

# Low Temperature Thermochronology Database

## Reference List

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## References

- Armstrong, P. A., Ehlers, T. A., Chapman, D. S., Farley, K. A. & Kamp, P. J. J. (2003), ‘Exhumation of the central Wasatch Mountains, Utah: 1. Patterns and timing of exhumation deduced from low-temperature thermochronology data’, *J. Geophys. Res. Solid Earth* **108**(B3), 2172.
- Axen, G. J., Grove, M., Stockli, D. F., Lovera, O. M., Rothstein, D. A., Fletcher, J. M., Farley, K. A. & Abbott, P. L. (2000), ‘Thermal evolution of the Monte Blanco dome: Low-angle normal faulting during Gulf of California rifting and late Eocene denudation of the eastern Peninsular Ranges’, *Tectonics* **19**(2), 197–212.
- Batt, G. E., Brandon, M. T., Farley, K. A. & Roden-Tice, M. (2001), ‘Tectonic synthesis of the Olympic Mountains segment of the Cascadia wedge, using two-dimensional thermal and kinematic modeling of thermochronological ages’, *J. Geophys. Res. Solid Earth* **106**(B11), 26731–26746.
- Beaty, D. W., Naeser, C. W. & Lynch, W. C. (1987), ‘The origin and significance of the strata-bound, carbonate-hosted gold deposits at Tennessee pass, Colorado’, *Econ. Geol.* **82**(8), 2158–2178.
- Berger, A. L. & Spotila, J. A. (2008), ‘Denudation and deformation in a glaciated orogenic wedge: The St. Elias orogen, Alaska’, *Geology* **36**(7), 523–526.
- Berger, A. L., Spotila, J. A., Chapman, J. B., Pavlis, T. L., Enkelmann, E., Ruppert, N. A. & Buscher, J. T. (2008), ‘Architecture, kinematics, and exhumation of a convergent orogenic wedge: A thermochronological investigation of tectonic-climatic interactions within the central St. Elias orogen, Alaska’, *Earth Planet. Sci. Lett.* **270**(1-2), 13–24.
- Bryant, B. & Naeser, C. W. (1980), ‘The significance of fission-track ages of apatite in relation to the tectonic history of the Front and Sawatch Ranges, Colorado.’, *Geol. Soc. Am. Bull.* **91**(3 pt I), 156–164.
- Bryant, B., Marvin, R. F., Naeser, C. W., Mehnert, H. H. & Peterman, Z. (1981), ‘Ages of igneous rocks in the south park–breckenridge region, Colorado, and their relation to the tectonic history of the front range uplift’, *Geological Survey Professional Paper* **1199**, 15–35.
- Buscher, J. T. & Spotila, J. A. (2007), ‘Near-field response to transpression along the southern San Andreas fault, based on exhumation of the northern San Gabriel Mountains, southern California’, *Tectonics* **26**(5), 1–15.

- Calmus, T., Bernet, M., Lugo-Zazueta, R., Hardwick, E. & Mendivil-Quijada, H. (2015), 'Apatite fission-track thermochronology of Laramide plutonic rocks in northwestern Mexico: Distinguishing Basin and Range extension versus Gulf of California rifting', *Rev. Mex. Ciencias Geológicas* **32**, 529–541.
- Cecil, M. R., Ducea, M. N., Reiners, P. W. & Chase, C. G. (2006), 'Cenozoic exhumation of the northern Sierra Nevada, California, from (U-Th)/He thermochronology', *Bull. Geol. Soc. Am.* **118**(11–12), 1481–1488.
- Church, S. E. & Bickford, M. (1971), 'Spontaneous fission-track studies of accessory apatite from granitic rocks of the sawatch range, colorado', *Geological Society of America Bulletin* **82**(6), 1727–1734.
- Colgan, J. P., Dumitru, T. A. & Miller, E. L. (2004), 'Diachroneity of Basin and Range extension and Yellowstone hotspot volcanism in northwestern Nevada', *Geology* **32**(2), 121–124.
- Ducea, M. N., Valencia, V. A., Shoemaker, S., Reiners, P. W., DeCelles, P. G., Campa, M. F., Morán-Zenteno, D. & Ruiz, J. (2004), 'Rates of sediment recycling beneath the Acapulco trench: Constraints from (U-Th)/He thermochronology', *J. Geophys. Res. B Solid Earth* **109**(9), 1–11.
- Dumitru, T. A. (1989), 'Constraints on uplift in the Franciscan Subduction Complex from apatite fission track analysis', *Tectonics* **8**(2), 197–220.
- Dumitru, T. A. (1990), 'Subnormal Cenozoic Geothermal Gradients in the Extinct Sierra Nevada Magmatic Arc: Consequences of Laramide and Post-Laramide Shallow-Sngle Subduction', *J. Geophys. Res.* **95**(B4), 4925–4941.
- Dusel-Bacon, C. & Murphy, J. M. (2001), 'Apatite fission-track evidence of widespread Eocene heating and exhumation in the Yukon-Tanana Upland, interior Alaska', *Can. J. Earth Sci.* **38**(8), 1191–1204.
- Ehlers, T. A., Farley, K. A., Rusmore, M. E. & Woodsworth, G. J. (2006), 'Apatite (U-Th)/He signal of large-magnitude accelerated glacial erosion, southwest British Columbia', *Geology* **34**(9), 765–768.
- Enkelmann, E., Piestrzeniewicz, A., Falkowski, S., St??bner, K. & Ehlers, T. A. (2017), 'Thermochronology in southeast Alaska and southwest Yukon: Implications for North American Plate response to terrane accretion', *Earth Planet. Sci. Lett.* **457**, 348–358.
- Enkelmann, E., Zeitler, P. K., Garver, J. I., Pavlis, T. L. & Hooks, B. P. (2010), 'The thermochronological record of tectonic and surface process interaction at the Yakutat-North American collision zone in southeast Alaska', *Am. J. Sci.* **310**(4), 231–260.
- Fitzgerald, P. G., Sorkhabi, R. B., Redfield, T. F. & Stump, E. (1995), 'Uplift and denudation of the central Alaska Range: A case study in the use of apatite fission track thermochronology to determine absolute uplift parameters', *J. Geophys. Res.* **100**(B10), 20175.
- Flowers, R. M. & Farley, K. A. (2012), 'Apatite 4He/3He and (U-Th)/He Evidence for an Ancient Grand Canyon', *Science (80-. ).* **338**(December), 1616–1619.
- Flowers, R. M., Shuster, D. L., Wernicke, B. P. & Farley, K. A. (2007), 'Radiation damage control on apatite (U-Th)/He dates from the Grand Canyon region, Colorado Plateau', *Geology* **35**(5), 447–450.
- Flowers, R. M., Wernicke, B. P. & Farley, K. A. (2008), 'Unroofing, incision, and uplift history of the southwestern Colorado Plateau from apatite (U-Th)/He thermochronometry', *Bull. Geol. Soc. Am.* **120**(5–6), 571–587.

- Foster, D. A., Gleadow, A. J. W., Reynolds, S. J. & Fitzgerald, P. G. (1993), 'Denudation of Metamorphic Core Complexes and the Reconstruction of the Transition Zone, West Central Arizona: Constraints From Apatite Fission Track Thermochronology', *J. Geophys. Res.* **98**(B2), 2167–2185.
- Foster, D. A., Miller, D. S. & Miller, C. F. (1991), 'Tertiary history in the Old Woman Mountains Area, California: Evidence from apatite fission track data', *Tectonics* **10**(5), 875–886.
- Harrison, T. M., Armstrong, R. L., Naeser, C. W. & Harakal, J. E. (1979), 'Geochronology and thermal history of the Coast Plutonic Complex, near Prince Rupert, British Columbia', *Can. J. Earth Sci.* **16**(3), 400–410.
- Hoisch, T. D., Heizler, M. & Zartman, R. E. (1997), 'Timing of detachment faulting in the Bullfrog Hills and Bare Mountain area, southwest Nevada: Inferences from Ar-40/Ar-39, K-Ar, U-Pb, and fission track thermochronology', *J. Geophys. Res. Earth* **102**(B2), 2815–2833.
- House, M. A., Wernicke, B. P., Farley, K. A. & Dumitru, T. A. (1997), 'Cenozoic thermal evolution of the central Sierra Nevada, California, from (UTh)/He thermochronometry', *Earth Planet. Sci. Lett.* **151**(3-4), 167–179.
- Kelley, S. A. & Duncan, I. J. (1986), 'Late Cretaceous to middle Tertiary tectonic history of the northern Rio Grande Rift, New Mexico', *J. Geophys. Res.* **91**, 6246.
- Kelley, S. A., Chapin, C. E. & Corrigan, J. (1992), *Late Mesozoic to Cenozoic cooling histories of the flanks of the northern and central Rio Grande rift, Colorado and New Mexico*, Vol. 145, New Mexico Bureau of Mines & Mineral Resources.
- Kelley, S. A. & Chapin, C. E. (1995), 'Apatite fission-track thermochronology of the southern Rocky Mountain - Rio Grande rift - western High Plains province', *New Mex. Geol. Soc. F. Conf. Guideb.* **46**, 87–96.
- Kelley, S. A. & Chapin, C. E. (1997), 'Cooling histories of mountain ranges in the southern Rio Grande rift', *New Mex. Geol.* **19**(1), 1–14.
- Kelley, S., E Chapin, C. & E Karlstrom, K. (2001), 'Laramide cooling histories of grand canyon, arizona, and the front range, colorado, determined from apatite fission-track thermochronology', *Colorado River Origin and Evolution*.
- Kelley, S., Chapin, C. & Cather, S. (2004), 'Denudation history and internal structure of the front range and wet mountains, colorado, based on apatite-fission-track thermochronology', *New Mexico Bureau of Geology and Mineral Resources Bulletin* **160**, 41–77.
- Kelley, S. A. (2005), 'Low-temperature cooling histories of the cheyenne belt and laramie peak shear zone, wyoming, and the soda creek-fish creek shear zone, Colorado', *The Rocky Mountain Region: An Evolving Lithosphere* pp. 55–70.
- Larson, E. & Amini, M. H. (1981), 'Fission-track dating of the green mountain kimberlite diatreme, near boulder, colorado', *The Mountain Geologist*.
- Lee, J. P., Stockli, D. F., Kelley, S. A., Pederson, J. L., Karlstrom, K. E. & Ehlers, T. A. (2013), 'New thermochronometric constraints on the Tertiary landscape: Evolution of the central and eastern Grand Canyon, Arizona', *Geosphere* **9**(2), 216–228.
- Lindsey, D. A., Andriessen, P. & Wardlaw, B. R. (1986), 'Heating, cooling, and uplift during tertiary time, northern sangre de cristo range, colorado', *Geological Society of America Bulletin* **97**(9), 1133–1143.

- Marvin, R. F. & Dobson, S. (1979), 'Radiometric ages: Compilation b', *US Geological Survey: Isochron/West* **26**, 3–32.
- Marvin, R. F., Young, E. J., Mehnert, H. H. & Naeser, C. W. (1974), 'Summary of radiometric age determinations on Mesozoic and Cenozoic igneous rocks, and uranium and base metal deposits in Colorado', *Geological Survey Open File Report 93-615*.
- McCallum, M. E. & Naeser, C. W. (1977), 'Fission track ages of Tertiary intrusive rocks in the Manhattan mining district, northern Front Range, Colorado', *Isochron/West* **18**, 1–4.
- McKeon, R. E., Zeitler, P. K., Pazzaglia, F. J., Idleman, B. D. & Enkelmann, E. (2014), 'Decay of an old orogen: Inferences about appalachian landscape evolution from low-temperature thermochronology', *Bull. Geol. Soc. Am.* **126**(1-2), 31–46.
- Miggins, D. P. (2002), 'Chronologic, geochemical and isotopic framework of igneous rocks within the Raton Basin and adjacent Rio Grande Rift, south-central Colorado and northern New Mexico', *Masters thesis*, Boulder, University of Colorado.
- Moore, T. E., Houseknecht, D. W. & Potter, C. J. (2000), 'Apatite Fission-track analysis of twelve outcrop samples from the Chandler Lake and Kilik River 1:25,00-scale quadrangles, South-central North Slope, Alaska', *U.S. Geol. Surv. Open-File Rep.* **00-220**.
- Naeser, C. W. & Dodge, F. C. W. (1969), 'Fission-Track Ages of Accessory Minerals from Granitic Rocks of the Central Sierra Nevada Batholith, California', *Geol. Soc. Am. Bull.* **80**, 2201–2212.
- Naeser, N. D., Naeser, C. W. & McCulloh, T. H. (1990), 'Thermal history of rocks in southern San Joaquin Valley, California: Evidence from fission-track analysis (1)', *AAPG Bulletin* **74**(1), 13–29.
- Naeser, C., Duddy, I., Elston, D., Dumitru, T., Green, P., Young, R. & Spamer, E. (2001), 'Fission-track analysis of apatite and zircon from Grand Canyon, Arizona', *Colorado River origin and evolution: Grand Canyon Association* pp. 37–42.
- Naeser, C. W., Bryant, B., Kunk, M. J., Kellogg, K., Donelick, R. A. & Perry Jr., W. J. (2002), 'Tertiary cooling and tectonic history of the White River Uplift, Gore Range, and western Front Range, central Colorado: Evidence from fission track and  $^{39}\text{Ar}/^{40}\text{Ar}$  ages', *Geol. Soc. Am. Spec. Pap.* **366**, 31–53.
- Olson, J. C., Marvin, R. F., Parker, R. L., Mehnert, H. H. et al. (1977), 'Age and tectonic setting of lower Paleozoic alkalic and mafic rocks, carbonatites, and thorium veins in south-central Colorado', *US Geological Survey Journal of Research* **5**, 673–687.
- Omar, G. I., Lutz, T. M. & Giegengack, R. (1994), 'Apatite fission-track evidence for Laramide and post-Laramide uplift and anomalous thermal regime at the Beartooth overthrust, Montana-Wyoming', *Geol. Soc. Am. Bull.* **106**(1), 74–85.
- O'Sullivan, P. B. & Currie, L. D. (1996), 'Thermotectonic history of Mt Logan, Yukon Territory, Canada: implications of multiple episodes of middle to late Cenozoic denudation', *Earth Planet. Sci. Lett.* **144**(1-2), 251–261.
- O'Sullivan, P. B., Hanks, C. L., Wallace, W. K. & Green, P. F. (1995), 'Multiple episodes of Cenozoic denudation in the northeastern Brooks Range: fission-track data from the Okpilak batholith, Alaska', *Can. J. Earth Sci.* **32**(8), 1106–1118.

- O'Sullivan, P. B. & Lane, L. S. (1997), 'Early Tertiary thermotectonic history of the northern Yukon and adjacent Northwest Territories, Arctic Canada', *Can. J. Earth Sci.* **34**(10), 1366–1378.
- O'Sullivan, P. B. & Parrish, R. R. (1995), 'The importance of apatite composition and single-grain ages when interpreting fission track data from plutonic rocks: a case study from the Coast Ranges, British Columbia', *Earth Planet. Sci. Lett.* **132**(1-4), 213–224.
- O'Sullivan, P. B., Plafker, G. & Murphy, J. M. (1995), 'Apatite Fission-Track thermochronometric history of crystalline rocks in the Northern Saint Elias Mountains, Alaska', *Geol. Stud. Alaska by U.S. Geol. Surv.* pp. 283–293.
- Parrish, R. (1983), 'Cenozoic thermal evolution and tectonics of British Columbia 1. Fission track dating, apparent uplift rates, and patterns of uplift', *Tectonics* **2**(6), 601–631.
- Peyton, S. L. & Carrapa, B. (2013), 'An Overview of Low-temperature Thermochronology in the Rocky Mountains and Its Application to Petroleum System Analysis', *AAPG Stud. Geol.* **65**, 37–70.
- Ravenhurst, C. E., Willett, S. D., Donelick, R. A. & Beaumont, C. (1994), 'Apatite fission track thermochronometry from central Alberta: Implications for the thermal history of the Western Canada Sedimentary Basin', *J. Geophys. Res.* **99**(B10), 2020–2342.
- Reiners, P. W., Ehlers, T. A., Garver, J. I., Mitchell, S. G., Montgomery, D. R., Vance, J. A. & Nicolescu, S. (2002), 'Late Miocene exhumation and uplift of the Washington Cascade Range', *Geology* **30**(9), 767–770.
- Ricketts, J. W., Kelley, S. A., Karlstrom, K. E., Schmandt, B., Donahue, M. S. & van Wijk, J. (2016), 'Synchronous opening of the Rio Grande rift along its entire length at 25–10 Ma supported by apatite (U-Th)/He and fission-track thermochronology, and evaluation of possible driving mechanisms', *Bull. Geol. Soc. Am.* **128**(3-4), 397–424.
- Schroeder, D. A. (1995), 'Geologic map of the Granby quadrangle, Grand County, Colorado', *U.S. Geol. Surv. Geologic Quadrangle map*, GQ-1763, scale 1:24 000.
- Seiler, C., Fletcher, J. M., Kohn, B. P., Gleadow, A. J. W. & Raza, A. (2011), 'Low-temperature thermochronology of northern Baja California, Mexico: Decoupled slip-exhumation gradients and delayed onset of oblique rifting across the Gulf of California', *Tectonics* **30**(3).
- Shannon, J. R. (1988), 'Geology of the Mount Aetna cauldron complex, Sawatch Range, Colorado', *PhD dissertation*, Golden, Colorado School of Mines, 434 p.
- Smith, R. P. (1975), 'Structure and petrology of Spanish Peaks dikes, south-central Colorado', *PhD dissertation*, Boulder, University of Colorado, 270 p.
- Stockli, D. F., Linn, J. K., Douglas Walker, J. & Dumitru, T. A. (2001), 'Miocene unroofing of the Canyon Range during extension along the Sevier Desert Detachment, west central Utah', *Tectonics* **20**(3), 289–307.
- Sweetkind, D. S. & Duncan, I. J. (1989), 'Fission-track evidence for Cenozoic uplift of the Nelson batholith, southeastern British Columbia', *Can. J. Earth Sci.* **26**, 1944–1952.
- Thompson, T. & Arehart, G. (1990), 'Geology and the origin of ore deposits in the leadville district, colorado: in beaty, dw, landes, gp, and thompson, tb,(eds.), carbonate-hosted sulphide deposits of the colorado mineral belt', *Economic Geology Monograph* **7**, 130–154.

- Toraman, E., Teyssier, C., Whitney, D. L., Fayon, A. K., Thomson, S. N. & Reiners, P. W. (2014), 'Low-temperature thermochronologic record of Eocene migmatite dome emplacement and late Cenozoic landscape development, Shuswap core complex, British Columbia', *Tectonics* **33**, 1616–1635.
- Vogl, J. J., Min, K., Carmenate, A., Foster, D. A. & Marsellos, A. (2014), 'Miocene regional hotspot-related uplift, exhumation, and extension north of the Snake River Plain: Evidence from apatite (U-Th)/He thermochronology', *Lithosphere* **6**(2), 108–123.
- Wallace, A. R. (1993 ), 'Summary of isotopic Geochronology for the Leadville 1° x 2° quadrangle, Colorado: 3.5-inch disquette containing data and supporting information', *U.S. Geol. Surv. Open File Report*, 93–615.
- Wallace, A. R. (1995 ), 'Isotopic geochronology for the Leadville 1° x 2° quadrangle, west-central Colorado - Summary and Discussion', *U.S. Geol. Surv. Bull.* **2104**, 51p.
- Witt, C., Brichau, S. & Carter, A. (2012), 'New constraints on the origin of the Sierra Madre de Chiapas (south Mexico) from sediment provenance and apatite thermochronometry', *Tectonics* **31**(6), 1–15.
- Zimmermann, R. A., Reimer, G. M., Foland, K. A. & Faul, H. (1975), 'Cretaceous fission track dates of apatites from northern New England', *Earth Planet. Sci. Lett.* **28**(2), 181–188.