Brittany Hupp
Paleoecology
Lab 3

Investigation of Age Modeling with Mendota D-core Data

Calib vs. clam

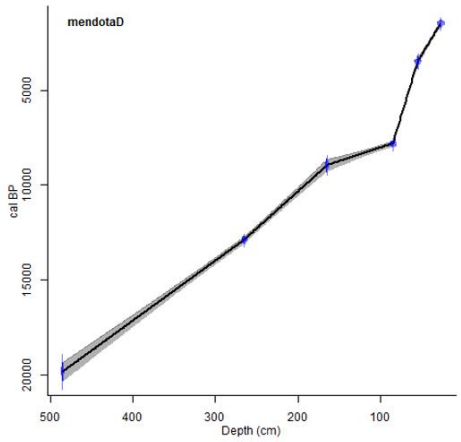
MARINE13

	Max	Min
Cailb	15880	15,225
clam	15,175	14267

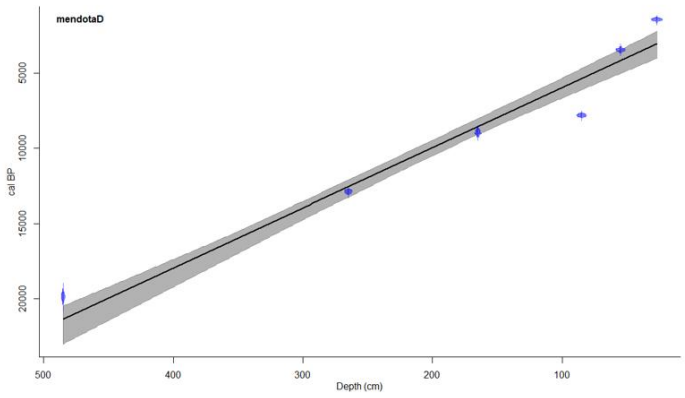
. . . apparently not the same. . .

Clam Age Model Types

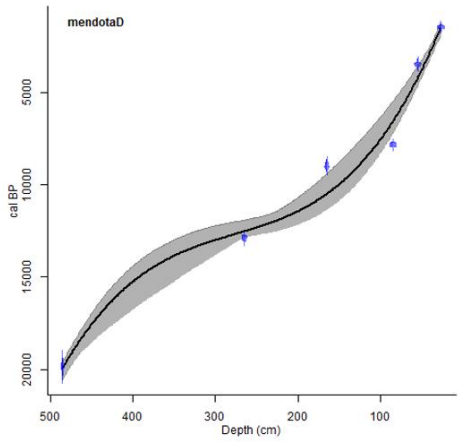
linear interpolation



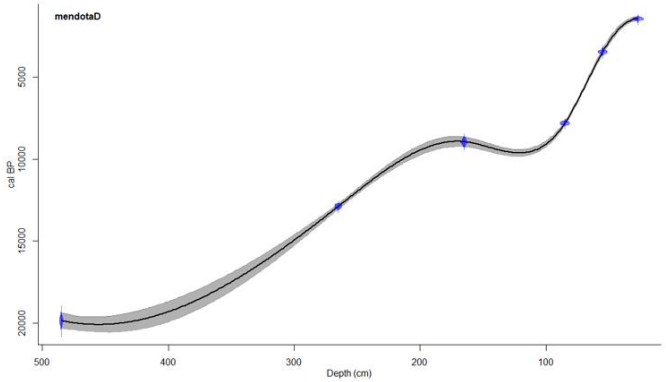
linear regression



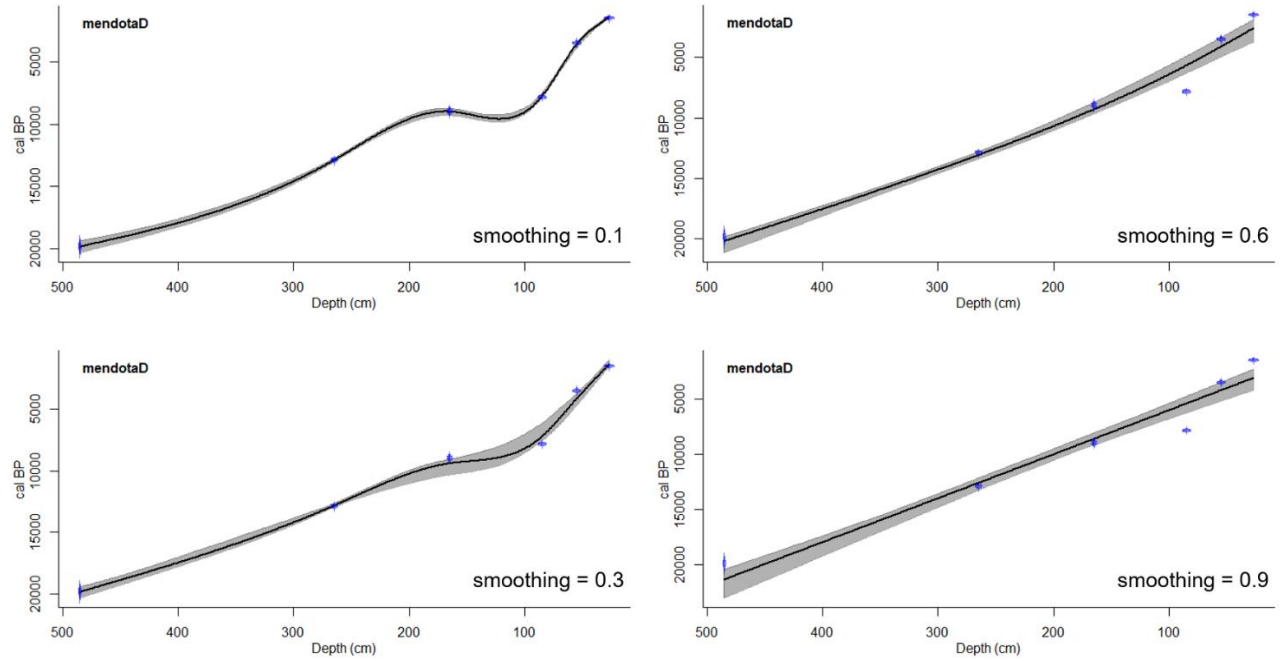
3rd-order polynomial



cubic spline



Clam Age Models with Variable Smoothing



Clam Event Results

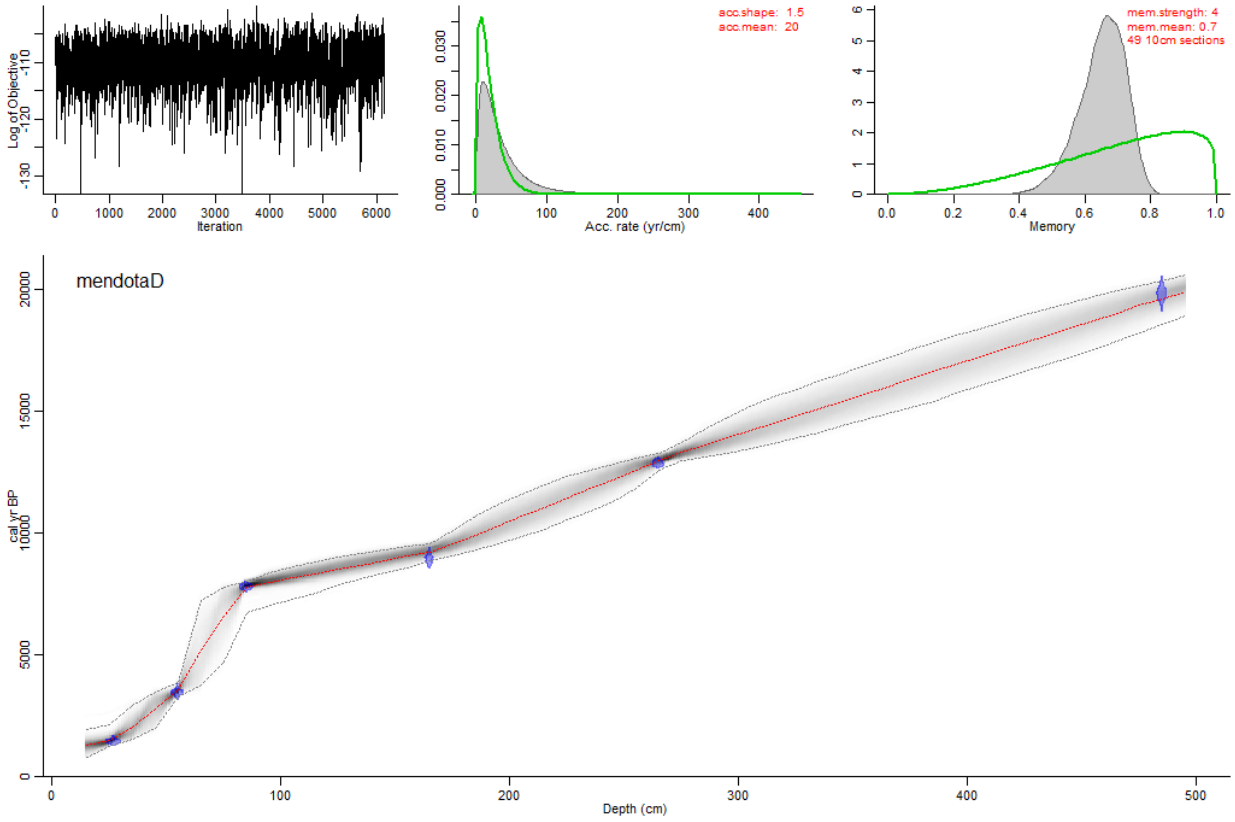
Event	Depth (cm)	Model	Median	2-sigma
Quercus Peak	25.5	linear interpolation	1362	296
	25.5	linear regression	3105	1729
	25.5	3rd order polynomial	1327	923
	25.5	cubic spline	1486	314
Picea Decline	215.5	linear interpolation	10943	371
	215.5	linear regression	10597	1070
	215.5	3rd order polynomial	11756	1195
	215.5	cubic spline	10107	542
Event	**Depth (cm)**	**Degree of Smoothing**	**Median**	**2-sigma**
Quercus Peak	25.5	0.1	1296	286
	25.5	0.3	1098.5	561
	25.5	0.6	2674.5	1719
	25.5	0.9	3124	1768
Picea Decline	215.5	0.1	10260	518
	215.5	0.3	10926.5	764
	215.5	0.6	11272	742
	215.5	0.9	10658	1038

Bacon Event Results

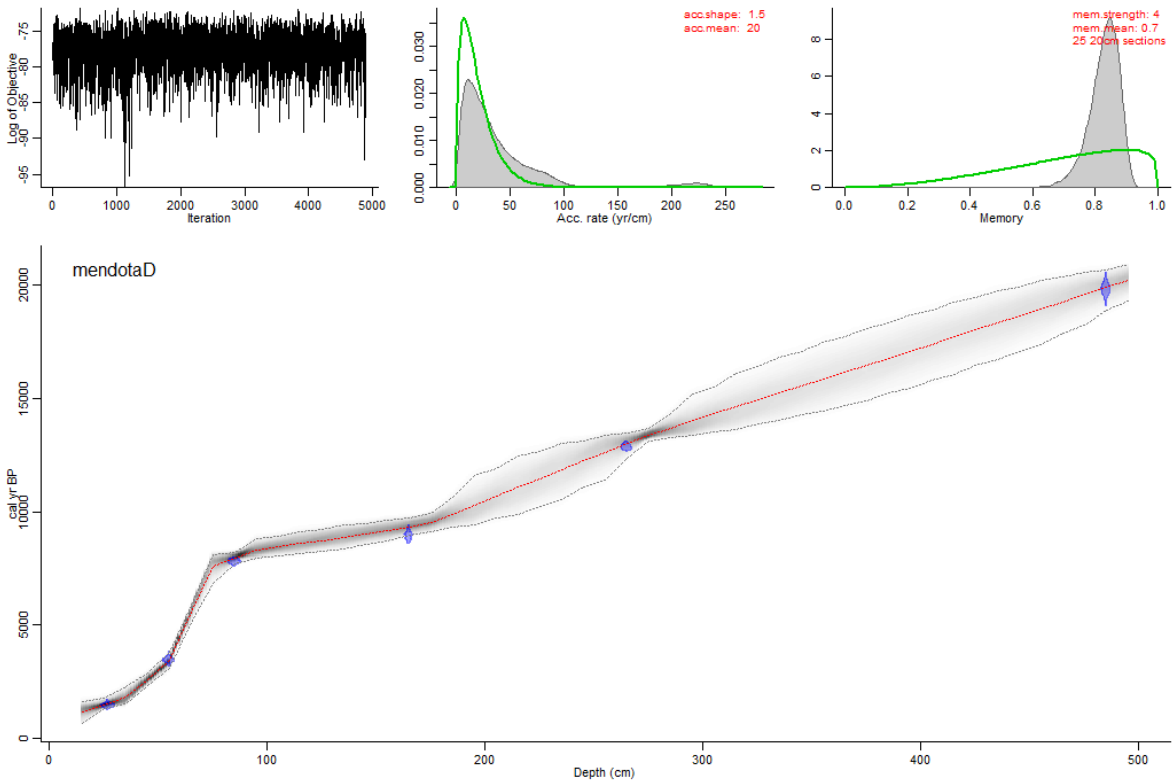
Event	Depth (cm)	Median	Mean	2-sigma
Quercus Peak	25.5	1463	1479	123
Picea Decline	215.5	11024	11070	676

Bacon Age Model Results with Variable Thickness

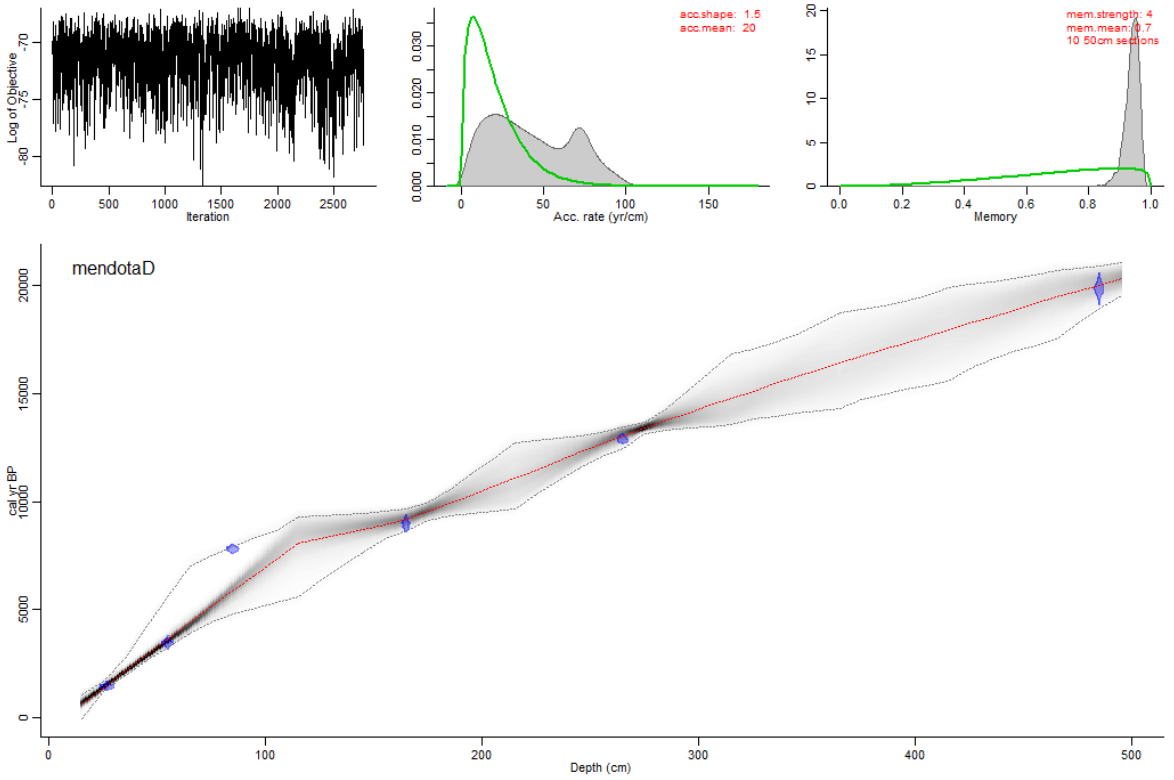
Thickness=10



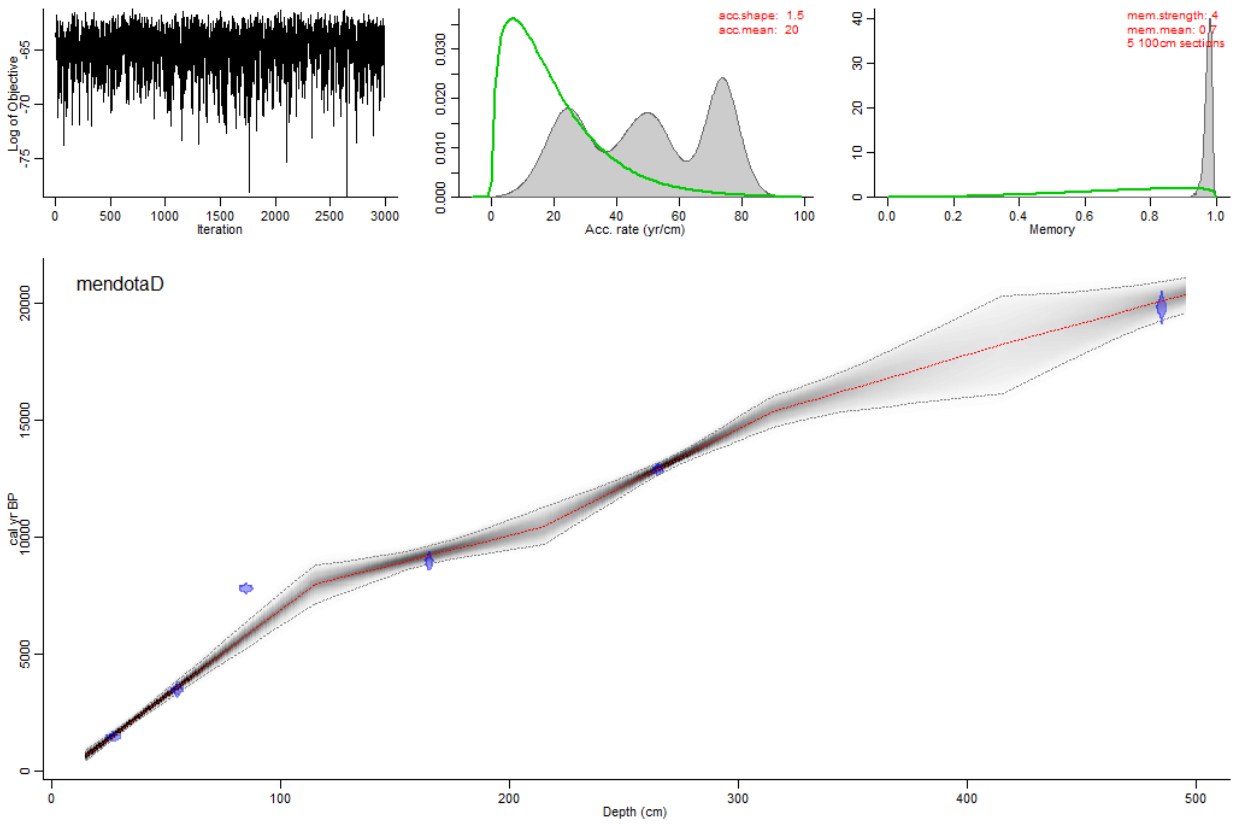
Thickness=20



Thickness=50



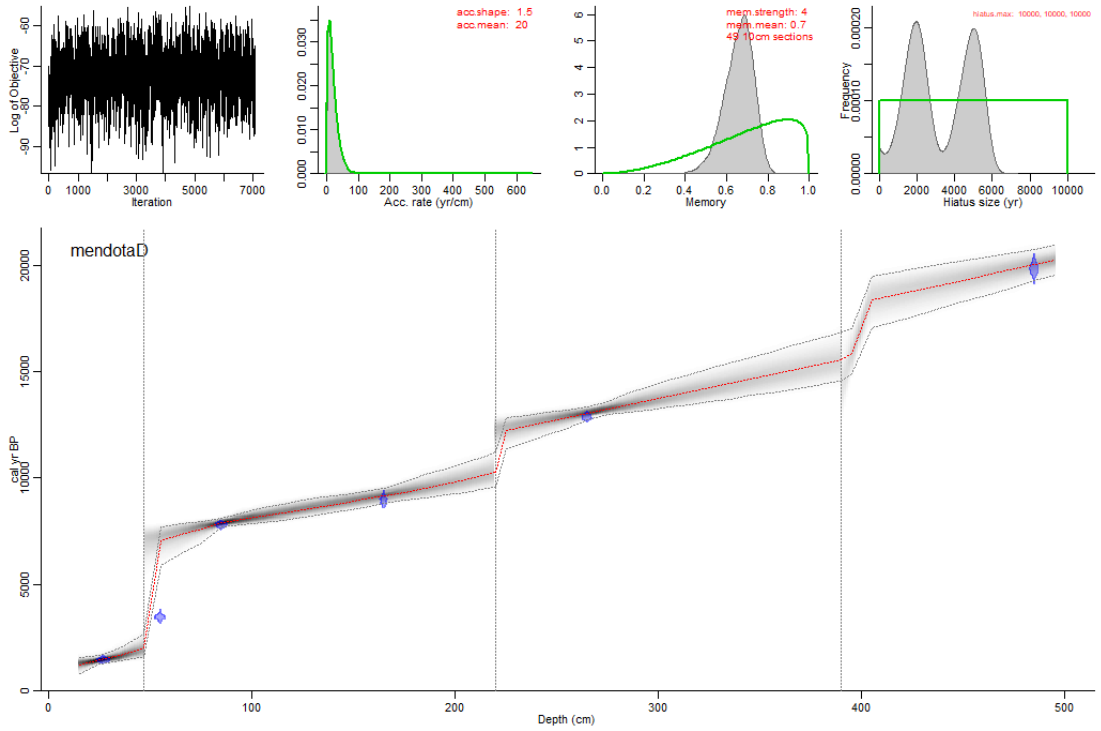
Thickness=100



Increasing thickness results in the total core being broken up into fewer sections, allowing for a faster run time. Smaller thickness require more processing time.

Bacon Age Model Results with Hiatuses and Variable Thickness

Thickness=10, Hiatuses with a maximum of 1000 years at 47 cm, 220 cm, and 390 cm



Thickness=50, Hiatuses with a maximum of 1000 years at 47 cm, 220 cm, and 390 cm