

Letter to the members of the IUGS Council, constituent groups, and affiliated organizations

From the IUGS Executive Committee:

Decision on the concerns raised about the DDE program

Dear colleagues,

The Deep-time Digital Earth (DDE) is a big science program under the auspices of the International Union of Geological Sciences (IUGS) initiated by Professor Qiuming Cheng during his term as IUGS President from 2016-2020. This program is dedicated to facilitating innovation in understanding the Earth's evolution and applications as well as the Sustainable Development Goals utilizing Big Data analytics, internet cloud computing, data mining, machine learning, and AI. Financial support for DDE is provided mostly by Chinese funders. The contribution of IUGS to this program was in the order of 20,000 USD per annum in recent years.

A review of the DDE program was conducted in 2024 by an ad-hoc review committee, composed of John Ludden, Shuwen Dong, Sharon Tahirkheli, Matt Harrison, Ludwig Stroink and Marko Komac. While the committee acknowledged the general approach of the program and the innovative science behind it, a number of governance related issues were raised. These included the status of the DDE as an organizational entity, clarity on the nature of the formal relationship with the IUGS and other geoscientific groups.

During the last few months, the IUGS Executive Committee has been confronted by IUGS adhering members and bodies with a multitude of requests, questions and concerns. These were primarily related to legal and financial risks of the IUGS DDE-patronage, as well as insufficient transparency in DDE governance and data management. Some countries indicated a possible withdrawal of their membership from the IUGS if such issues were not addressed. During the open session of the 81st meeting of the IUGS Executive in Paris (17-18 March 2025) the representatives of some IUGS members once again raised these concerns.

Consequently, during the closed session of its 81st meeting in Paris (19-20 March 2025), the IUGS Executive Committee unanimously resolved to suspend all formal links and activities with DDE for one year with immediate effect to allow time for the program's responsible parties to resolve the following matters to the satisfaction of the Executive Committee and Council:

- Governance of DDE, which requires clear definitions of the roles and responsibilities of the different DDE bodies.
- Revision of the DDE Statutes and their validation by the IUGS Executive Committee.
- Transparency in the relationship between DDE and GeoGPT.
- Benefits for DDE as an IUGS-Body or Program and vice versa.
- Full transparency in data management.
- Transparency in financial matters and a broad approach to funding.
- Clarity on IUGS and DDE liability as the result of potential misuse of the data, provided through the DDE services.
- Clarity on outreach and communication.



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The chair of the DDE Executive Committee is expected to report on the action taken to resolve the above-listed matters during the open session of the 82nd IUGS Executive Committee Meeting in early 2026. During this period of time, the work of DDE will continue independently from IUGS support and contributions.

The decision was communicated in person by the IUGS Bureau members (Hassina Mouri, Ludwig Stroink, and David Cohen) to the leaders of the DDE program (Harvey Thorleifson, Qiuming Cheng, and Ishwaran Natarajan) during a meeting at 11:00 a.m. on March 22, 2025, at UNESCO Headquarter in Paris. A written version has been sent on April 2, 2025.

The IUGS Executive Committee regrets having to take this step and hopes that the formal relationship between IUGS and DDE can resume at the stipulated time. We emphasise that this move is not a reflection on the abilities and integrity of the colleagues involved in the program - many of whom have served with distinction on the IUGS executive and commissions for many years. The IUGS remains also committed to the scientific objectives of the DDE and the benefits that this will deliver to the geosciences community globally.

Signed on behalf of the IUGS Executive Committee by:

Hassina Mouri (President)

Ludwig Stroink (SG)

David Cohen (Treasurer)

Maria Rose Petrizzo (Vice President)

Marko Komac (Vice President)