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**PROCIV 32
INTER-REP 17**

NOTE

From: General Secretariat of the Council
On: 24 February 2026
To: Delegations

Subject: Presentation on preparing for High Impact Low Probability (HILP) events

Delegations will find attached the presentation in subject delivered at the PROCIV CER WP meeting on 17 February 2026.

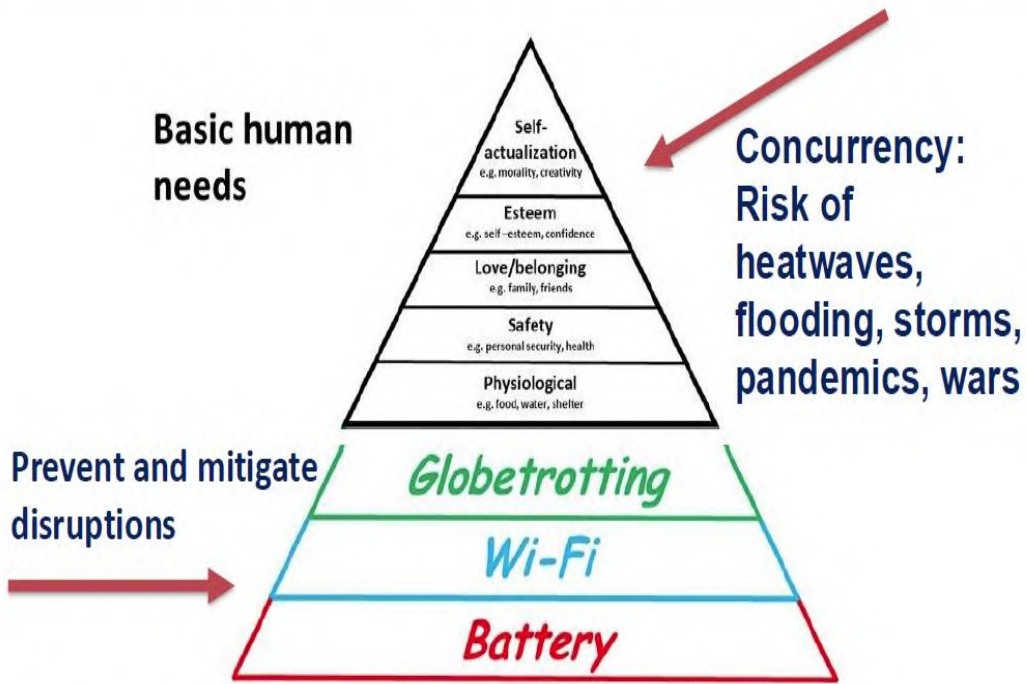
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Preparing for High Impact Low Probability (HILP) events



Prof. Gianluca Pescaroli, Science lead of Horizon AGILE,
Director of Systemic futures lab, UCL
Senior Advisor, Cambridge Centre for Risk Studies

It is the context that evolves

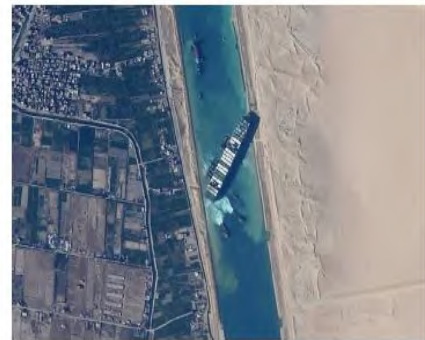
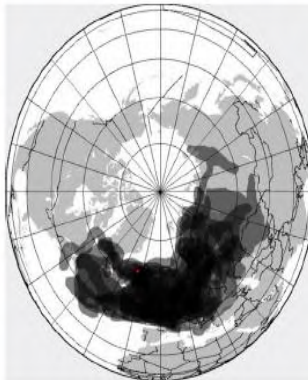
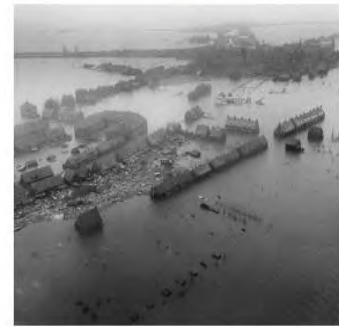
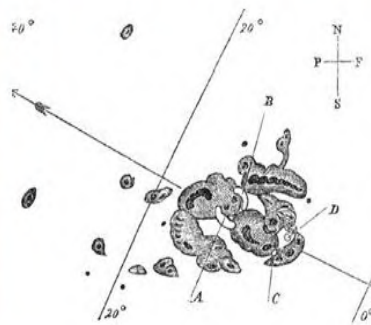


See Pescaroli and Alexander 2016, 2018

Our concept: we cannot predict everything



The challenge: “it will never happen to us”



What are HILP Events?

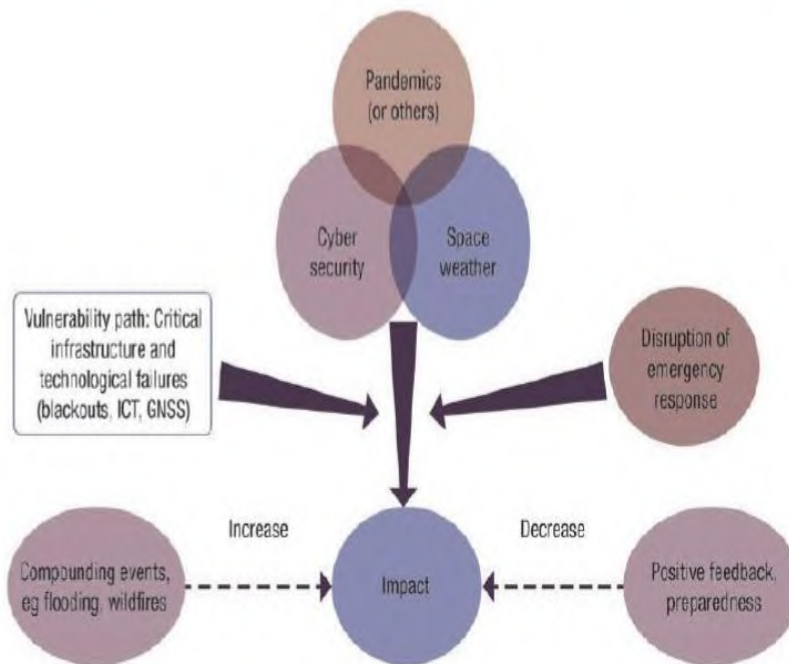
High Impact Low Probability Events (HILPs) are *rare events* which may potentially result in *catastrophic impacts* such as on people, infrastructure, utilities, critical services and wider societal function. These events are characterised by a *lack of precedence and high levels of uncertainty* in their predictability and combinations of effects, often coming as surprises or shocks. They *may not meet the defined thresholds of mitigation actions*, and will require innovative, creative approaches to raise awareness, *leverage established capabilities*, and enhance short- and long-term preparedness.

Link to the definition and taxonomy (Pescaroli et al. 2025):
www.sciencedirect.com/science/article/pii/S2212420925003280

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www.sciencedirect.com/science/article/pii/S2212420925003280

Addressing single point of failures across multiple threats (risk agnosticism)



Pescaroli et. 2016 2018, Trump et al. 2025

It's not rocket science: redundancy in both soft and hard infrastructure



See Pescaroli et al. 2022,2023, Trump et al. 2025

The role of stress testing



Practical steps for public policies

- ✓ Benchmark HILP scenarios
- ✓ Streamline a risk or threat agnostic approach
- ✓ Assure the adoption of stress testing methodology across the supply chain (third party providers)
- ✓ Increase the focus on preparedness
- ✓ Moving toward training and creativity for thinking the unthinkable.



Any questions?



References

- ✓ Pescaroli, G., McMillan, L., ... & Linkov, I. (2025). *Definitions and taxonomy for High Impact Low Probability (HILP) and outlier events*. International Journal of Disaster Risk Reduction, 127, 105504
- ✓ Trump, B. , Mitoulis, S., ...Pescaroli, G., Pingina, E. Trump, J. & Linkov, I. (2025). *Threat-agnostic resilience: Framing and applications*. International Journal of Disaster Risk Reduction, 124, 105535
- ✓ Pescaroli, G., Guida, K., & Alexander, (2023). *Managing systemic risk in emergency management, organizational resilience and climate change adaptation*. Disaster Prevention and Management, 32(1), 234-251
- ✓ Linkov, I., Trump, B. D., Trump, J., Pescaroli, G.,... & Panda, A. (2022). *Resilience stress testing for critical infrastructure*. International Journal of Disaster Risk Reduction, 82, 103323
- ✓ Pescaroli, G., Wicks, R. T., Giacomello, G., & Alexander, D. E. (2018). *Increasing resilience to cascading events: The M. OR. D. OR. scenario*. Safety science, 110, 131-140
- ✓ Pescaroli, G., & Alexander, D. (2018). *Understanding compound, interconnected, interacting, and cascading risks: a holistic framework*. Risk analysis, 38(11), 2245-2257.