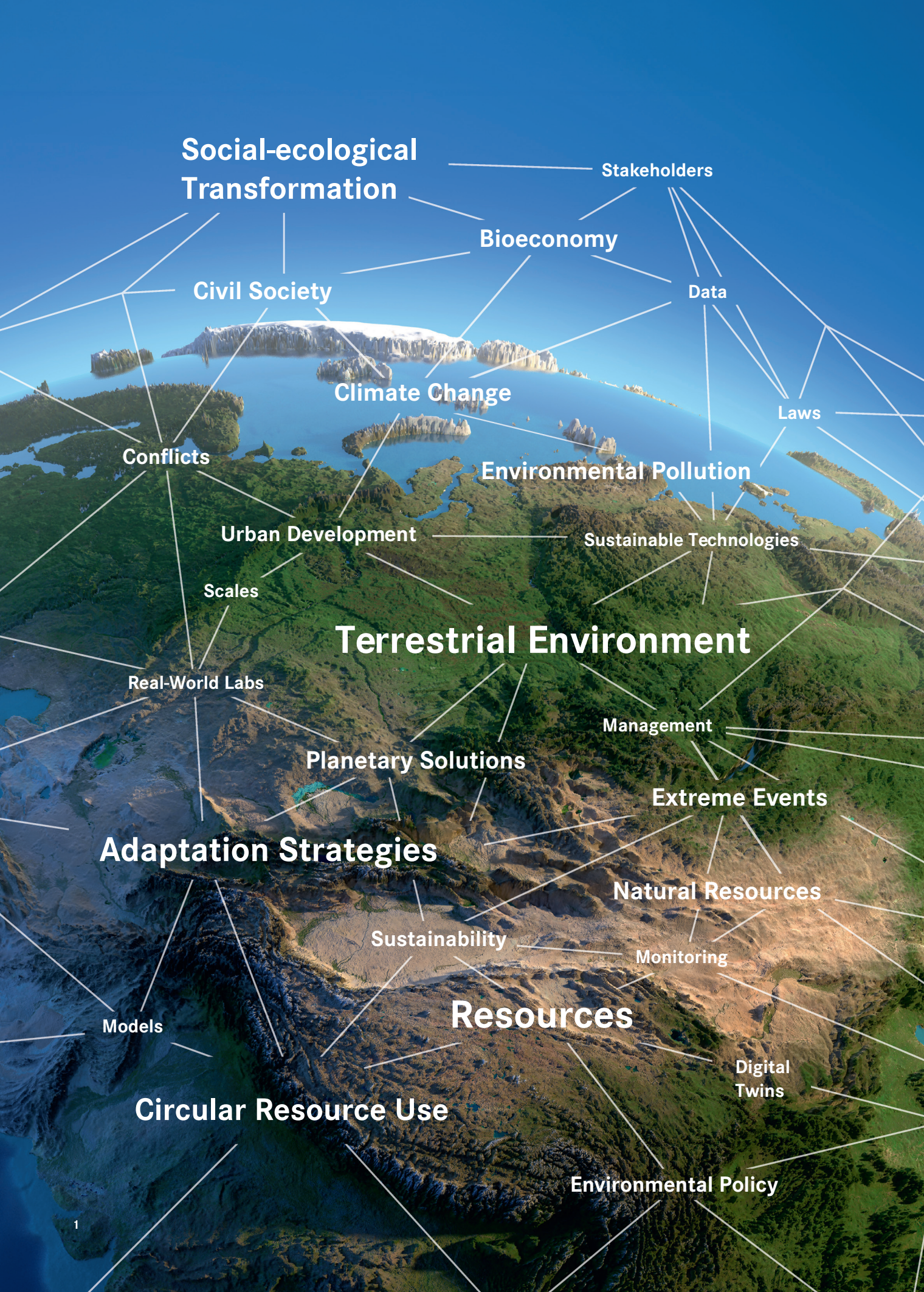
STRATEGY 2035 –

Research with a long-term vision

Pioneering solutions for a sustainable and equitable future



UFZ HELMHOLTZ Centre for Environmental Research

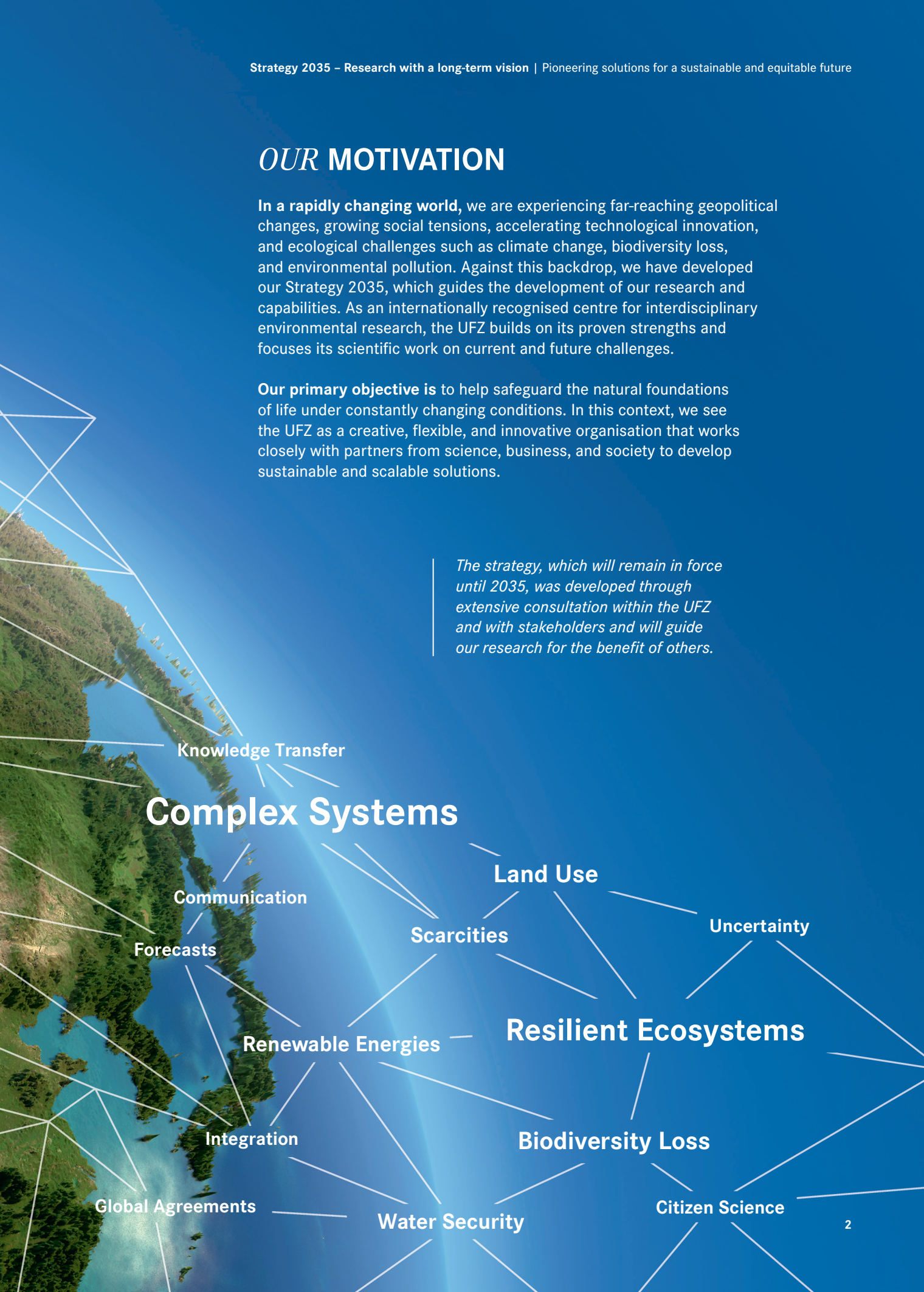

Social-ecological Transformation
Stakeholders
Bioeconomy
Civil Society
Data
Climate Change
Laws
Conflicts
Environmental Pollution
Urban Development
Sustainable Technologies
Scales
Terrestrial Environment
Real-World Labs
Management
Planetary Solutions
Extreme Events
Adaptation Strategies
Natural Resources
Sustainability
Monitoring
Resources
Models
Digital Twins
Circular Resource Use
Environmental Policy

OUR MOTIVATION

In a rapidly changing world, we are experiencing far-reaching geopolitical changes, growing social tensions, accelerating technological innovation, and ecological challenges such as climate change, biodiversity loss, and environmental pollution. Against this backdrop, we have developed our Strategy 2035, which guides the development of our research and capabilities. As an internationally recognised centre for interdisciplinary environmental research, the UFZ builds on its proven strengths and focuses its scientific work on current and future challenges.

Our primary objective is to help safeguard the natural foundations of life under constantly changing conditions. In this context, we see the UFZ as a creative, flexible, and innovative organisation that works closely with partners from science, business, and society to develop sustainable and scalable solutions.

The strategy, which will remain in force until 2035, was developed through extensive consultation within the UFZ and with stakeholders and will guide our research for the benefit of others.





OUR VISION

The UFZ is a world-leading institution in environmental research. We pioneer innovative solutions to environmental challenges. By advancing evidence-based approaches, we support societal transformations towards sustainability. Our work contributes to a liveable, resilient planet, creating a sustainable and just future for current and future generations.

OUR MISSION

Protecting the natural foundation

Biodiversity, healthy ecosystems, clean water, and a stable climate are the basis of life. Today, humanity faces the triple challenge of biodiversity loss, climate change, and pollution. Our team is united by the goal of developing science-based solutions to protect and use our natural resources sustainably, while safeguarding the health, prosperity, and well-being of all who depend on them.

From knowledge to action

We measure our success by our impact on science and society. We pursue excellence through the combination of academic achievement with practical expertise and implementation know-how. We identify urgent environmental challenges at all levels and develop innovative solutions for politics, business, and society. In environmental crises, we draw on science and our strategic networks to provide decision-makers with rapid, robust assessments and, where possible, solutions.

Promoting collaboration and inclusion

Our work is systemic, collaborative, and transdisciplinary. We bring together the natural, technical, data and social sciences, working closely with a diverse network of partners. By fostering a plurality of perspectives, we contribute to the implementation and advancement of international agreements and programmes. We are committed to building capacity worldwide and take pride in our alumni as they assume responsibility in science, industry, and society around the globe.

Strengthening innovative infrastructure and digital leadership

We combine cutting-edge research infrastructure with advanced data science and AI approaches, and thereby enable world-class research along the entire knowledge value chain. We gather information through observatories, experimentation sites and analytical facilities to gain a fundamental understanding of social-ecological relationships. This is complemented by technology platforms and real-world laboratories, which facilitate the development of innovations in close collaboration with stakeholders. Demonstration sites showcase science-based solutions and their tangible impact.



OUR PRINCIPLES

Honesty, openness, and respect

We create pathways and narratives for positive futures, ensuring that no one is left behind. Our interactions with societal actors are shaped by honesty, openness, and respect for diverse perspectives. We think outside the box, foster trust, and act as honest brokers with the highest scientific integrity. We are dedicated to supporting current and future generations, inspiring and educating, and continually advancing our own capabilities for the common good.



Work culture and ambitions

Our culture builds on integrity, good scientific practice, and an attitude of learning from success and failure. It goes hand in hand with an ambitious, bold spirit of creativity, excellence and achievement. We foster team spirit and a fair, inclusive and safe working environment where diversity with its wealth of experiences and abilities meets with openness and critical debate. We aim for an enabling working culture in which all colleagues advance professionally and with a high sense of responsibility to unfold their full potential and contribute their strengths to achieving our shared goals.



At the UFZ, we organise our scientific work into **three solution-oriented** research foci that address the major **environmental crises** of biodiversity loss, climate change, and pollution:

OUR RESEARCH FOCI



Foster resilient ecosystems

Innovate circular use of resources

Transform social-ecological systems


AI


AI


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Foster resilient ecosystems

In the research focus '**Foster resilient ecosystems**', we focus on making natural systems more resilient to climate change, biodiversity loss, and environmental pollution. Using AI-powered sensor networks, long-term monitoring stations, experimental studies, and digital twins, we expand our understanding of how ecosystems function across different scales and develop early-warning systems and evidence-based adaptation strategies. In close collaboration with policymakers, public authorities, and local authorities, we turn scientific findings into practical governance and management solutions.



Innovate circular use of resources

In the research focus '**Circular use of resources**', we aim to integrate biological, ecological, and technological systems to close resource cycles, reduce environmental pollution, and strengthen a bio-based economy. We investigate how natural and engineered systems can be used efficiently. We use this knowledge to develop and improve biotechnological processes for producing products such as food, animal feed, energy carriers, and synthetic chemicals while reducing dependence on critical raw materials. By working closely with the private sector, we ensure that laboratory innovations are scaled up for industrial application.

Transform social-ecological systems

In the research focus '**Transform social-ecological systems**', we investigate the interactions between societies and their natural environment. In real-world laboratories, we work with local stakeholders to develop and test solutions for food, water, and energy security. As part of a planned transformation hub, implementation processes and governance structures will be evaluated to enable the scaling up of proven sustainability solutions from the local to the global level.

UFZ Planetary Solutions

KNOWLEDGE THAT DELIVERS.

To focus our research even more strongly on solutions, we will systematically support the entire value chain from basic and applied research to demonstration and application. We seek to develop solutions for global application and identify ways to scale them up from the regional to the global level. *Current challenges can be effectively addressed only at the global level.*

More information:
www.ufz.de/planetary-solutions



OUR APPROACHES

Our ambition to advance three solution-oriented research foci and contribute solutions at the global level requires us to continually develop how we work. In order to further strengthen our research capabilities in this regard, we are pursuing **six strategic approaches**.



















Combining scientific excellence with solution-orientation

We consistently combine scientific excellence, in-depth expertise, and methodological innovation with knowledge and technology transfer and promote a transfer-oriented culture. In this way, we can turn scientific findings into scalable solutions for industry, policymakers, and society.

Promoting interdisciplinarity

The UFZ brings together a unique range of disciplines from the natural sciences, engineering, data science, and the social sciences. This diversity allows us to take a holistic view of the interrelationships between climate change, biodiversity, and chemical pollution and develop forward-looking solutions and courses of action.

Research infrastructure, data science, and modelling

Data collection, monitoring, experiments, modelling, and research infrastructures form the basis for scientific excellence at the UFZ and provide unique, high-resolution, long-term environmental datasets. We initiate, develop, and expand these structures and advance technologies such as AI, virtual reality, and quantum computing.

Crisis preparedness and responsiveness

The UFZ provides science-based support during acute environmental crises such as extreme events. We provide rapid measurements, analyses, data, information, and assessments and contribute environmental knowledge to security and resilience agendas.

Co-design with stakeholders

The UFZ brings together stakeholders and decision-makers from science, society, industry, public administration, and politics to gain a holistic understanding of the issues and develop and test solutions in real-world laboratories or at demonstration sites.

Trusted intermediary

The UFZ serves as an interface between science, society, and policymakers and turns complex environmental findings into clear, actionable policy options. It makes these options accessible to a broad audience through digital platforms, open data portals, and communication designed to meet different needs.

THE UFZ
FACTS AND FIGURES

The Helmholtz Centre for Environmental Research (UFZ) is one of the world's leading organisations in environmental research. Around **1,100 employees from over 70 countries** study the complex relationships between people and the environment. Against the backdrop of multiple environmental crises, they seek science-based solutions to protect and sustainably use the natural foundations of life.

Since its foundation in 1991, the UFZ has been active from fundamental research to practical application. It is a reliable partner, knowledge provider, and adviser to decision-makers in business, society, and politics.

The UFZ is **headquartered** in **Leipzig** and has further sites in **Halle**, **Magdeburg**, and **Bad Lauchstädt**. It is organised as a non-profit limited liability company (GmbH). Its shareholders are the Federal Republic of Germany, the Free State of Saxony, and the State of Saxony-Anhalt.

The UFZ is a **member of the Helmholtz Association**, the largest non-university scientific organisation in Germany. The 18 legally independent research centres collaborate in six major research fields. The UFZ is part of the 'Earth and Environment' research field.

www.ufz.de | www.helmholtz.de

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Rolf Altenburger, Katharina Donner, Katrin Böhning-Gaese, Susanne Hufe, Doris Wolst (all UFZ) and Friederike Bauer

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