

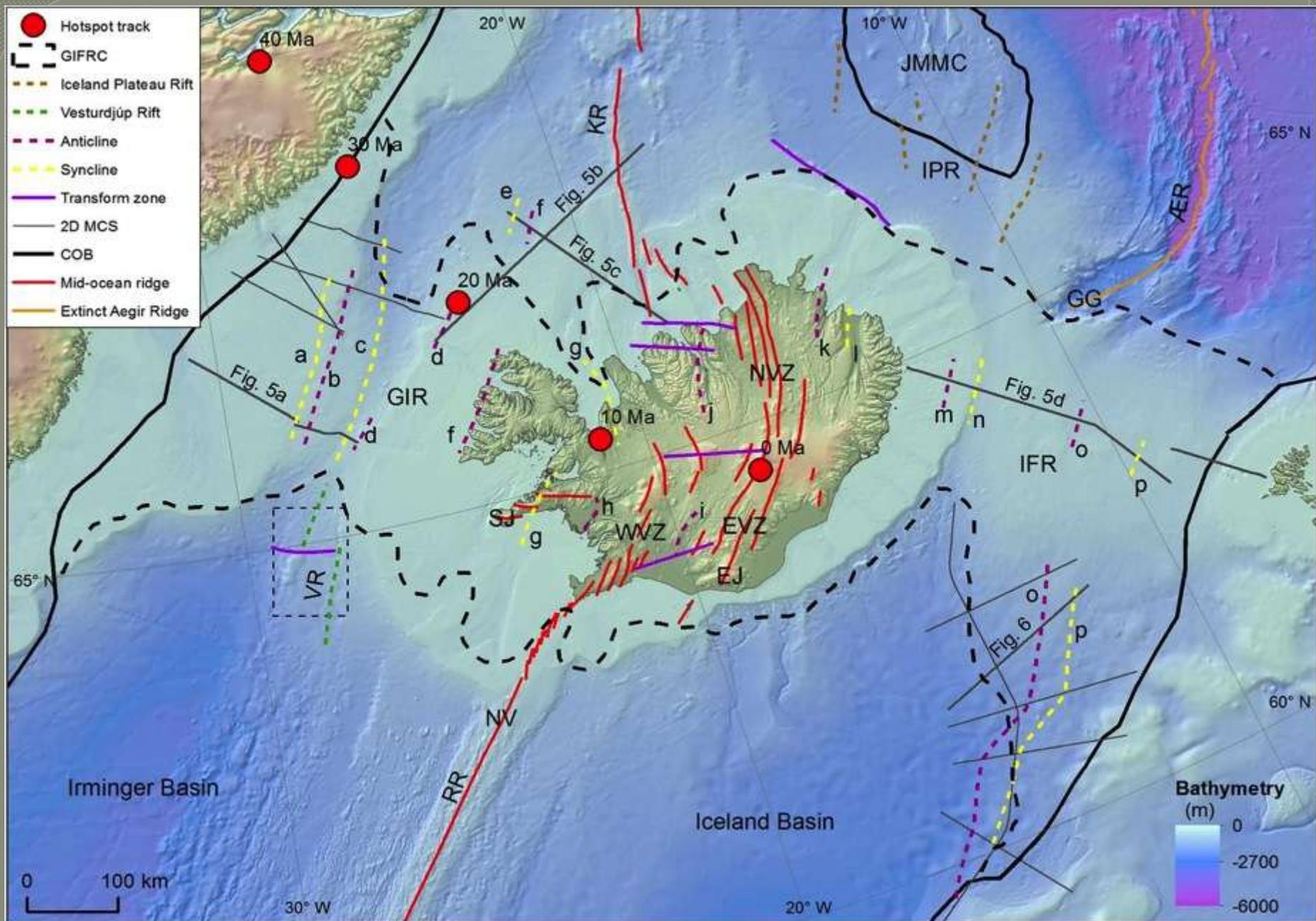
ICELAND IN PICTURES

GAYLE HANSSEN
GEOLOGICAL SOCIETY OF ZIMBABWE
2018 AGM PRESENTATION

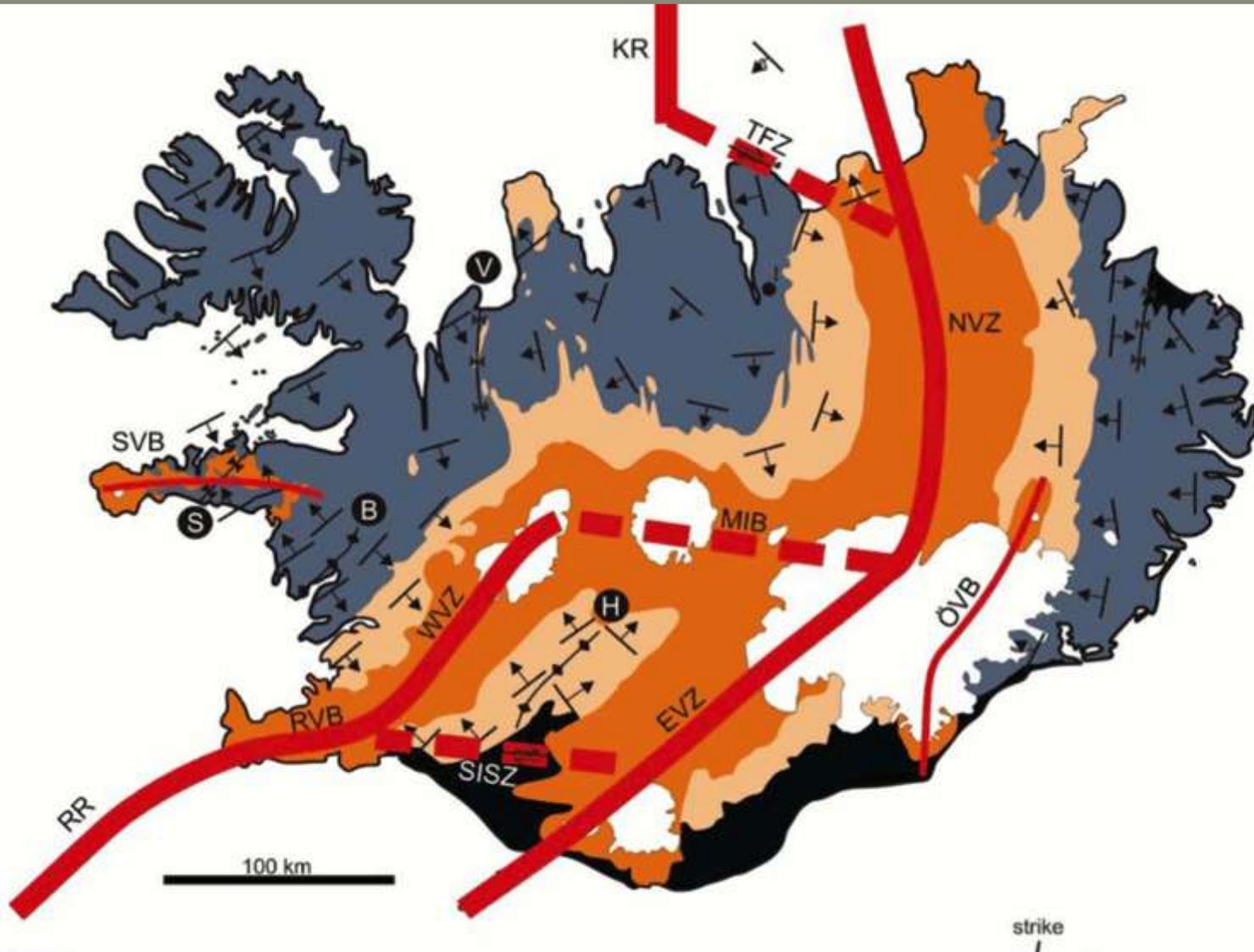
-
- Our trip in 2012 – just using an iPhone and google maps!
 - Iceland is one of 2 places where continental spreading can be observed on dry land
 - Ethiopia is the other
 - Situated on the Mid Atlantic Ridge

ICELAND ON THE MID ATLANTIC RIDGE

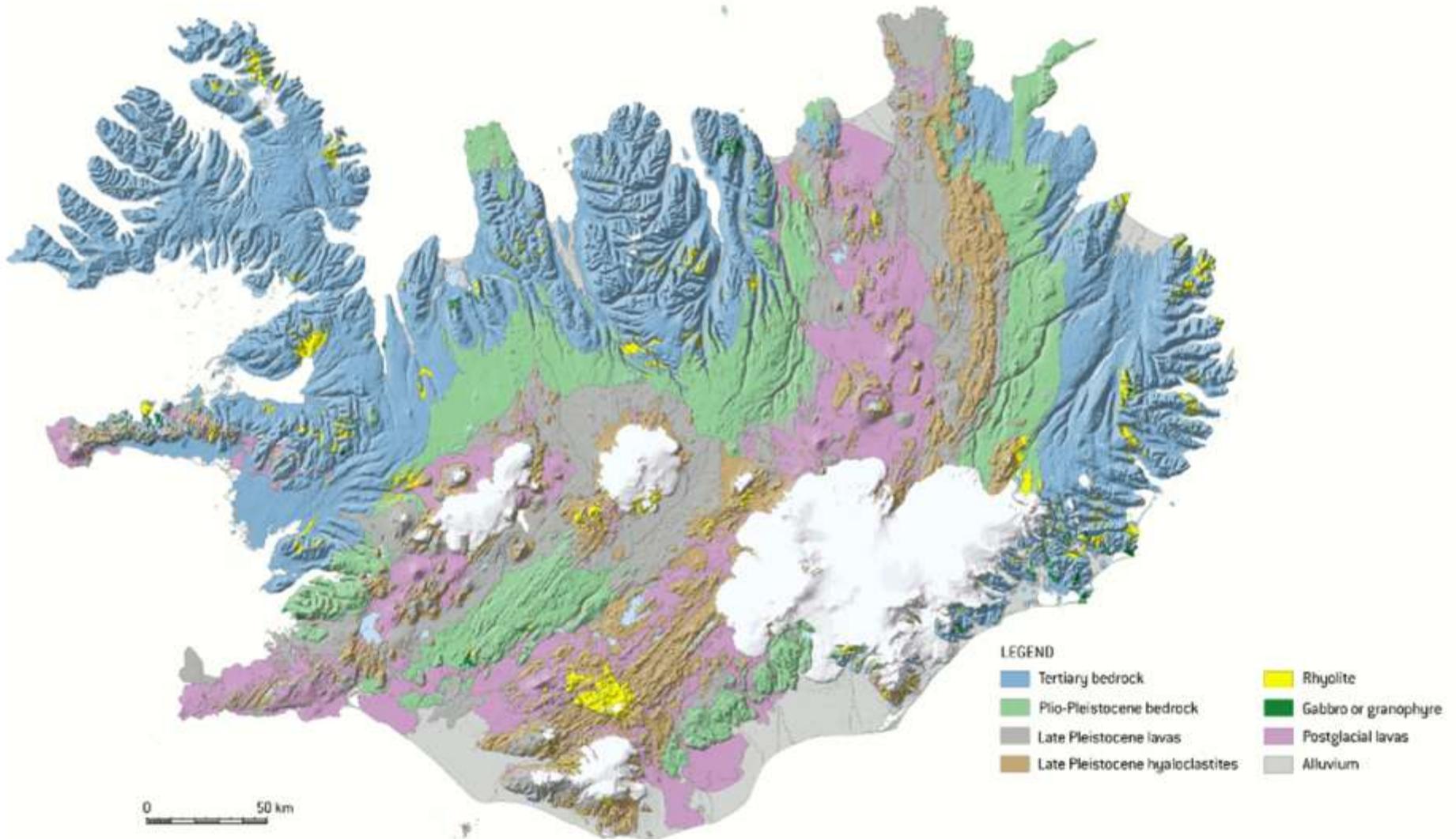




ICELAND TECTONICS



ICELAND GEOLOGY





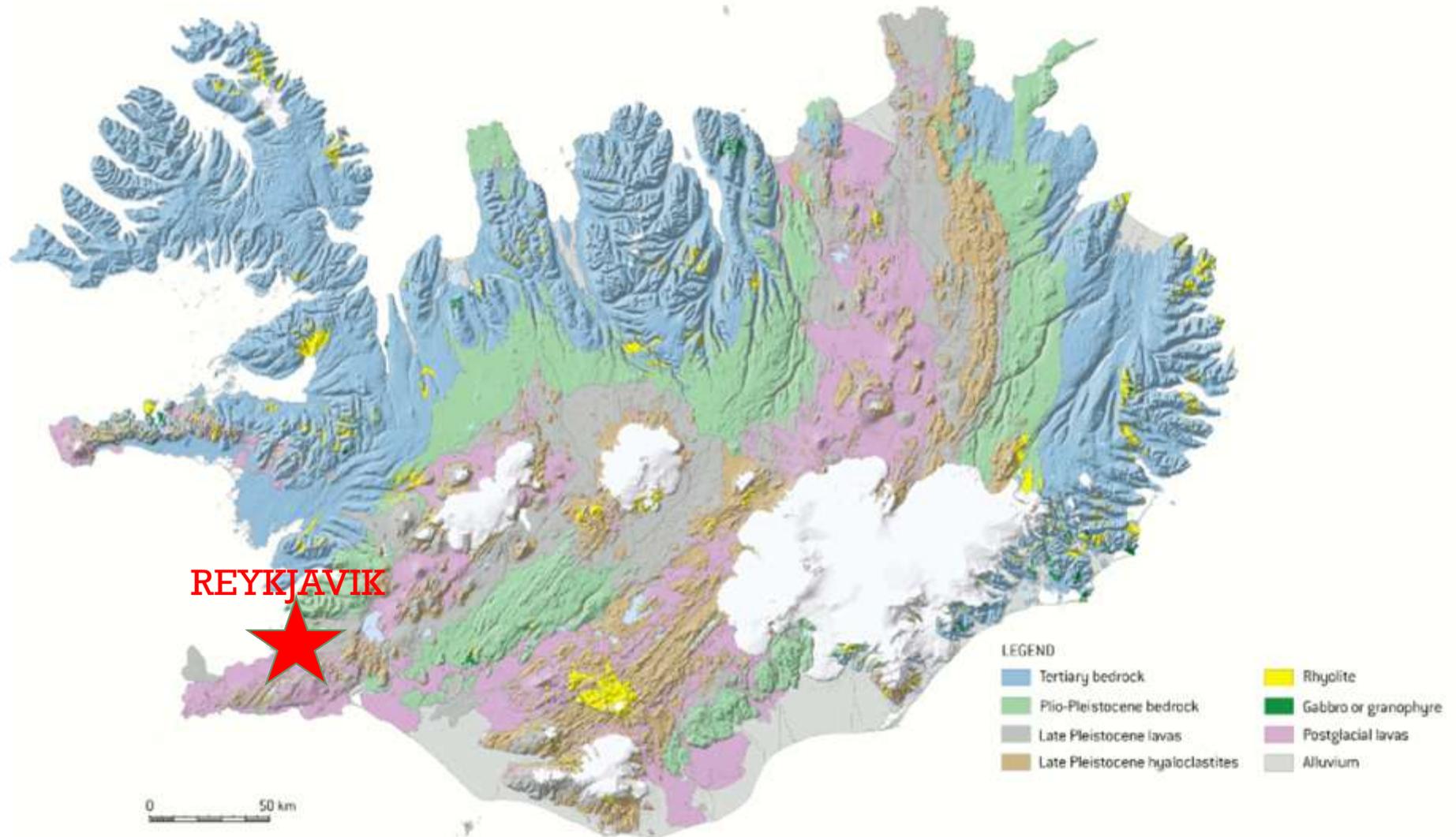
Iceland – the country

- 350,000 people – 123,000 in Reykjavik
- Nordic
- Sheep, fishing, tourism – and geologists!
- 874 AD first settlement
- 1783 – eruption of Laki, killed 9,000 people and 80% of livestock
- 1944 independence from Denmark
- 2008 financial crisis

Amazing sights in Iceland

- Rifting
- Waterfalls
- Geysers
- Volcanoes
- Hot Springs
- Mud Slides
- Icebergs
- Whales

Reykjavik – the Capital



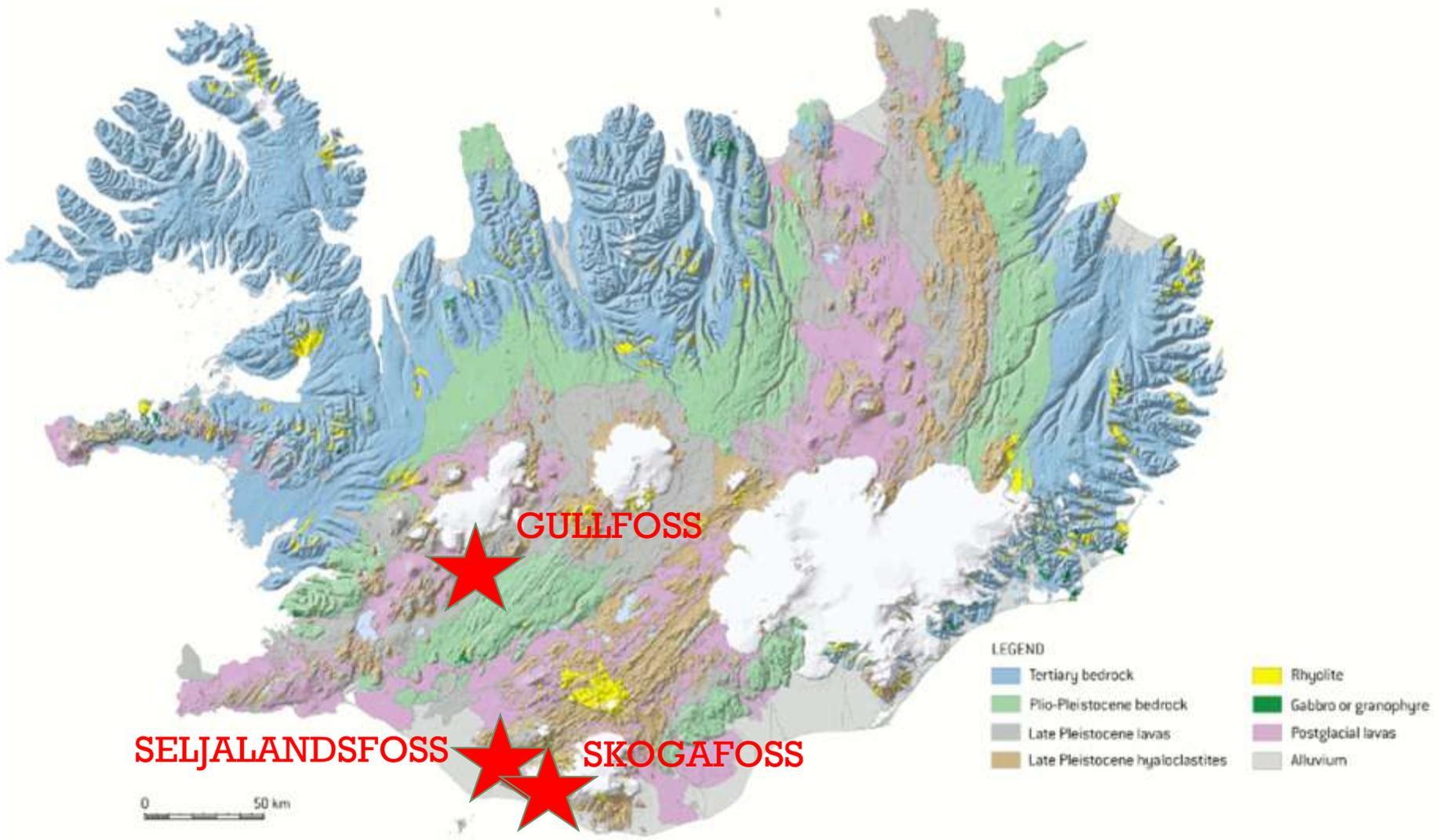
Reykjavik – the Capital



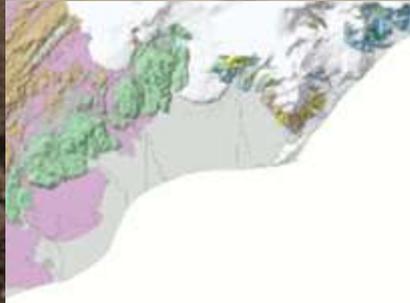
0 50 km



WATERFALLS



GULLFOSS



LEGEND

- | | |
|---|--|
|  Tertiary bedrock |  Rhyolite |
|  Plio-Pleistocene bedrock |  Gabbro or granophyre |
|  Late Pleistocene lavas |  Postglacial lavas |
|  Late Pleistocene hyaloclastites |  Alluvium |

The most famous waterfall in Iceland

SKOGAFOSS



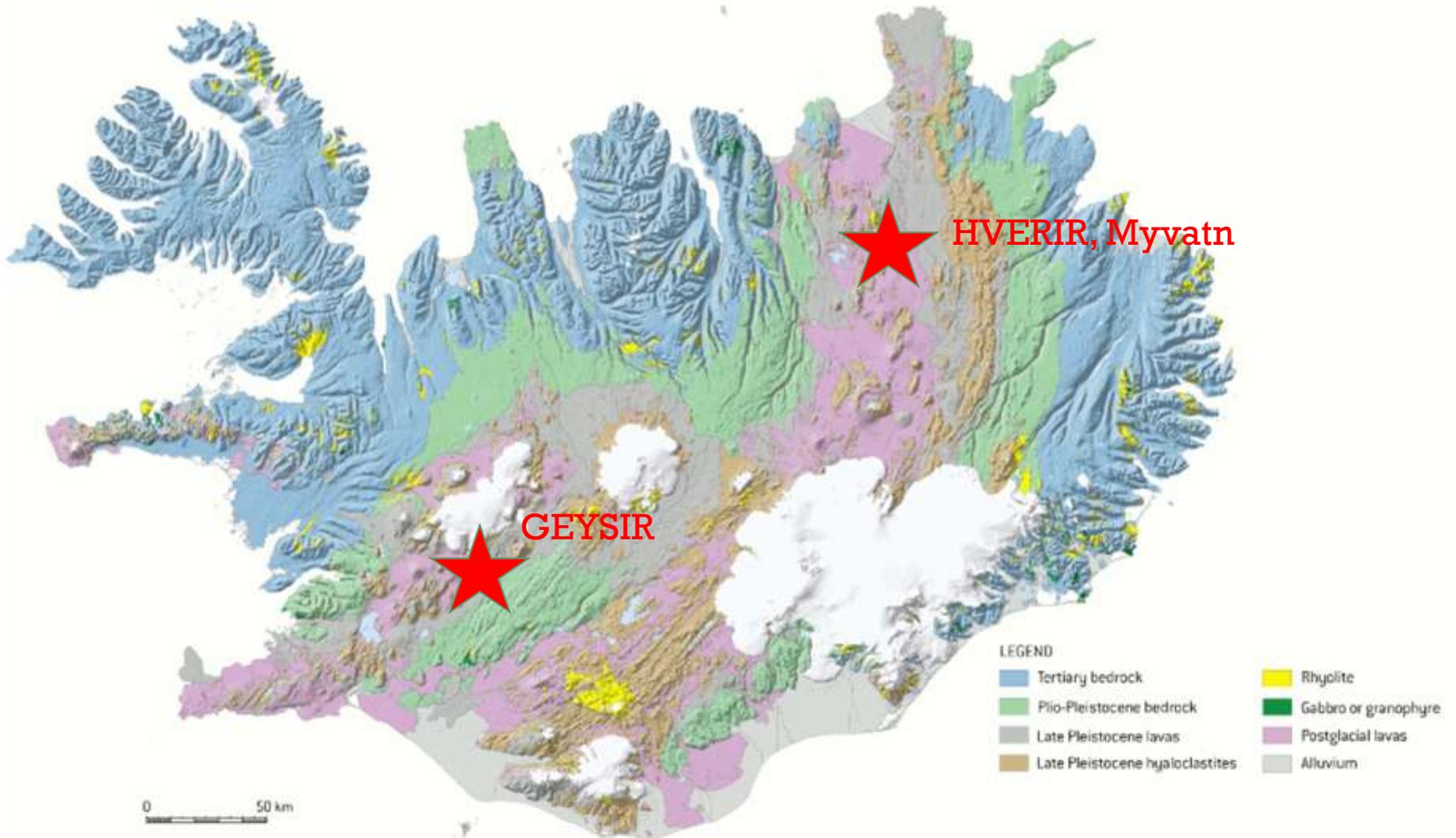
SKOGAFOSS

- | | |
|---------------------------------|----------------------|
| Tertiary bedrock | Rhyolite |
| Plio-Pleistocene bedrock | Gabbro or granophyre |
| Late Pleistocene lavas | Postglacial lavas |
| Late Pleistocene hyaloclastites | Alluvium |

You can walk under SELJANANDFOSS



GEYSERS



Geysir

















Alteration

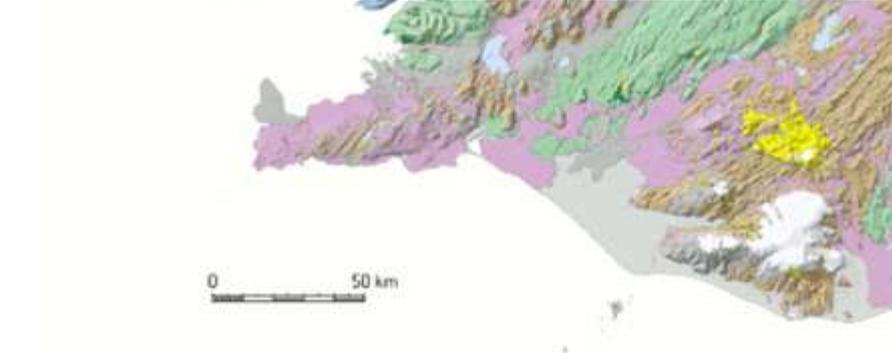


Mineralisation / Alteration

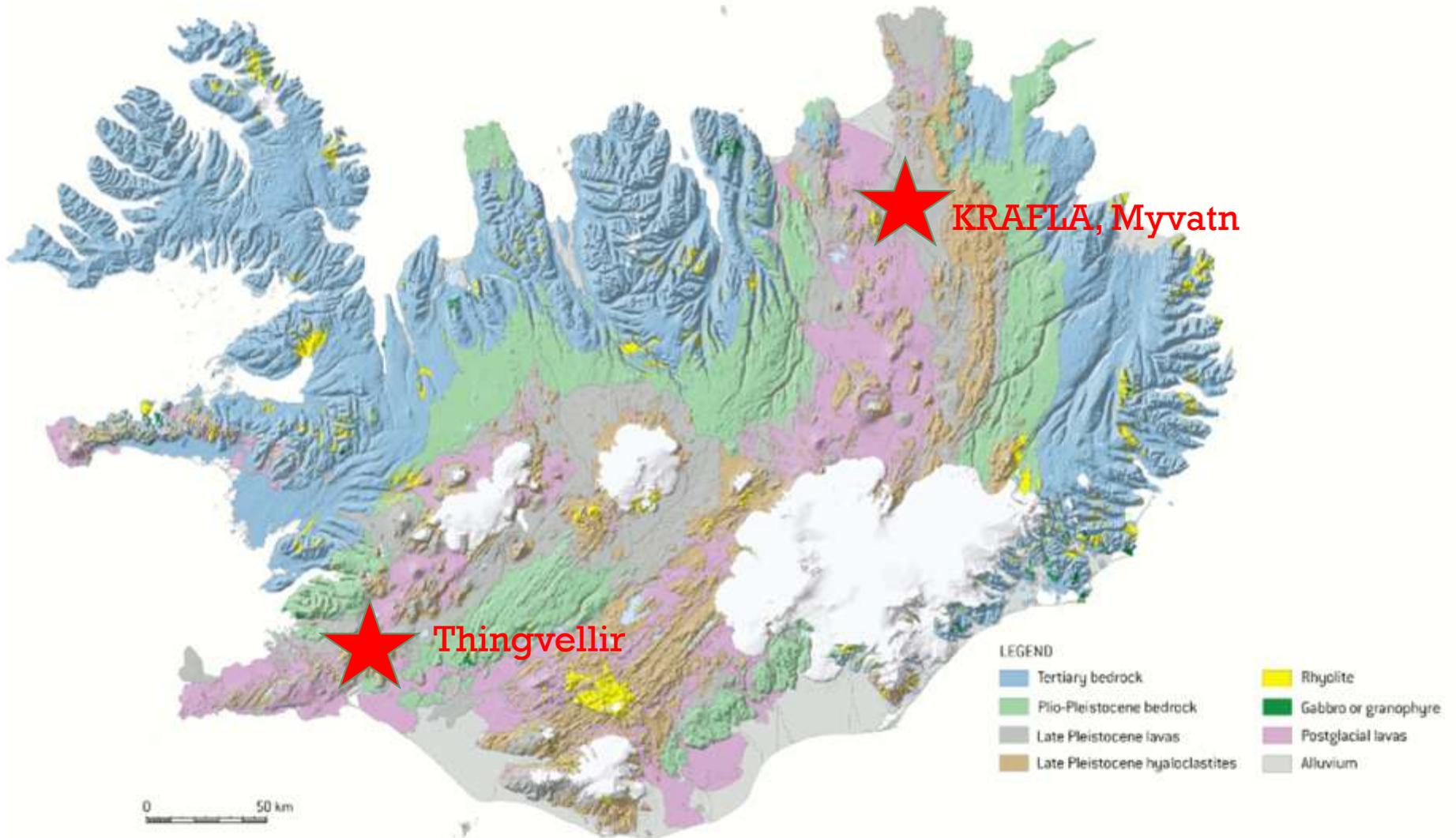
Mineralisation / Alteration

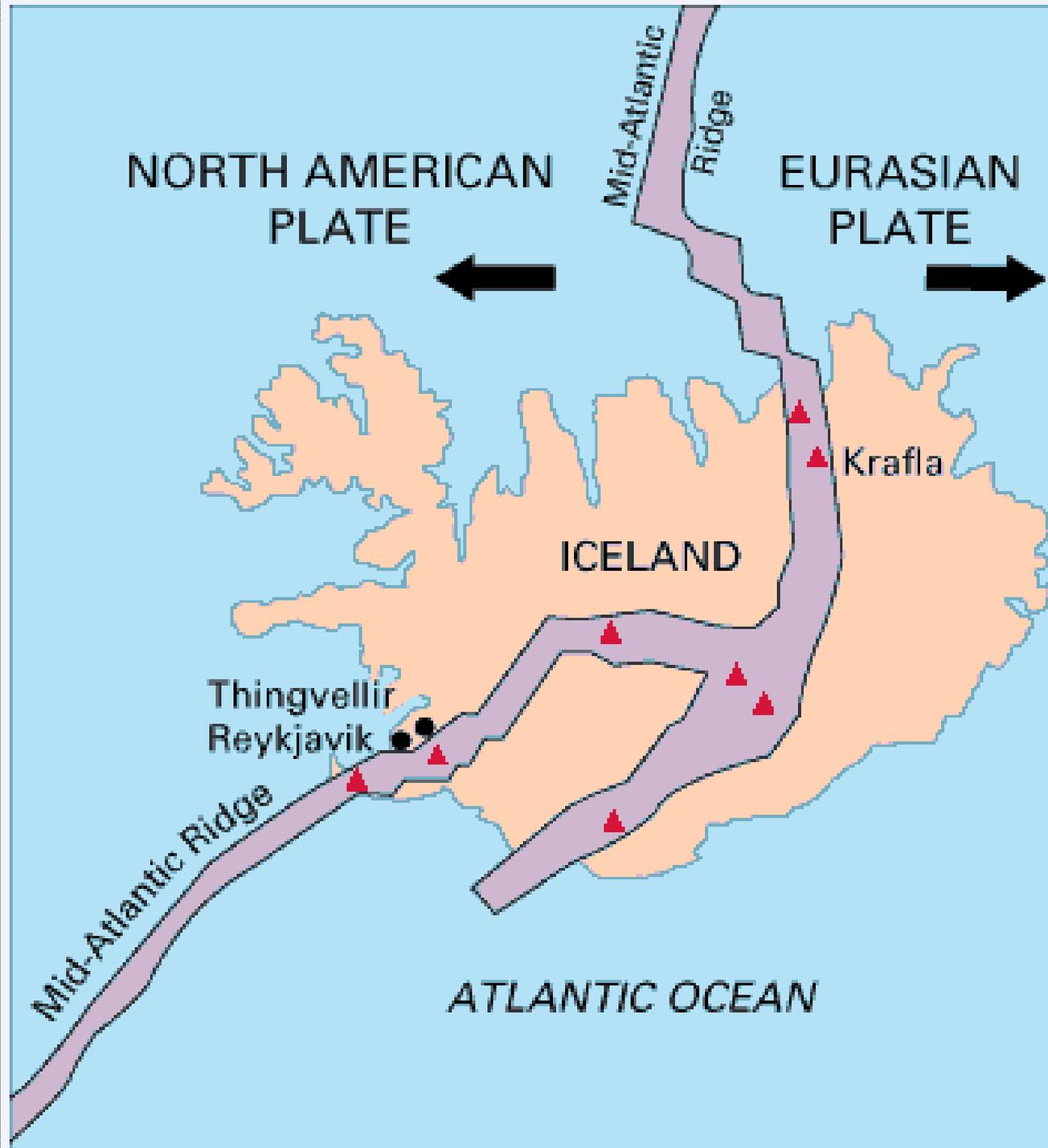


Hverir, Myvatn



RIFTING





Thingvellir, the site of Iceland's first parliament

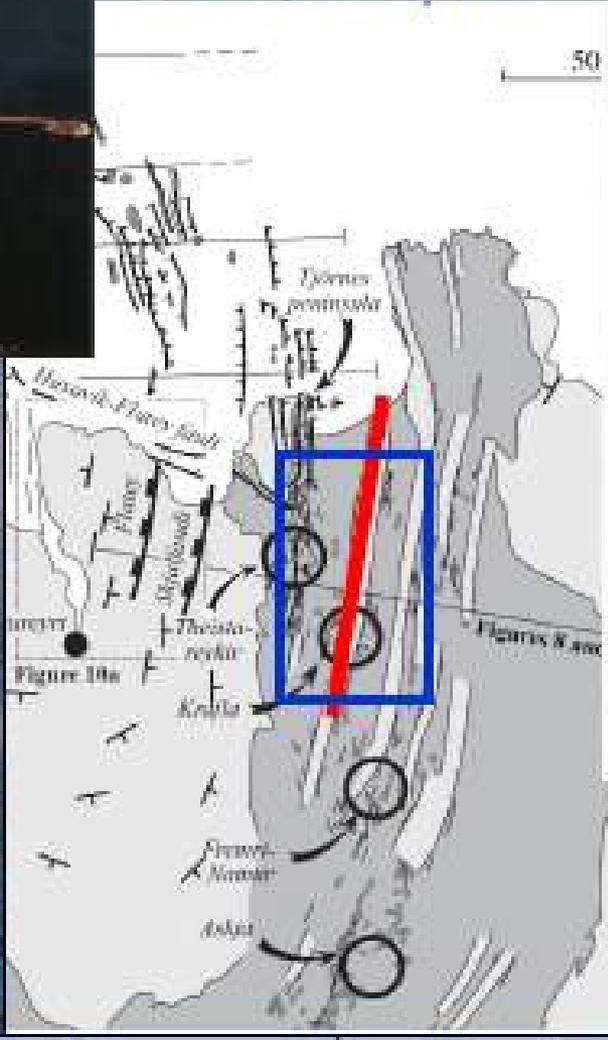


Rifting



Krafla Rifting in 1975 - 1984

- Took place from 1975 to 1984 and extruded lava
- 19km long graben
- Subsided 2-3m
- Magma sits 3-7km below this rift zone





© 2018 Google
Image IBCAO
Image Landsat / Copernicus

Google Earth

Krafla – rifting under the snow



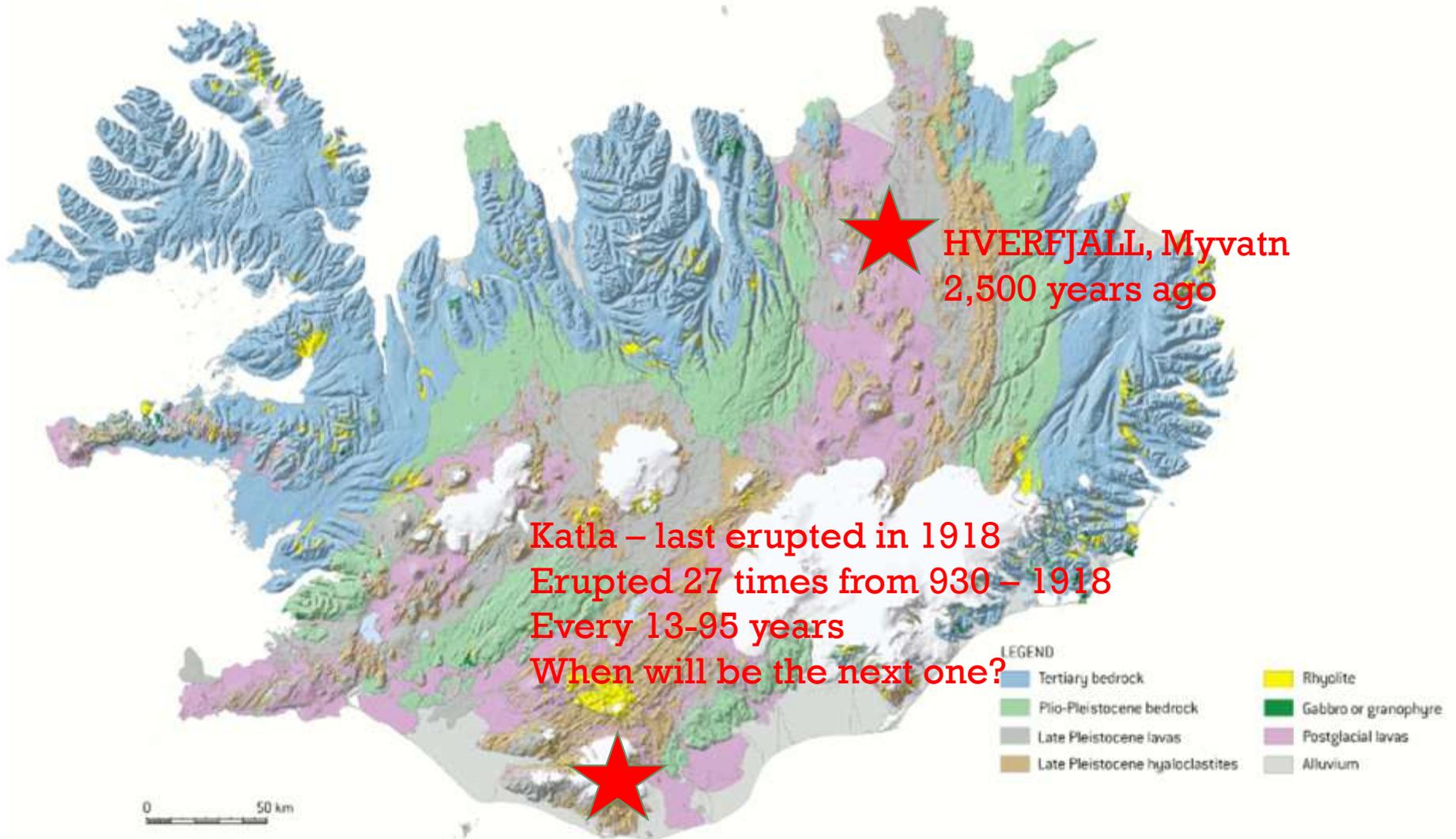
Looking North



**NORTH
AMERICA**

EUROPE

VOLCANOS



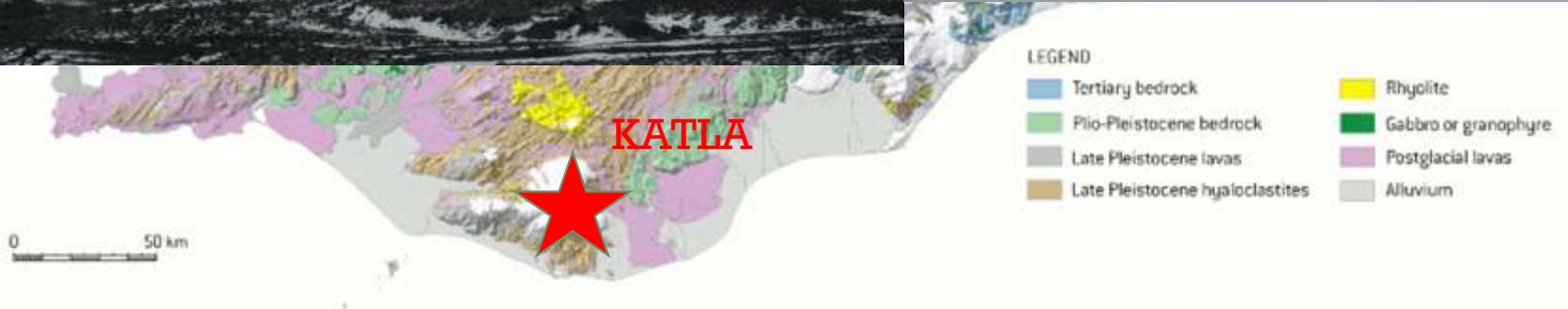
VOLCANOS



1918 eruption JOKULHLAUP – volcanic flow under the glacier



ICE on top of the volcano





VOLCANOS



**HVERFJALL, Myvatn
2,500 years ago**



Dimmuborgir Lava Fields



Collapsed lava tubes and pipes from about 2,500 years ago in the Myvatn region, close to Hverfjall

Columnar Jointing



LEGEND

- | | |
|---|--|
|  Tertiary bedrock |  Rhyolite |
|  Plio-Pleistocene bedrock |  Gabbro or granophyre |
|  Late Pleistocene lavas |  Postglacial lavas |
|  Late Pleistocene hyaloclastites |  Alluvium |

0 50 km

Columnar Jointing

HOT SPRINGS



BLUE LAGOON – one of the most famous tourist attractions in Iceland



BLUE LAGOON

0 50 km

- Late Pleistocene lavas
- Postglacial lavas
- Late Pleistocene hyaloclastites
- Alluvium

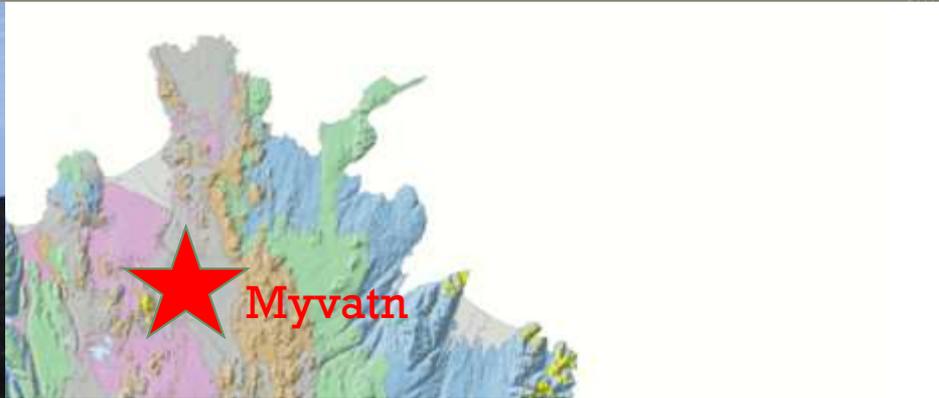
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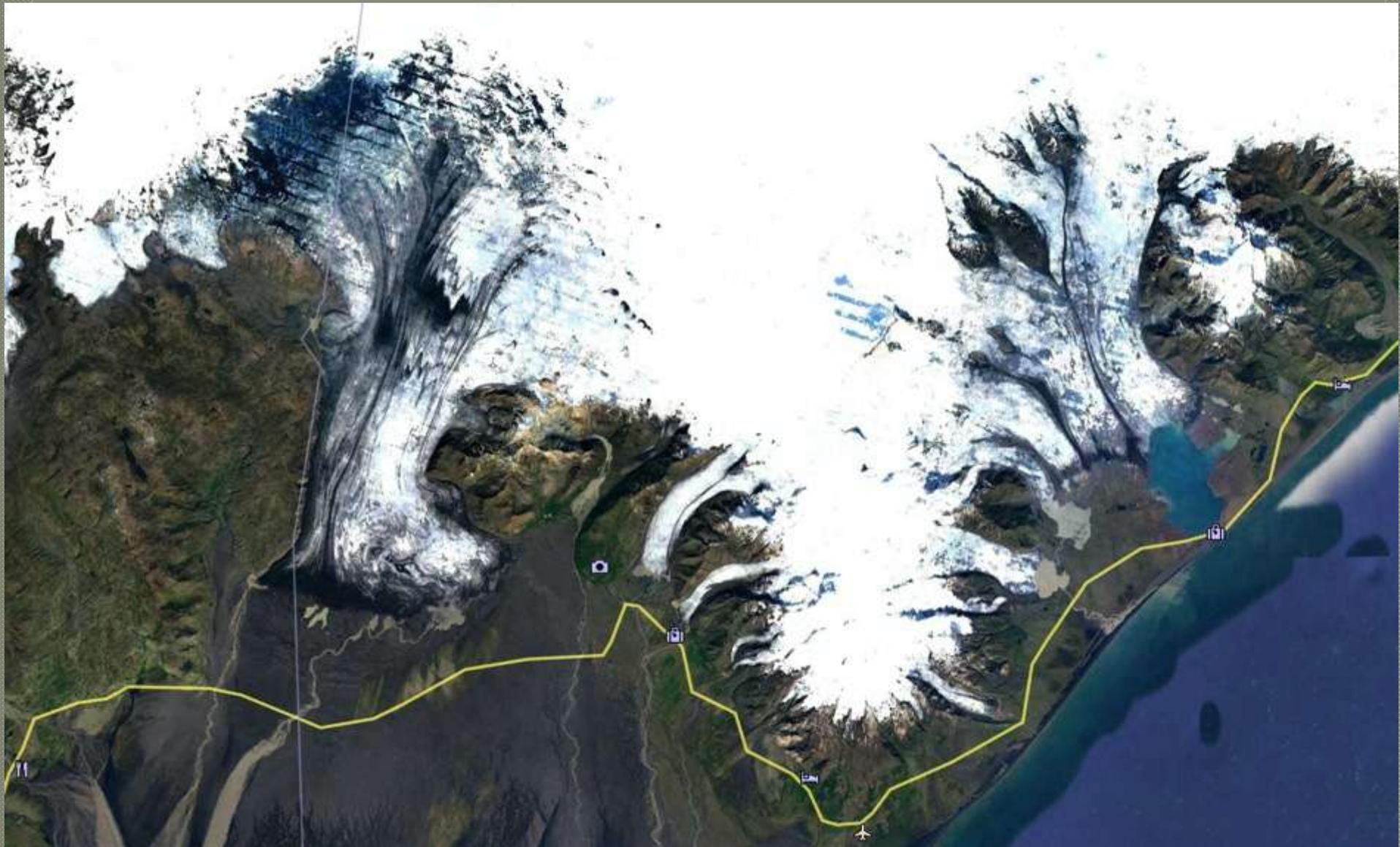
- | | |
|---------------------------------|----------------------|
| Quaternary bedrock | Tungurite |
| Plio-Pleistocene bedrock | Gabbro or granophyre |
| Late Pleistocene lavas | Postglacial lavas |
| Late Pleistocene hyaloclastites | Alluvium |

HOT SPRINGS



GLACIERS AND ICEBERGS





GLACIERS AND ICEBERGS



GLACIERS AND ICEBERGS



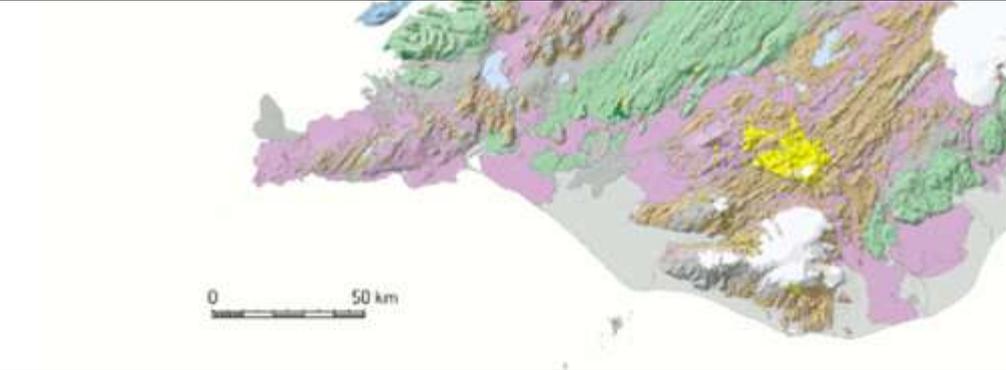
- Rhyolite
- Gabbro or granophyre
- Postglacial lavas
- Alluvium



FJORDS



NORTHERN LIGHTS



WHALES



HUSAVIK



ORCA



GRINAVIK

0 50 km



te
o or granophyre
acial lavas
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GEO THERMAL ENERGY

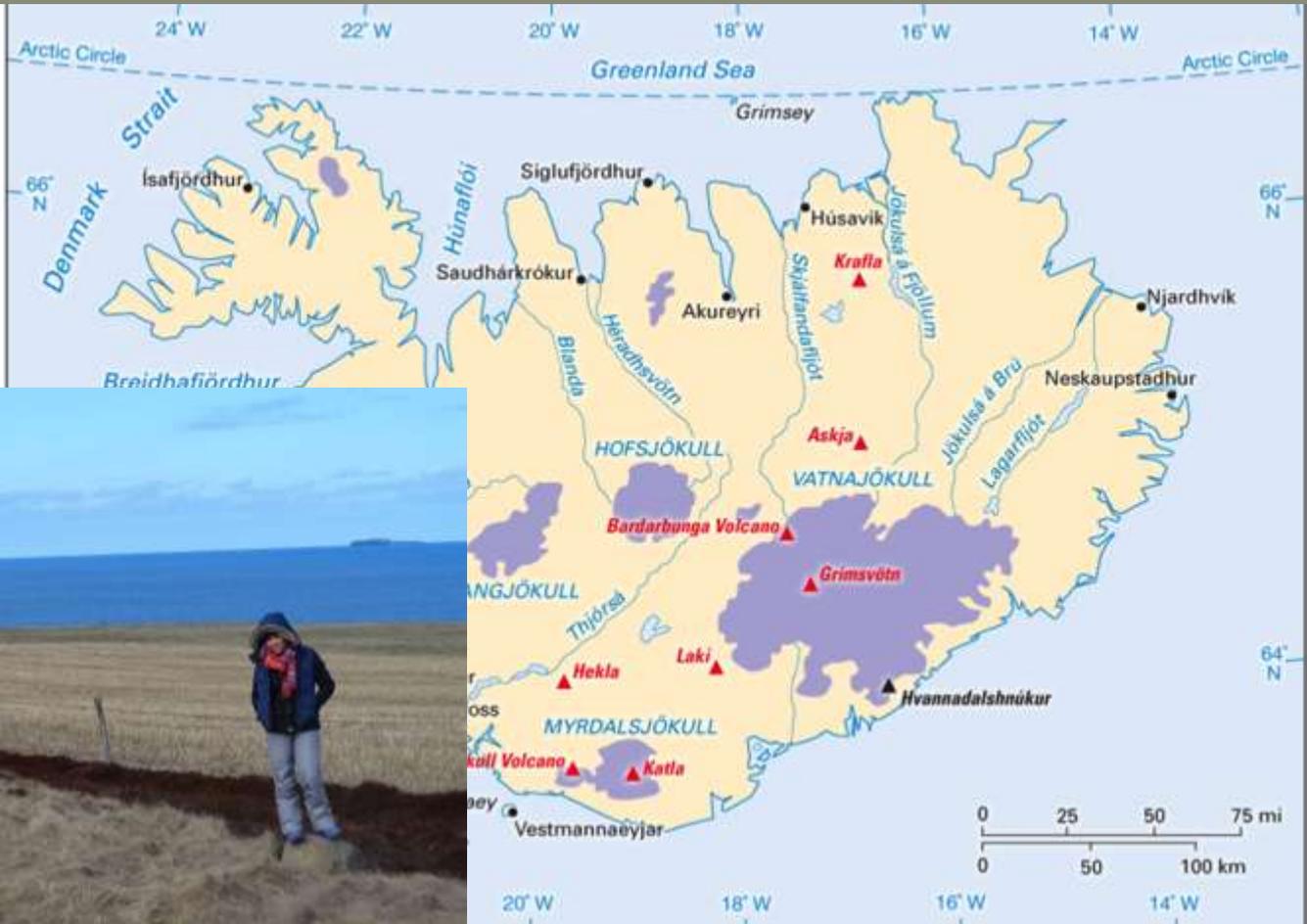


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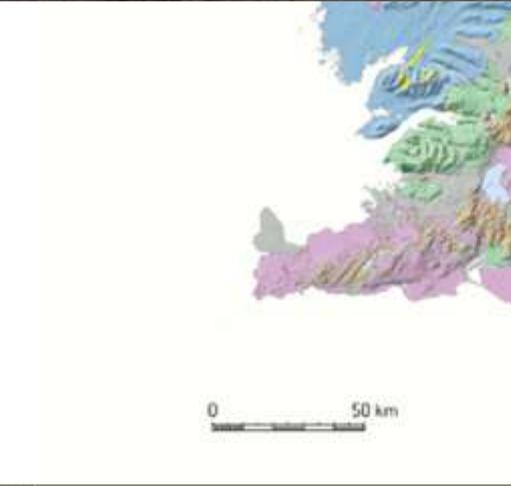
Arctic Circle



Iceland



HORSES



- Original bedrock
- Pleistocene bedrock
- Pleistocene lavas
- Pleistocene hyaloclastites
- Rhyolite
- Gabbro or granophyre
- Postglacial lavas
- Alluvium

Certainly a place worth visiting if you are a geologist – and I would LOVE to go back in the summer time when the central areas are more accessible