

References – Himalaya thermochronology data

- Adams, B., Dietsch, C., Owen, L. A., Caffee, M. W., Spotila, J., and Haneberg, W. C.: Exhumation and incision history of the Lahul Himalaya, northern India, based on (U–Th)/He thermochronometry and terrestrial cosmogenic nuclide methods, *Geomorphology*, 107, 285–299, <https://doi.org/10.1016/j.geomorph.2008.12.017>, 2009.
- Adams, B. A., Hodges, K. V., Whipple, K. X., Ehlers, T. A., Soest, M. C. van, and Wartho, J.: Constraints on the tectonic and landscape evolution of the Bhutan Himalaya from thermochronometry, *Tectonics*, 34, 1329–1347, <https://doi.org/10.1002/2015tc003853>, 2015.
- Adlakha, V., Lang, K. A., Patel, R. C., Lal, N., and Huntington, K. W.: Rapid long-term erosion in the rain shadow of the Shillong Plateau, Eastern Himalaya, *Tectonophysics*, 582, 76–83, <https://doi.org/10.1016/j.tecto.2012.09.022>, 2013a.
- Adlakha, V., Patel, R. C., Lal, N., Mehta, Y. P., Jain, A. K., and Kumar, A.: Tectonics and climate interplay: exhumation patterns of the Dhauladhar Range, Northwest Himalaya, *Current Sci.*, 1–9, 2013b.
- Adlakha, V., Patel, R. C., Kumar, A., and Lal, N.: Tectonic control over exhumation in the Arunachal Himalaya: new constraints from Apatite Fission Track Analysis, *Geol. Soc. London Spec. Publ.*, 481, SP481.1-15, <https://doi.org/10.1144/sp481.1>, 2019.
- Aoya, M., Wallis, S. R., Terada, K., Lee, J., Kawakami, T., Wang, Y., and Heizler, M.: North-south extension in the Tibetan crust triggered by granite emplacement, *Geology*, 33, 853–856, <https://doi.org/10.1130/g21806.1>, 2005.
- Arita, K. and Ganzawa, Y.: Thrust tectonics and uplift process of the Nepal Himalaya revealed from fission-track ages, *J. Geogr. (Chigaku Zasshi)*, 106, 156–167, <https://doi.org/10.5026/jgeography.106.156>, 1997.
- Blythe, A. E., Burbank, D. W., Carter, A., Schmidt, K., and Putkonen, J.: Plio-Quaternary exhumation history of the central Nepalese Himalaya: 1. Apatite and zircon fission track and apatite [U–Th]/He analyses, *Tectonics*, 26, TC3002, <https://doi.org/10.1029/2006tc001990>, 2007.
- Bojar, A.-V., Fritz, H., Nicolescu, S., Bregar, M., and Gupta, R. P.: Timing and mechanisms of Central Himalayan exhumation: discriminating between tectonic and erosion processes, *Terra Nova*, 17, 427–433, <https://doi.org/10.1111/j.1365-3121.2005.00629.x>, 2005.
- Bollinger, L., Avouac, J. P., Beyssac, O., Catlos, E. J., Harrison, T. M., Grove, M., Goffé, B., and Sapkota, S.: Thermal structure and exhumation history of the Lesser Himalaya in central Nepal, *Tectonics*, 23, TC5015, <https://doi.org/10.1029/2003tc001564>, 2004.
- Burbank, D. W., Blythe, A. E., Putkonen, J., and Pratt-Sitaula, B.: Decoupling of erosion and precipitation in the Himalayas, *Nature*, 426, 652–655, <https://doi.org/10.1038/nature02187>, 2003.
- Carrapa, B., Robert, X., DeCelles, P. G., Orme, D. A., Thomson, S. N., and Schoenbohm, L. M.: Asymmetric exhumation of the Mount Everest region: Implications for the tectono-topographic evolution of the Himalaya, *Geology*, 44, 611–614, <https://doi.org/10.1130/g37756.1>, 2016.
- Catlos, E. J., Harrison, T. M., Kohn, M. J., Grove, M., Ryerson, F. J., Manning, C. E., and Upreti, B. N.: Geochronologic and thermobarometric constraints on the evolution of the Main Central Thrust, central Nepal Himalaya, *J. Geophys. Res.*, 106, 16177–16204, <https://doi.org/10.1029/2000jb900375>, 2001.
- Célérier, J., Harrison, T. M., Beyssac, O., Herman, F., Dunlap, W. J., and Webb, A. A. G.: The Kumaun and Garwhal Lesser Himalaya, India: Part 2. Thermal and deformation histories, *Geol. Soc. Am. Bull.*, 121, 1281–1297, <https://doi.org/10.1130/b26343.1>, 2009.
- Coleman, M. E. and Hodges, K. V.: Contrasting Oligocene and Miocene thermal histories from the hanging wall and footwall of the South Tibetan detachment in the central Himalaya from $^{40}\text{Ar}/^{39}\text{Ar}$ thermochronology, Marsyandi Valley, central Nepal, *Tectonics*, 17, 726–740, <https://doi.org/10.1029/98tc02777>, 1998.

Copeland, P., Harrison, T. M., Hodges, K. V., Maruėjol, P., Fort, P. L., and Pecher, A.: An Early Pliocene thermal disturbance of the Main Central Thrust, central Nepal: Implications for Himalayan tectonics, *J. Geophys. Res.: Solid Earth*, 96, 8475–8500, <https://doi.org/10.1029/91jb00178>, 1991.

Coutand, I., Whipp, D. M., Grujic, D., Bernet, M., Fellin, M. G., Bookhagen, B., Landry, K. R., Ghalley, S. K., and Duncan, C.: Geometry and kinematics of the Main Himalayan Thrust and Neogene crustal exhumation in the Bhutanese Himalaya derived from inversion of multithermochronologic data, *J. Geophys. Res.*, 119, 1446–1481, <https://doi.org/10.1002/2013jb010891>, 2014.

Crouzet, C., Dunkl, I., Paudel, L., Ārkai, P., Rainer, T. M., Balogh, K., and Appel, E.: Temperature and age constraints on the metamorphism of the Tethyan Himalaya in Central Nepal: A multidisciplinary approach, *J. Asian Earth Sci.*, 30, 113–130, <https://doi.org/10.1016/j.jseaes.2006.07.014>, 2007.

DeCelles, P. G., Robinson, D. M., Quade, J., Ojha, T. P., Garzione, C. N., Copeland, P., and Upreti, B. N.: Stratigraphy, structure, and tectonic evolution of the Himalayan fold-thrust belt in western Nepal, *Tectonics*, 20, 487–509, <https://doi.org/10.1029/2000tc001226>, 2001.

DeCelles, P. G., Carrapa, B., Gehrels, G. E., Chakraborty, T., and Ghosh, P.: Along-strike continuity of structure, stratigraphy, and kinematic history in the Himalayan thrust belt: The view from Northeastern India, *Tectonics*, 35, 2995–3027, <https://doi.org/10.1002/2016tc004298>, 2016.

DeCelles, P. G., Carrapa, B., Ojha, T. P., Gehrels, G. E., and Collins, D.: Structural and thermal evolution of the Himalayan thrust belt in midwestern Nepal, *Geol. Soc. Am. Spec. Pap.*, 547, 77 pp., <https://doi.org/10.1130/spe547>, 2020.

Deeken, A., Thiede, R. C., Sobel, E. R., Hourigan, J. K., and Strecker, M. R.: Exhumational variability within the Himalaya of northwest India, *Earth Planet. Sci. Lett.*, 305, 103–114, <https://doi.org/10.1016/j.epsl.2011.02.045>, 2011.

Dezes, P. J., Vannay, J.-C., Steck, A., Bussy, F., and Cosca, M.: Synorogenic extension: Quantitative constraints on the age and displacement of the Zaskar shear zone (northwest Himalaya), *Geol. Soc. Am. Bull.*, 111, 364–374, [https://doi.org/10.1130/0016-7606\(1999\)111<0364:seqcot>2.3.co;2](https://doi.org/10.1130/0016-7606(1999)111<0364:seqcot>2.3.co;2), 1999.

Edwards, R. M.: $^{40}\text{Ar}/^{39}\text{Ar}$ geochronology of the Main Central Thrust (MCT) region: Evidence for late Miocene to Pliocene disturbances along the MCT, Marsyangdi River valley, west-central Nepal Himalaya, *J. Nepal Geol. Soc.*, 10, 41–46, <https://doi.org/10.3126/jngs.v10i0.36342>, 1995.

Eugster, P., Thiede, R. C., Scherler, D., Stübner, K., Sobel, E. R., and Strecker, M. R.: Segmentation of the Main Himalayan Thrust revealed by low-temperature thermochronometry in the Western Indian Himalaya, *Tectonics*, 37, 2710–2726, <https://doi.org/10.1029/2017tc004752>, 2018.

Fan, S., Murphy, M. A., Whipp, D. M., Saylor, J. E., Copeland, P., Hoxey, A. K., Taylor, M. H., and Stockli, D. F.: Megathrust heterogeneity, crustal accretion, and a topographic embayment in the Western Nepal Himalaya: Insights from the inversion of thermochronological data, *Tectonics*, 41, e2021TC007071, <https://doi.org/10.1029/2021tc007071>, 2022.

Gautam, P. and Koshimizu, S.: Zircon and apatite fission-track dating of the Ampipal alkaline massif, the Nepal Lesser Himalaya, *J. Nepal Geol. Soc.*, 7, 1–8, 1991.

Gavillot, Y., Meigs, A. J., Sousa, F. J., Stockli, D., Yule, D., and Malik, M.: Late Cenozoic foreland-to-hinterland low-temperature exhumation history of the Kashmir Himalaya, *Tectonics*, 37, 3041–3068, <https://doi.org/10.1029/2017tc004668>, 2018.

Ghoshal, S., McQuarrie, N., Robinson, D. M., Adhikari, D. P., Morgan, L. E., and Ehlers, T. A.: Constraining central Himalayan (Nepal) fault geometry through integrated thermochronology and thermokinematic modeling, *Tectonics*, 39, e2020TC006399, <https://doi.org/10.1029/2020tc006399>, 2020.

Godin, L., Parrish, R. R., Brown, R. L., and Hodges, K. V.: Crustal thickening leading to exhumation of the Himalayan metamorphic core of central Nepal: insight from U–Pb geochronology and $^{40}\text{Ar}/^{39}\text{Ar}$ thermochronology, *Tectonics*, 20, 729–747, 2001.

Grujic, D., Coutand, I., Bookhagen, B., Bonnet, S., Blythe, A., and Duncan, C.: Climatic forcing of erosion, landscape, and tectonics in the Bhutan Himalayas, *Geology*, 34, 801–804, <https://doi.org/10.1130/g22648.1>, 2006.

Grujic, D., Ashley, K. T., Coble, M. A., Coutand, I., Kellett, D. A., Larson, K. P., Whipp, D. M., Gao, M., and Whynot, N.: Deformational temperatures across the Lesser Himalayan Sequence in Eastern Bhutan and their implications for the deformation history of the Main Central Thrust, *Tectonics*, 39, e2019TC005914, <https://doi.org/10.1029/2019tc005914>, 2020.

Guillot, S., Hodges, K., Fort, P. L., and Pêcher, A.: New constraints on the age of the Manaslu leucogranite: Evidence for episodic tectonic denudation in the central Himalayas, *Geology*, 22, 559–562, [https://doi.org/10.1130/0091-7613\(1994\)022<0559:ncotao>2.3.co;2](https://doi.org/10.1130/0091-7613(1994)022<0559:ncotao>2.3.co;2), 1994.

Herman, F., Copeland, P., Avouac, J.-P., Bollinger, L., Mahéo, G., Fort, P. L., Rai, S., Foster, D., Pêcher, A., Stüwe, K., and Henry, P.: Exhumation, crustal deformation, and thermal structure of the Nepal Himalaya derived from the inversion of thermochronological and thermobarometric data and modeling of the topography, *J. Geophys. Res.*, 115, B06407, <https://doi.org/10.1029/2008jb006126>, 2010.

Hodges, K. V., Hames, W. E., Olszewski, W., Burchfiel, B. C., Royden, L. H., and Chen, Z.: Thermobarometric and $^{40}\text{Ar}/^{39}\text{Ar}$ geochronologic constraints on Eohimalayan metamorphism in the Dinggyê area, southern Tibet, *Contr. Mineral. Petrol.*, 117, 151–163, <https://doi.org/10.1007/bf00286839>, 1994.

Jain, A. K., Kumar, D., Singh, S., Kumar, A., and Lal, N.: Timing, quantification and tectonic modelling of Pliocene–Quaternary movements in the NW Himalaya: evidence from fission track dating, *Earth Planet. Sci. Lett.*, 179, 437–451, [https://doi.org/10.1016/s0012-821x\(00\)00133-3](https://doi.org/10.1016/s0012-821x(00)00133-3), 2000.

Kellett, D. A., Grujic, D., Coutand, I., Cottle, J., and Mukul, M.: The South Tibetan detachment system facilitates ultra rapid cooling of granulite-facies rocks in Sikkim Himalaya, *Tectonics*, 32, 252–270, <https://doi.org/10.1002/tect.20014>, 2013.

Kumar, A., Lal, N., Jain, A. K., and Sorkhabi, R. B.: Late Cenozoic–Quaternary thermo-tectonic history of Higher Himalayan Crystalline (HHC) in Kishtwar–Padar–Zaskar region, NW Himalaya: evidence from fission-track ages, *J. Geol. Soc. India*, 45, 375–391, 1995.

Lal, N., Mehta, Y., Kumar, D., Kumar, A., Jain, A., and Manickavasagam, R.: Cooling and exhumation history of the Mandi granite and adjoining tectonic units, Himachal Pradesh, and estimation of closure temperature from external surface of zircon, in: *Geodynamics of the NW Himalaya*, vol. 6, edited by: Jain, A. and Manickavasagam, R. M., 207–216, 1999.

Lama Sherpa, T. Z.: Tectonic evolution of the Bhumichula Plateau: A high-elevation low-relief surface in Western Nepalese Himalaya, MSc. Thesis, Univ. Arizona, Phoenix, AZ, 2020.

Landry, K. R., Coutand, I., Whipp, D. M., Grujic, D., and Hourigan, J. K.: Late Neogene tectonically driven crustal exhumation of the Sikkim Himalaya: Insights from inversion of multithermochronologic data, *Tectonics*, 35, 833–859, <https://doi.org/10.1002/2015tc004102>, 2016.

Long, S. P., McQuarrie, N., Tobgay, T., Coutand, I., Cooper, F. J., Reiners, P. W., Wartho, J.-A., and Hodges, K. V.: Variable shortening rates in the eastern Himalayan thrust belt, Bhutan: Insights from multiple thermochronologic and geochronologic data sets tied to kinematic reconstructions, *Tectonics*, 31, TC5004, <https://doi.org/10.1029/2012tc003155>, 2012.

Macfarlane, A. M.: Chronology of tectonic events in the crystalline core of the Himalaya, Langtang National Park, central Nepal, *Tectonics*, 12, 1004–1025, <https://doi.org/10.1029/93tc00916>, 1993.

MacFarlane, A. M., Hodges, K. V., and Lux, D.: A structural analysis of the Main Central Thrust zone, Langtang National Park, central Nepal Himalaya, *Geol. Soc. Am. Bull.*, 104, 1389–1402, [https://doi.org/10.1130/0016-7606\(1992\)104<1389:asaotm>2.3.co;2](https://doi.org/10.1130/0016-7606(1992)104<1389:asaotm>2.3.co;2), 1992.

Maluski, H., Matte, P., Brunel, M., and Xiao, X.: Argon 39-argon 40 dating of metamorphic and plutonic events in the north and high Himalaya belts (southern Tibet-China), *Tectonics*, 7, 299–326, <https://doi.org/10.1029/tc007i002p00299>, 1988.

McCallister, A. T., Taylor, M. H., Murphy, M. A., Styron, R. H., and Stockli, D. F.: Thermochronologic constraints on the late Cenozoic exhumation history of the Gurla Mandhata metamorphic core complex, Southwestern Tibet, *Tectonics*, 33, 27–52, <https://doi.org/10.1002/2013tc003302>, 2014.

McDermott, J. A., Hodges, K. V., Whipple, K. X., van Soest, M. C., and Hurtado, J. M.: Evidence for Pleistocene low-angle normal faulting in the Annapurna-Dhaulagiri region, Nepal, *J. Geol.*, 123, 133–151, <https://doi.org/10.1086/681219>, 2015.

- McQuarrie, N., Tobgay, T., Long, S. P., Reiners, P. W., and Cosca, M. A.: Variable exhumation rates and variable displacement rates: Documenting recent slowing of Himalayan shortening in western Bhutan, *Earth Planet. Sci. Lett.*, 386, 161–174, <https://doi.org/10.1016/j.epsl.2013.10.045>, 2014.
- McQuarrie, N., Eizenhöfer, P. R., Long, S. P., Tobgay, T., Ehlers, T. A., Blythe, A. E., Morgan, L. E., Gilmore, M. E., and Dering, G. M.: The influence of foreland structures on hinterland cooling: Evaluating the drivers of exhumation in the Eastern Bhutan Himalaya, *Tectonics*, 38, 3282–3310, <https://doi.org/10.1029/2018tc005340>, 2019.
- Metcalfe, R. P.: Pressure, temperature and time constraints on metamorphism across the Main Central Thrust zone and High Himalayan Slab in the Garhwal Himalaya, *Geol. Soc. Lond. Spec. Publ.*, 74, 485–509, <https://doi.org/10.1144/gsl.sp.1993.074.01.33>, 1993.
- Morell, K. D., Sandiford, M., Kohn, B., Codilean, A., Fülöp, R.-H., and Ahmad, T.: Current strain accumulation in the hinterland of the northwest Himalaya constrained by landscape analyses, basin-wide denudation rates, and low temperature thermochronology, *Tectonophysics*, 721, 70–89, <https://doi.org/10.1016/j.tecto.2017.09.007>, 2017.
- Nadin, E. S. and Martin, A. J.: Apatite thermochronometry within a knickzone near the Higher Himalaya front, central Nepal: No resolvable fault motion in the past one million years, *Tectonics*, 31, TC2010, <https://doi.org/10.1029/2011tc003000>, 2012.
- Nakajima, T., Kawakami, T., Iwano, H., Danhara, T., and Sakai, H.: Denudation process of crystalline nappes in a continental collision zone constrained by inversion of fission-track data and thermokinematic forward modeling: An example from Eastern Nepalese Himalaya, *J. Geophys. Res.*, 127, e2021JB023630, <https://doi.org/10.1029/2021jb023630>, 2022.
- Patel, R. C. and Carter, A.: Exhumation history of the Higher Himalayan Crystalline along Dhauliganga-Goriganga river valleys, NW India: New constraints from fission track analysis, *Tectonics*, 28, TC3004, <https://doi.org/10.1029/2008tc002373>, 2009.
- Patel, R. C., Kumar, Y., Lal, N., and Kumar, A.: Thermotectonic history of the Chiplakot Crystalline Belt in the Lesser Himalaya, Kumaon, India: Constraints from apatite fission-track thermochronology, *J. Asian Earth Sci.*, 29, 430–439, <https://doi.org/10.1016/j.jseas.2006.04.008>, 2007.
- Patel, R. C., Adlakha, V., Lal, N., Singh, P., and Kumar, Y.: Spatiotemporal variation in exhumation of the Crystallines in the NW-Himalaya, India: Constraints from fission track dating analysis, *Tectonophysics*, 504, 1–13, <https://doi.org/10.1016/j.tecto.2010.11.011>, 2011.
- Patel, R. C., Singh, P., and Lal, N.: Thrusting and back-thrusting as post-emplacement kinematics of the Almora klippe: Insights from low-temperature thermochronology, *Tectonophysics*, 653, 41–51, <https://doi.org/10.1016/j.tecto.2015.03.025>, 2015.
- Pebam, J., Adlakha, V., Jain, A. K., Patel, R. C., Lal, N., Singh, S., Kumar, R., and Devrani, R.: Apatite and zircon fission-track thermochronology constraining the interplay between tectonics, topography and exhumation, Arunachal Himalaya, *J. Earth Syst. Sci.*, 130, 178, <https://doi.org/10.1007/s12040-021-01667-2>, 2021.
- Robert, X., van der Beek, P., Braun, J., Perry, C., Dubille, M., and Mugnier, J. L.: Assessing Quaternary reactivation of the Main Central thrust zone (central Nepal Himalaya): New thermochronologic data and numerical modeling, *Geology*, 37, 731–734, <https://doi.org/10.1130/g25736a.1>, 2009.
- Robert, X., van der Beek, P., Braun, J., Perry, C., and Mugnier, J.-L.: Control of detachment geometry on lateral variations in exhumation rates in the Himalaya: Insights from low-temperature thermochronology and numerical modeling, *J. Geophys. Res.*, 116, B05202, <https://doi.org/10.1029/2010jb007893>, 2011.
- Robinson, D. M., DeCelles, P. G., and Copeland, P.: Tectonic evolution of the Himalayan thrust belt in western Nepal: Implications for channel flow models, *Geol. Soc. Am. Bull.*, 118, 865–885, <https://doi.org/10.1130/b25911.1>, 2006.
- Sakai, H., Sawada, M., Takigami, Y., Orihashi, Y., Danhara, T., Iwano, H., Kuwahara, Y., Dong, Q., Cai, H., and Li, J.: Geology of the summit limestone of Mount Qomolangma (Everest) and cooling history of the Yellow Band under the Qomolangma detachment, *Island Arc*, 14, 297–310, <https://doi.org/10.1111/j.1440-1738.2005.00499.x>, 2005.

- Schlup, M., Carter, A., Cosca, M., and Steck, A.: Exhumation history of eastern Ladakh revealed by $^{40}\text{Ar}/^{39}\text{Ar}$ and fission-track ages: the Indus River–Tso Morari transect, NW Himalaya, *J. Geol. Soc. London*, 160, 385–399, <https://doi.org/10.1144/0016-764902-084>, 2003.
- Schultz, M. H., Hodges, K. V., Ehlers, T. A., van Soest, M., and Wartho, J.-A.: Thermochronologic constraints on the slip history of the South Tibetan detachment system in the Everest region, southern Tibet, *Earth Planet. Sci. Lett.*, 459, 105–117, <https://doi.org/10.1016/j.epsl.2016.11.022>, 2017.
- Searle, M. P., Noble, S. R., Hurford, A. J., and Rex, D. C.: Age of crustal melting, emplacement and exhumation history of the Shivling leucogranite, Garhwal Himalaya, *Geol. Mag.*, 136, 513–525, 1999.
- Shen, T., Wang, G., Leloup, P. H., van der Beek, P., and Bernet, M.: Controls on Cenozoic exhumation of the Tethyan Himalaya from fission-track thermochronology and detrital zircon U-Pb geochronology in the Gyirong basin area, southern Tibet, *Tectonics*, 35, 1713–1734, <https://doi.org/10.1002/2016tc004149>, 2016.
- Singh, P., Patel, R. C., and Lal, N.: Plio-Pleistocene in-sequence thrust propagation along the Main Central Thrust zone (Kumaon–Garhwal Himalaya, India): New thermochronological data, *Tectonophysics*, 574–575, 193–203, <https://doi.org/10.1016/j.tecto.2012.08.015>, 2012.
- Singh, P. and Patel, R. C.: Post-emplacement kinematics and exhumation history of the Almora klippe of the Kumaun–Garhwal Himalaya, NW India: revealed by fission track thermochronology, *Int. J. Earth Sci.*, 106, 2189–2202, <https://doi.org/10.1007/s00531-016-1422-0>, 2017.
- Singh, P. and Patel, R. C.: Miocene development of the Main Boundary Thrust and Ramgarh Thrust, and exhumation of Lesser Himalayan rocks of the Kumaun–Garhwal region, NW-Himalaya (India): Insights from fission track thermochronology, *J. Asian Earth Sci.*, 224, 104987, <https://doi.org/10.1016/j.jseaes.2021.104987>, 2022.
- Sorkhabi, R. B., Stump, E., Foland, K. A., and Jain, A. K.: Fission-track and $^{40}\text{Ar}/^{39}\text{Ar}$ evidence for episodic denudation of the Gangotri granites in the Garhwal Higher Himalaya, India, *Tectonophysics*, 260, 187–199, [https://doi.org/10.1016/0040-1951\(96\)00083-2](https://doi.org/10.1016/0040-1951(96)00083-2), 1996.
- Streule, M. J., Carter, A., Searle, M. P., and Cottle, J. M.: Constraints on brittle field exhumation of the Everest–Makalu section of the Greater Himalayan Sequence: Implications for models of crustal flow, *Tectonics*, 31, TC3010, <https://doi.org/10.1029/2011tc003062>, 2012.
- Stüwe, K. and Foster, D.: $^{40}\text{Ar}/^{39}\text{Ar}$, pressure, temperature and fission track constraints on the age and nature of metamorphism around the Main Central Thrust in the eastern Bhutan Himalaya, *J. Asian Earth Sci.*, 19, 85–95, [https://doi.org/10.1016/s1367-9120\(00\)00018-3](https://doi.org/10.1016/s1367-9120(00)00018-3), 2001.
- Thiede, R. C., Bookhagen, B., Arrowsmith, J. R., Sobel, E. R., and Strecker, M. R.: Climatic control on rapid exhumation along the Southern Himalayan Front, *Earth Planet. Sci. Lett.*, 222, 791–806, <https://doi.org/10.1016/j.epsl.2004.03.015>, 2004.
- Thiede, R. C., Arrowsmith, J. R., Bookhagen, B., McWilliams, M. O., Sobel, E. R. and Strecker, M. R.: From tectonically to erosionally controlled development of the Himalayan orogen, *Geology*, 33(8), 689–692, doi:10.1130/g21483.1, 2005.
- Thiede, R. C., Arrowsmith, J. R., Bookhagen, B., McWilliams, M., Sobel, E. R., and Strecker, M. R.: Dome formation and extension in the Tethyan Himalaya, Leo Pargil, northwest India, *Geol. Soc. Am. Bull.*, 118, 635–650, <https://doi.org/10.1130/b25872.1>, 2006.
- Thiede, R. C., Ehlers, T. A., Bookhagen, B., and Strecker, M. R.: Erosional variability along the northwest Himalaya, *J. Geophys. Res.*, 114, F01015-19, <https://doi.org/10.1029/2008jf001010>, 2009.
- Thiede, R. C., Robert, X., Stübner, K., Dey, S., and Faruq, J.: Sustained out-of-sequence shortening along a tectonically active segment of the Main Boundary thrust: The Dhauladhar Range in the northwestern Himalaya, *Lithosphere*, 9, 715–725, <https://doi.org/10.1130/l630.1>, 2017.
- van der Beek, P., Litty, C., Baudin, M., Mercier, J., Robert, X., and Hardwick, E.: Contrasting tectonically driven exhumation and incision patterns, western versus central Nepal Himalaya, *Geology*, 44, 327–330, <https://doi.org/10.1130/g37579.1>, 2016.

Vannay, J.-C. and Hodges, K. V.: Tectonometamorphic evolution of the Himalayan metamorphic core between the Annapurna and Dhaulagiri, central Nepal, *J. Metam. Geol.*, 14, 635–656, <https://doi.org/10.1046/j.1525-1314.1996.00426.x>, 1996.

Vannay, J.-C., Grasemann, B., Rahn, M., Frank, W., Carter, A., Baudraz, V., and Cosca, M.: Miocene to Holocene exhumation of metamorphic crustal wedges in the NW Himalaya: Evidence for tectonic extrusion coupled to fluvial erosion, *Tectonics*, 23, TC1014, <https://doi.org/10.1029/2002tc001429>, 2004.

Walker, J. D., Martin, M. W., Bowring, S. A., Searle, M. P., Waters, D. J., and Hodges, K. V.: Metamorphism, melting, and extension: Age constraints from the High Himalayan slab of Southeast Zaskar and Northwest Lahaul, *J. Geol.*, 107, 473–495, <https://doi.org/10.1086/314360>, 1999.

Wang, A., Garver, J. I., Wang, G., Smith, J. A., and Zhang, K.: Episodic exhumation of the Greater Himalayan Sequence since the Miocene constrained by fission track thermochronology in Nyalam, central Himalaya, *Tectonophysics*, 495, 315–323, <https://doi.org/10.1016/j.tecto.2010.09.037>, 2010.

Wang, A., Min, K., Wang, G., Cao, K., Shen, T., Jiang, P. and Wei, J.: Slow exhumation of the Greater Himalaya in the Yadong region, the transition between the Central and Eastern Himalaya, during the Late Neogene, *J. Geol. Soc.*, 269, jgs2018-186–11, doi:10.1144/jgs2018-186, 2019.

Warren, C. J., Singh, A. K., Roberts, N. M. W., Regis, D., Halton, A. M., and Singh, R. B.: Timing and conditions of peak metamorphism and cooling across the Zimithang Thrust, Arunachal Pradesh, India, *Lithos*, 200–201, 94–110, <https://doi.org/10.1016/j.lithos.2014.04.005>, 2014.

Wiesmayr, G. and Grasemann, B.: Eohimalayan fold and thrust belt: Implications for the geodynamic evolution of the NW-Himalaya (India), *Tectonics*, 21, 1058, <https://doi.org/10.1029/2002tc001363>, 2002.

Wolff, R., Hölzer, K., Hetzel, R., Xu, Q., Dunkl, I., Anczkiewicz, A. A. and Li, Z.: Spatially focused erosion in the High Himalaya and the geometry of the Main Himalayan Thrust in Central Nepal (85°E) from thermo-kinematic modeling of thermochronological data in the Gyirong region (southern China), *Tectonophysics*, 834, 229378, doi:10.1016/j.tecto.2022.229378, 2022.

Yin, A., Dubey, C. S., Kelty, T. K., Webb, A. A. G., Harrison, T. M., Chou, C. Y., and Celerier, J.: Geologic correlation of the Himalayan orogen and Indian craton: Part 2. Structural geology, geochronology, and tectonic evolution of the Eastern Himalaya, *Geol. Soc. Am. Bull.*, 122, 360–395, <https://doi.org/10.1130/b26461.1>, 2010.

Zeitler, P. K.: Cooling history of the NW Himalaya, Pakistan, *Tectonics*, 4, 127–151, <https://doi.org/10.1029/tc004i001p00127>, 1985.