



**Iceland
Catastrophe Insurance**

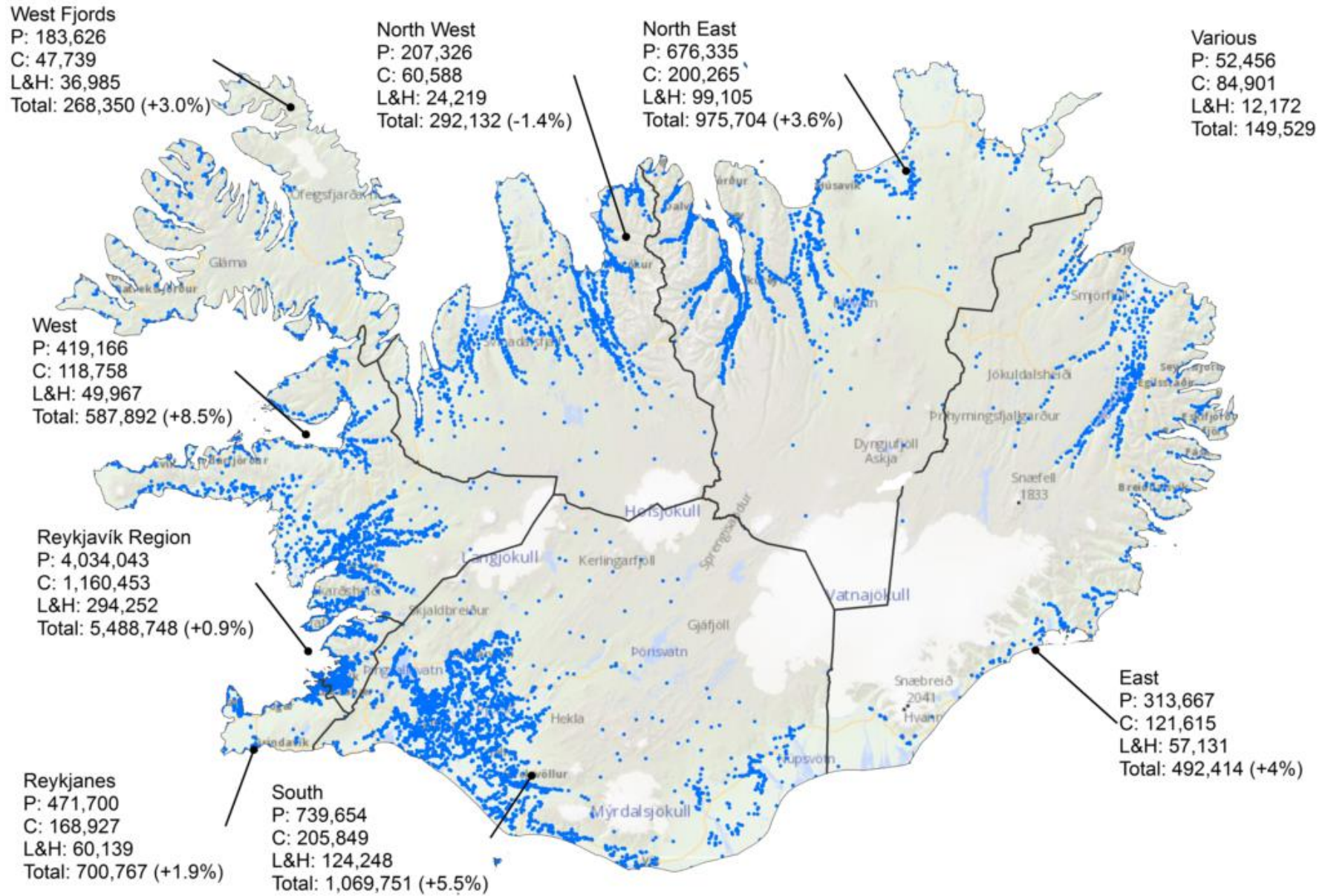
Iceland Catastrophe Insurance

Renewal Information – Cat. Excess of Loss Treaty 2015

ICELAND CATASTROPHE INSURANCE (ICI)

- The only catastrophe insurance in Iceland
- Diversifying single-peril, single territory catastrophe excess of loss
- Mandatory insurance on real estate and all fire insured contents
- Significant part of the portfolio, located in low risk areas
- High quality and extended exposure data available
- Likely changes in law will lead to lower exposure for reinsurers

TOTAL VALUE OF INSURED ITEMS: 65,023 B. EUR

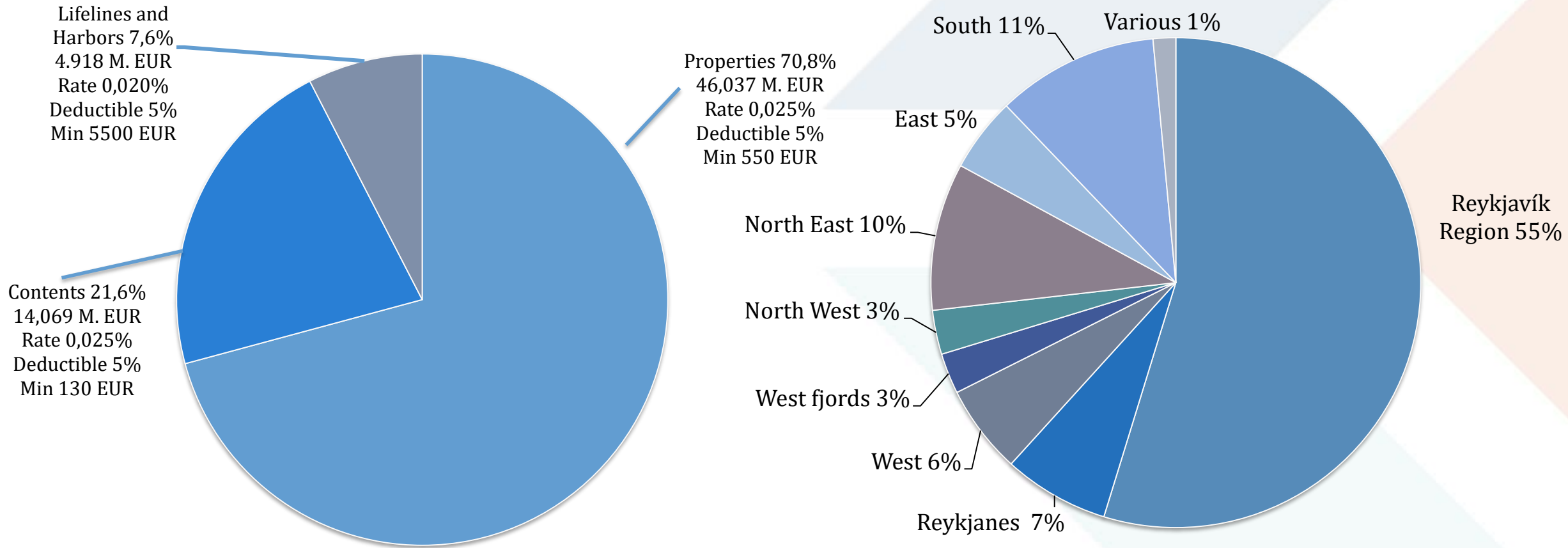


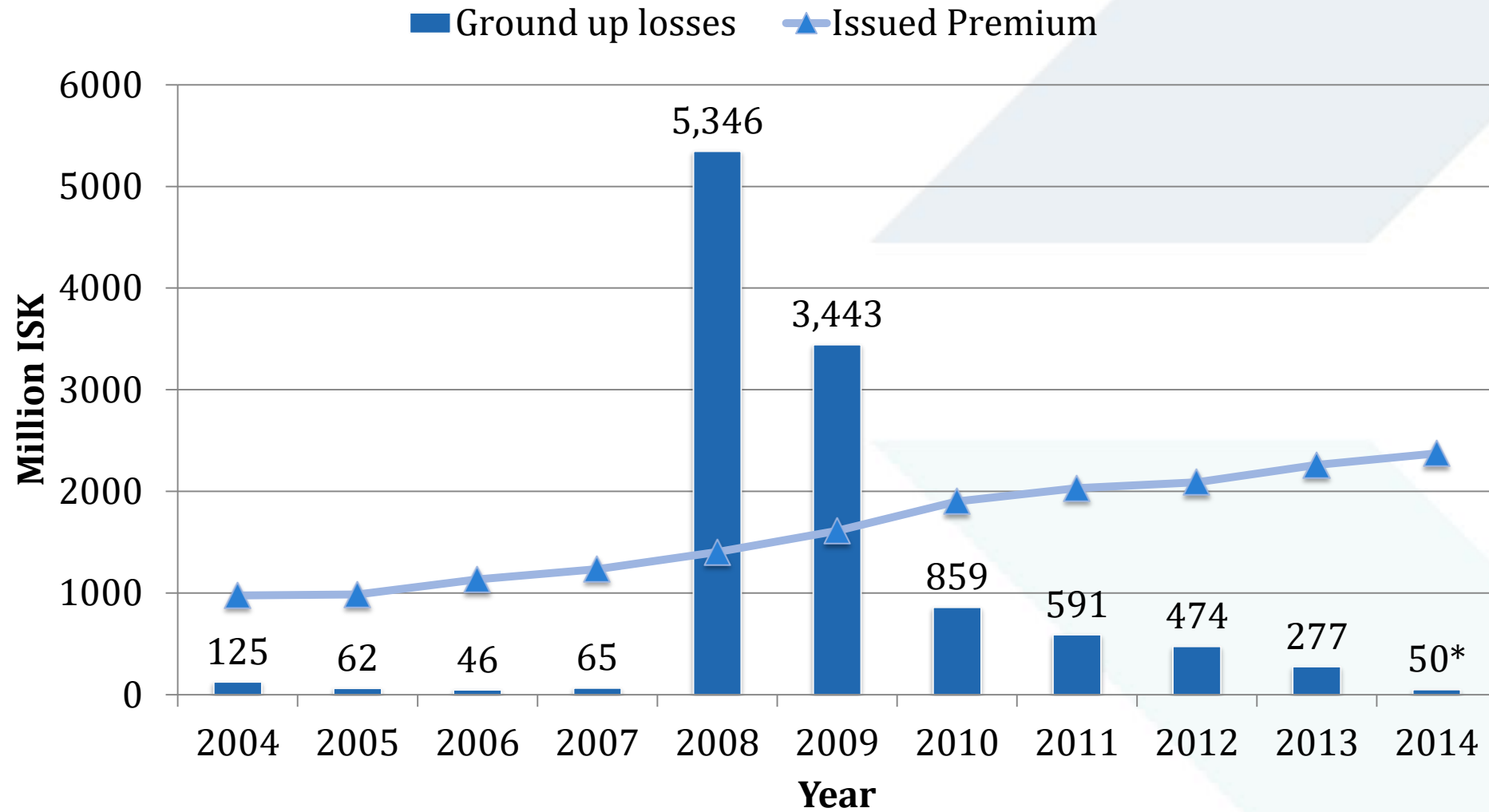
PERILS COVERED, DIRECT LOSSES ONLY

What is covered*1	What is NOT covered
Earthquake	Windstorm
Volcanic Eruption	Loss of profit
Snow Avalanches	Business Interruption
Landslides	Loss of rent
Floods	Alternative residence and workplace costs
	Financial liabilities and similar other losses which can be claimed
	All bodily injuries and death
	Non-material damages

*1Perils as closer defined in Regulations, Article 1

ICI COVERAGE





Iceland at a glance

Investment and Business Environment

- The basic sectors in the Icelandic economy are various services (accounting for 56% of the GDP in 2011) , manufacturing industries, construction and utilities (22,8% of GDP), and fisheries (7,1% GDP)
- Public ownership is being systematically phased down by privatization and the main role of the public sector is in energy, health, education and social welfare.
- The export base is relatively narrow and largely based on natural resources, namely fisheries, energy intensive industries, and tourism and these industries are predominantly occupied by small and medium-sized businesses.
- Foreign investment is mainly concentrated in export-orientated sectors, with possibilities in new and exciting sectors in the field of information technology, environmentally friendly energy dependnt industries, agriculture, water based industries and tourism which has grown increasingly in the last few years. Industrial investment in Iceland has grown considerably since 1995 and is likely to increase substantially in the coming years as new aluminum investment go on stream.
- Following the financial crisis, the government has initiated extensive financial sector reform. Financial market rules and regulations have already been strengthened and are being fully aligned with changes to the EU framework.
- Increased currency stability has allowed inflation to fall from a high of 18.6% at the beginning of 2009 to less than 2% at the beginning of 2011. Inflation pressures are forecast to remain muted over the next few years as the economic recovery takes hold.

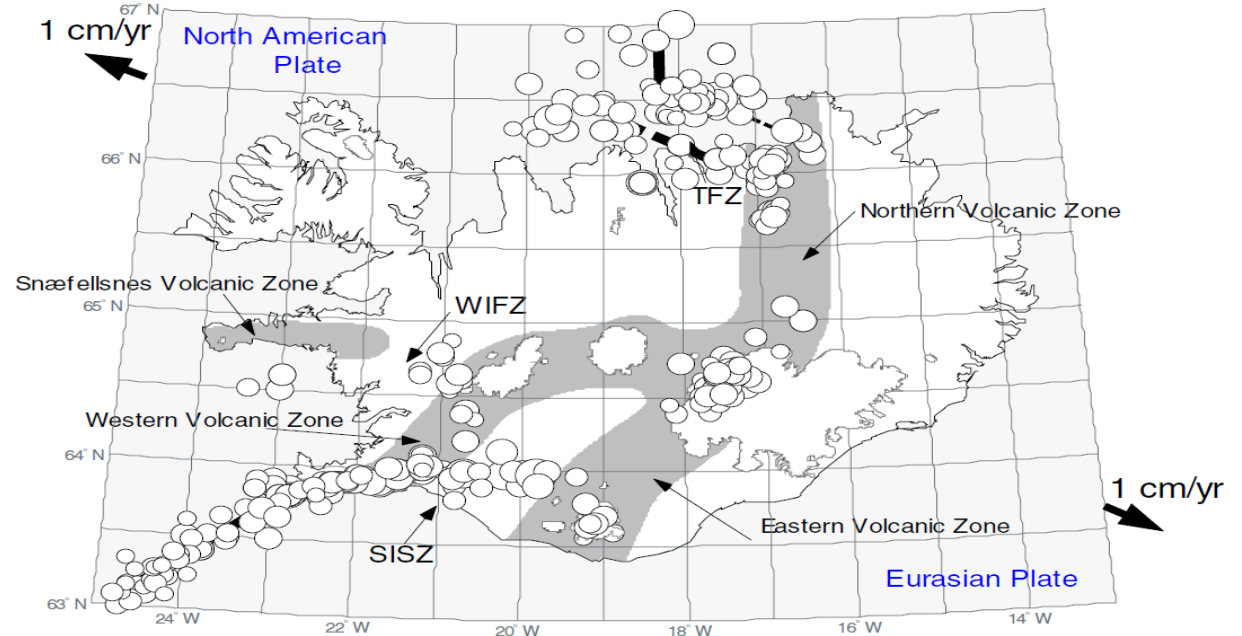


Official Name of Country	Republic of Iceland
Capital City	Reykjavik
Population	323,002 (2013)
Area	103,000 km ²
Time Zone	UTC +- 0
Currency	Icelandic Kroner
Financial Centre	Reykjavik
GDP	MISK 1,873,013 (2013)
GDP Per Capita	USD 47,610 (2013)
Exports Value	MISK 47,244 (Aug 2014)
Imports Value	MISK 42,792 (Aug 2014)
Fishing Ind. Share of GDP	10% (2013)
Inflation Rate	1,8% (Sep. 2014)

<http://www.statice.is>
<http://www.invest.is>

Earthquake risk in Iceland

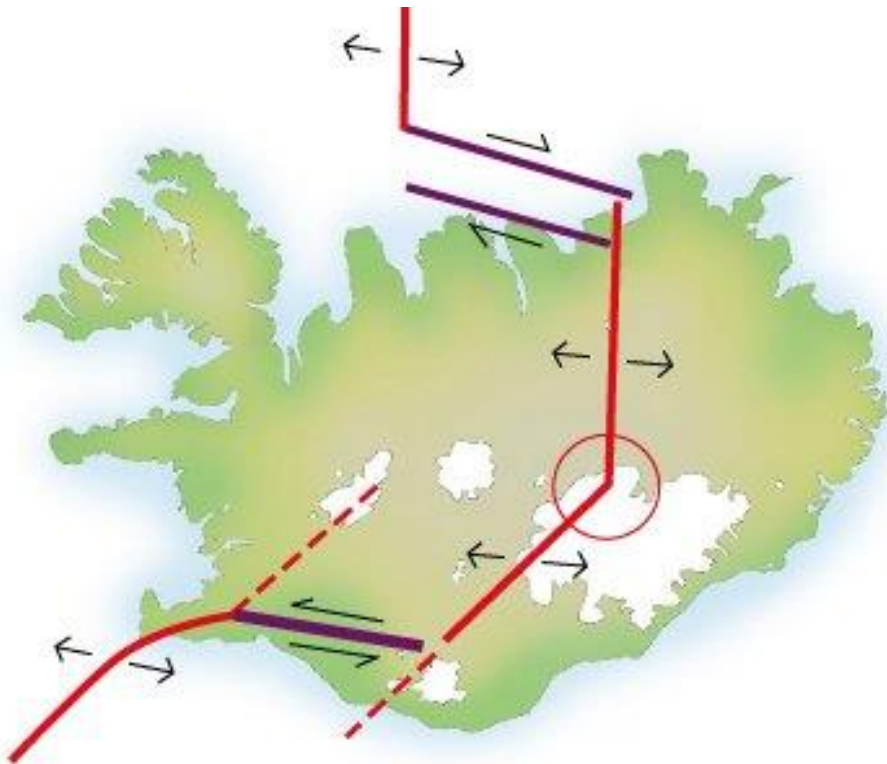
- Iceland is the most earthquake prone region in the Northwest Europe. Over the centuries, earthquakes have caused quite significant damage to buildings and structures, concomitant injuries as well as loss of life. In the last millennium, destructive earthquakes have struck, on average, twice every century
- Iceland is by far the biggest island on the Mid-Atlantic Ridge, the borderline between the Eurasian Plate and the North American Plate
- Crossing the island, the ridge is shifted eastward through two major fracture zones, one in the South, the South Iceland Seismic Zone (SISZ), and another in the North, the so called Tjörnes Fracture Zone (TFZ)



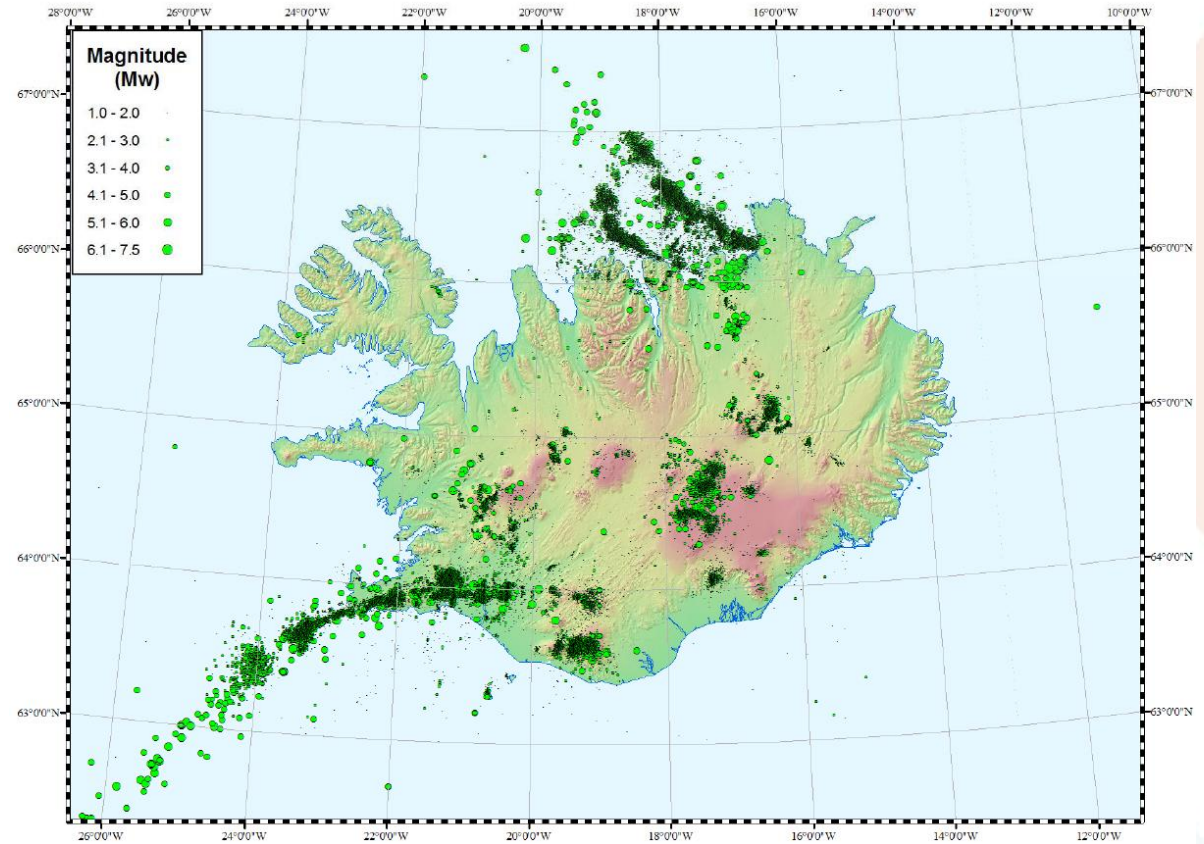
Main tectonic structures and earthquake epicentres in Iceland

- The largest historic earthquakes in Iceland have occurred within these zones, the size of which have exceeded magnitude 7. The recent major loss history includes the M6.5 and M6.3 South Iceland earthquakes of June 2000 with total insured loss of USD 24 mil and M6.3 Selfoss earthquake of May 2008 with total insured loss of USD 75.2 mil

Hazard

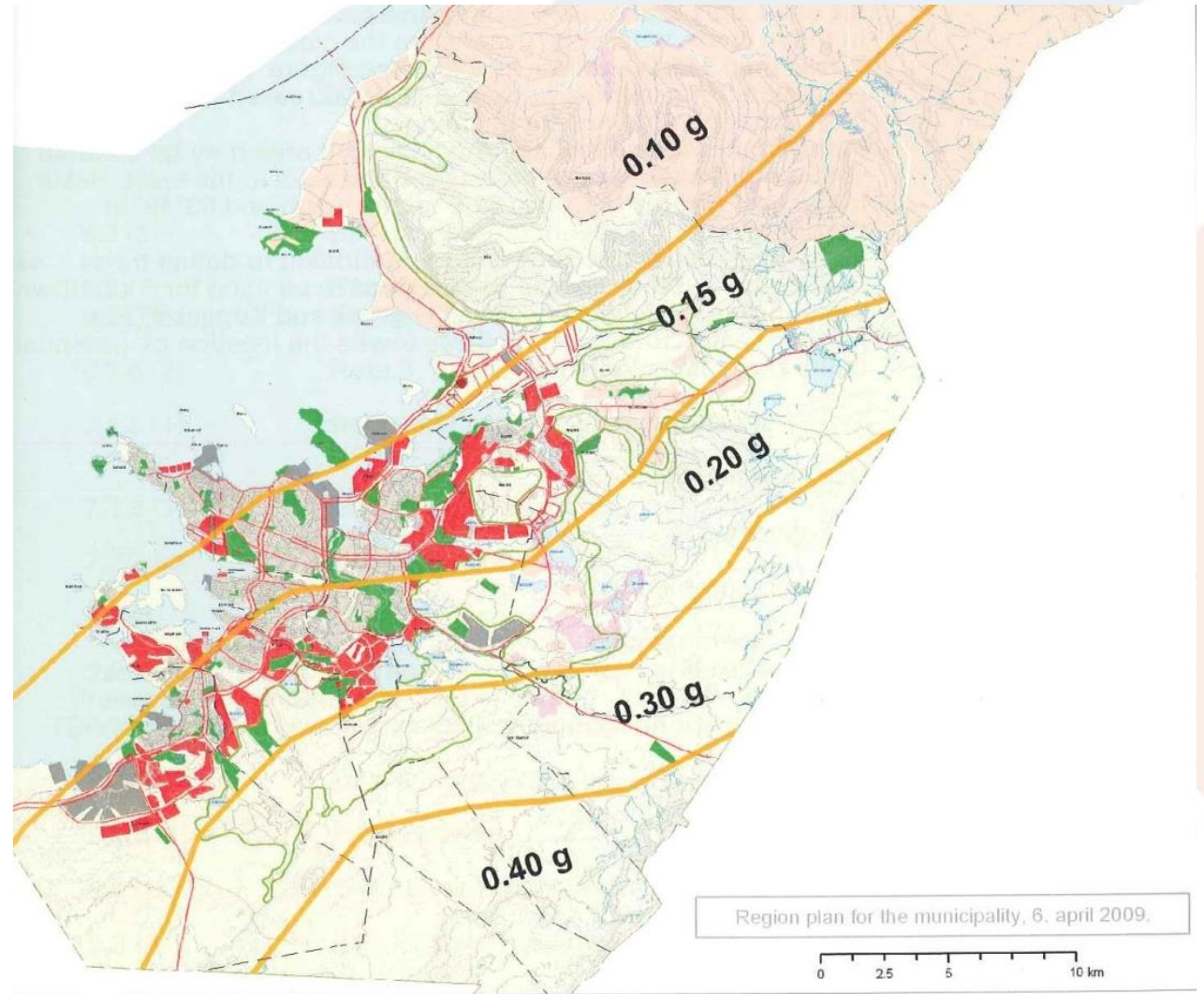


27 earthquakes $M_w \geq 6$ from 1700



Hazard

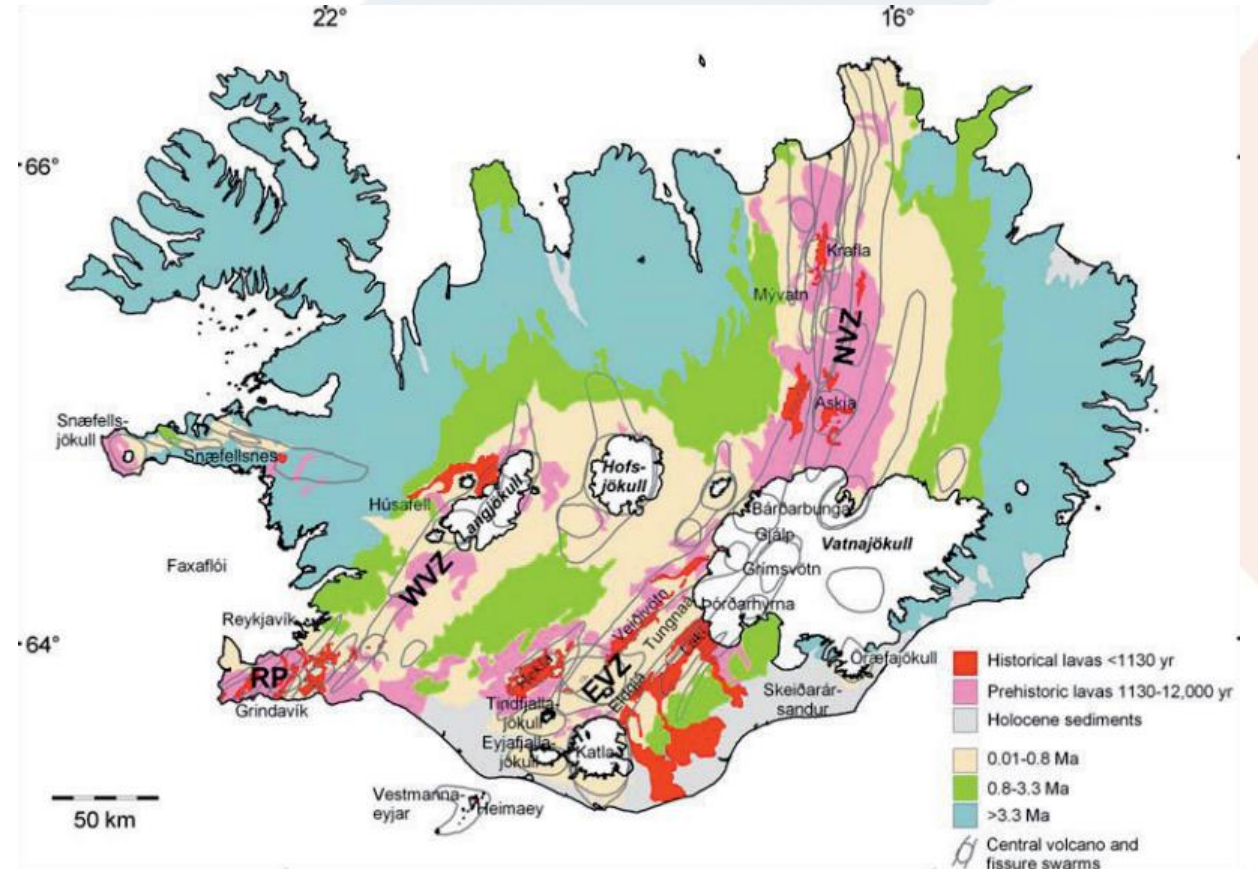
- Reykjavík Capital Area 60% of population and total insured aggregates
- No large earthquakes within the area (AC 1200)



**Hazard
Deterministic**

VOLCANIC ERUPTIONS

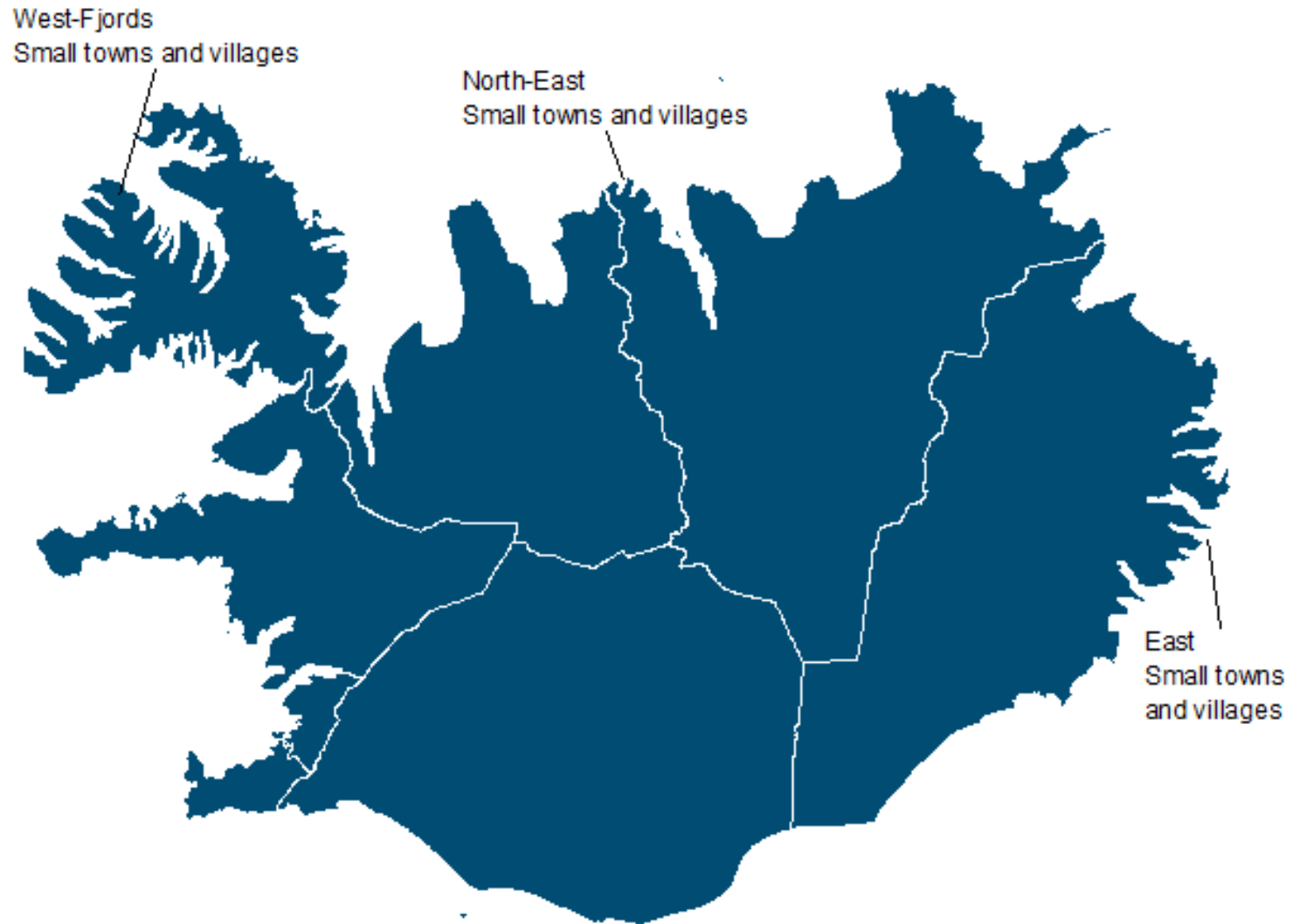
- Lava flow
- Ash fall
- Glacial floods



Hazard
Deterministic

VOLCANIC ERUPTIONS

- Avalanche
- Landslide
- Rock fall



Not expected to be of the reinsurance concern

Exposure

- Residential (1-2 story)
 - Shear-wall concrete
 - Shear-wall timber
 - Pumice (1940 to 1970)
- Excellent earthquake resistance of the structural system
- Redundancy because of high wind and snow load in Iceland



Exposure

- Residential - apartment blocks
 - 3-8 floors, shear-wall concrete
 - No masonry buildings
 - Few Moment frame buildings
 - Few soft-story buildings
- Good earthquake resistance of the structural system in general



Exposure

- Industrial buildings
 - Shear wall concrete or steel frame
 - Low rise in general
- Service buildings
 - Various material, structural system and Size



Exposure

- Summer houses
 - Low-rise timber

- Farm buildings
 - Concrete and timber
 - Various condition



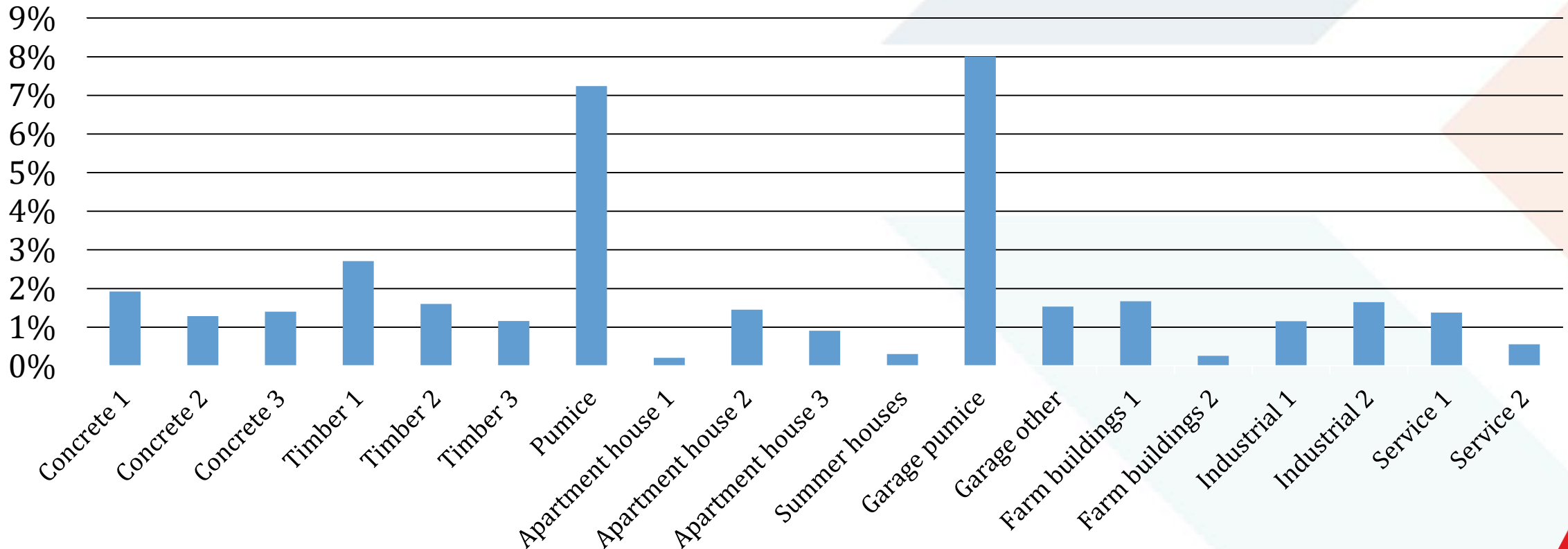
Exposure

- High Quality Information
- 250,000 building items
 - GPS coordinates
 - Insurance/replacement value
 - Type of use
 - Construction year
 - Material
 - No. floors and m²

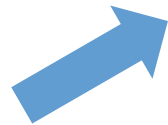


Vulnerability

- Ölfus Earthquake 2008 statistics
- Average loss of the 19 building Classes



Risk Model



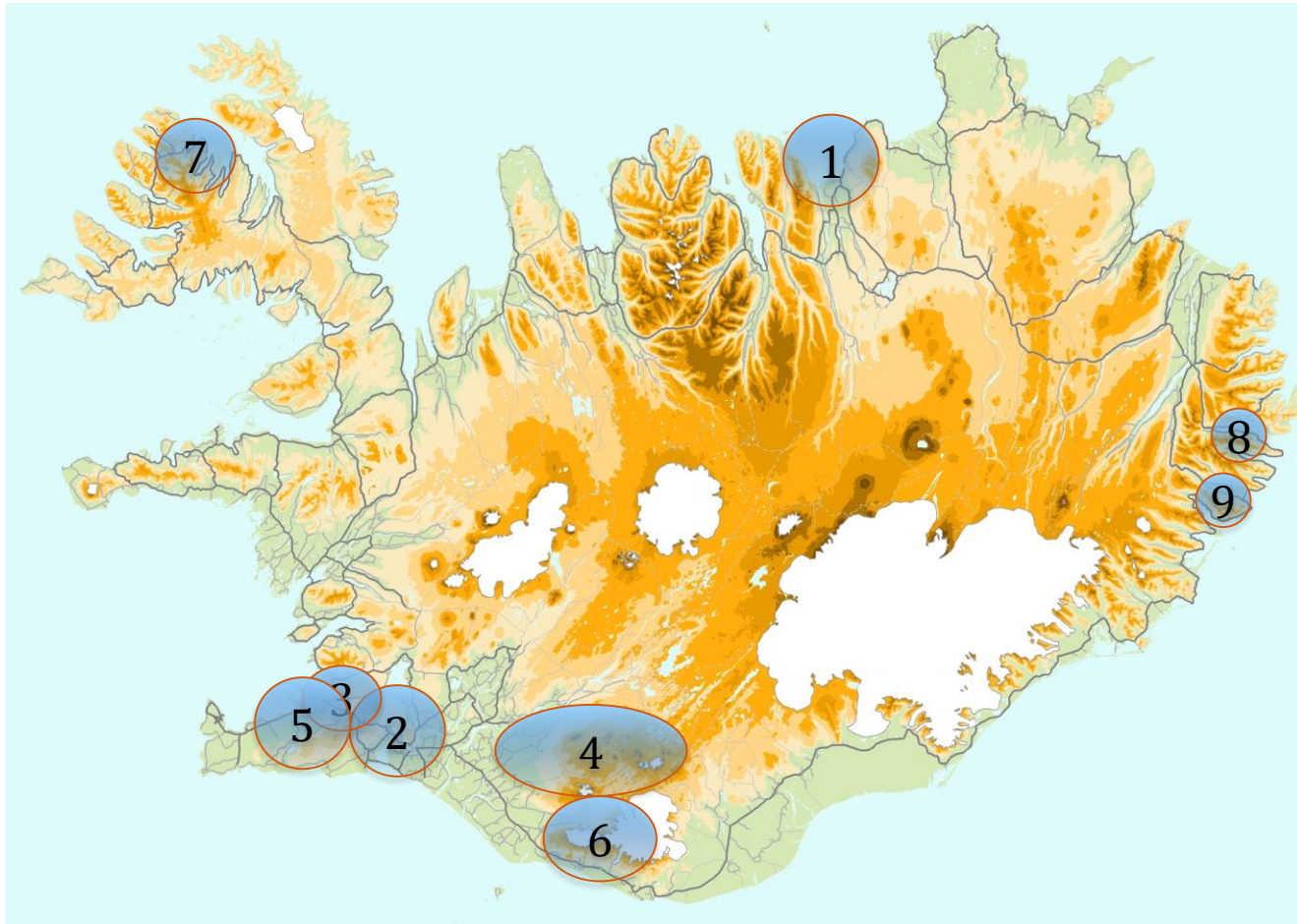
- Monetary loss
- Number of claims
- Number of buildings within the affected area
- Classification of buildings
- Number of damaged buildings of each type



CATASTROPHE RESPONSE PLAN



Process of the Cat response Program



Based on nine scenarios

1. Earthquake in NISZ
2. Earthquake in SIZS
3. Earthquake in vicinity of Reykjavík
4. Ash fall from Hekla
5. Lava Flow in the south outskirts of Reykjavík
6. Glacial flood in Katla
7. Tsunami in the West fjords (rock fall)
8. Avalanche in the East fjords
9. Mud flood in the East fjords

Impact assessment

Business interruption

- Office, IT systems, communications

Damage assessment

- Assessors, administration

Monetary loss

- Reinsurance, solvency, investments

Other issues

- Media, government agencies

- Written document



- Checklists



1. About the project
2. Introduction
3. Scenarios
4. Impact assessment
5. Activate and cancel
6. Administration
7. Participants role
8. Who to inform and distribution
9. Safety
10. Training
11. Implementation
12. Improvement and revision

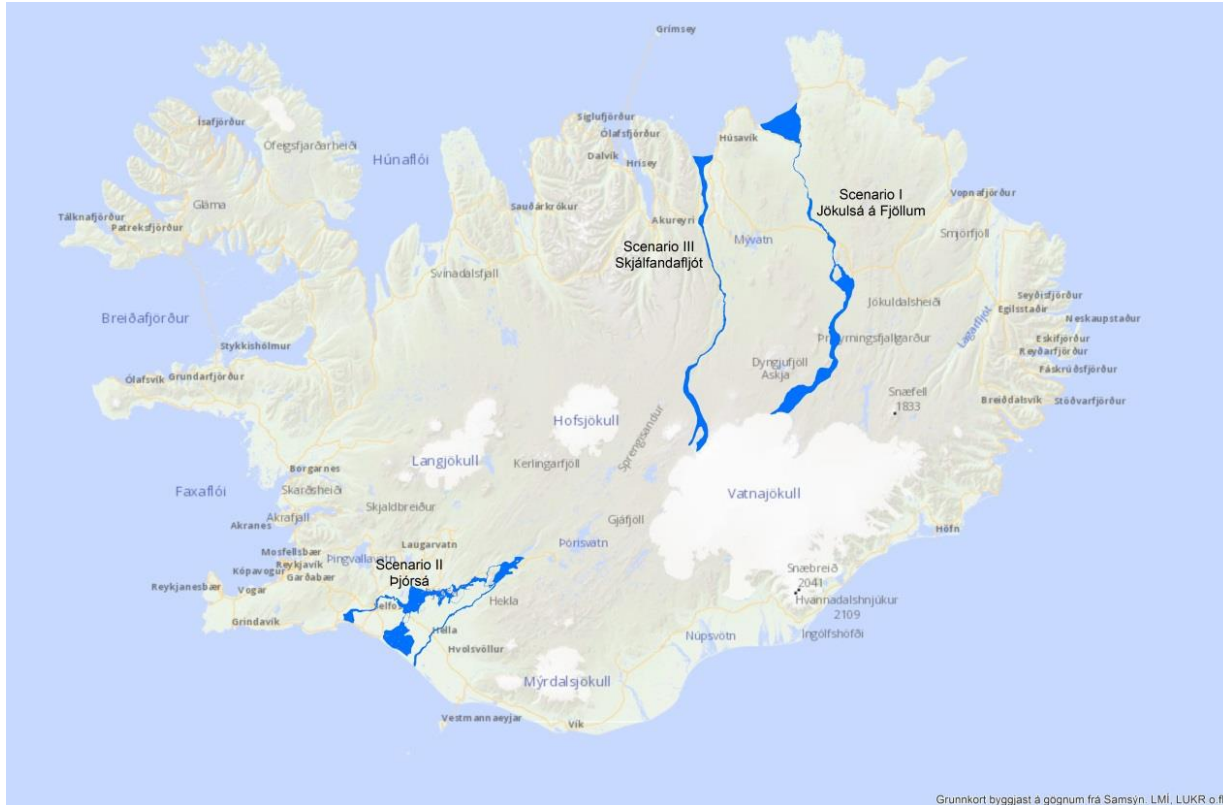


Primary benefit

1. Fewer mistakes in general
2. Clear purpose and responsibility
3. Balanced workload
4. Reduce expenses
5. Stronger cooperation with all parties
6. Better understanding of projects
7. Improvement of disclosure to all parties
8. Understand the need of reinsurance
9. Ability to estimate losses following events
10. Quicker recovery following an event

VOLCANIC ERUPTION IN HOLUHRAUN

Three possible scenarios



- From the beginning of the volcanic eruption in Holuhraun in August, the ICI has been monitoring the situation closely.
- The eruption is occurring in the Icelandic highland, in an unpopulated area, far away from the ICI's insured properties.
- The ICI has already assessed possible impacts and monetary losses resulting from the different scenarios.

50 km radius around Holuhraun lava

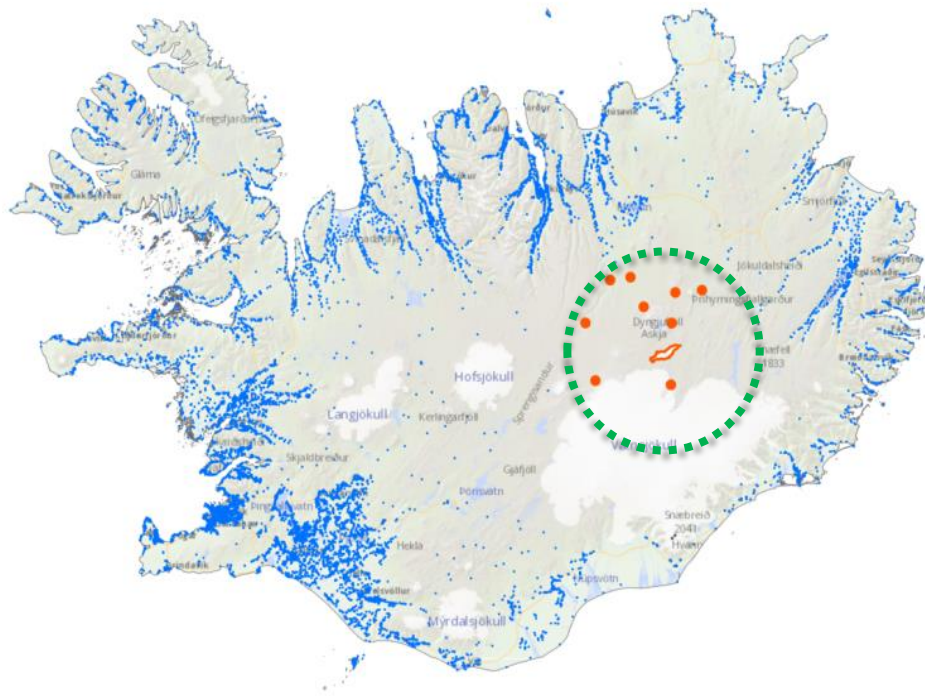
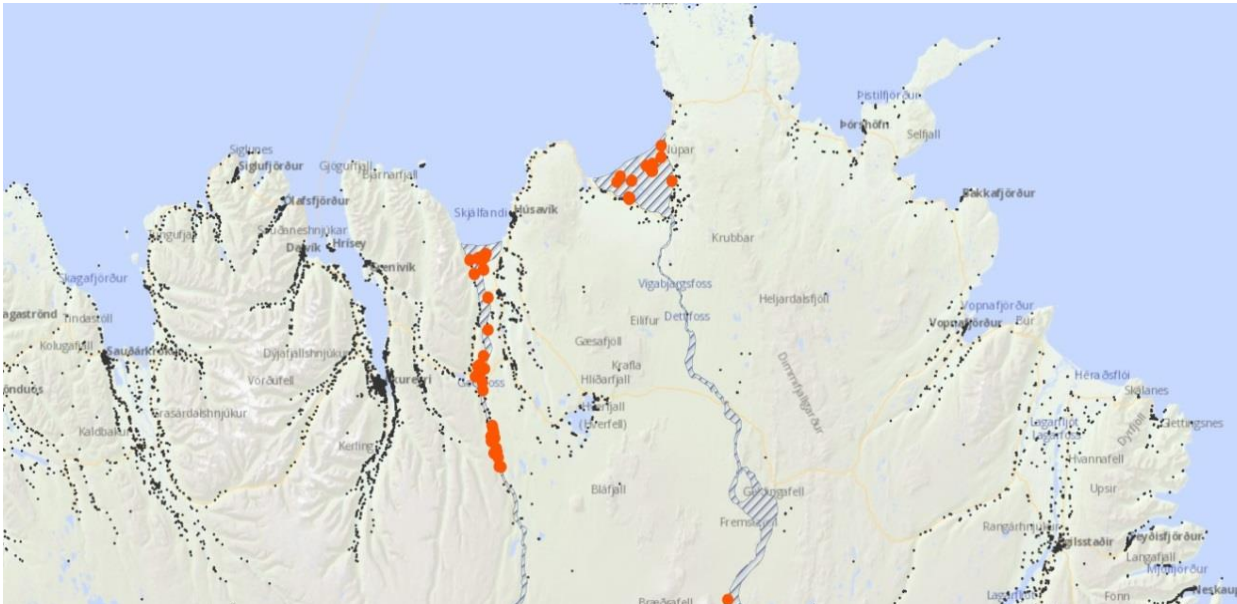


Figure 2 Holuhraun eruption

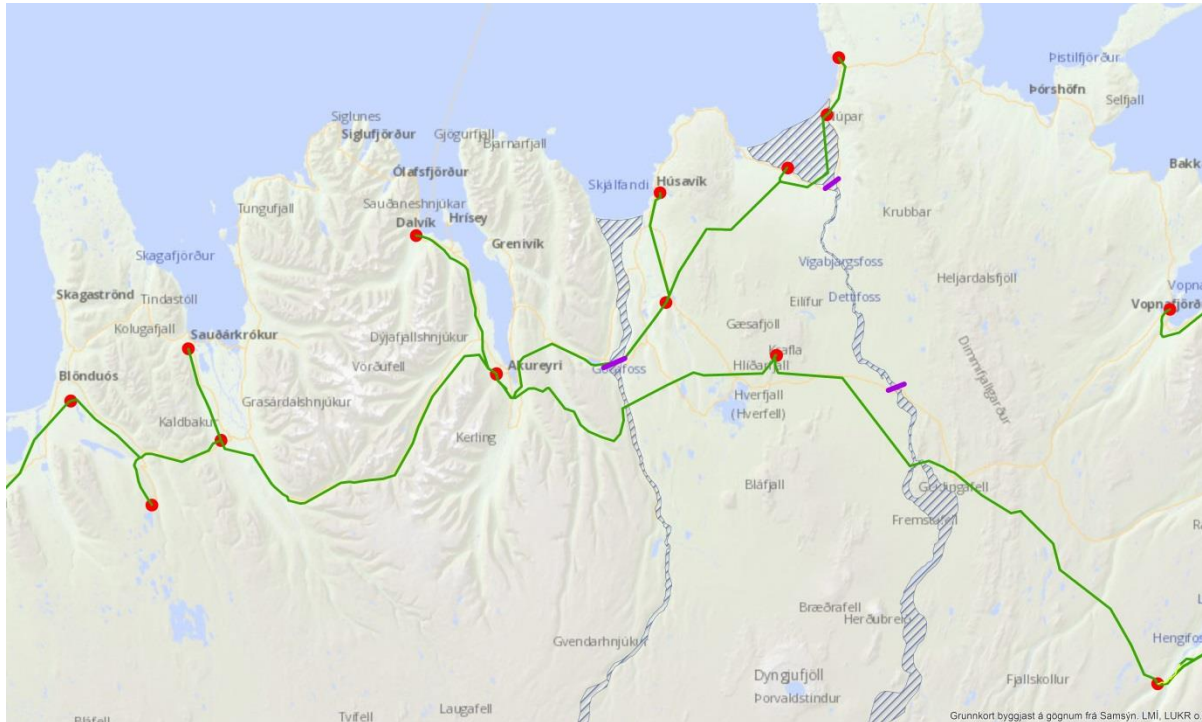
- ICI has examined the area within a 50 km range of the lava flow in Holuhraun and has found that there are only 17 risks within the area, with a total replacement value of 1.3 million EUR.

All buildings within the flooded area



- The same method is used to compile information about all buildings in the possible flooding area, based on the information from IMO's and Civil protection's scientific committee.
- The total replacement value of all buildings in both scenarios is 10.9 million EUR. Based on this given information, it is possible to conclude that the total loss will not exceed the reinsurance retention.

All buildings within the flooded area



- The modeling tools enable us to plot and estimate losses for each type of insured item within defined areas, divided into different risk categories, for ex. power lines, power plants and bridges.

REINSURANCE STRUCTURE 2015

TERMS AND CONDITIONS FOR 2015

Premium
Flat ISK 360,000,000

30,000 MISK

1st Layer

20,000,000,000 ISK xs 10,000,000,000 ISK
1 Reinst @ 100 % a.p.

10,000 MISK

Retention

Retention
10,000,000,000 ISK

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