



Activity Report 2025 – Task Forces / Coordination Committees

Project Title: **Lithospheric Heat Flow – Global Data Assessment Project**

Project No.: **2021-TF8**

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1. Highlights of recent ILP Task Force work/results

The Global Heat Flow Data Assessment Project, guided and supervised by ILP TF VIII, is designed to provide a quality-controlled, authenticated global database of heat-flow values and other thermal data. This project supports the International Heat Flow Commission (IHFC) and started in May 2021.

- The project was kicked off with 65 collaborators in May 2021 and increased to 130+ by end of 2025.
- **24hrs 4th Global Heat Flow Day held – 22/02/2024**
 - The 4th Global Heat Flow Day was designed as an outreach initiative by ILP TF VIII and IHFC to enable a heat flow discussion format to the heat-flow community on how to work with the new GHFD structure and how to update legacy-heat flow data into the new structure. Spanning nearly 20 hours of live sessions — from 1:00 a.m. to 9:00 p.m. GMT — this year's event featured a series of diverse and insightful presentations, covering both technical innovations and scientific applications across continents and disciplines. The format fostered lively discussion and knowledge exchange across time zones, showcasing the global and collaborative spirit of the heat flow community. Eight presentations were given, attended by 133 visitors, which is a substantial increase compared to the 48 from 2024. The ILP TF VIII is planning a fifth 24hr Global Heat Flow Day in 2026. All presentations are available online: <https://www.ihfc-iugg.org/community/24hrs-global-heat-flow-day>
- **Heat-flow Autumn 2025 – September 2025**
 - The IASPEI/IAGA Heat Flow Autumn 2025 was a series of events during the IAGA/IASPEI Joint Scientific Meeting 2025 in Lisbon, Portugal (31 Aug - 05 September 2025) promoting research on terrestrial heat flow. The following activities took place on Monday and Tuesday during the meeting week:
 - **Monday the 1st of September**
 - **J10a - The influence of the thermal state of the lithosphere on the tectonic processes: insights from heat-flow data and implications for geothermal resources, 4-6 pm (science session J10a in room A.2.16/18)**
Chair: Maria Rosa Duque
Speaker: Sven Fuchs, Rosa Maria Prol-Ledesma, Mafalda Miranda, Labani Ray, Raquel Negrete Aranda
 - **X - Open IHFC workshop on data standardization, 6:30-8 pm (workshop in room C.0.22)**
Chair: Ben Norden ([working group Borehole Temperature and Paleoclimate](#))
The IHFC was meeting to discuss the progress and next steps in the standardization of the borehole temperature and rock property database of the IHFC.
 - **Tuesday the 2nd of September**
 - **J10b - The influence of the thermal state of the lithosphere on the tectonic processes: insights from heat-flow data and implications for geothermal resources, 8:30-10:00am (Business Meeting IHFC in room A.2.16/18)**
Chair: Ivone Jiménez-Munt,
Speaker: Magdalena Scheck-Wenderoth, Kevin Furlong, Yaqi Wang, Shoichi Yoshioka, Linda Bonorino
 - **J10c - The influence of the thermal state of the lithosphere on the tectonic processes: insights from heat-flow data and implications for geothermal resources, 11:00-12:30pm (Business Meeting IHFC in room A.2.16/18)**
Chair: Raquel Negrete Aranda,

Speaker: Elif Pazvantoglu, Yibo Wang, Florian Neumann, Racine Basant, Lulu Lei, Maria Isabel Vidal Reyes

- **X - Open heatflow.world stakeholder meeting, 1-2 pm (IHFC workshop in room C.0.22)**
Chair: Sven Fuchs ([working group: Global Heat Flow Database](#))
The IHFC and the team of the *World Heat Flow Portal Project* held its stakeholder meeting on Tuesday. The [project](#) aims to consolidate and improve the research data infrastructure for the IHFC Global Heat Flow Database that offers a one-stop shop for comprehensive information on heat-flow related data, publications, projects, and researchers.
- **X - Mid-term IHFC business meeting, 6-8 pm (Business Meeting in room A.2.11)**
Chair: Raquel Negrete Aranda The minutes can be found [here](#).
- **IHFC dinner, 8-10 pm (Location: tba)**
The dinner was self-paid and open.
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- **Heat-flow fellowships extended**
 - In 2025, the fellowships were continued and hosted in Paris, Bremen and Potsdam.
 - Fellowship applications of the 6th round were from China, Egypt, India, Mexico, USA
 - The fellows spent a total of 12 months under the guidance of the ILP TF.

2. Presence at international meetings/workshops (this year)

Fuchs, S., Norden, B., Neumann, F., Balkan-Pazvantoglu, E., Elbarbary, S., Petrunin, A. (2025) Heat Flow in Europe: A new quality-controlled resource for geothermal energy exploration. - Talk presented at the **European Geothermal Congress EGC 2025** (Zurich, Swiss)

Guimarães, S., Fuchs, S., IHFC (2025). **Latin American Geothermal Congress 2025** (El Salvador)

Norden, B., Salis Gross, E., Fuchs, S. (2025). Establishing a New Thermal Borehole Temperature Data Scheme for Climate Studies - Poster presented at the **IAGA/IASPEI Joint Scientific Meeting 2025** (Lisbon, Portugal)

Neumann, F., Balkan-Pazvantoglu, E., Elbarbary, S., Petrunin, A., Norden, B., Fuchs, S. (2025) Advancing Global Marine Heat Flow Data: Challenges, Insights, and the Path Forward - Talk presented at the **IAGA/IASPEI Joint Scientific Meeting 2025** (Lisbon, Portugal)

Elbarbary, E., Neumann, F., Balkan-Pazvantoglu, E., Petrunin, A., Norden, B., Fuchs, S. (2025) A new Quality-Controlled Heat Flow Database for Europe - Poster presented at the **IAGA/IASPEI Joint Scientific Meeting 2025** (Lisbon, Portugal)

Balkan-Pazvantoglu, E., Elbarbary, E., Neumann, F., Petrunin, A., Norden, B., Fuchs, S. (2025) The First Asian Heat Flow Compilation: Quality-Controlled Data for an extended analysis of the thermal structure - Poster presented at the **IAGA/IASPEI Joint Scientific Meeting 2025** (Lisbon, Portugal)

Verdoya, M., Beardsmore, G., Fuchs, S., Liu, S., Harris, R., Negrete-Aranda, R. (2025) The lithospheric heat flow global data assessment project: state of art and developments - Talk presented at the **IAGA/IASPEI Joint Scientific Meeting 2025** (Lisbon, Portugal)

Fuchs, S., Global Heat Flow Data Assessment Group (2025) A Global Heat Flow Data Revolution: Standardization, Quality Assessment, and Future Perspectives - Talk presented at the **IAGA/IASPEI Joint Scientific Meeting 2025** (Lisbon, Portugal)

Beardsmore, G., Fuchs, S., Verdoya, M., Negrete-Aranda, R., Harris, R. (2025). Global Heat Flow Data Assessment Project: Quality-assured terrestrial heat flow data to support resource exploration. Talk presented to Australasian Exploration Geoscience Conference (Perth, Australia)

Poort, J., Fuchs, S., et al., IHFC (2025) Transformation of the global heat flow database and training of heat flow fellowships – Poster presented at **GEOSCIENCIAS 2025** (Cuba)

3. Important publications of ILP Task Force members (max. five)

Neumann, F.; Norden, B.; Balkan-Pazvantoglu, E.; Elbarbary, S.; Petrunin, A.; Elger, K.; Jennings, S.; Frenzel, S.; Fuchs, S.: Standardization and quality: the assessment of the global heat-flow data between 1954 and 2024. *Earth System Science Data* (under review)

Chishti, S. F., Balkan-Pazvantoglu, E., Norden, B., Neumann, F., Elbarbary, S., Salis Gross, E., Petrunin, A. G., Fuchs, S. (2025): Heat Flow Quality Analysis Toolbox (hfqa_tool).

<https://doi.org/10.5880/FIDGEO.2025.043>

Fuchs, S., Neumann, F., Balkan-Pazvantolu, E., Elbarbary, S., Petrunin, A. G., Jennings, S., Elger, K., Norden, B. (2025): Global Heat Flow Database Data Template.

<https://doi.org/10.5880/fidgeo.2025.042>

4. New contacts (this year)

Further six colleagues joined as collaborators of our Global Data Assessment Project:

- Luis Ángel Vega Ramírez, Mexico
- Reham Rafat, Egypt
- Sandeep Kumar Prajapati, India
- Fang Xie, China
- Sayed Mahmoud, Egypt
- Moataz Ibrahim, Egypt

5. Usage of ILP funding (this year)

Sven Fuchs received ILP TF support for travel expenses around the IASPEI/IAGA heat-flow autumn during the last IASPEI/IAGA Science Meeting in Lisbon, Portugal. The leftover money is going to be used for the final summer school in Izmir Turkey, the EGU in spring and the WGC in summer 2026. At EGU and WGC, we are going to present the final results of our 5 years of work.

6. Activities planned for 2026

1) *Publication of data release 2026*

We will publish the 2026 release of the Global heat Flow Database

2) *A 5th edition of the 24hrs Global Heat Flow Day – 26/02/2026*

The 24-hrs Global Heat Flow Day is a one-day outreach initiative by ILP TF VIII and IHFC to teach/support the global heat flow community on transforming legacy heat flow data into the new structure considering the new quality standards. For the first time, we strive to organize 24 talks in 24 hours.

3) *Summer school 2026*

The ILP TF VIII and the IHFC are setting up the second summer school on heat flow in Izmir Turkey in May 2026.

4) *Securing the LDEO archive of marine heat flow data*

We plan to visit the LDEO archives to digitize the Abbott archive from LDEO.

5) *Completion and submission of EOVS spec sheets*

We plan to submit spec sheets to establish heat flow as essential ocean variable.

6) *Heat flow fellowships*

The eight-fellowship round are planned for March 2026.

7) *International Geothermal Standards Committee*

We intend to collaborate with the new International Geothermal Standards Committee to ensure consistency between IHFC and IGSC terminology and standards.