

→ **INDUSTRY WORKSHOP ON SATELLITE
EARTH OBSERVATION FOR RE/INSURANCE**

Feedback from Workshop Group 1

Exposure i.e. insured assets at risk from a specific hazard

- Data about insured assets comes from a wide variety of sources
- Commonly not as detailed or as complete as insurers would like
- **EO need is for data which can be used to enhance the incomplete or poor quality exposure information which already exists.**

What type of enhancement is needed?

- More accurate location (lat/long)
- Detail about building characteristics
 - type
 - age (or year built)
 - construction i.e. timber, brick, reinforced concrete
 - occupancy
 - height

Some users are already exploring the possibility of extracting these characteristics from remotely sensed images

Resolution / scale

- A broad range of needs at different scale
- Varies by hazard type (high res for flood)
- Varies by purpose / end use

Existing data sets

The availability of existing data sets which may be used to enhance exposure data varies;

- By country
- By data type or subject matter

Some users are aware of and using current services such as CORINE and the new URBAN ATLAS services in Europe.

Aggregation and disaggregation of data

- Common to have exposure data in an aggregated form and a need to disaggregate in an appropriate way
- Need for complementary datasets to facilitate this disaggregation
- Sometimes need to aggregate exposure data to simplify the complexity for practical reasons e.g. manageable volume or computational efficiency

Coverage

- National i.e single territory
- Regional e.g whole of Europe
- Global

It is important that the EO based solution for exposure mapping is able to address the extent of coverage required. Insurers operating in a single territory may need national coverage. Multinational insurers likely to need regional or more likely consistent global cover. Occasionally single city coverage might be sufficient.

Hazard data

- **A variety of needs** e.g. liquefaction for earthquakes, flood extent flood height and dynamic analysis for plain flooding, history/likely and max height for storm surge, agriculture with yield information
- **Users need the footprint of the hazard impact**
- **Parametric index based services** a more mature domain where Satellite EO is contributing. Met data are used in this domain (rainfall, soil moisture) and are based on long time series (decades) at coarse resolution.

During the discussion a need for data related to the following were specifically mentioned

- Flood
- Georeferenced fault lines
- Winter storm
- Oil rig location – clear images of pre and post event so that it is possible to establish which have moved
- Historical storm surge data for different cities
- Event footprints
- Data to help establish areas of liquifaction

Hazard data

- For risk assessment in the pre event phase it would make sense to make sure systematic observations are available.

e.g. building databases of flood observations would have a lot of value. It would be expensive and time consuming to provide monitoring of risk prone areas – i.e. data acquisitions and image analysis to extract flood extent - in a systematic fashion globally. It would however be pertinent to concentrate on key areas where exposure is important and hazard occurrence is high. Are insurance users able to identify and agree such areas?

- For EQ, Hurricane/Typhoon etc there are key areas and a top10 can be defined commonly – they are in different places of the world (Tokyo, San Francisco, etc). Flood is more complex (wide extent of areas exposed globally) but users mentioned it could start with Europe.

Barriers to use

- Cost (especially cumulative costs given the coverage extents needed)
Share the purchase?
Transactional pricing?
- Ability to prove the value to senior decision makers
Free or low cost data for pilot studies/proof of concept?
- Licence terms and conditions an issue that could be overcome rather than a barrier
- **Main barrier is not knowing what data is available or where to access it** potentially overwhelming choice of suppliers. Difficult to know who to approach and what is being offered. Was useful to hear EO providers capabilities.

Commonality of requirements

- Are all users able to define what information is really required?
- Do they agree on a standard level that could be shared?
- Is it for the national regulator or insurance association to make things happen? e.g ANIA, ABI
- What is the potential for a mutualized service to better fit the expected cost/benefit?

Topics worth exploring further today

- Reducing entry cost
Potential for shared purchase? What does insurance community think?
Transactional pricing? What does EO community think?
- What is the potential for provision of low cost “data for proof of concept” service? What does EO community think?
- Can insurance community identify and agree on specific areas, where exposure is important and hazard occurrence is high, worthy of systematic monitoring so that we are already prepared with data pre-event? Can we think about this for a single hazard e.g. earthquake? flood?

Key points

Insurance industry is interested in information rather than data

We need to know who supplies what

Access to data is important