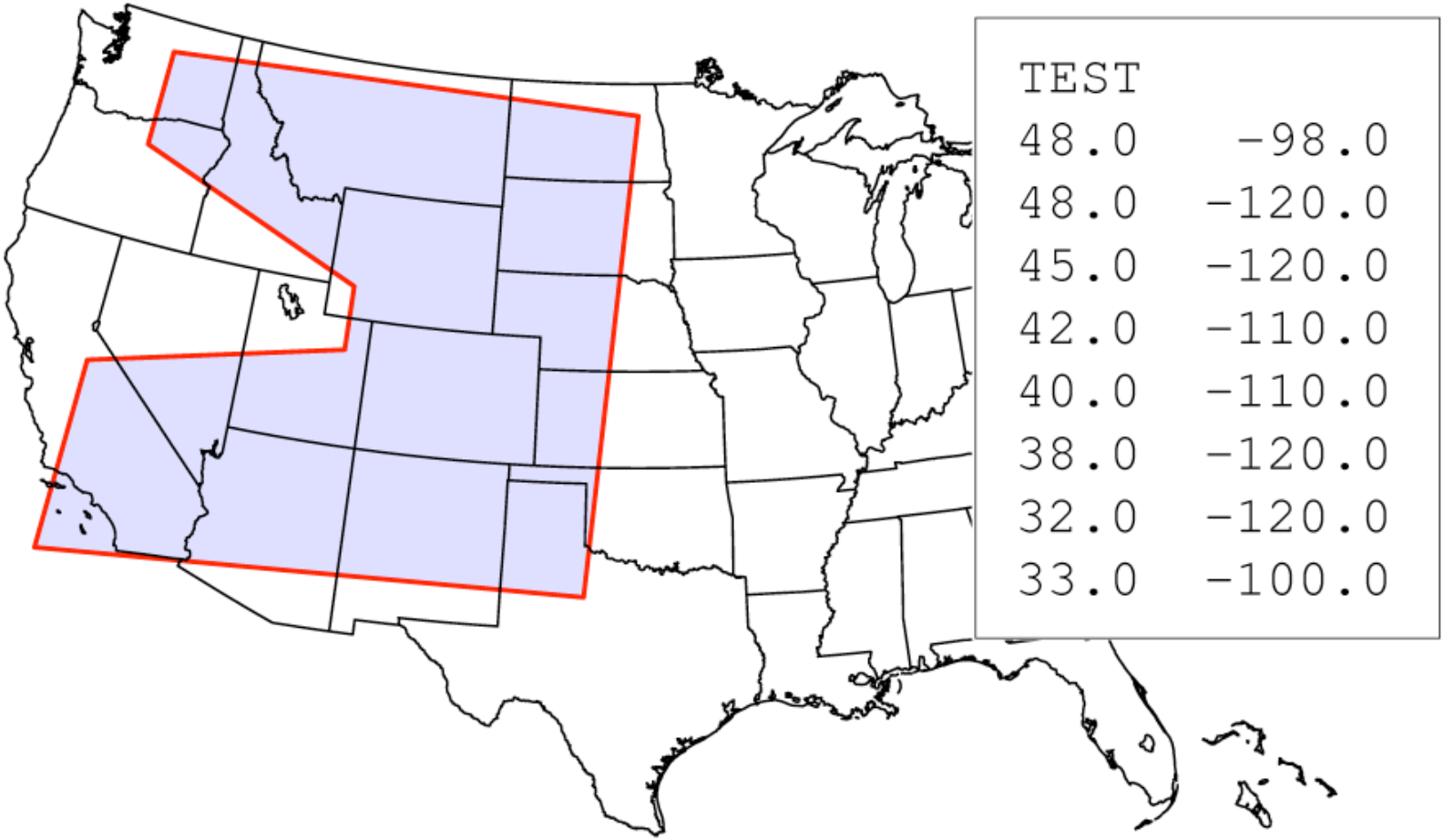
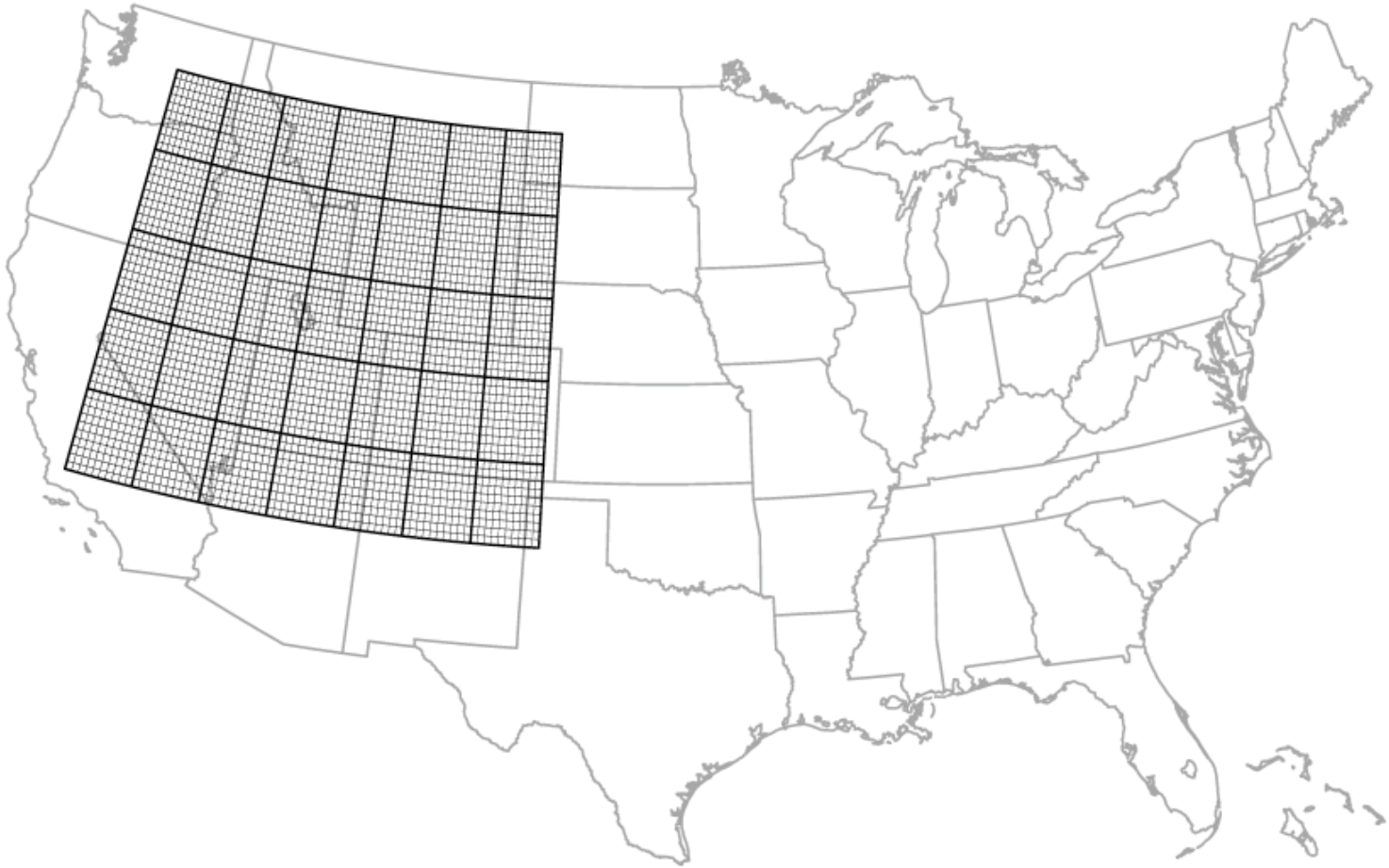
Customizing Point-Stat and Grid-Stat Output

We'll restrict this discussion to an explanation of masking and interpolation.

Polyline Masking

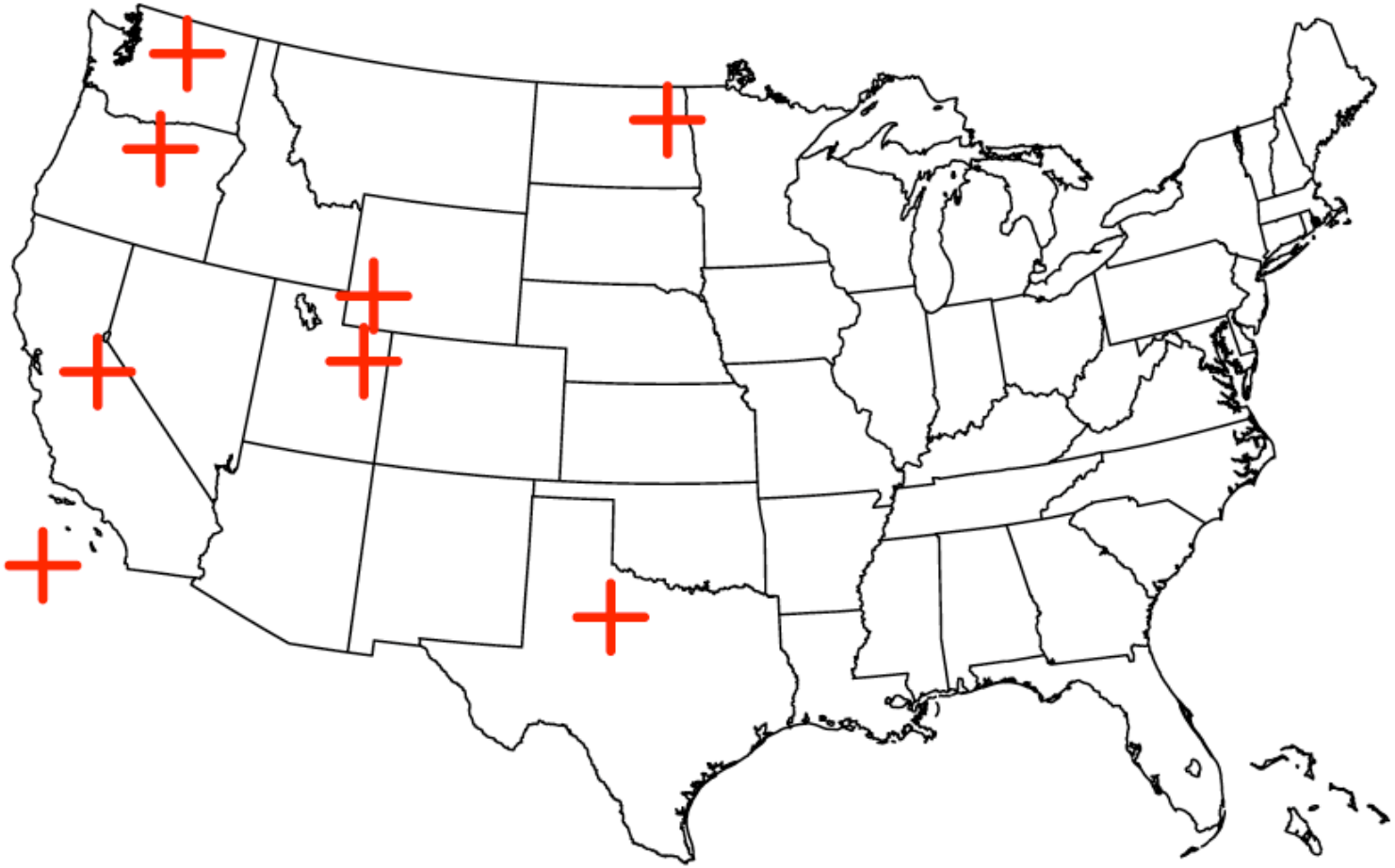


Grid Masking

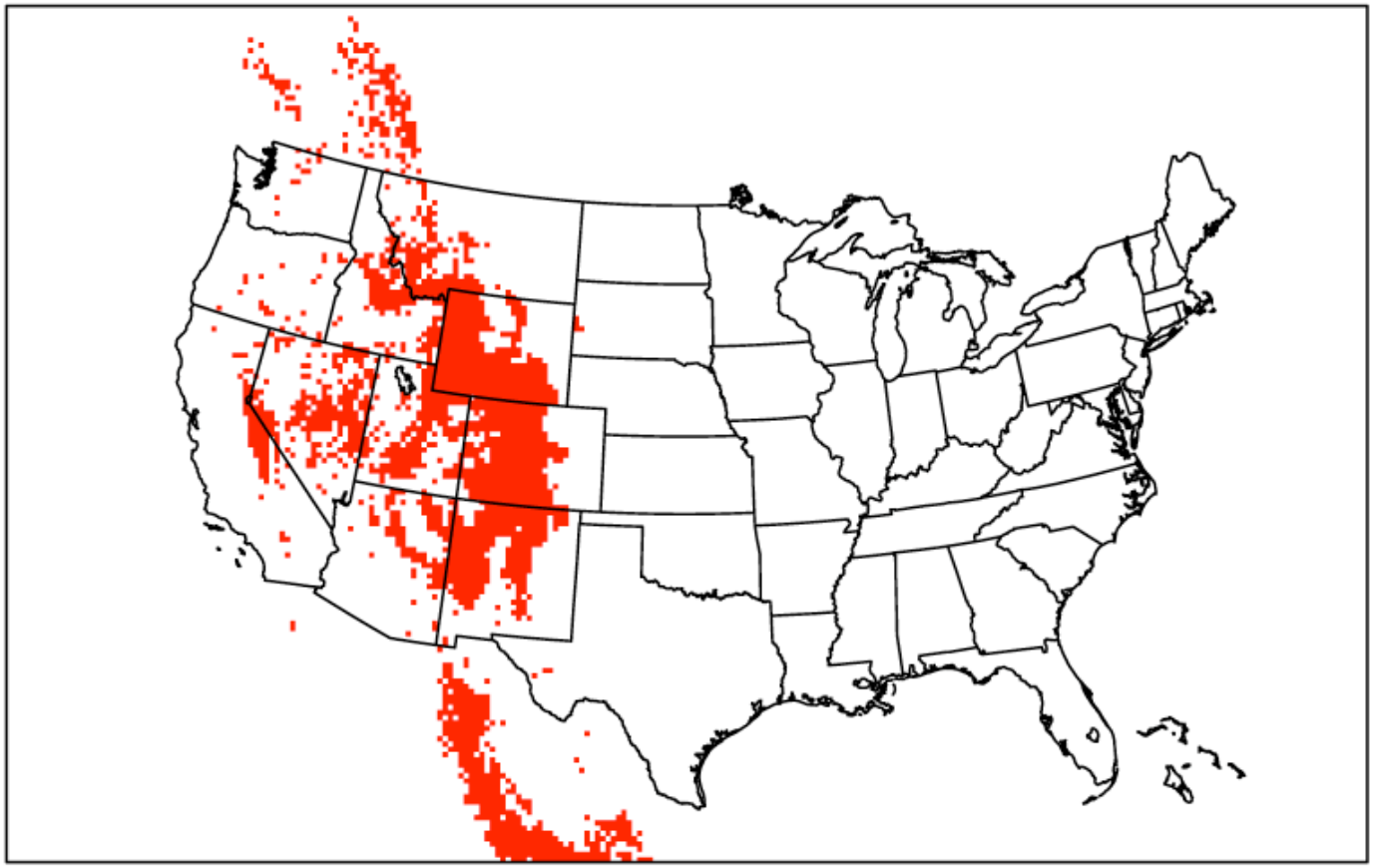


NCEP grids link: www.nco.ncep.noaa.gov/pmb/docs/on388/tableb.html

Station Masking



Data Threshold Mask



Topography > 6000 feet

Masking Methods

	Polyline	Grid	Stations	On/Off Bit Map
Point Stat	✓	✓	✓	✓
Grid Stat	✓	✓	N/A	✓

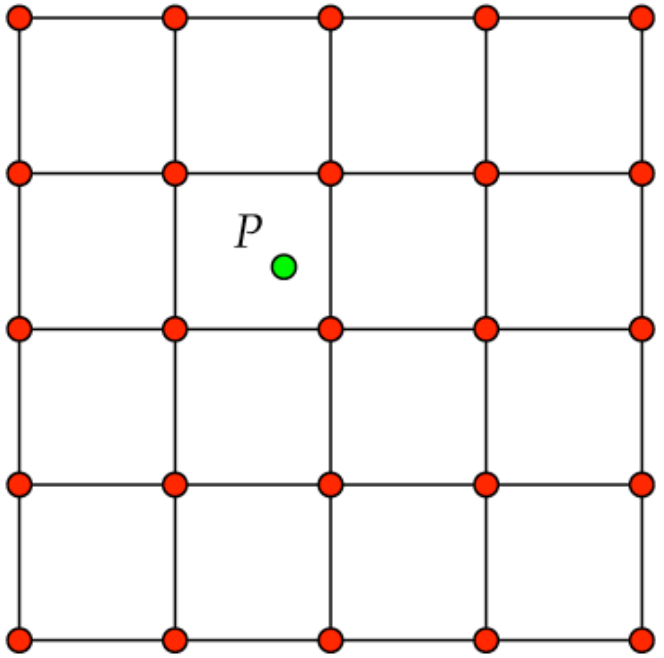
Masking by stations doesn't apply to Grid Stat.

Interpolation

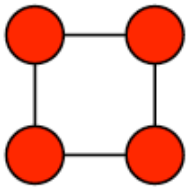
Need to Choose:

(1) Method

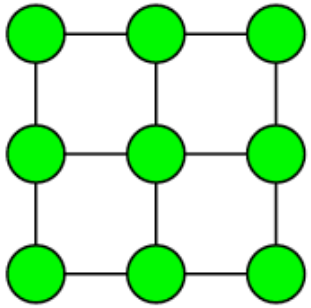
(2) Width



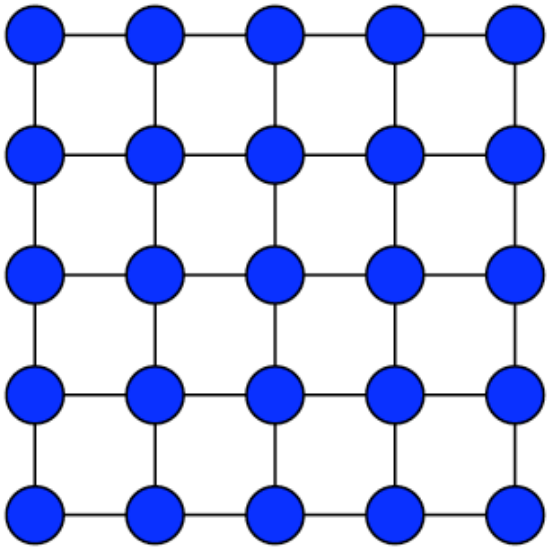
Interpolation Widths



N = 2



N = 3



N = 5

Min, Max, Median

Takes minimum, maximum or median of values in interpolation square.

Median separates the upper half of data values from the lower half. This is different from the mean, which is an average.

Nearest Neighbor

Essentially, no interpolation is performed.

Value at interpolation point is simply the data value at the closest grid point.

Unweighted Mean
Distance-Weighted Mean

Unweighted Mean is the average.

Distance-Weighted Mean is an average weighted according to distance from nearby grid points.

Least Squares

Performs a local Least-Squares linear fit in interpolation square.

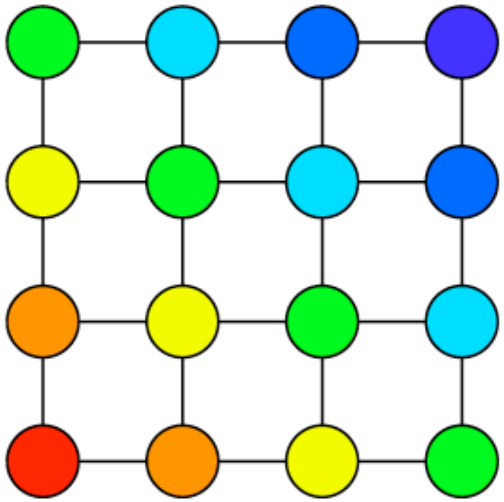
$$z = Ax + By + C$$

Interpolation Methods

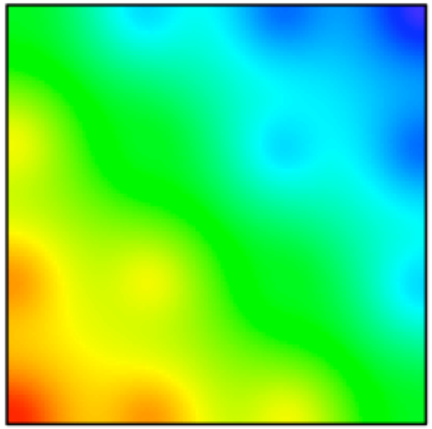
	Min	Max	Median	UW Mean	DW Mean	Nearest Nbr	Least Squares
Point Stat	✓	✓	✓	✓	✓	✓	✓
Grid Stat	✓	✓	✓	✓	N/A	N/A	N/A

For Grid Stat, these are smoothing methods.

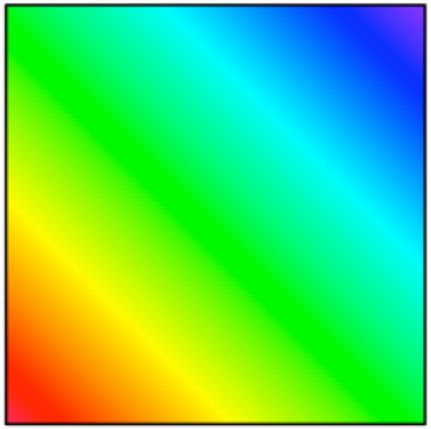
Interpolation Examples



Nearest Neighbor



Distance Weighted Mean



Least Squares