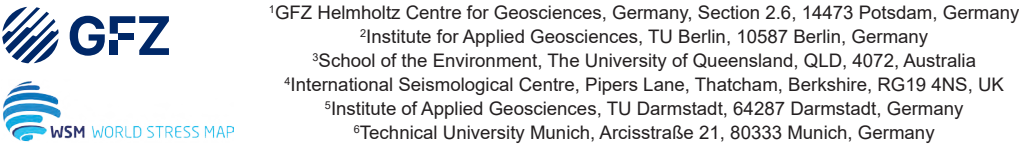


World Stress Map 2025

Hosted at the GFZ Helmholtz Research Centre for Geosciences

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Introduction

The World Stress Map (WSM) is a global compilation of information on the present day crustal stress field orientation. It is a collaborative project between academia and industry that aims to characterize stress patterns and to understand the stress sources. It commenced in 1986 as a project of the International Lithosphere Program ILP under the leadership of Mary-Lou Zoback. From 1995-2008 it was a project of the Heidelberg Academy of Sciences and Humanities headed first by Karl Fuchs and then by Friedemann Wenzel. Since 2009 the WSM is maintained at the GFZ Helmholtz Research Centre for Geosciences.

All stress information is analysed and compiled in a standardized format and quality-ranked for reliability and comparability on a global scale. The new WSM database release 2025 is now using the systematic global compilation of earthquake focal mechanisms from the International Seismological Centre ISC. The stress map displays A-C quality stress data records that are within the Earth's crust using the global crustal model of Szwillus et al. (2019). Further information on the compilation of the new WSM 2025, data details and tools are available on the WSM website at www.world-stress-map.org.

Stress map displays the orientation of maximum horizontal stress S_{Hmax}

Stress Indicator

Stress Regime (black denotes unknown)

Data Quality

A — S_{Hmax} is within $\pm 15^\circ$

B — S_{Hmax} is within $\pm 20^\circ$

C — S_{Hmax} is within $\pm 25^\circ$

Citation of this map

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Key references for the WSM project

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References of used additional data and software

Plate boundaries are from the global plate model of Bird (2003), topography and bathymetry from Tozer et al. (2019), and the global crustal model of Szwillus et al. (2019) is used. The stress map is produced with GMT from Wessel et al. (2019).

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Major contributors to the WSM database releases

International Seismological Centre ISC, Australasian Stress Map Project, GEOFON, Global CMT, European-Mediterranean Regional CMT Solutions, Techlimit, DGMK, NAGRA, NECSA, Sigma Geomechanics

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Mercator projection, equatorial scale 1:46,000,000

