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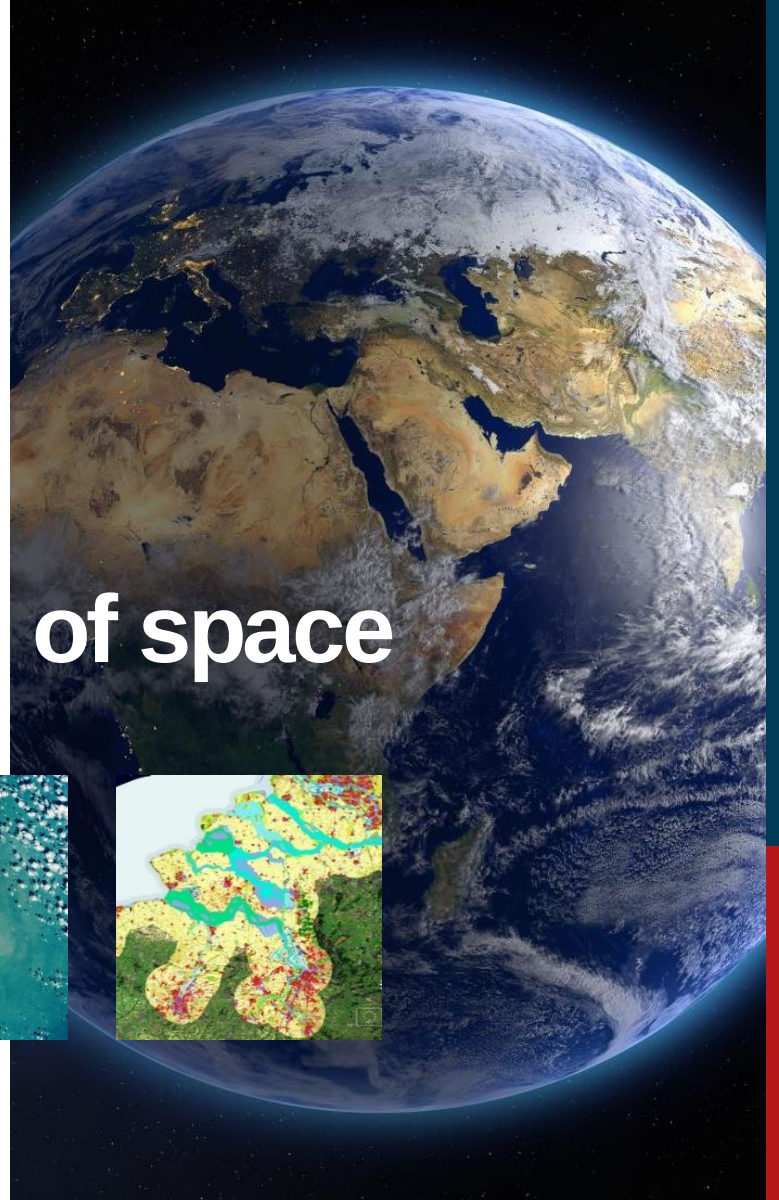
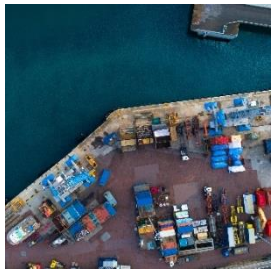
simplifying the complexity of space





Planetek Group

Bari, Roma, Athens

Planetek Italia:

Established in 1994 HQ in Bari Southern Italy, strong reputation in National and European Earth Observation.

Planetek Hellas:

Since 2006 Main EO operator in Greece following the nation growth in space.

GEO-K and GAP:

R&D atelier with outstanding experience in EO, AI, Big Data and Optical and SAR algorithm design.

Key Numbers

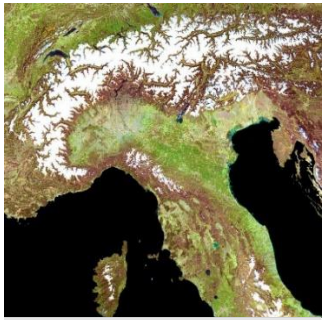
Year **1994**

People **110+**

M€/y **20**

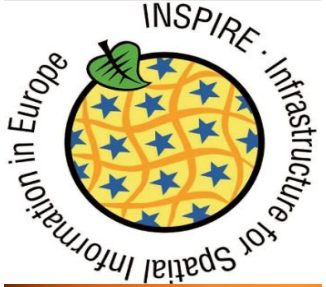
Key Technologies

Earth Observation

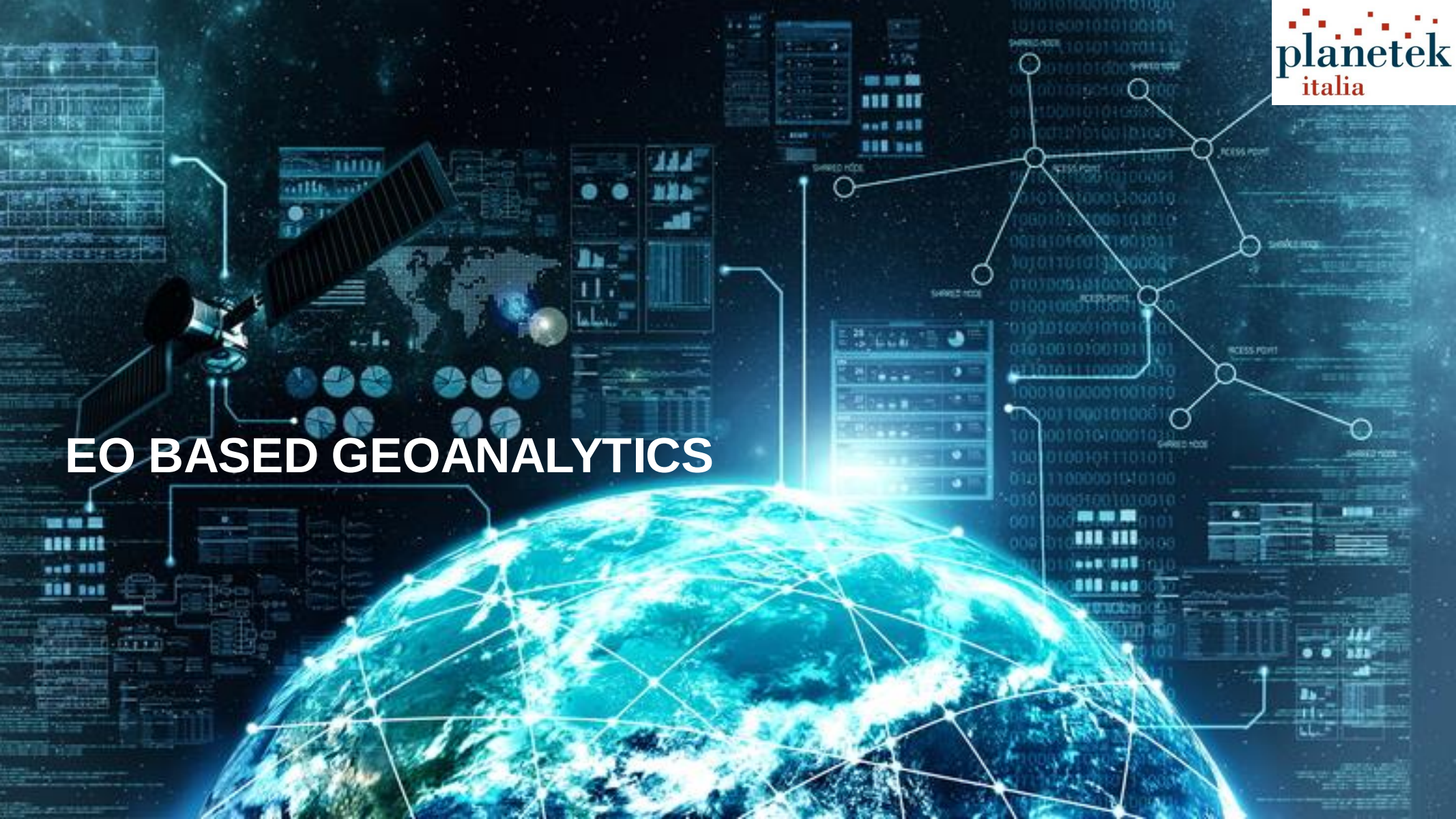


Space Software

Spatial Data Infrastructure & GIS



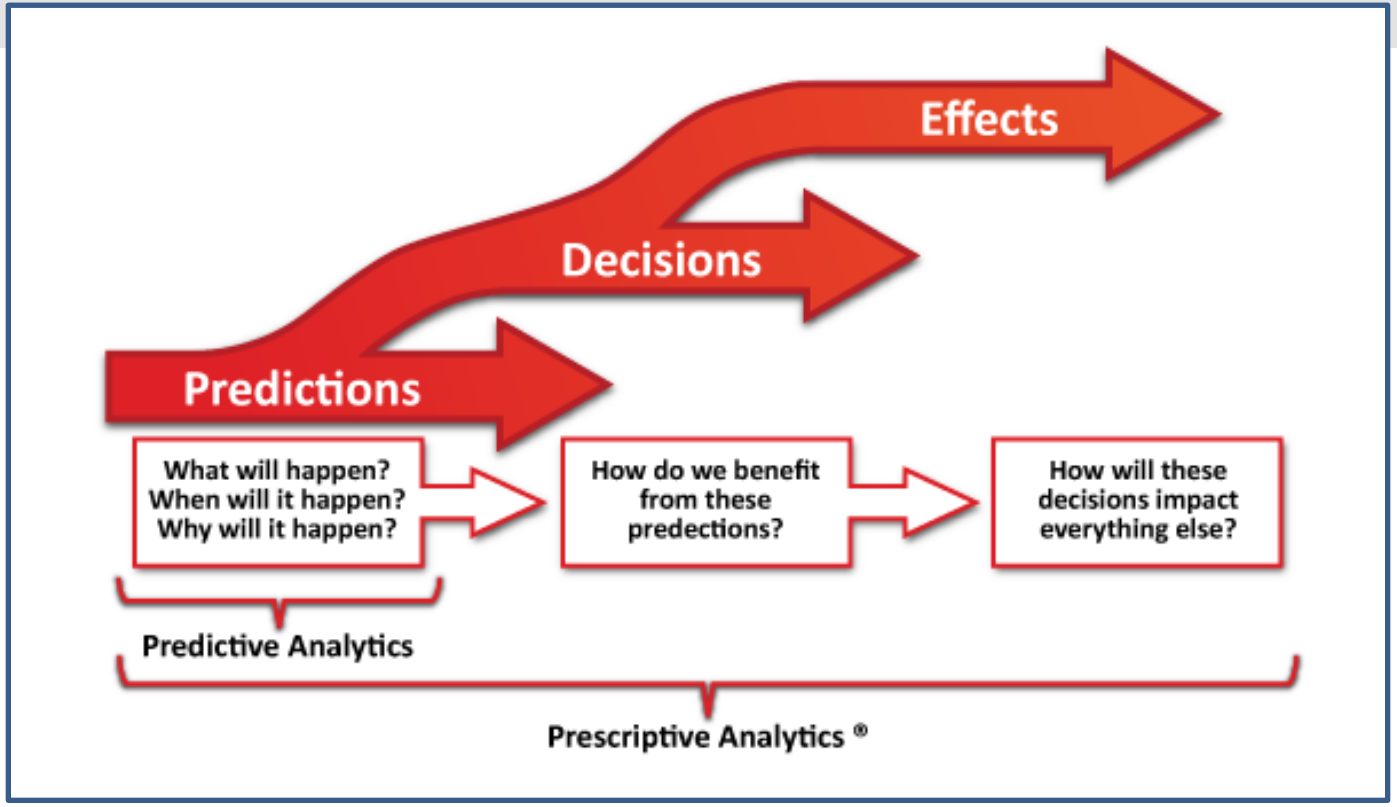
Location Based Systems


EO BASED GEOANALYTICS

The three dimension of EO Analytics

Info@aS :

- Subscription Services
- Actionable Vertical Information
- Big Data Integration
- Globally Scalable (Auto) Services



The Advent of Earth Intelligence

- Innovation in the space sector produced hardware miniaturization, standardization, and reduced launch costs.
- The large amount of EO data leverage the transition from Observation to Intelligence.
- These data can produce valuable analytics for Environmental, Climatic Economic and financial applications

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Benefit of EO for Spatial Economy

Using AI and Big Data Algorithms Satellites provides:

- Neutral and Unbiased source of information
- Linked to assets, environmental indicators, business indicators
- Global frequent and real-time available
- Empowers Gap-Analysis, Impact analysis, other source verification

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EO Analytics Examples

Combining Earth observation and remote sensing with AI can transform how risks, opportunities, and impacts are measured for:

- Insurance in Terms of Climate impact on insurance premium
- Corporations in Accounting Environmental Impact
- IFI to monitor and evaluate investment impact
- For food and other commodities short time and long range evaluation

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Insurance and Geo Analytics

Sea level rise could drive a doubling of average annual losses (AALs) from storm surge for individual properties in coastal area 2030s.

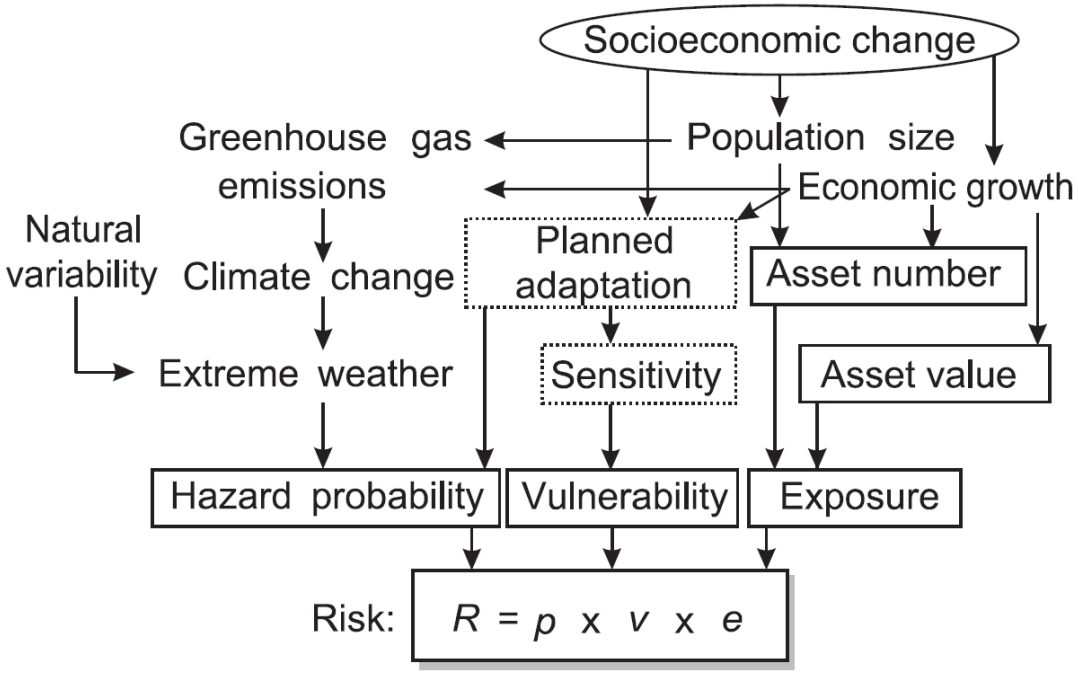
AALs from hurricane damage in the United States would increase from US$5.5 billion to around ‘US$9.5 billion.

Risk Modelling and Climate Change

Framework for modelling risk from extreme weather events (from Bouwer, 2013)

Models that estimate insurance premiums commonly use three variables):

- the potential loss,
- the probability of loss,
- A loading factor for profit



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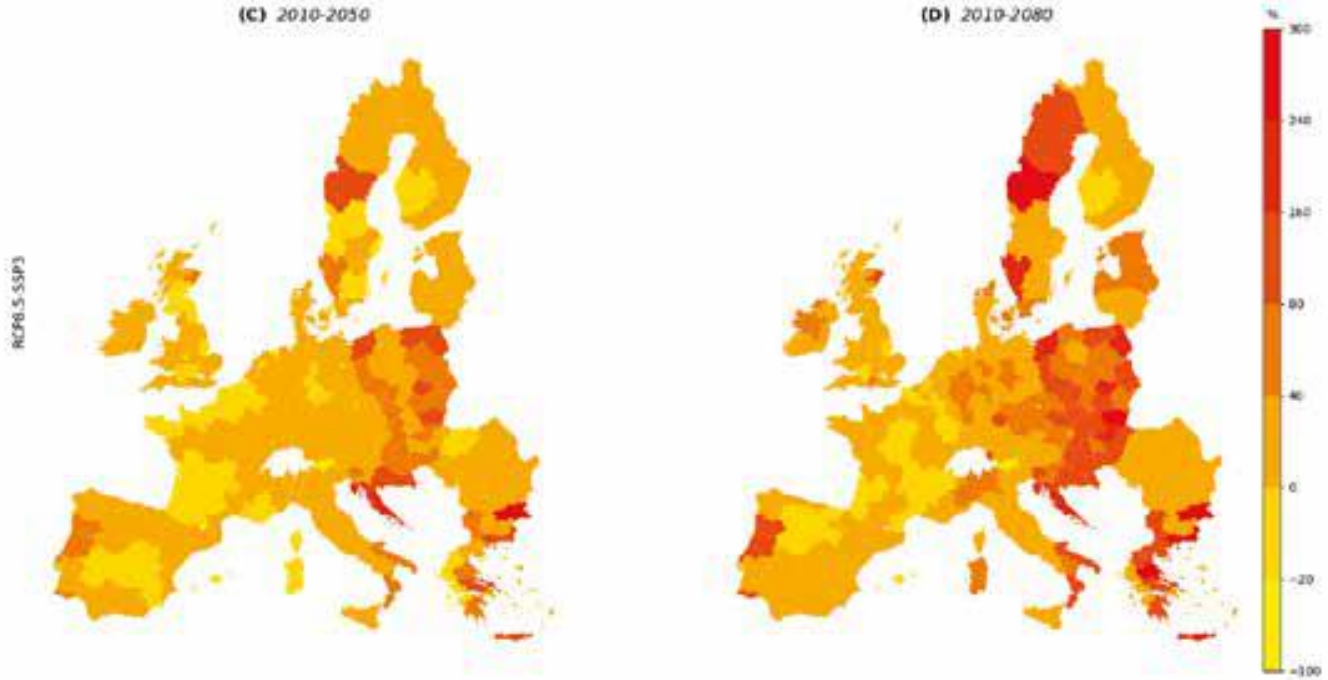
Insurance and Climate Change

Climate change will lead to economic costs.
These costs, known as the costs of inaction, provide key inputs to the design of new geo-analytics for different industries.



The percentage change of unaffordability under status-quo insurance arrangements for households in high risk areas under the RCP8.5-SSP3 scenarios of climate- and socio-economic change for the periods 2010–2050 (left) and 2010–2080 (right).(*)

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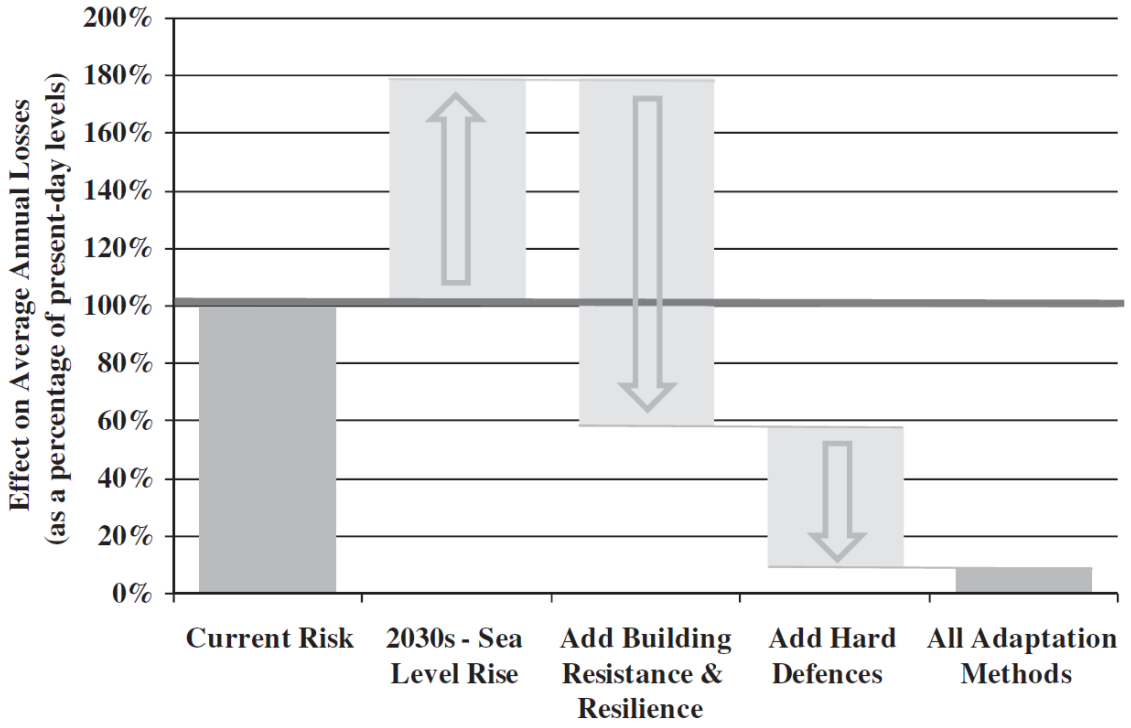
(*)COACCH: CO-designing the Assessment of Climate CHange costs.
(FONDAZIONE CMCC), Italy.

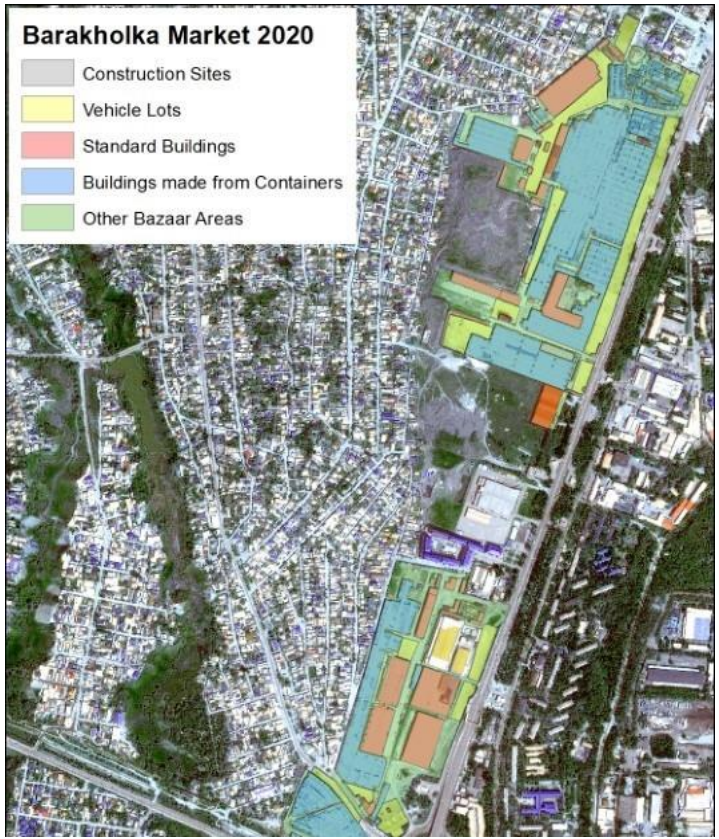
You can't value what you can’t measure

Proper mitigation can leargely improve the AAL in risk insurance. Space technology can play a key role in making available data at low marginal cost at a large geographical scale and for long temporal interval.

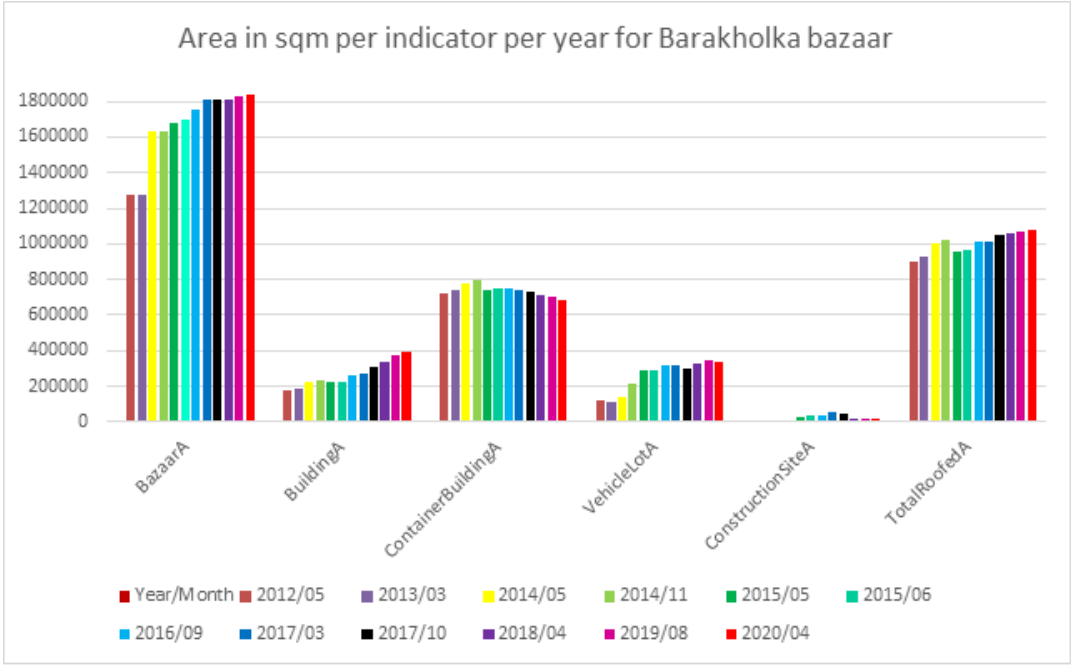


(*)Lloyd’s of London (2008) ‘Coastal Communities and Climate Change: Maintaining Future Insurability’, part of the 360 Risk Project www.lloyds.com.

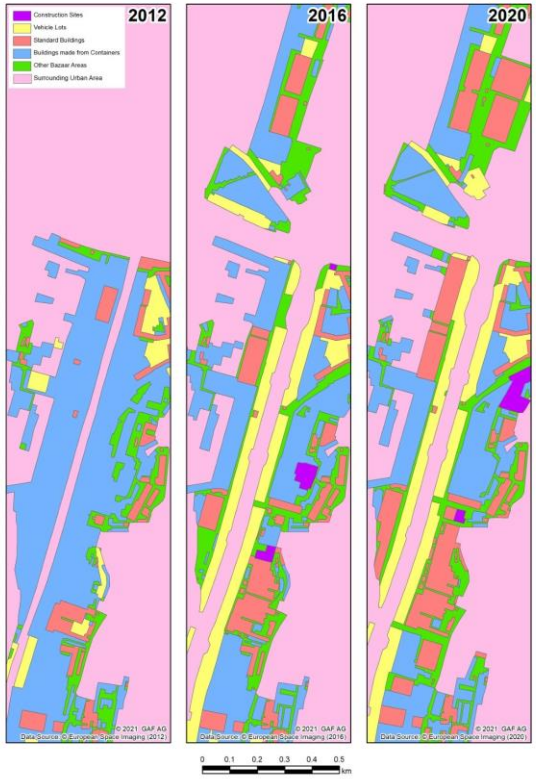
Informal Trade in Central Asia



Land Cover is used as a proxy of the trade activities. AI is used in order to find proper correlation with related Economics



Predictive Spatial Economy



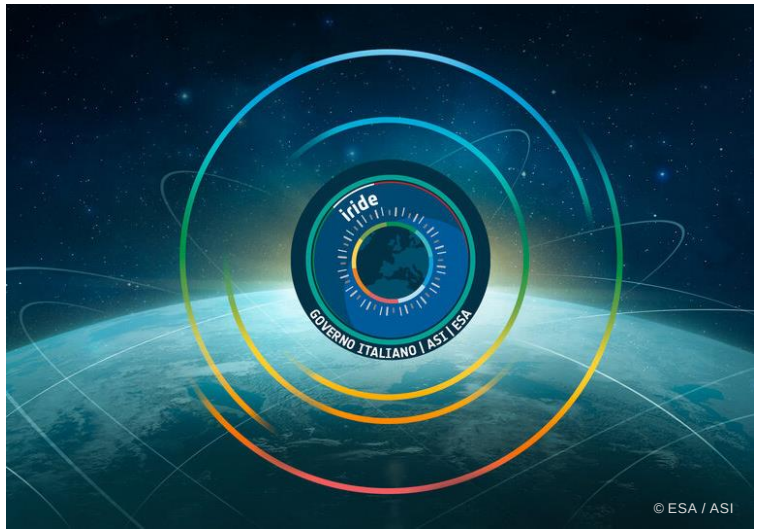
Time series of the indicators are connected with different regression approach with macroeconomy indicators:

- Using DL we define a non linear data model
- Then the model is inverted and EO derived indicators are used to predict Economy Indicators
- GDP variation can be estimated from EO data classification

IRIDE: the Italian Earth observation space program

IRIDE system: upstream, downstream and services.

IRIDE will be completed by 2026 with the support of ESA and ASI.



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esa European Space Agency

ASI Agenzia Spaziale Italiana

Geo-Information as a Service

- Automatic cloud-based geoinformation services.
- Subscription based.
- From raw data to knowledge in short time, automatically and cost-efficient.
- Utilities, energy and transport infrastructure stability, ground motion, marine water quality, aquaculture, agriculture, wildfires, urban dynamics.

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Conclusions

EO based Analytics allows:

- to measure and manage sustainability-related risks and a vast range of other factors that affect risk and return in different asset classes estimation

A huge market is opening for this kind of Analytics

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Let’s keep in touch

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