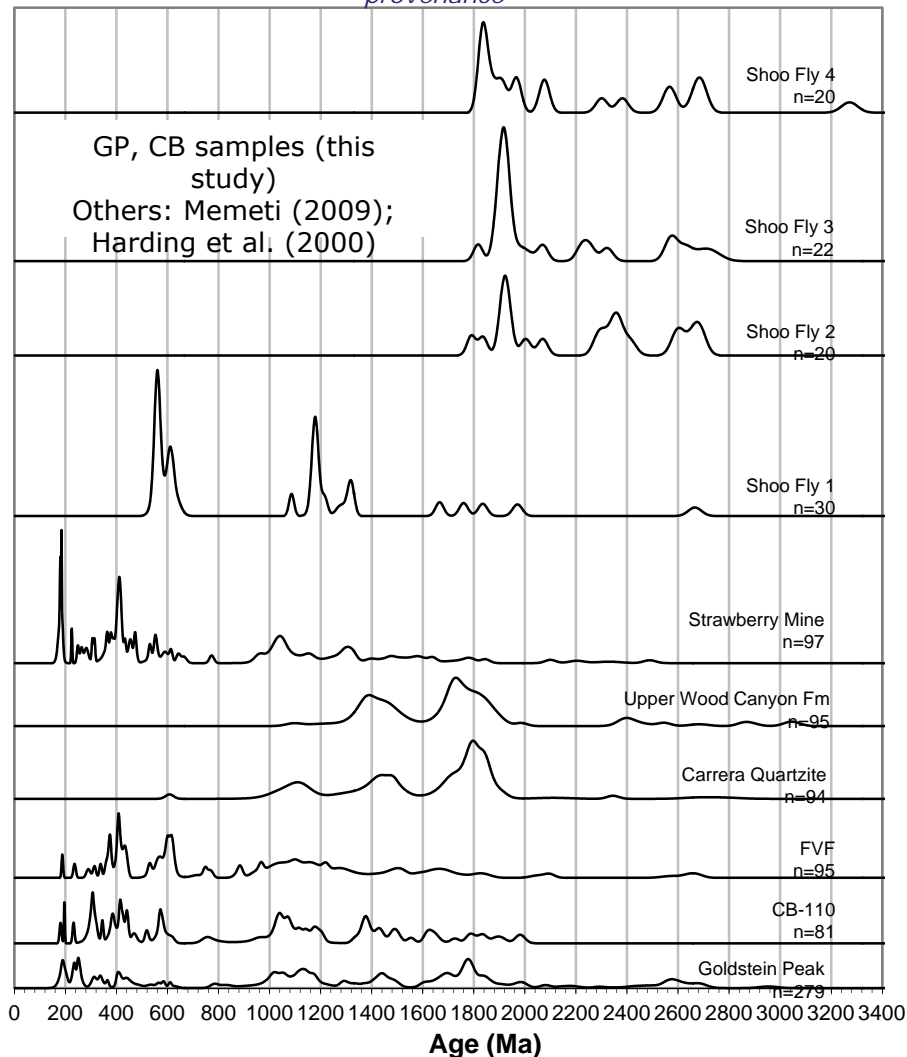


Age and provenance of the fluvial Goldstein Peak unit

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To study the extent to which new forearc basins are filled with purely arc-derived sediment, we have dated ≈ 60 -100 zircons from each of 22 samples of the Early Cretaceous Goldstein Peak formation (GP), the Early Cretaceous (?) Gravelly Flat Formation, as well as older metamorphic rocks that might have provided zircons to the GP rivers and the forearc basin of the Mesozoic Sierra Nevada arc.

Comparison of detrital zircon dates from the Goldstein Peak formation (bottom curve) with older metasediments to determine sediment provenance



This year, CSUF undergraduates sampled the Gravelly Flat formation, the stratigraphically lowest formation in the Great Valley Group (San Joaquin basin). Detrital zircon data will be used to (1) determine a quantitative estimate of the maximum age of deposition; and (2) test the study's hypothesis that fluvial GP protoliths carried arc detritus into California's Great Valley forearc basin.

