



Early Warnings for All

AWS Contributions to Platform Development

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AWS



Agenda

1. AWS Advanced Compute for Sustainability
2. Leveraging the Cloud
3. AWS Supports for Early Warning Systems

AWS Impact Computing

Help customers **improve lives** of humans, other species, and natural ecosystems through modeling, simulation, and data-rich compute solutions



Early Warning System Analytics

Impact Measurement & Reporting

Innovating Advanced Compute for Complex Living Systems

ML/NLP/GenAI to generate actionable and credible insights on prevention and mitigation



Modern data lake architecture, leveraging ASDI

Data science innovation to enable climate risk analytics



The **Amazon Sustainability Data Initiative (ASDI)**

democratizes access to geo-spatial analytics and real-time monitoring by significantly reducing the **cost, time, and technical barriers** associated with analyzing large datasets to generate sustainability insights.

Making access to data faster, cheaper, and easier



MAXAR



ONREL
NATIONAL OBSERVATORY OF RESEARCH



FINNISH METEOROLOGICAL
INSTITUTE



Climate

[CMIP5](#) | [CMIP6](#) | [ECMWF ERA5](#) | [CMIP6 downscaled using WRF](#) | [NA-CORDEX](#) | [CESM LENS](#) ([more](#))



Weather

[NEXRAD](#) | [NOAA GFS](#) | [NOAA GFSD](#) | [NOAA HRRR](#) | [NOAA ISD](#) | [Finnish M. I. Weather Radar](#) ([more](#))



Water

[FSF Flood Risk](#) | [NOAA GHE](#) | [NOAA NWM](#) | [RAPID NRT Flood Maps](#) ([more](#))



Satellite imagery

[ESA WorldCover](#) | [JMA Himawari-8](#) | [NOAA GOES \(16,17,18\)](#) | [Sentinel-1](#) | [Sentinel-2](#) | [USGS Landsat](#)



Socio-economic



Ocean



Energy



Air quality

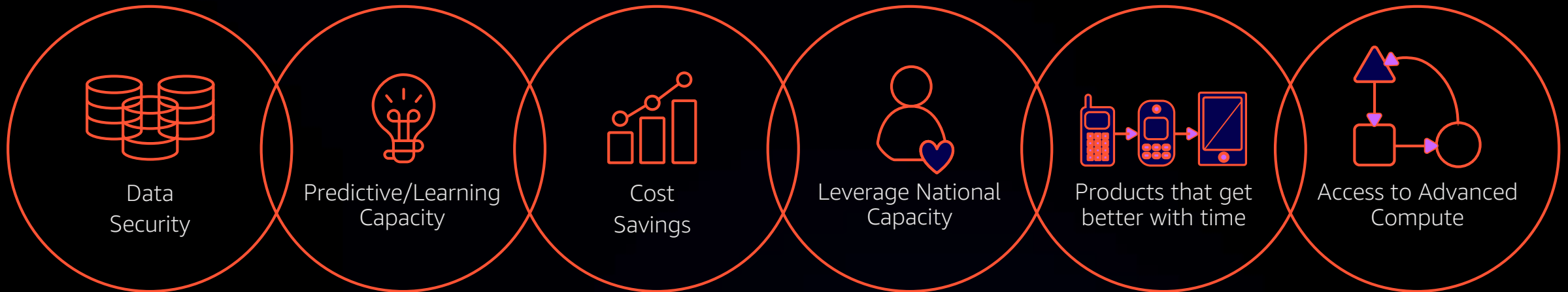


Environmental indicators

[RODA](#) | [ADX](#)

The Cloud for Global Early Warning Capacity

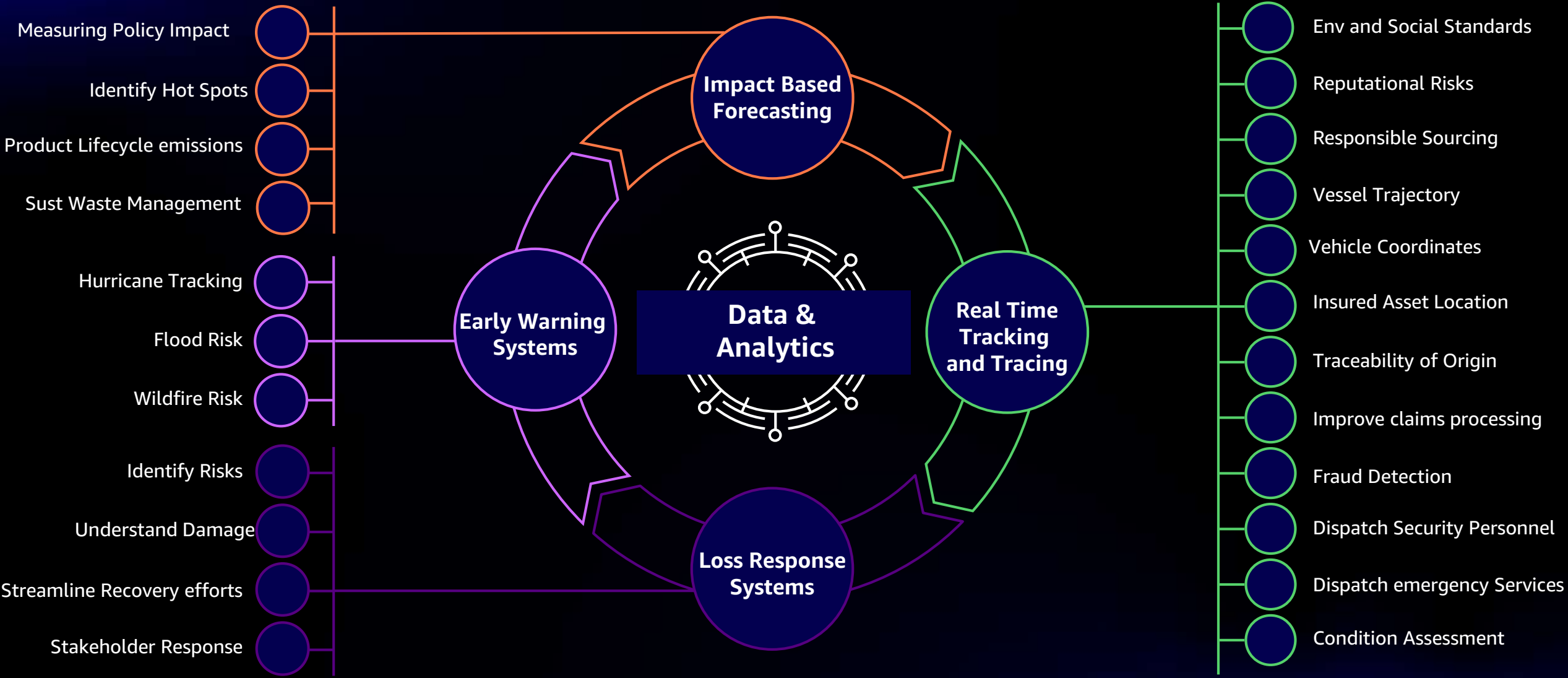
Augmenting national capacity securely and cost-effectively



AWS Supports for WMO EWA

1. Offer fully-funded Advanced Compute R&D Proofs-of-Concept
 - Large-scale Compute/HPC for Complex Analytics
 - ML/LLMs
 - Modeling/Simulation/Digital Twins
2. Build Early Warning resources in Amazon Sustainability Data Initiative
 - Data Lake
 - Grant Program
 - WIS2 In a Box
3. Create Early Warning
 - Harvard Data Science Initiative methodological innovation for early warning analytics
 - UNESCO/AWS AI/ML for Sustainability “Venture Studio” Early Warning focus area
 - Data.org/Rockefeller Epi-Climate

Early Warning System Core Functionality

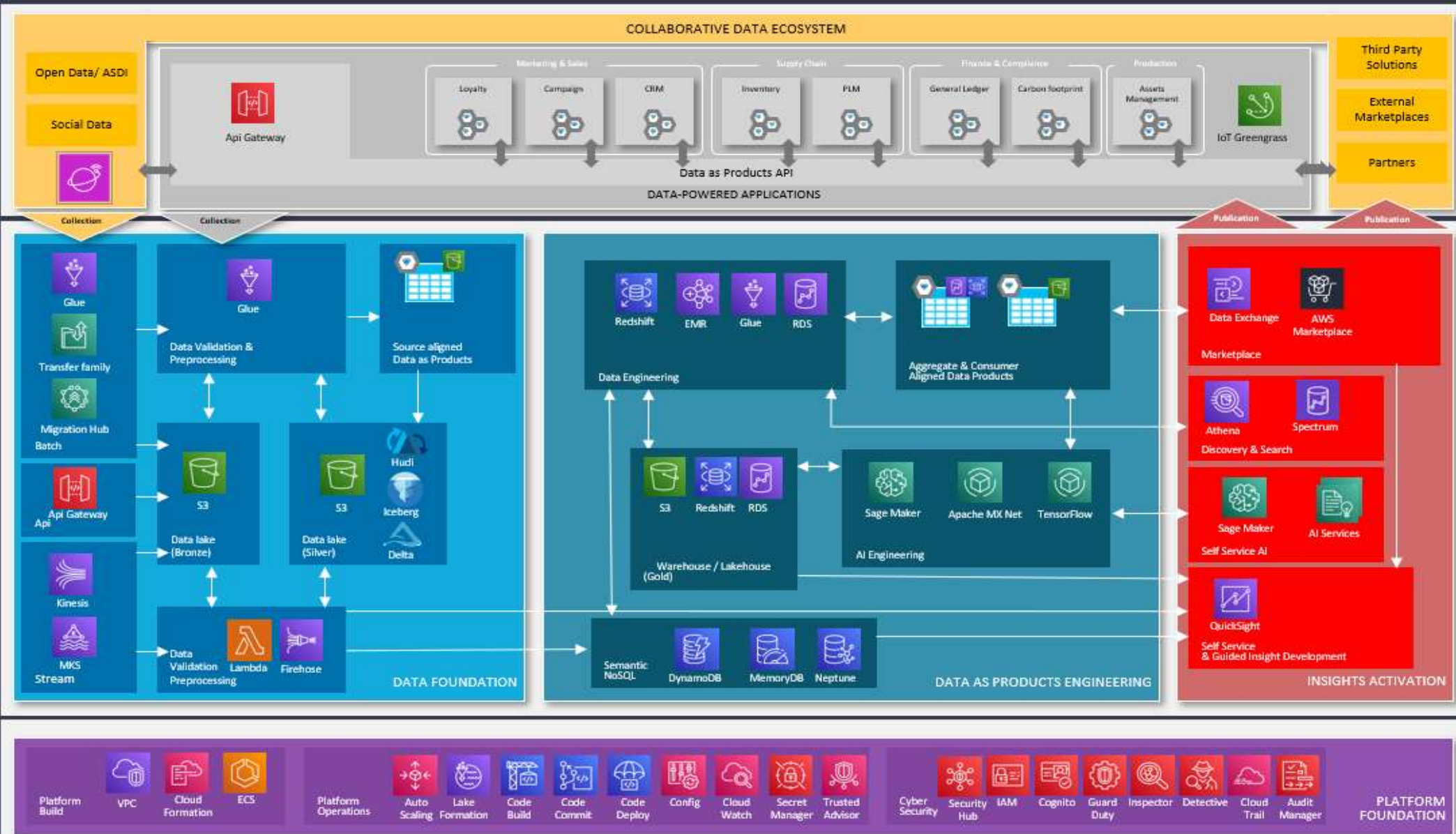


Data Lake and end-to end security



Risk Model Platform

Data & AI-Powered Collaborative Enterprise Landscape



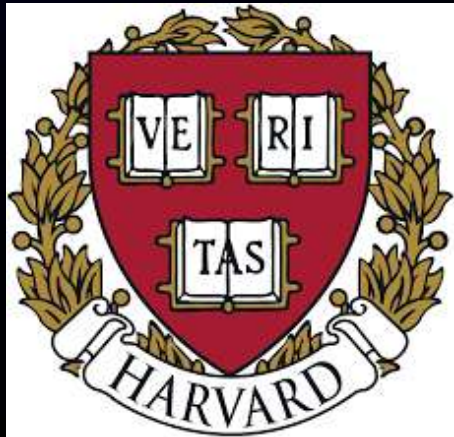
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 - Food Insecurity Early Warning Initiative

Integrate Early Warning into Strategic Initiatives



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