Resilient Coastal Economy & Sustainable Marine Resource Management

Scalable data-driven solutions – a private sector perspective

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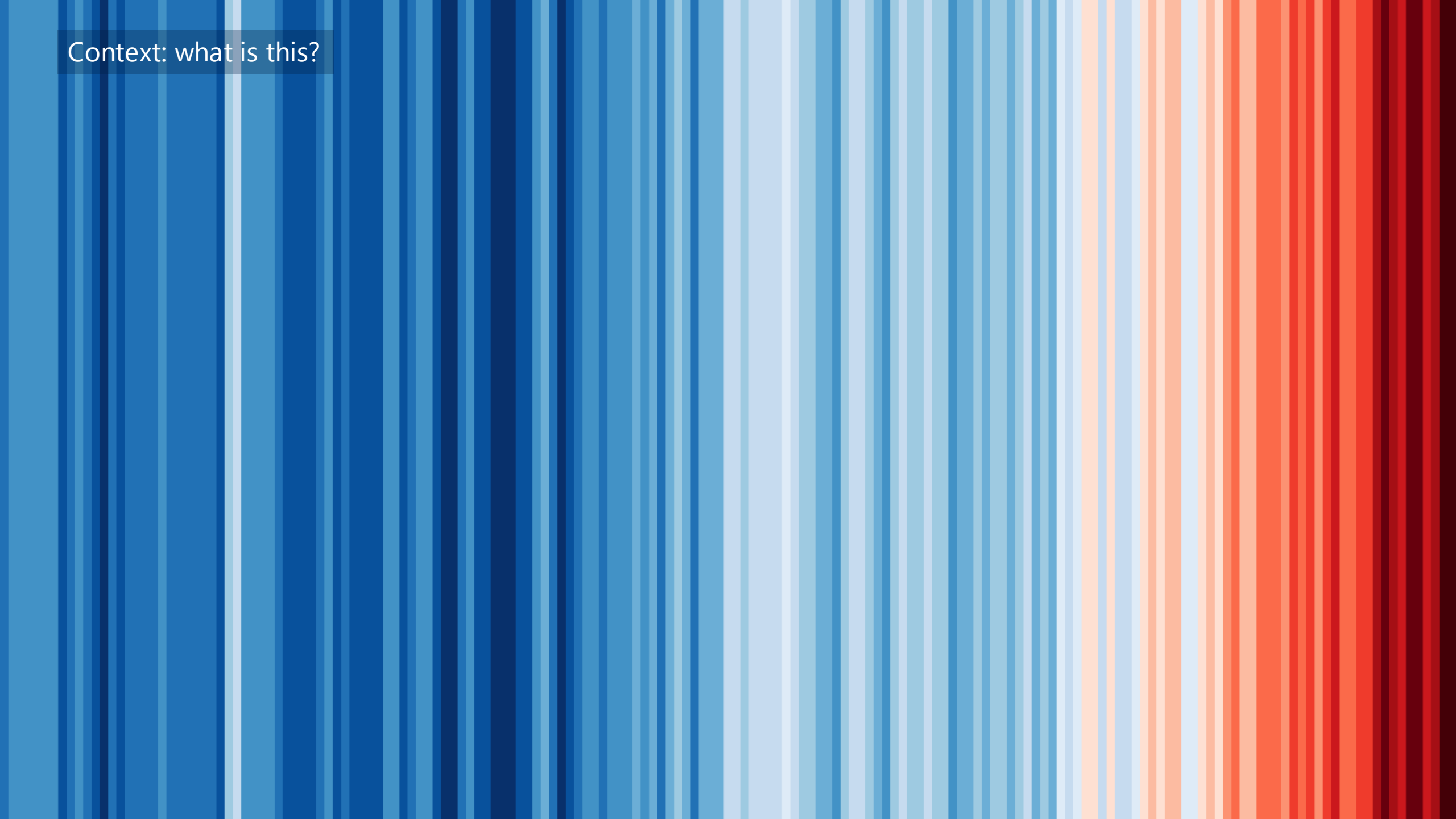
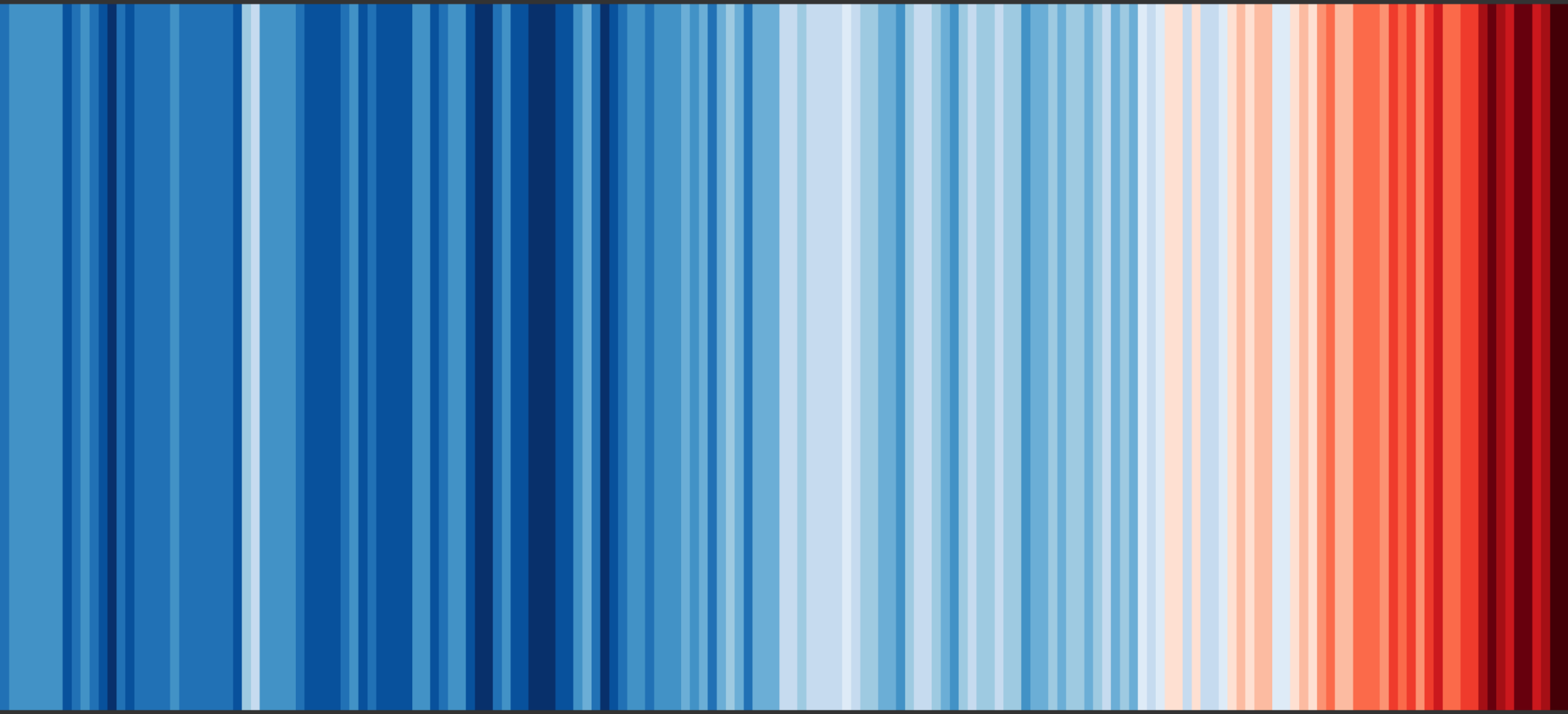
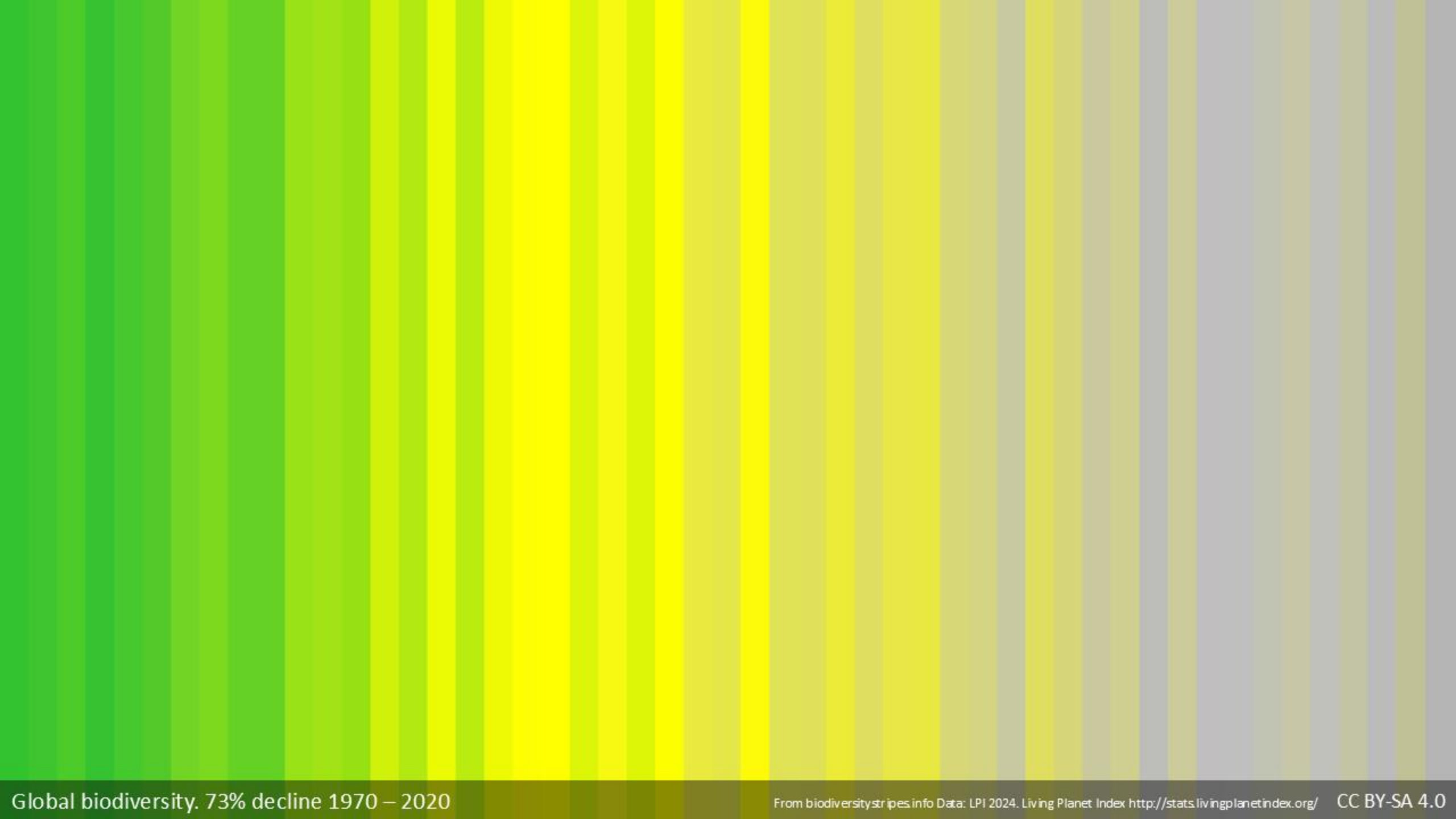
Context: what is this?



Global temperature change (1850-2024)




Global biodiversity. 73% decline 1970 – 2020
From biodiversitystripes.info Data: LPI 2024. Living Planet Index http://stats.livingplanetindex.org/
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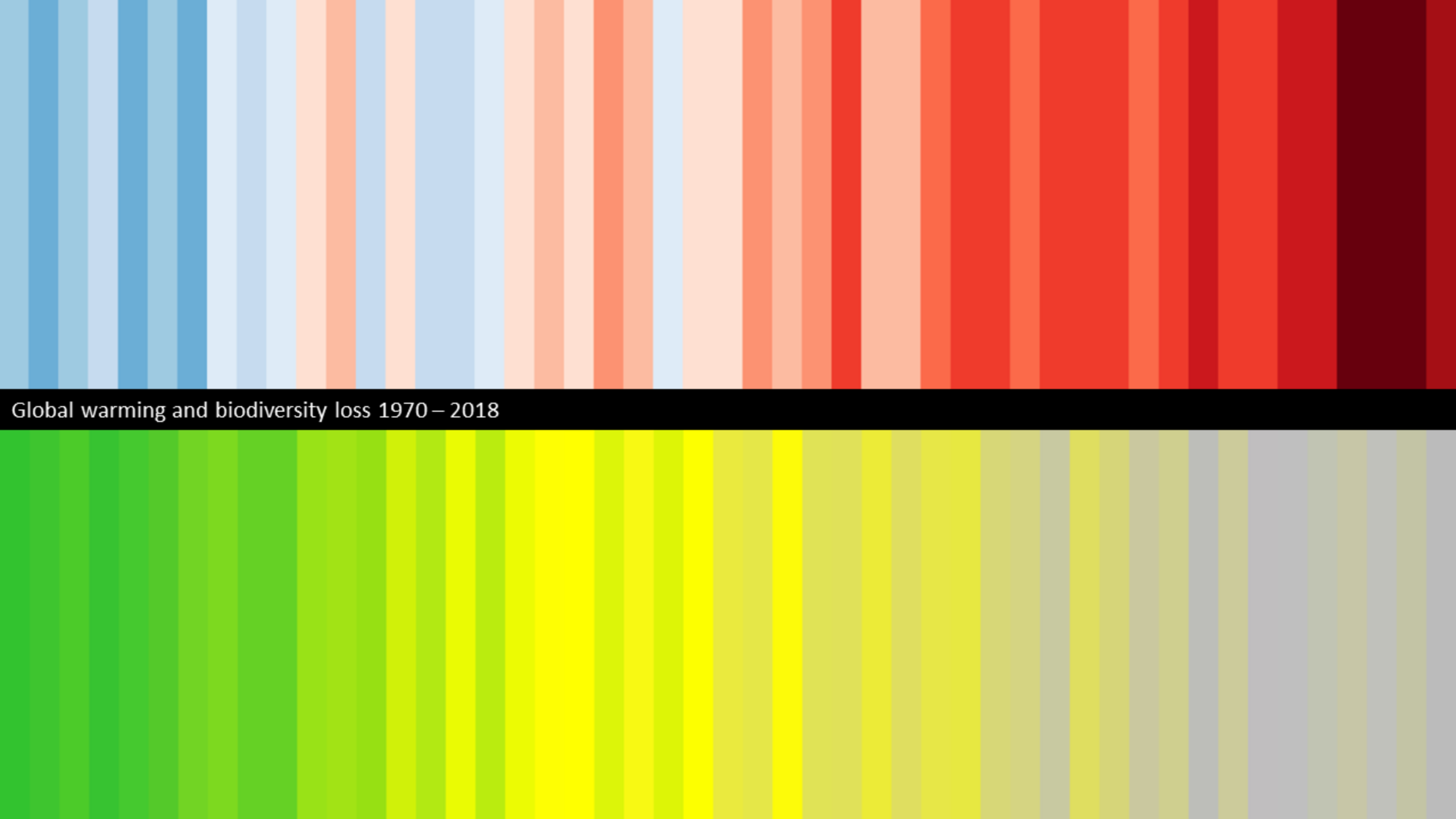
Global warming and biodiversity loss 1970 – 2018


Climate change and declining biodiversity are connected.
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Climate and nature resilience

Partner with us to address your critical challenges.

Climate

- Flood management
- Integrated coastal zone management
- Integrated water resources management
- Climate resilient assets and infrastructure
- Water quality management.

Nature

- Blue carbon ecosystem assessments and coastal ecosystem restoration
- Environmental impact assessments and environmental protection plans
- Nature-positive infrastructure
- Marine spatial planning and marine protected areas.

Better data enable better decisions.

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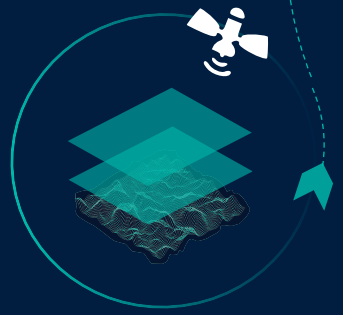
End-to-end solutions

Mapping & monitoring

Localised high-fidelity surveys, *in situ* measurements



Satellite EO-based rapid, regional, frequent and historical insights

Modelling
risks, short-and long-term forecasts, what-if scenarios

Decision support tools
Intuitive web-apps and APIs enabling data integration, (AI) analytics, alerting

Advisory & co-design
around data-driven climate adaptation, nature conservation & restoration

- Coastal erosion
- Flooding and submersion
- Blue carbon
- Mangrove, seagrass and coral ecosystems
- Nature-based solutions
- Metocean conditions
- Water quality
- Harmful algal blooms and sargassum
- Marine Protected Area baselining and monitoring

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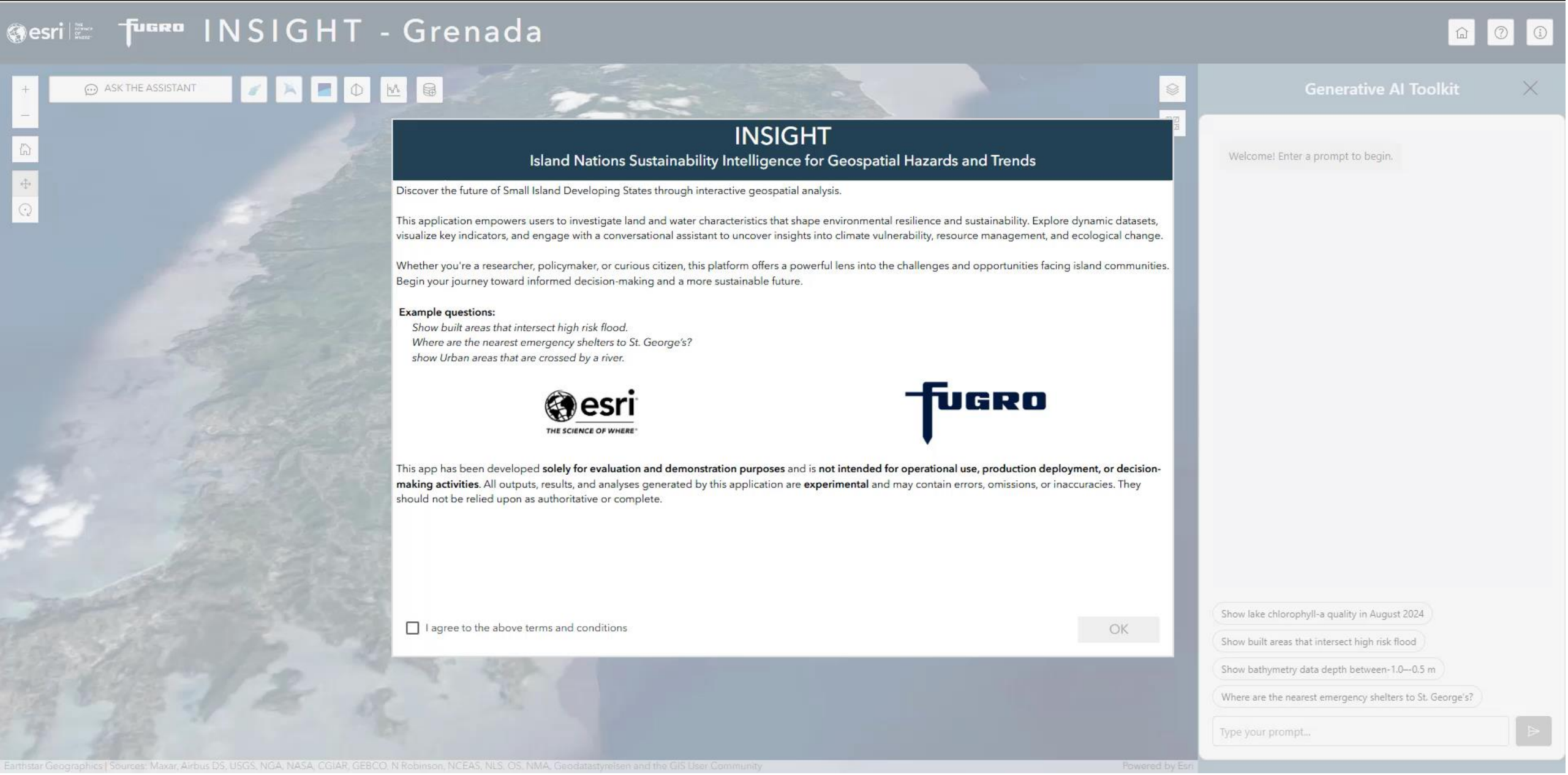

Coastal resilience demo

Key opportunities (from the private sector perspective)

- **Scalable ocean data platforms and infrastructure** through new approaches, sensors and platforms for data collection e.g. IoT, robotics, satellites
- **AI-driven ocean data analytics** that can transform ocean data into usable and actionable information for many different use cases and value-adding applications
- **Applications in nearly all (private) sectors/industries across the Blue Economy**, e.g. offshore renewable energy, shipping/maritime, blue biotech, aquaculture and fisheries – to drive more informed, data-driven strategic decision-making and operational efficiency
- **Growing demand and awareness for different types of ocean data** for Climate & Nature
  - Biodiversity data for ecosystems monitoring, conservation and coastal protection projects
  - Ocean data for MRV and mCDR projects to mitigate atmospheric CO_2
  - Ocean data for insurance, risk management and modelling

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Key challenges (from the private sector perspective)

- Funding opportunities for scaling up
- High costs of data collection and AI processing infrastructure
- Fragmented and complex market
- **High customer acquisition costs and market education needs**, leading to long sales cycles and high commercial risk
- **Uncertainty related to emerging markets such as carbon/biodiversity credits** e.g. price volatility, regulatory instability, evolving standards
- **Diverse and challenging business models for ocean data monetisation** (data is not treated as infrastructure)

Multi-stakeholder co-designed flagship projects to drive sustained market mechanisms

Philanthropic funds

Government grants

Private sector contribution

Flagship projects

- Validate policy & regulation
- Implement & scale research
- Spur innovation
- Provide market & financial metrics
- Let society interact

Sustained market mechanisms

Fugro is committed to coastal resilience and sustainable ocean management.