

Method	Description	Continuity	Comments
Linear	Linear interpolation. The interpolated value at a query point is based on linear interpolation of the values at neighboring grid points in each respective dimension. This is the default interpolation method.	C^0	Requires more memory and computation time than nearest neighbor.
Nearest	Nearest neighbor interpolation. The interpolated value at a query point is the value at the nearest sample grid point.	Discontinuous	Modest memory requirements. Fastest computation time
Next	Next neighbor interpolation. The interpolated value at a query point is the value at the next sample grid point.	Discontinuous	Same memory requirements and computation time as Nearest.
Previous	Previous neighbor interpolation. The interpolated value at a query point is the value at the previous sample grid point.	Discontinuous	Same memory requirements and computation time as Nearest.
PCHIP	Shape-preserving piecewise cubic interpolation. The interpolated value at a query point is based on a shape-preserving piecewise cubic interpolation of the values at neighboring grid points.	C^1	Requires more memory and computation time than Linear.
V5Cubic	Cubic convolution used in MATLAB [®] 5.	C^1	Points must be uniformly spaced.
Mod Akima	Modified Akima cubic Hermite interpolation. The interpolated value at a query point is based on a piecewise function of polynomials with degree at most three. The Akima formula is modified to avoid overshoots.	C^1	Produces fewer undulations than Spline, but does not flatten as aggressively as PCHIP. Computation is more expensive than PCHIP, but typically less than Spline. Memory requirements are similar to those of Spline.
Spline	Spline interpolation using not-a-knot end conditions. The interpolated value at a query point is based on a cubic interpolation of the values at neighboring grid points in each respective dimension.	C^2	Requires more memory and computation time than PCHIP.