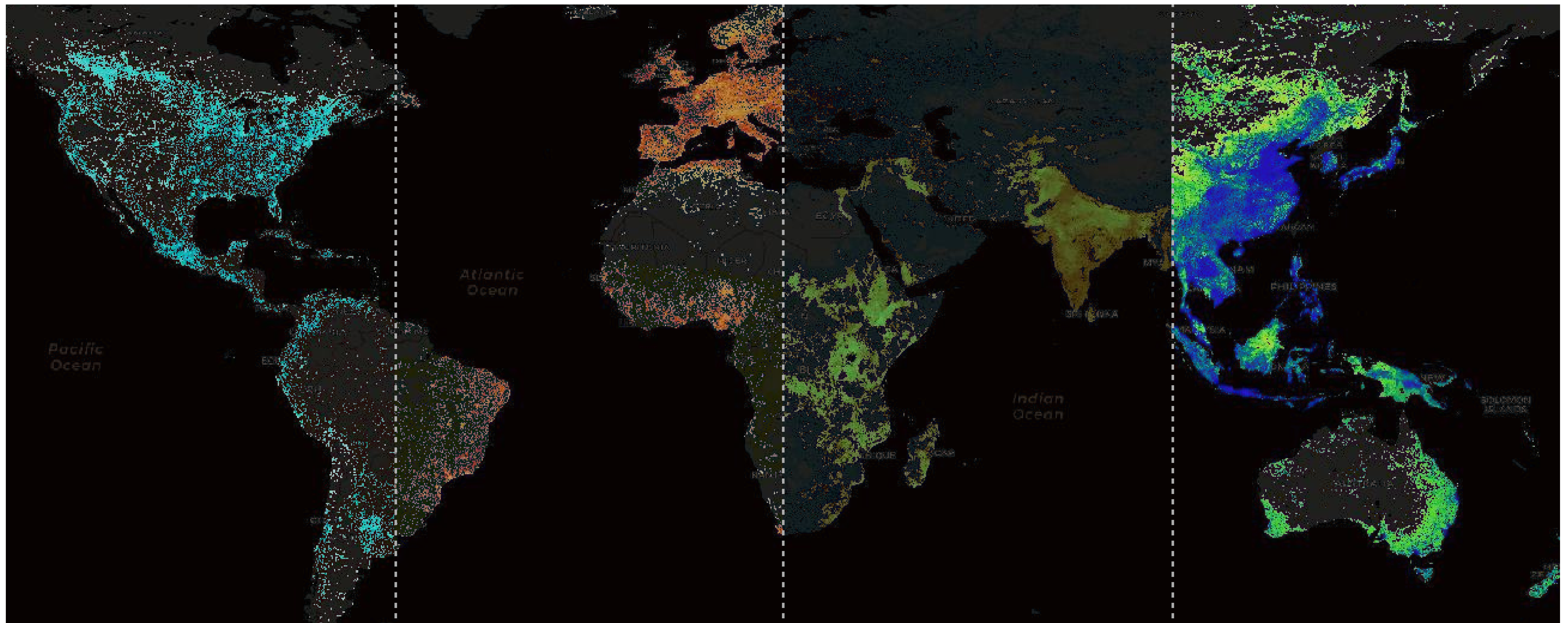


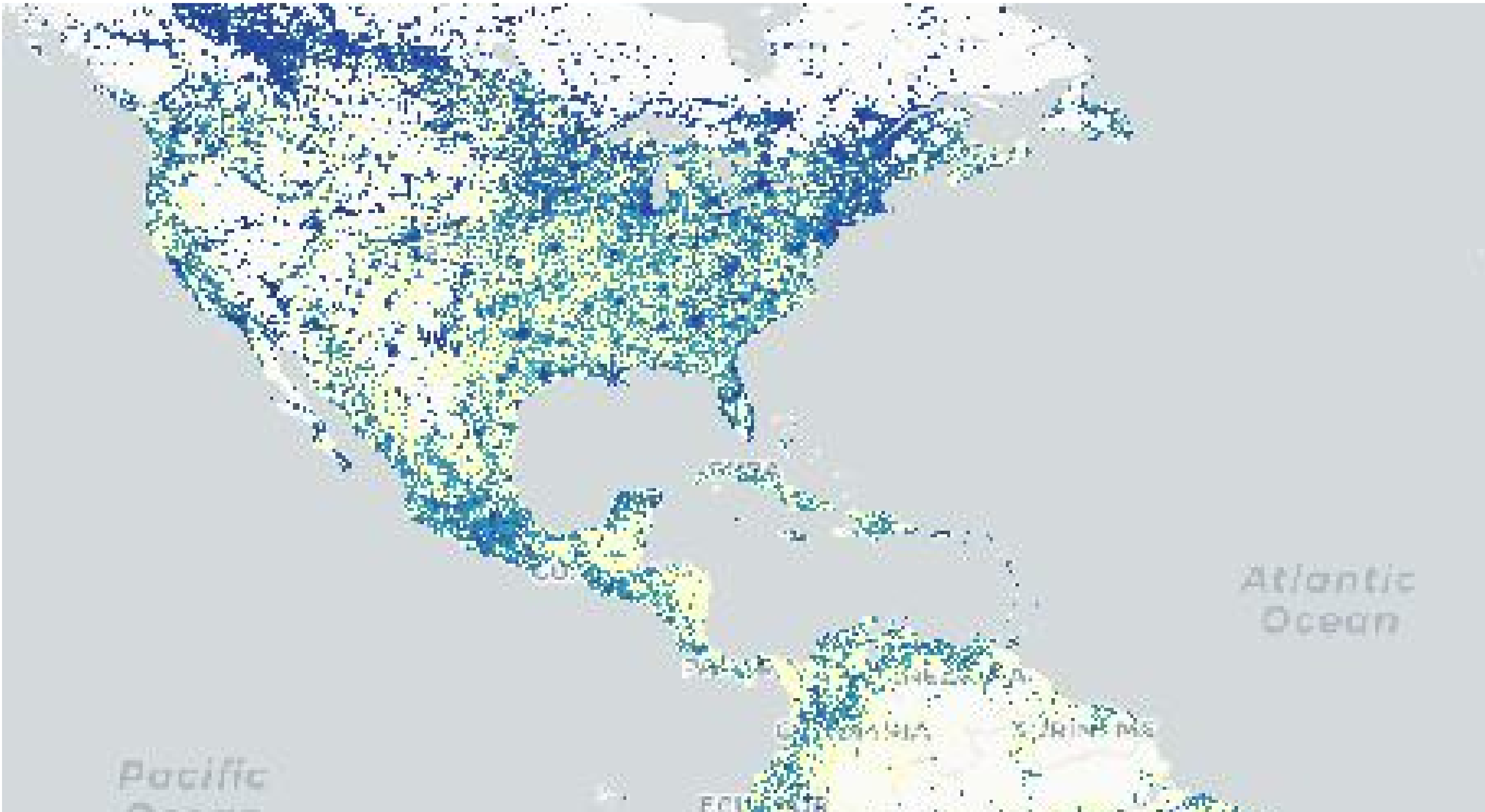
# Global Climate & Social Economic Risk

# Global High Resolution (1km) Data Pipeline & Result Mapping

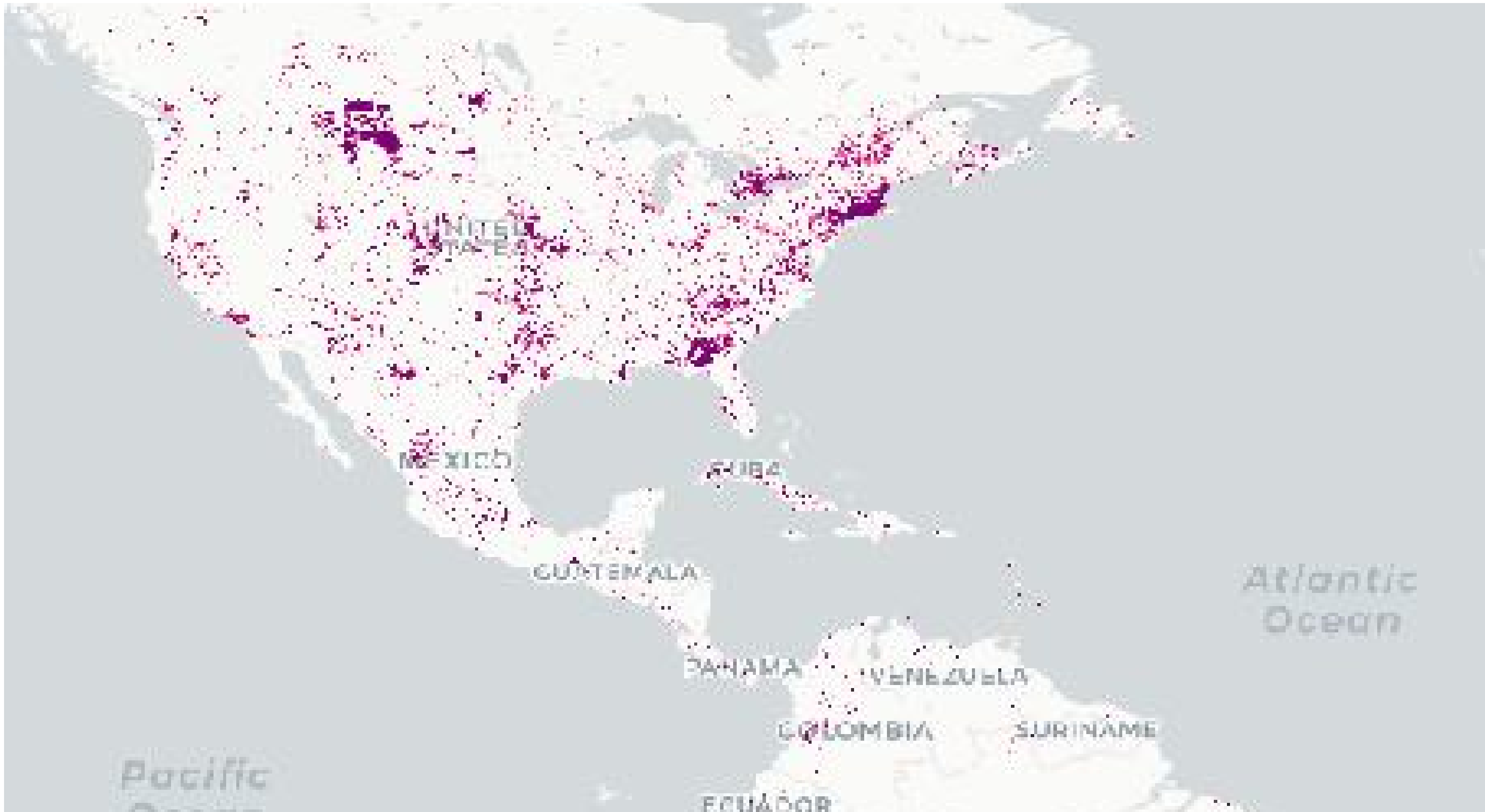
## AlphaGeo



# Climate & Social Economic Data - Global Datasets - From Research to Data ETL to Product



Sample Data - Urban Flood Risk

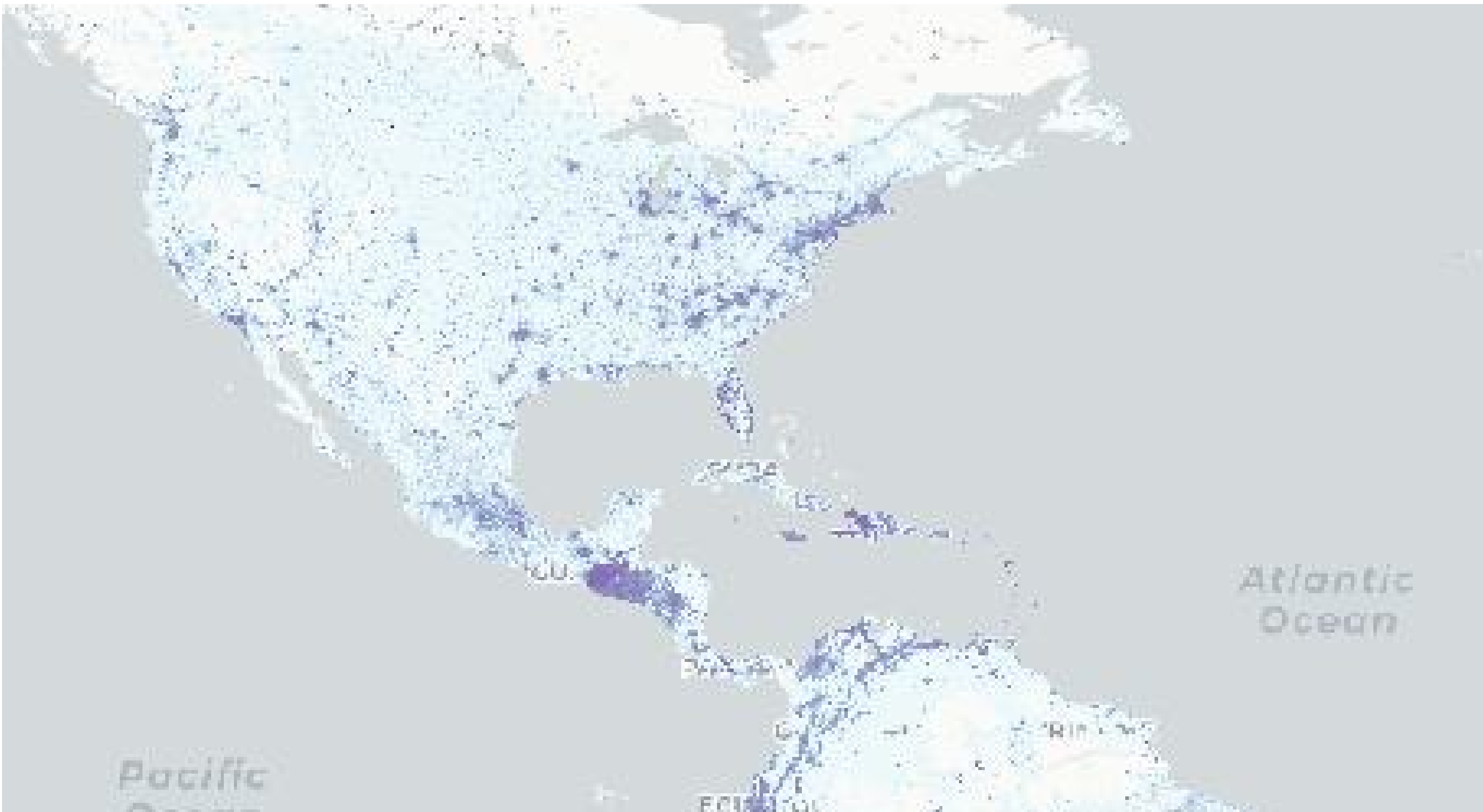


Sample Data - Flood Protection Infrastructure

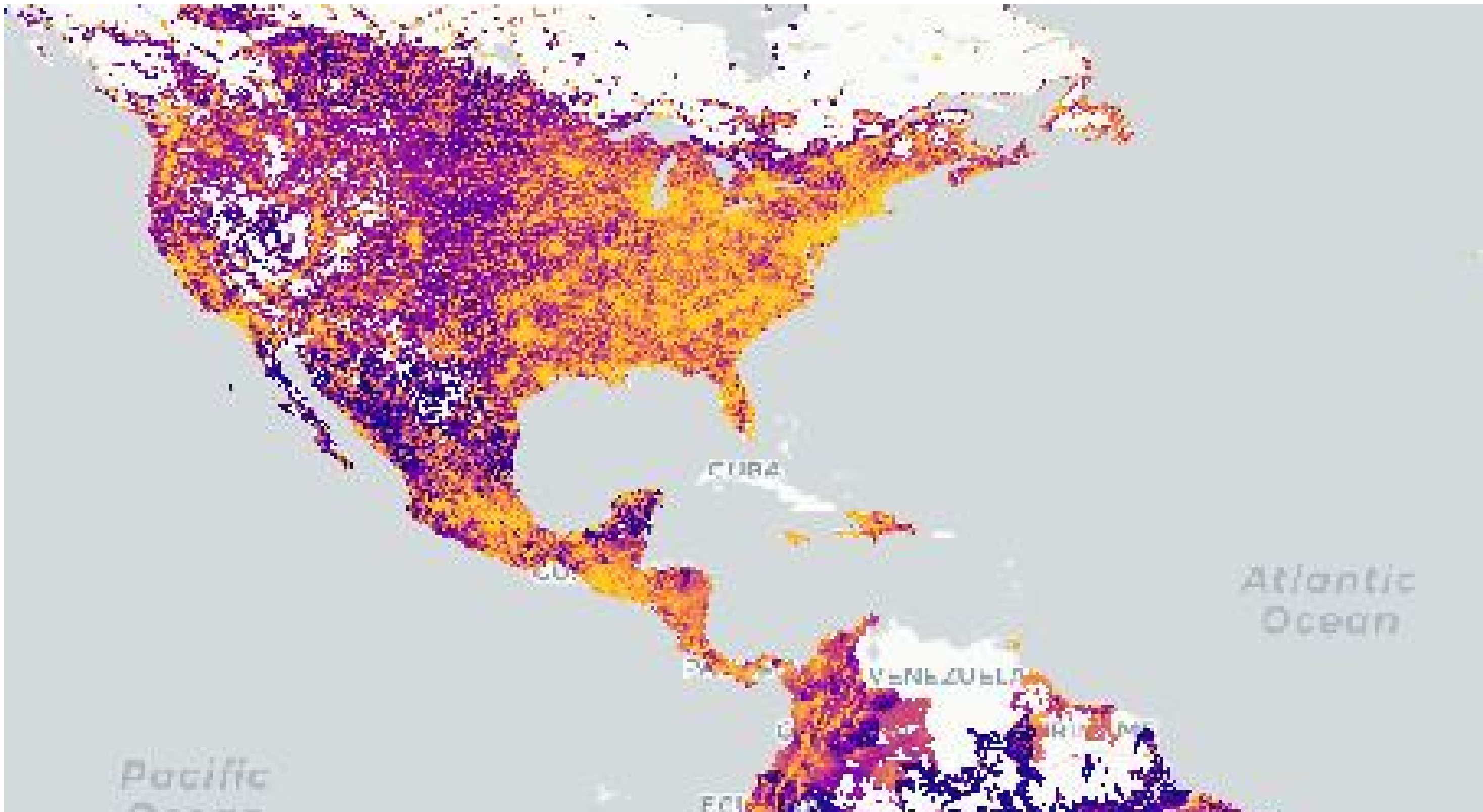
I created over **a dozen global datasets / data features**, covering topics ranging from climate risks, such as floods and heatwaves, to socio-economic conditions, including GNI per capita.

For each dataset, I independently conducted extensive **research**, including literature reviews, **data sourcing**, **extraction**, **transformation**, and thorough **documentation**.

The results are processed global data at 1km resolution and qualitative score, as well as well structured **automated data pipelines**.



Sample Data - Vulnerable Population Percentage

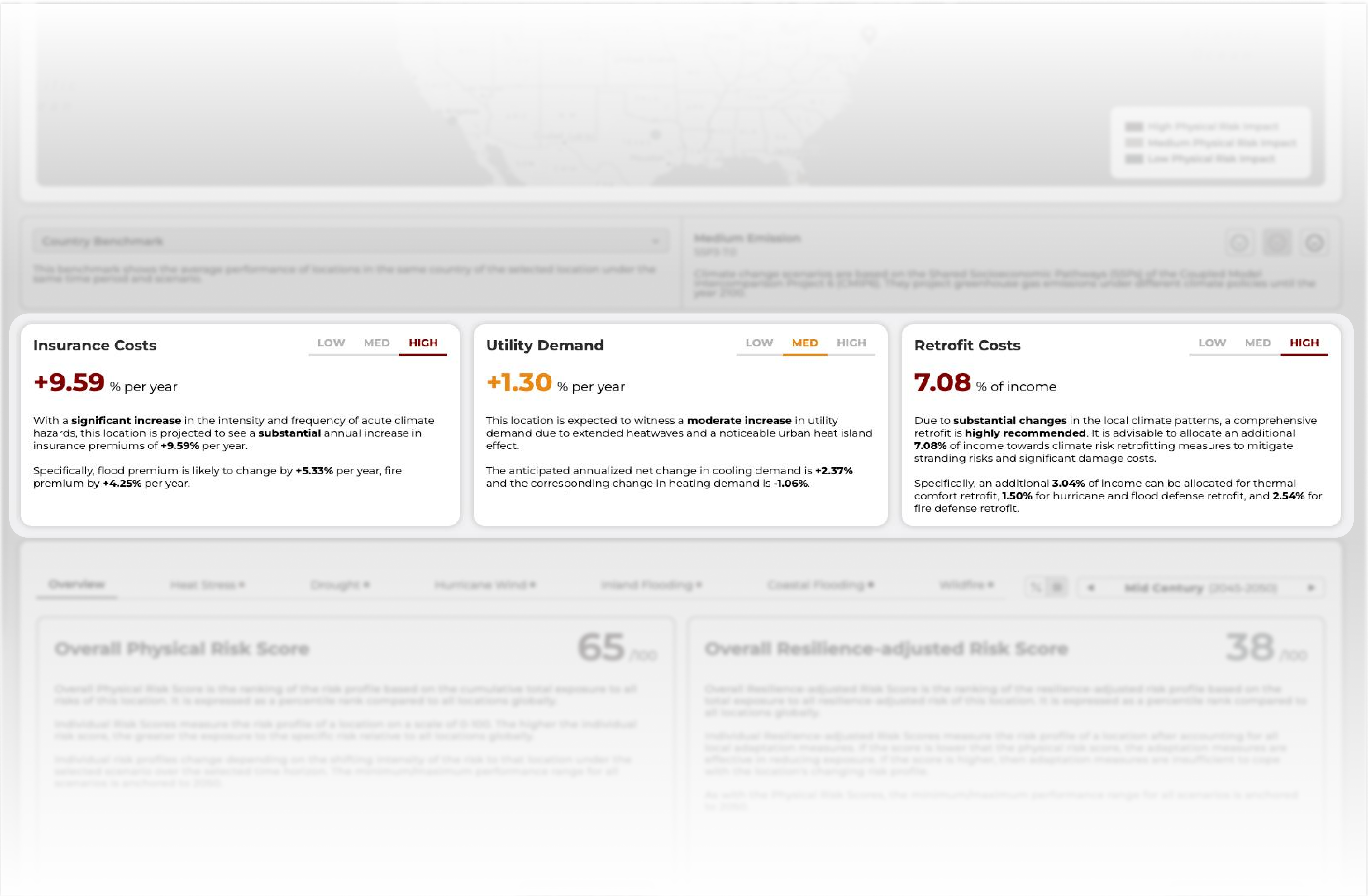


Sample Data -GNI

These datasets informed the creation of an **innovative methodology**, the "resilience-adjusted risk score," which is a qualitative scoring system / data product designed to evaluate the risk to physical locations and assets under various climate change scenarios. I led the research effort with and collaborated closely with the CTO to develop this methodology.



# Climate & Social Economic Data - Global Datasets - From Research to Data ETL to Product



I spearheaded the development of a new product feature, which has been successfully deployed, in collaboration with the CTO and as part of an innovation sprint with a leading global asset management firm.

**Problem Statement:** Our financial institution client aimed to leverage comprehensive global risk and resilience datasets to predict future cash flows.

To meet this objective, I independently conducted extensive **research** and the development of **predictive models**. I synthesized these insights into a global climate risk expense dataset, enabling the prediction of operational and capital expenditures across various climate scenarios (SSP2-4.5, SSP3-7.0, SSP5-8.5).

Furthermore, I was responsible for developing the **backend code** and establishing the **API connection** for this product feature.