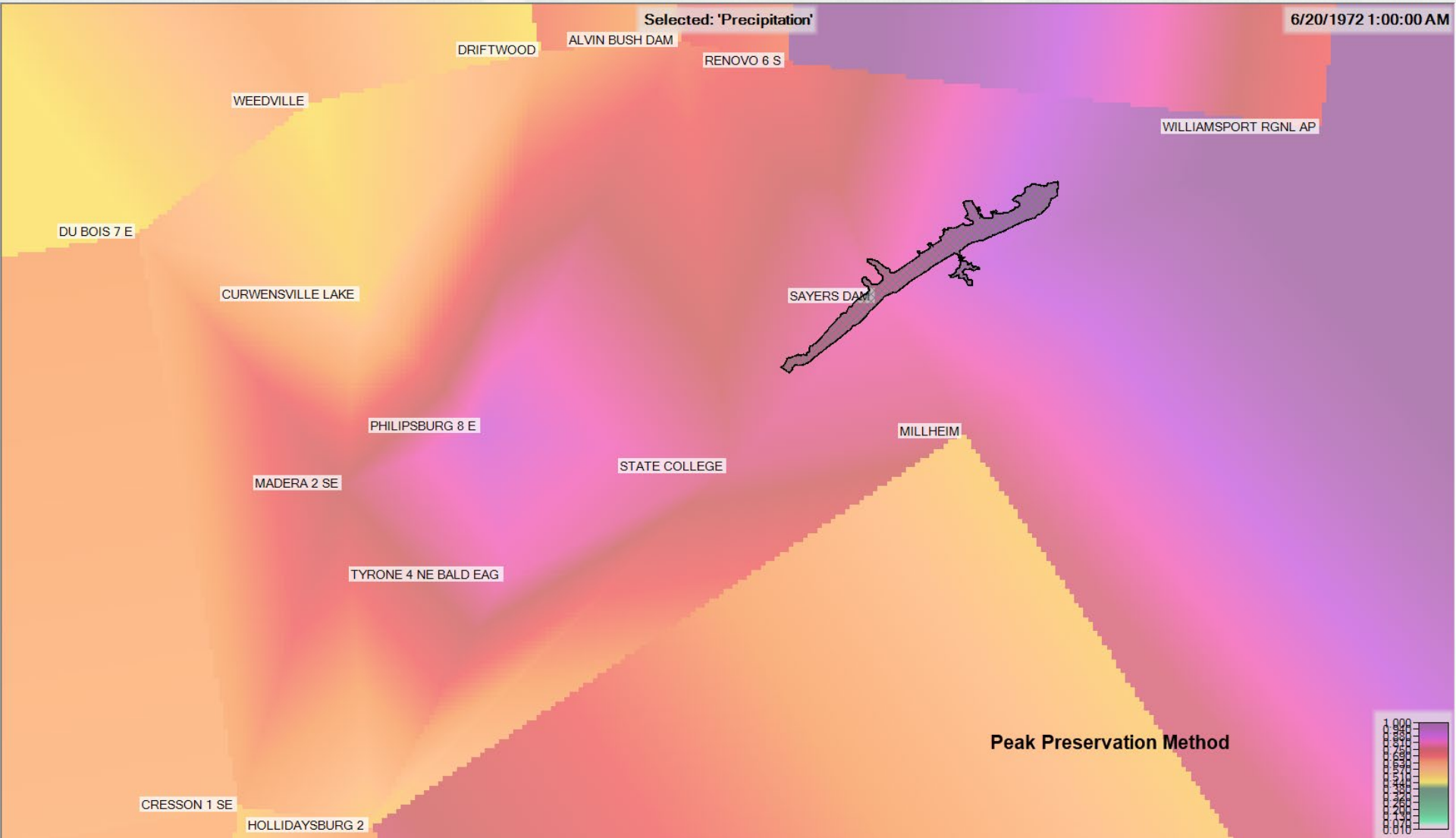
Interpolation Method:

Station Name	Interpolation Method	Distance	Edit
1 ALVIN BUSH DAM	Thiessen Polygon	0.500 (inches)	...
2 DRIFTWOOD	Inv Distance Sq	0.390 (inches)	...
3 HOLLIDAYSBURG	Inv Distance Sq (Restricted)	2.90 (inches)	...
4 PHILIPSBURG 8 E	Peak Preservation	0.550 (inches)	...
5 WILLIAMSPORT P	Shape Preservation	0.850 (inches)	...
6 GREGSON 1 SE	Laplace	DSS: data range = 0.000 to 0.470 (inches)	...
7 CURWENSVILLE LAKE		DSS: data range = 0.000 to 0.300 (inches)	...

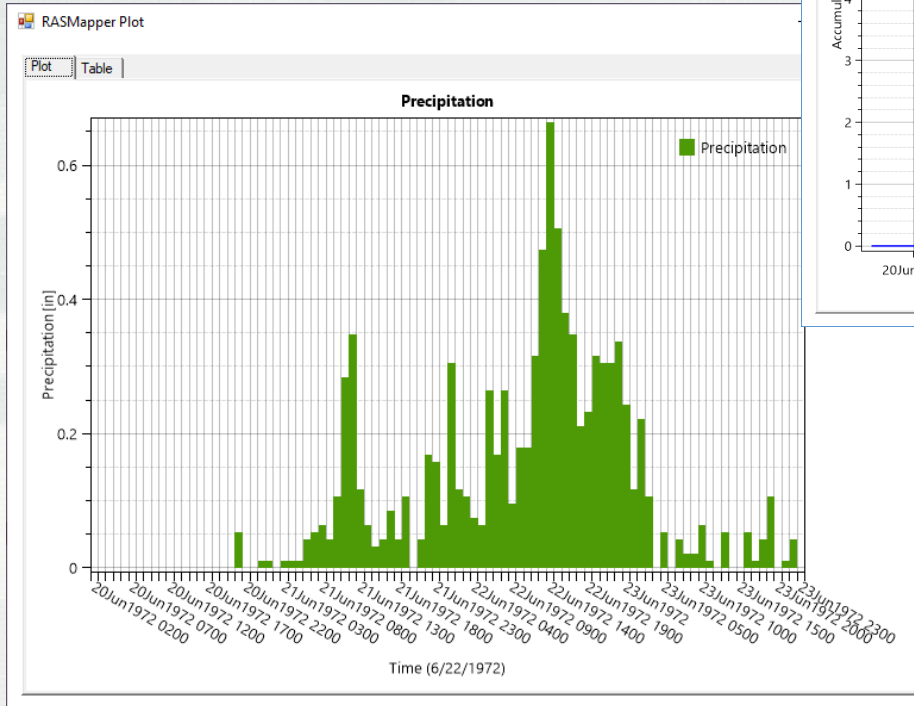
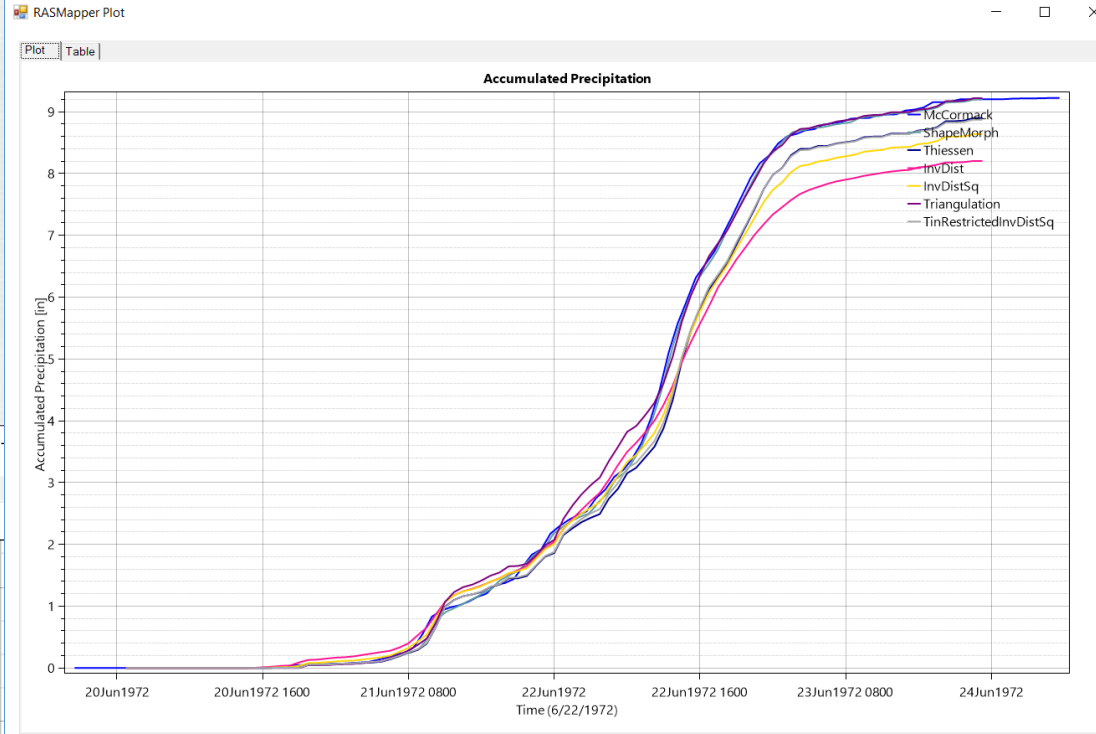
Evapotranspiration

Mode:

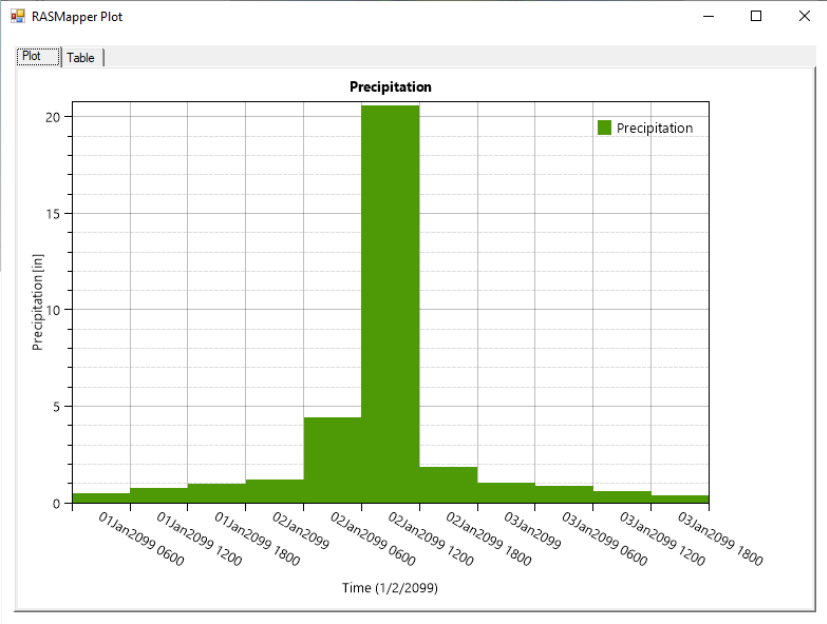
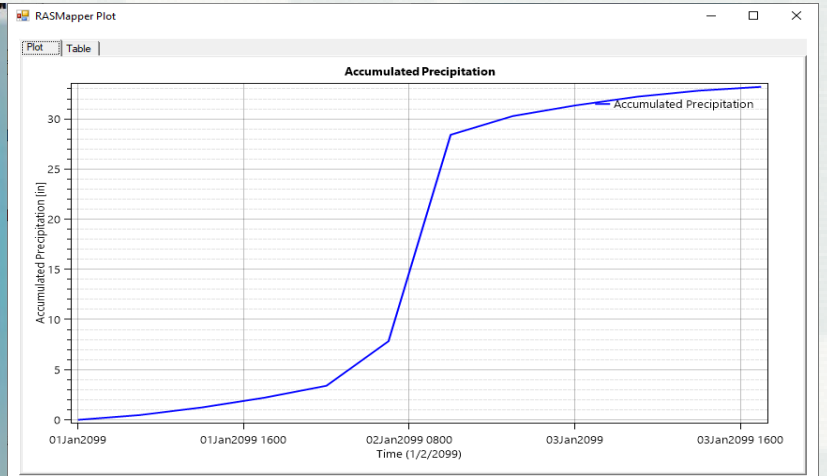
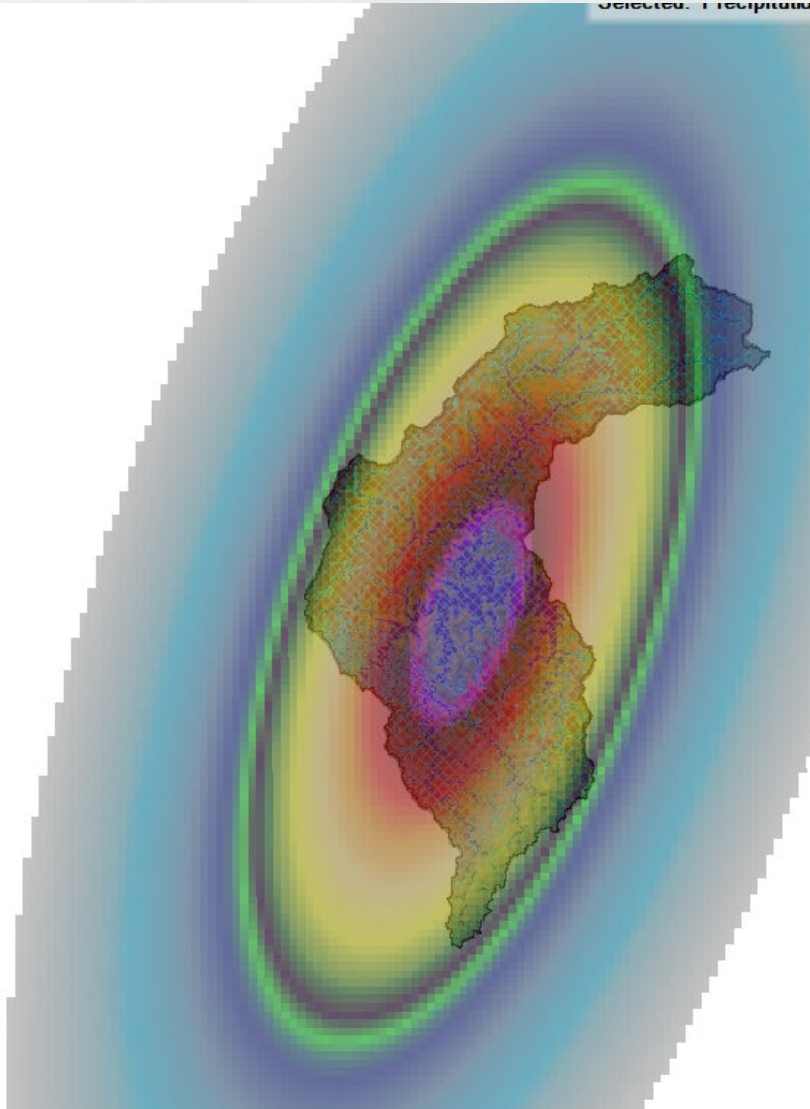
Cumulative Rainfall



Rainfall Time Series Plots



PMP Example



Spatial Infiltration

- Three Methods
 - Deficit – Constant method
 - SCS Curve Number
 - Green and Ampt
- Spatial Data
 - Soils
 - Land cover
- Other Optional Data
 - Evapotranspiration
 - Mean Monthly Pan evaporation data

Gridded Precipitation example

HEC-RAS

