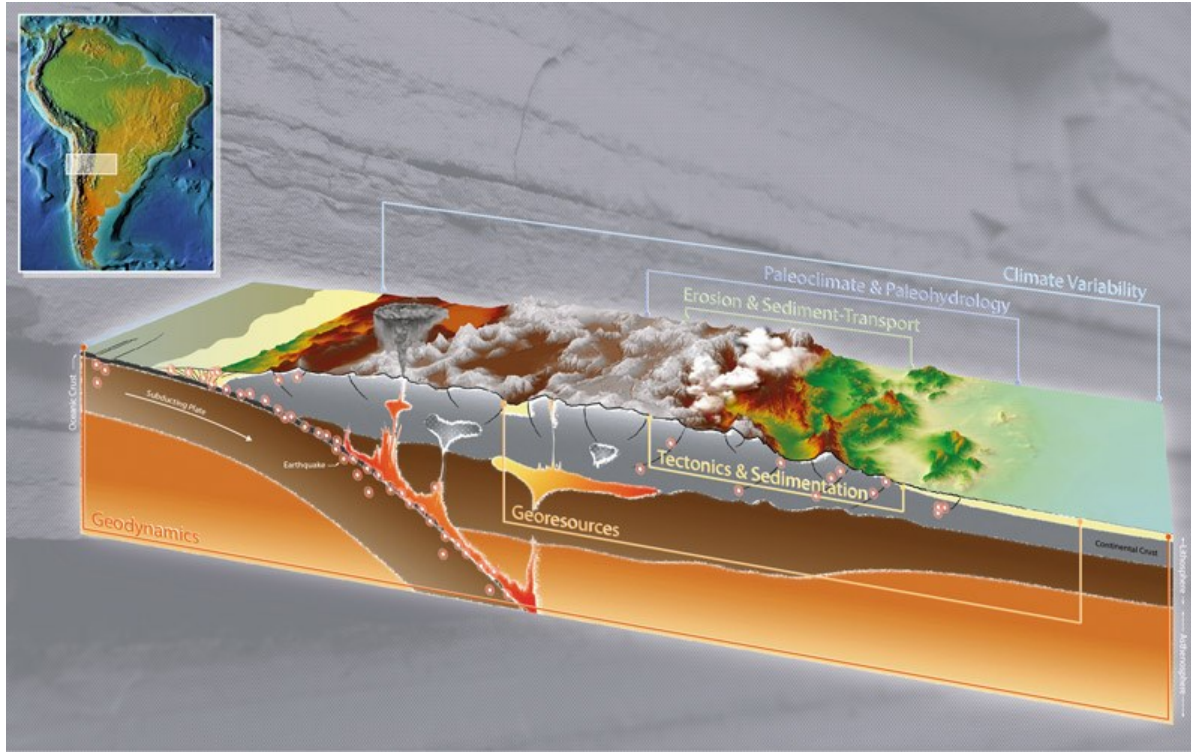
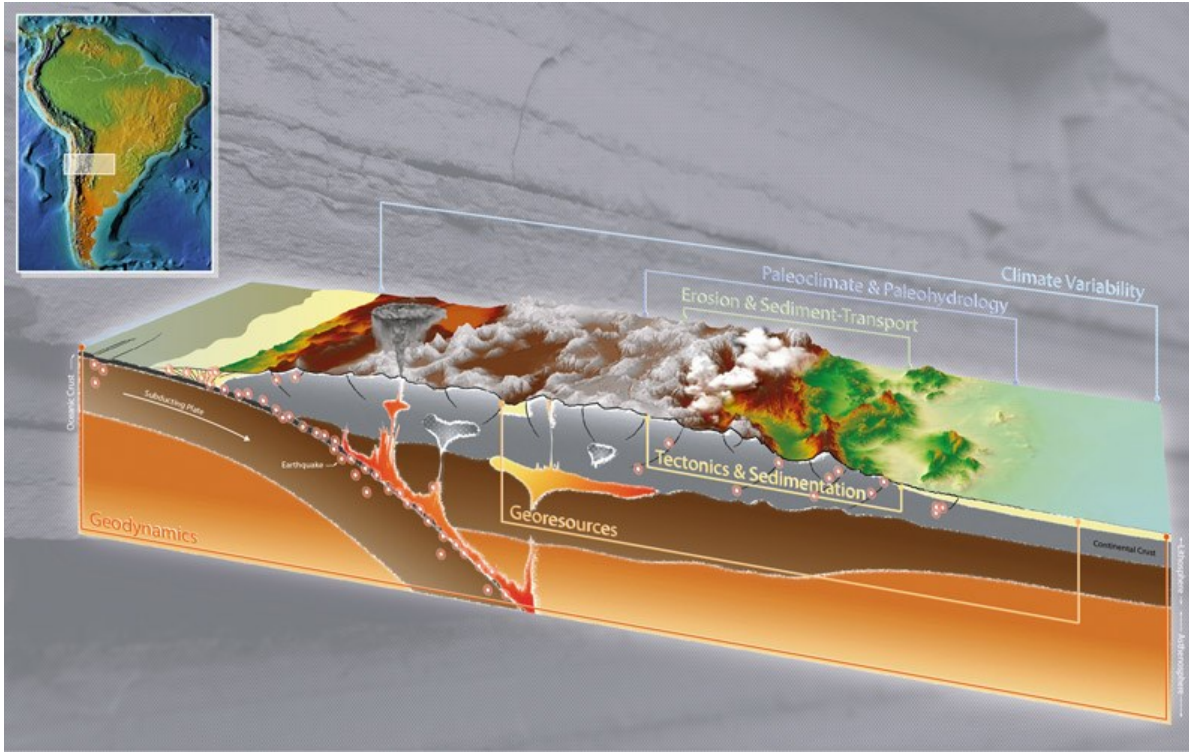




Surface processes, Tectonics and Georesources: The Andean foreland basin of Argentina: international virtual campus devoted to source-to-sink studies in the NW and central Argentine Andes and foreland basin: links between deep-Earth and surface processes, including volcanism and tectonics, climate and erosion/sedimentation, as well as their impact on metallogenesis, hydrocarbon resource generation, and fluid migration. The International Research Training Group IGK2018 funded by DFG and by the federal state of Brandenburg:

German- Argentinian cooperation of Potsdam University, GFZ, CONICET, Uni.s Buenos Aires, Salta – Jujuy – Tucumán
<http://www.irtg-strategy.de/en/publications/>



24 PhD students in total working in four work packages

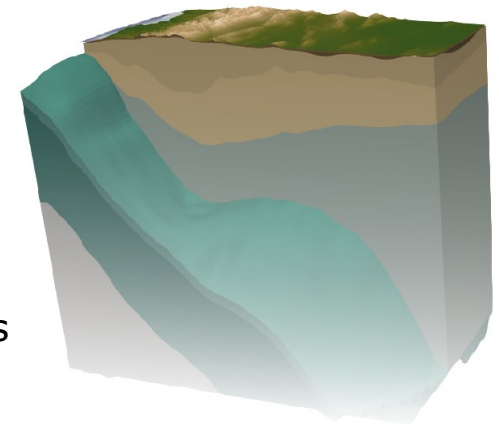
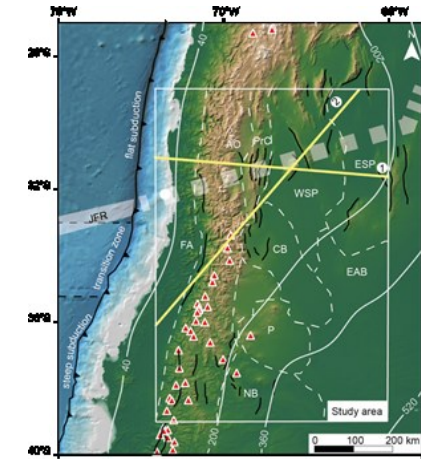
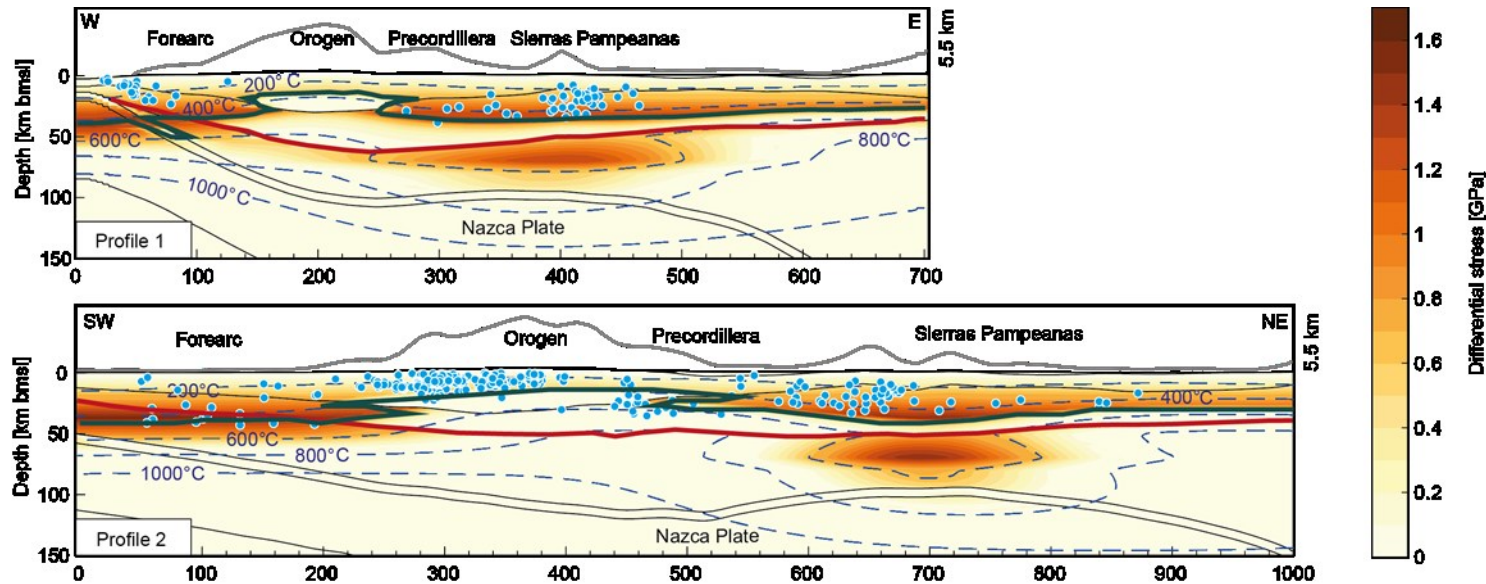
As appetizer just 2 examples...

For more please check

<http://www.irtg-strategy.de/en>

StRATEGy: Data-integrated 3D models

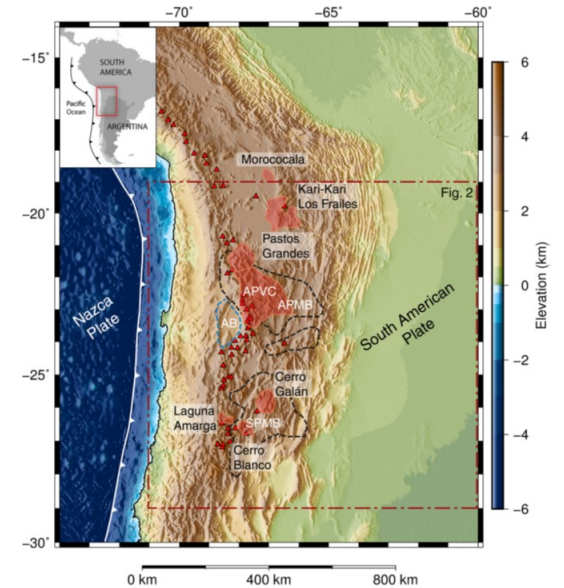
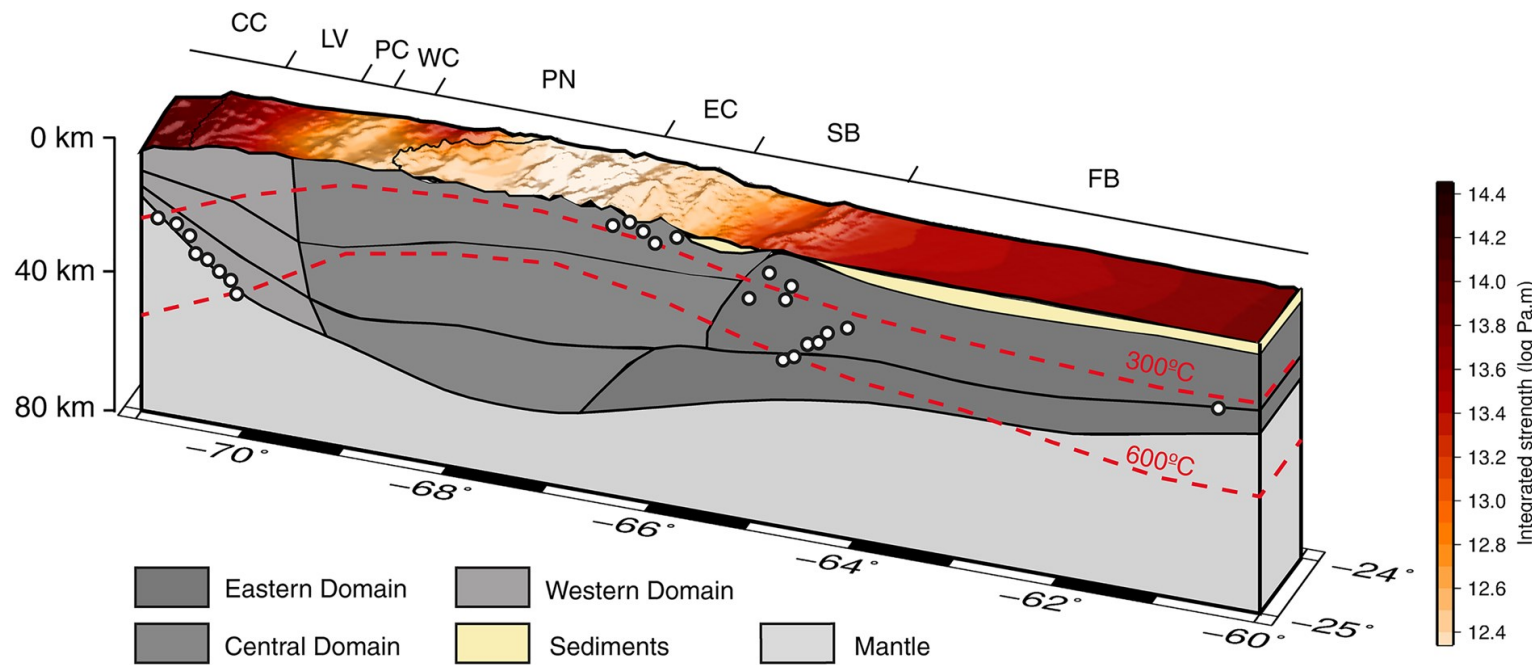
resolving crust and upper mantle physical characteristics



- Cold and strong forearc and foreland regions
- Warm and weak orogen
- Strength variations dominantly controlled by thermal field
- BDT bounds depth extent of seismogenic zone
- Deeper earthquakes in cold and strong domains
- Shallower earthquakes in warm and weak domains

StRATEGy: Data-integrated 3D models

resolving crust and upper mantle physical characteristics



slice of density model (-24° to -25° lat.)
with 300°C and 600°C isotherms and
integrated strength of the lithosphere
projected onto topography.
White circles with black rims represent
hypocenters

Publications

Rodriguez Picada, C., Cacace, M., Bott [Sippel], J., Scheck-Wenderoth, M., Strecker, M. (2022): Long-term lithospheric strength and intraplate seismicity in the southern Central Andes, 29° S-39° S. - *Geochemistry Geophysics Geosystems (G3)*, 23, 3, e2021GC010171.

<https://doi.org/10.1029/2021GC010171>

Rodriguez Picada, C., Scheck-Wenderoth, M., Bott [Sippel], J., Gomez Dacal, M. L., Cacace, M., Pons, M., Prezzi, C. B., Strecker, M. R. (2022): Controls of the Lithospheric Thermal Field of an Ocean-Continent Subduction Zone: The Southern Central Andes. - *Lithosphere*, 2022, 1, 2237272.

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Rodriguez Picada, C., Scheck-Wenderoth, M., Gomez Dacal, M. L., Bott [Sippel], J., Prezzi, C. B., Strecker, M. R. (2021): Lithospheric density structure of the Southern Central Andes constrained by 3D data-integrative gravity modelling. - *International Journal of Earth Sciences*, 110, 2333-2359. <https://doi.org/10.1007/s00531-020-01962-1>

Ibarra, F., Prezzi, C. B., Bott [Sippel], J., Scheck-Wenderoth, M., Strecker, M. R. (2021): Distribution of temperature and strength in the Central Andean lithosphere and its relationship to seismicity and active deformation. - *Journal of Geophysical Research: Solid Earth*, 126, 5, e2020JB021231. <https://doi.org/10.1029/2020JB021231>

Ibarra, F., Liu, S., Meeßen, C., Prezzi, C. B., Bott [Sippel], J., Scheck-Wenderoth, M., Sobolev, S. V., Strecker, M. R. (2019): 3D data-derived lithospheric structure of the Central Andes and its implications for deformation: Insights from gravity and geodynamic modelling. - *Tectonophysics*, 766, 453-468. <https://doi.org/10.1016/j.tecto.2019.06.025>

Meeßen, C., Sippel, J., Scheck-Wenderoth, M., Heine, C., Strecker, M. R. (2018): Crustal Structure of the Andean Foreland in Northern Argentina: Results From Data-Integrative Three-Dimensional Density Modeling. - *Journal of Geophysical Research*, 123, 2, 1875-1903.

<https://doi.org/10.1002/2017JB014296>

Rodriguez Picada, C. (2022): Thermomechanical state of the southern Central Andes, PhD Thesis, Potsdam : Universität Potsdam, xx, 228 p.

<https://doi.org/10.25932/publishup-54927>

Meeßen, C. (2019): The thermal and rheological state of the Northern Argentinian foreland basins, PhD Thesis, Potsdam : Universität Potsdam, 151 p. <https://doi.org/10.25932/publishup-43994>