



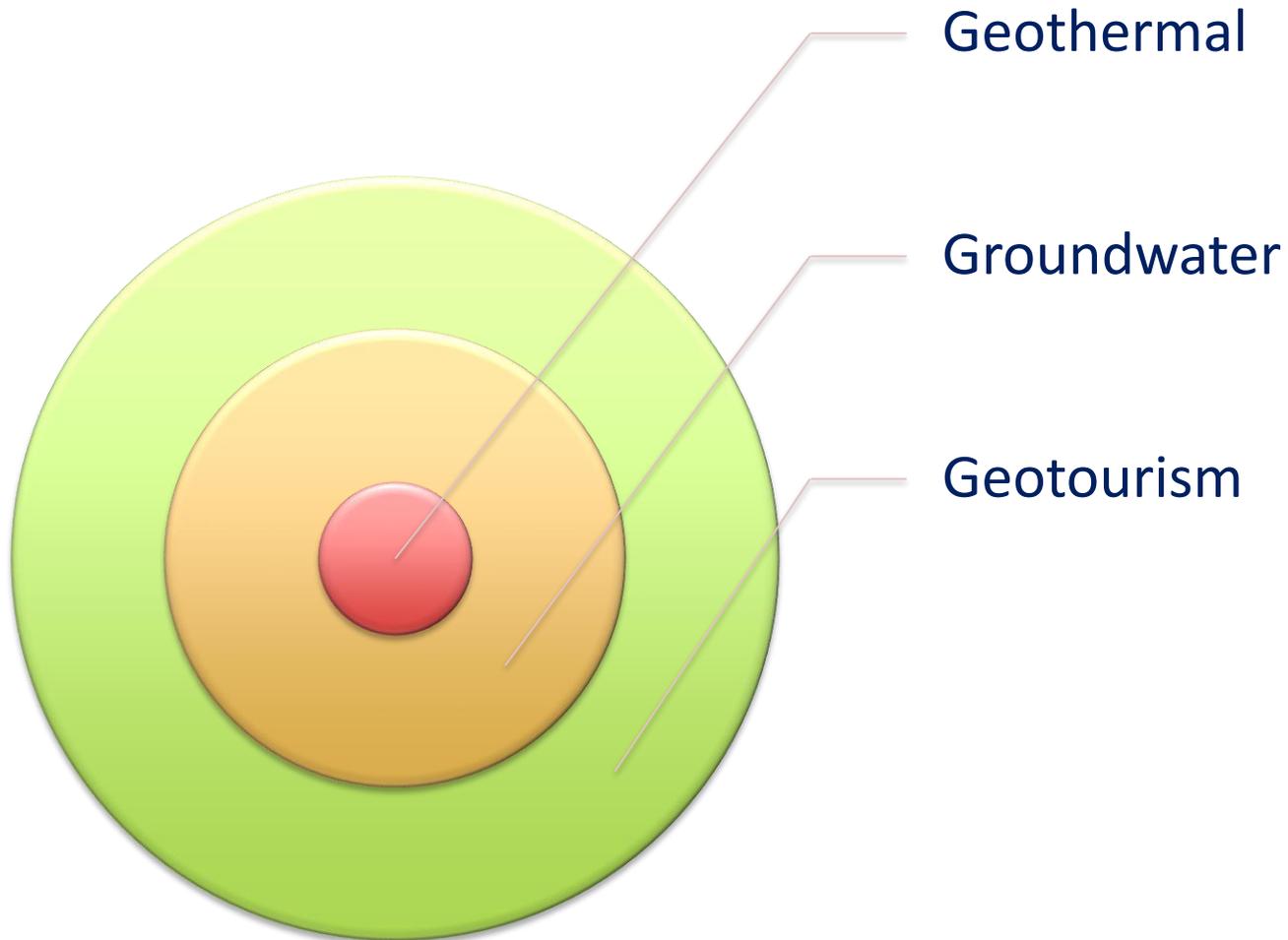
The deep AND THE DRINKABLE: LINKING AND UNDERSTANDING THESE SUBSURFACE WORLDS



GeoConnect^{3d} is funded under the GeoEnergy theme of GeoERA. This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 731166.

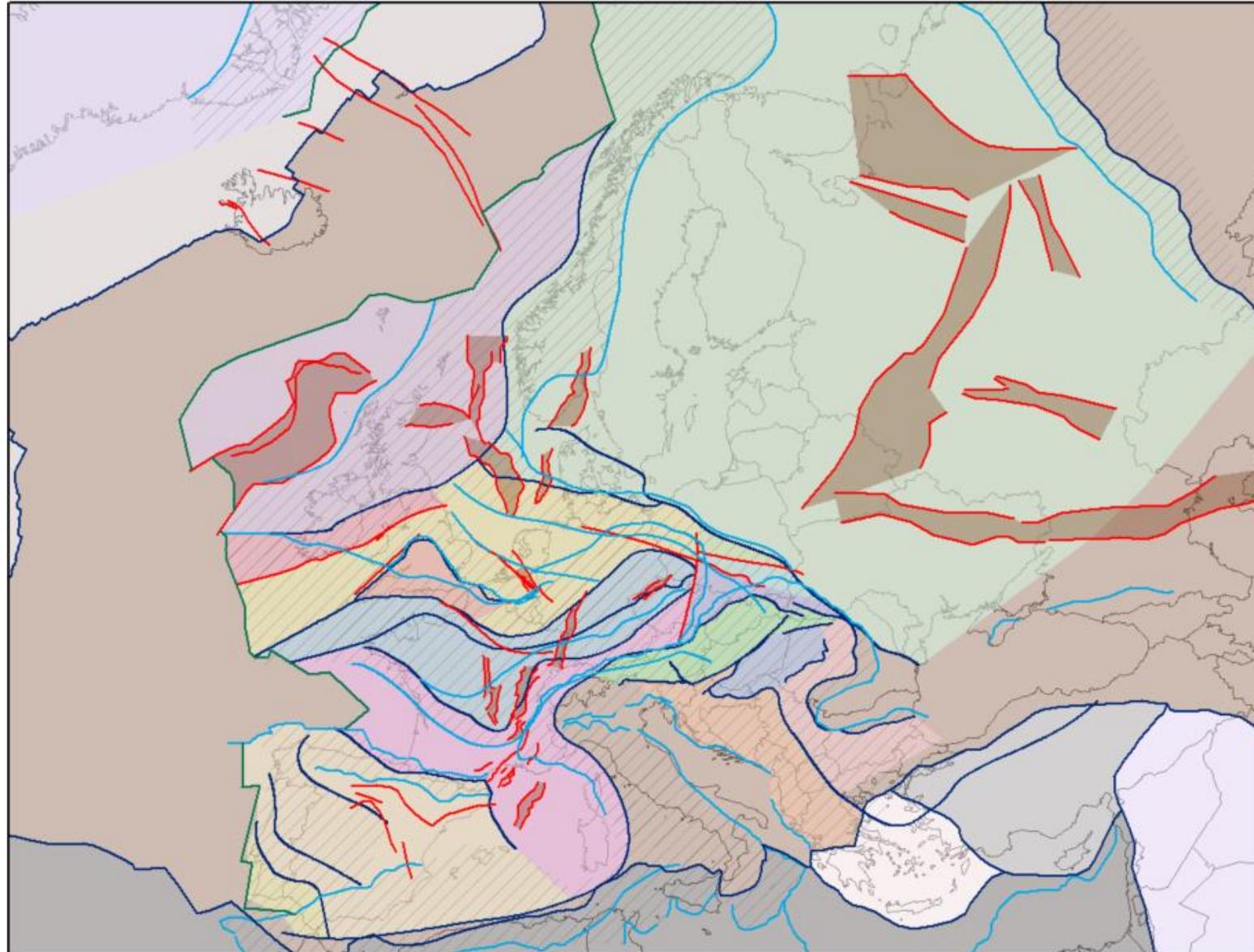


INTERDISCIPLINARY RESEARCH

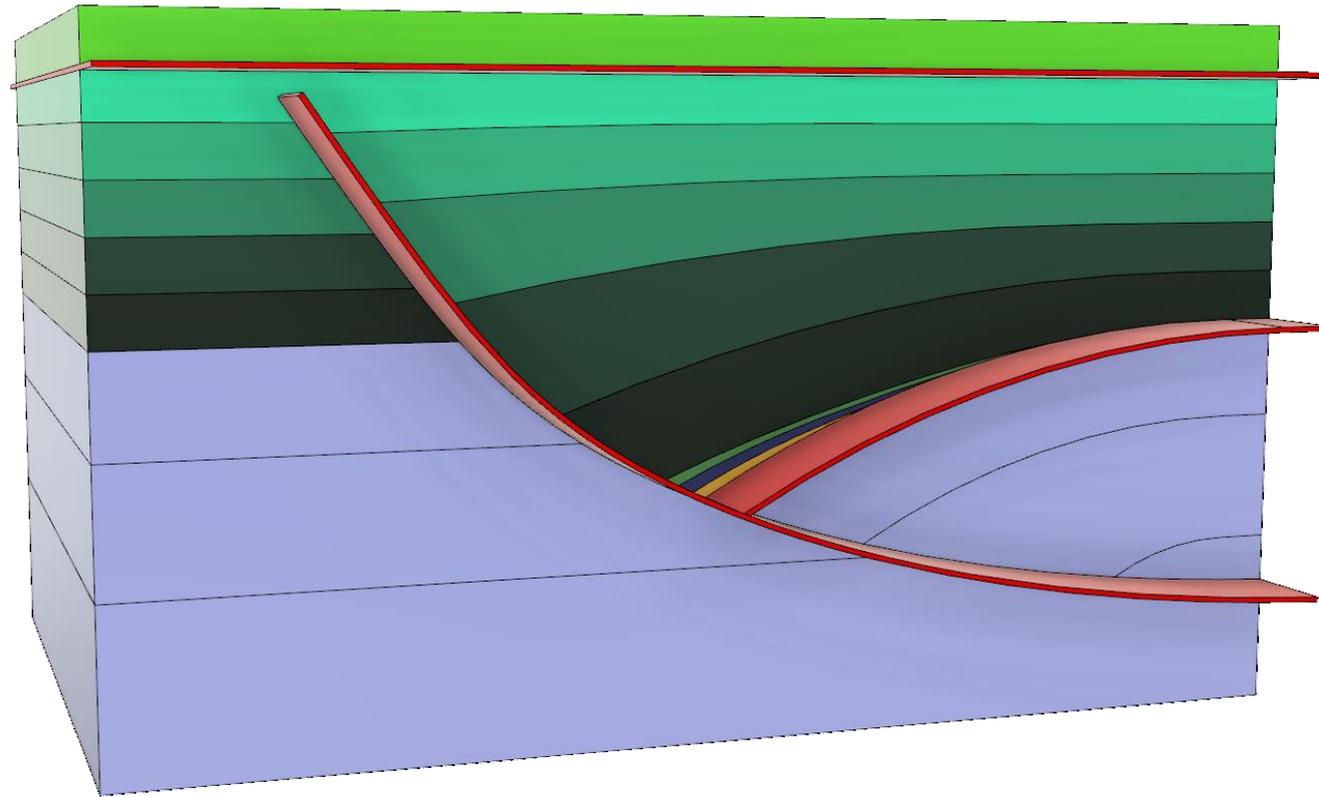


Large part of content of this presentation is based on work done in VoGERA

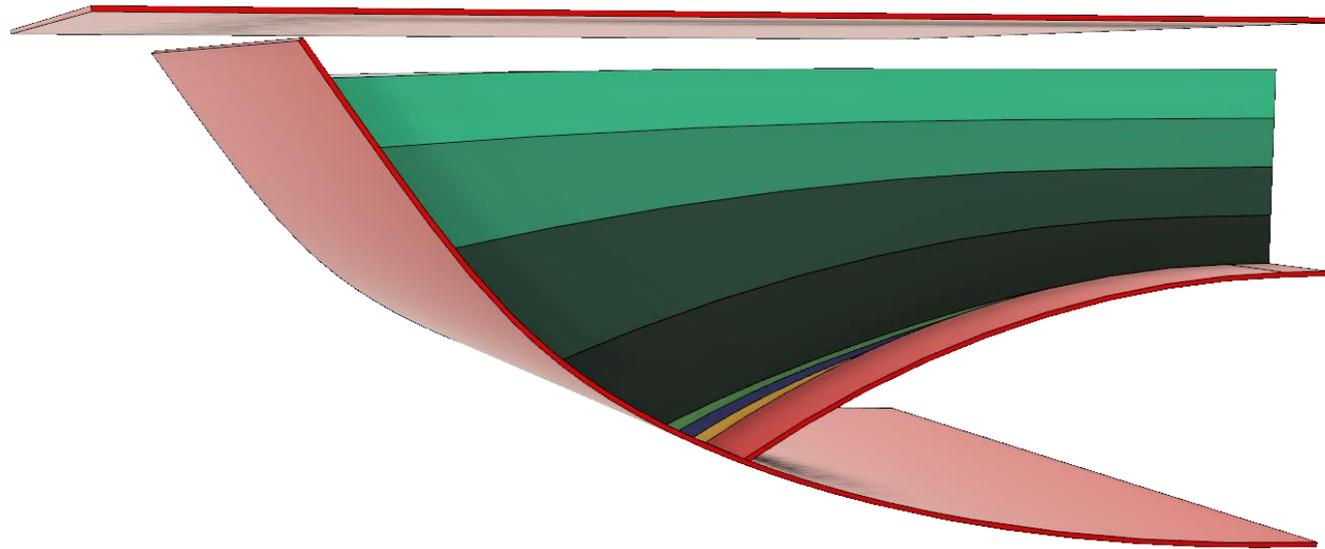
BASINS IN EUROPE



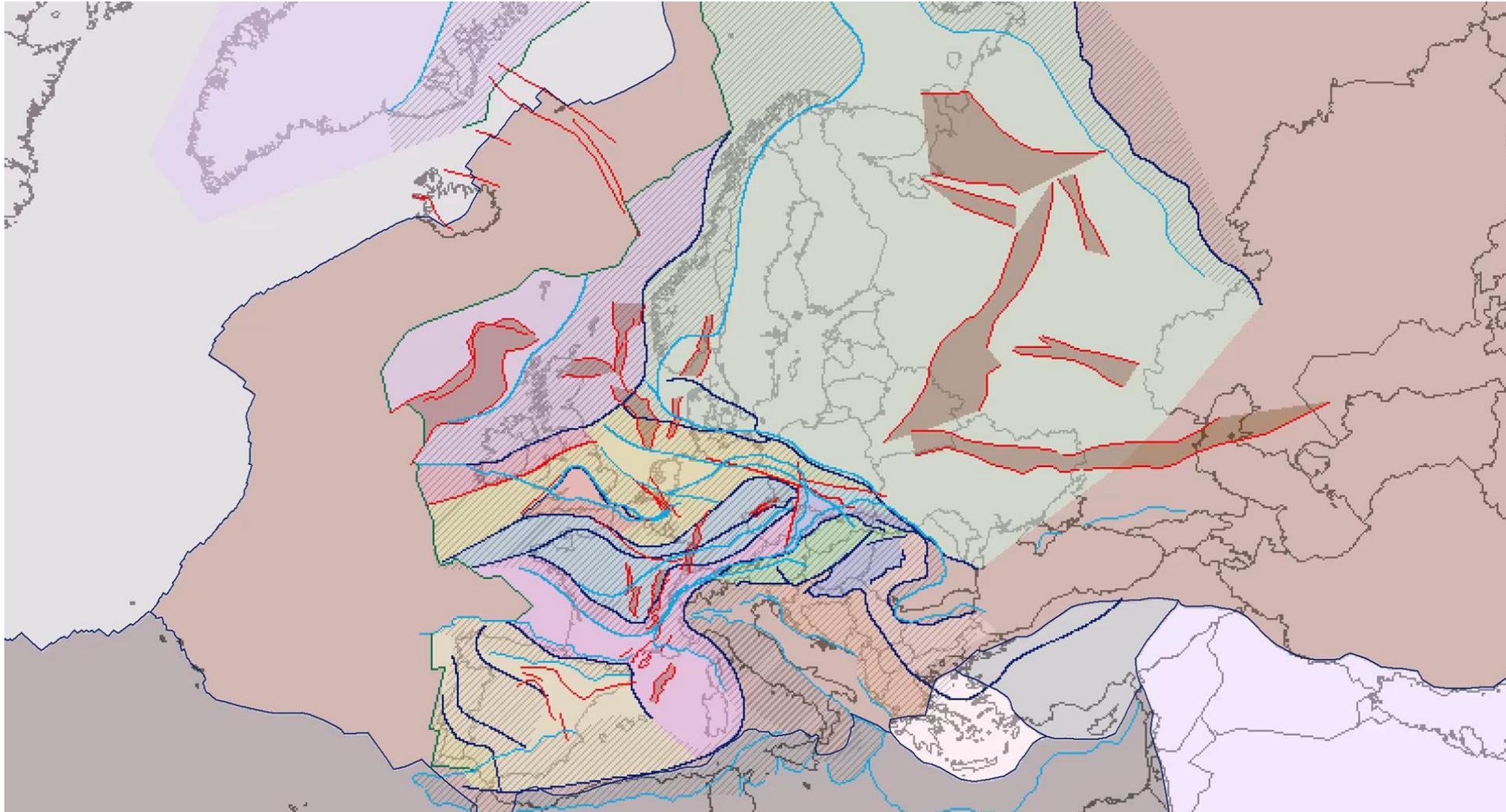
The concept of Basins



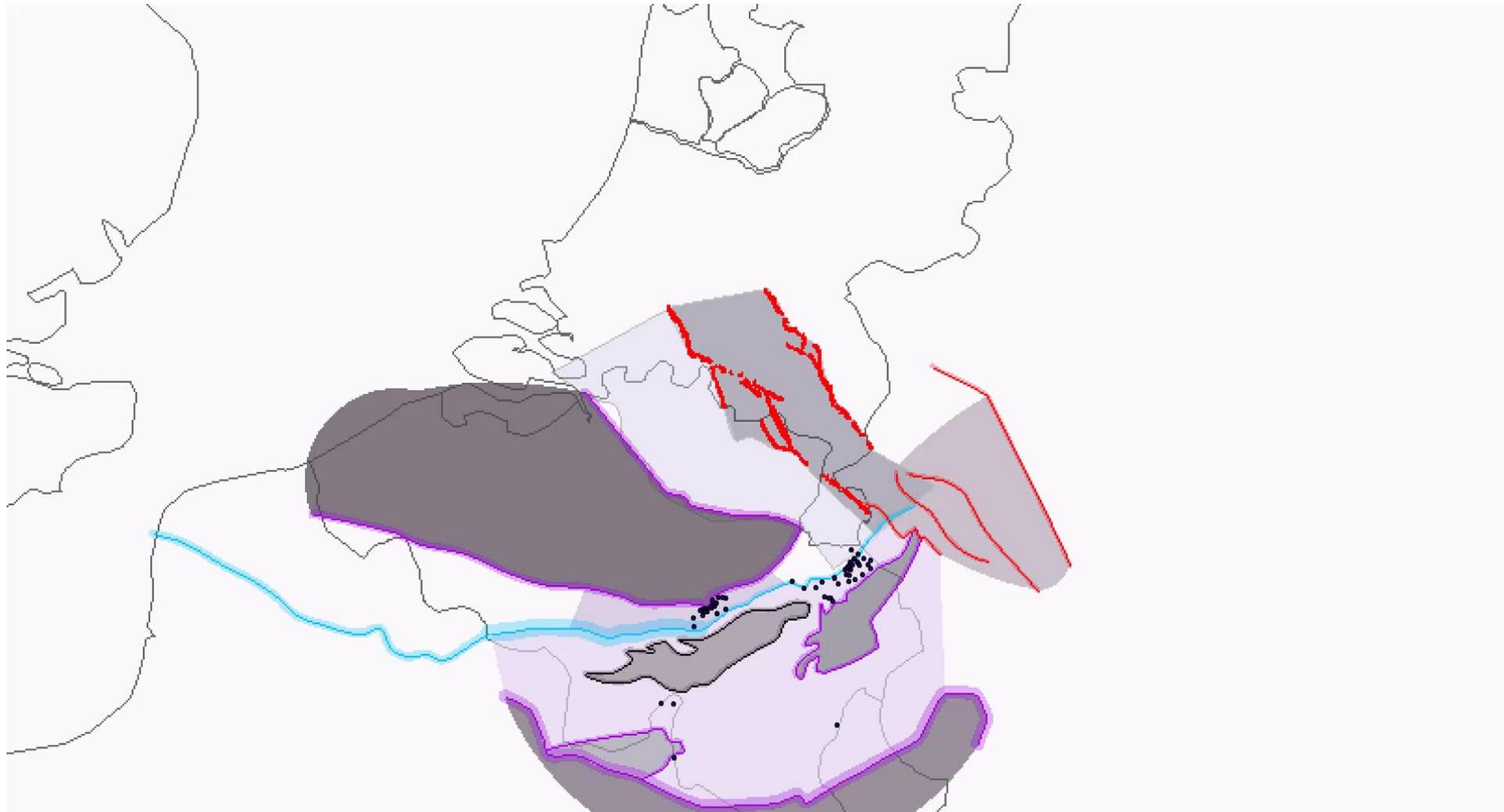
The concept of Basins



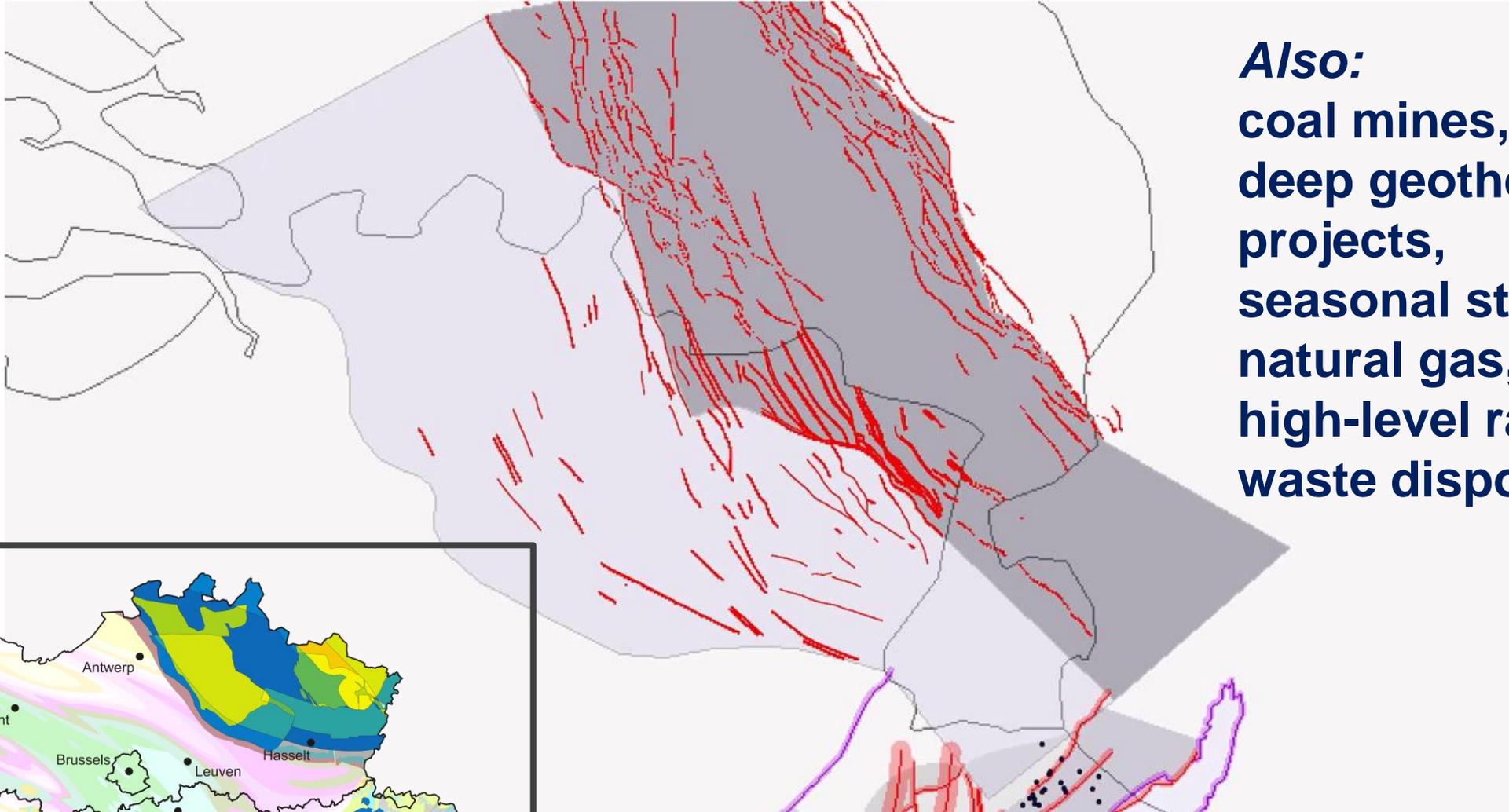
BASINS HAVE lots of POTENTIAL



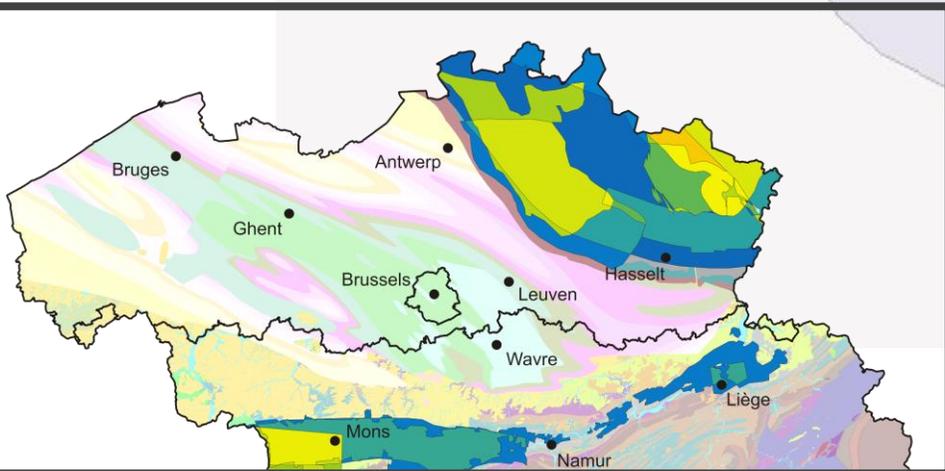
BASINS HAVE lots of POTENTIAL



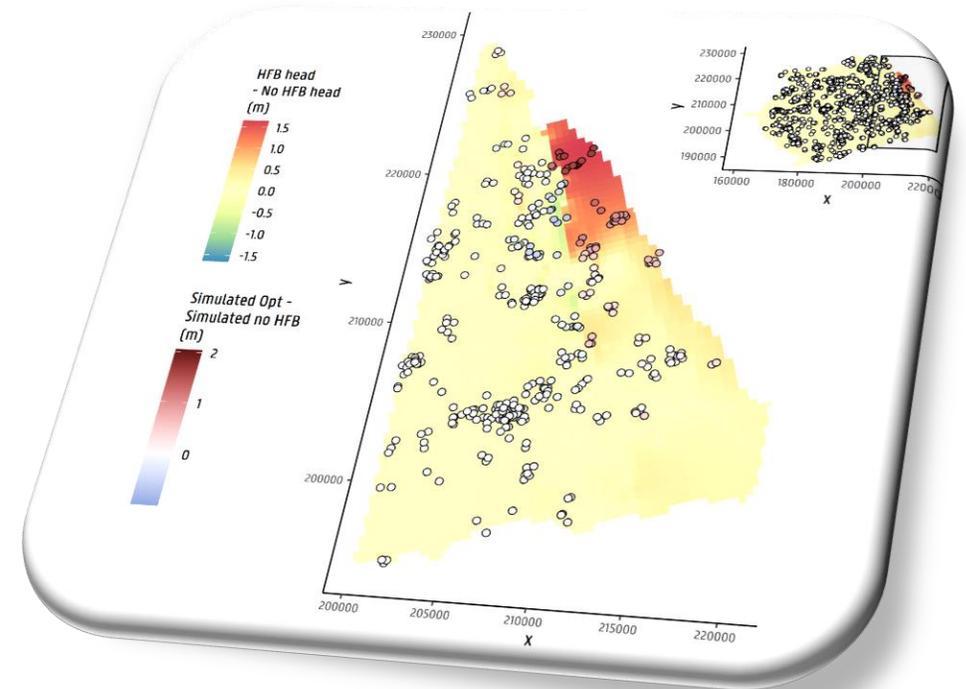
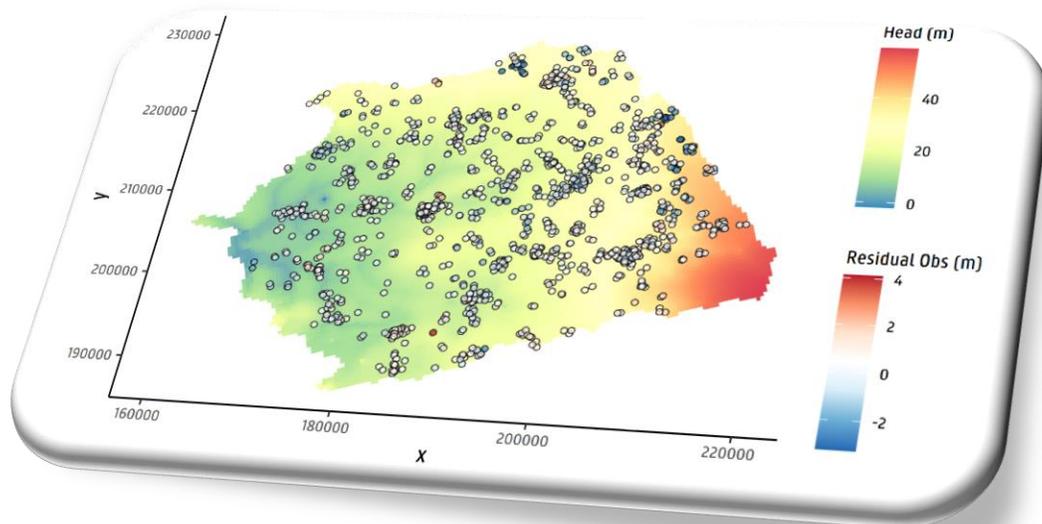
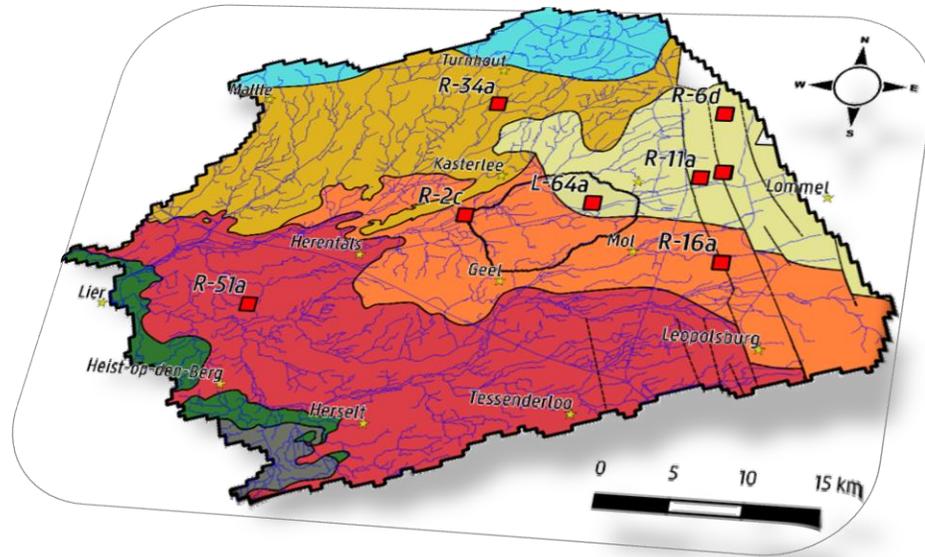
BASINS HAVE LOTS of POTENTIAL



Also:
coal mines,
deep geothermal
projects,
seasonal storage of
natural gas,
high-level radioactive
waste disposal...



How much CAN ONE basin pack



geomanifestations

≈

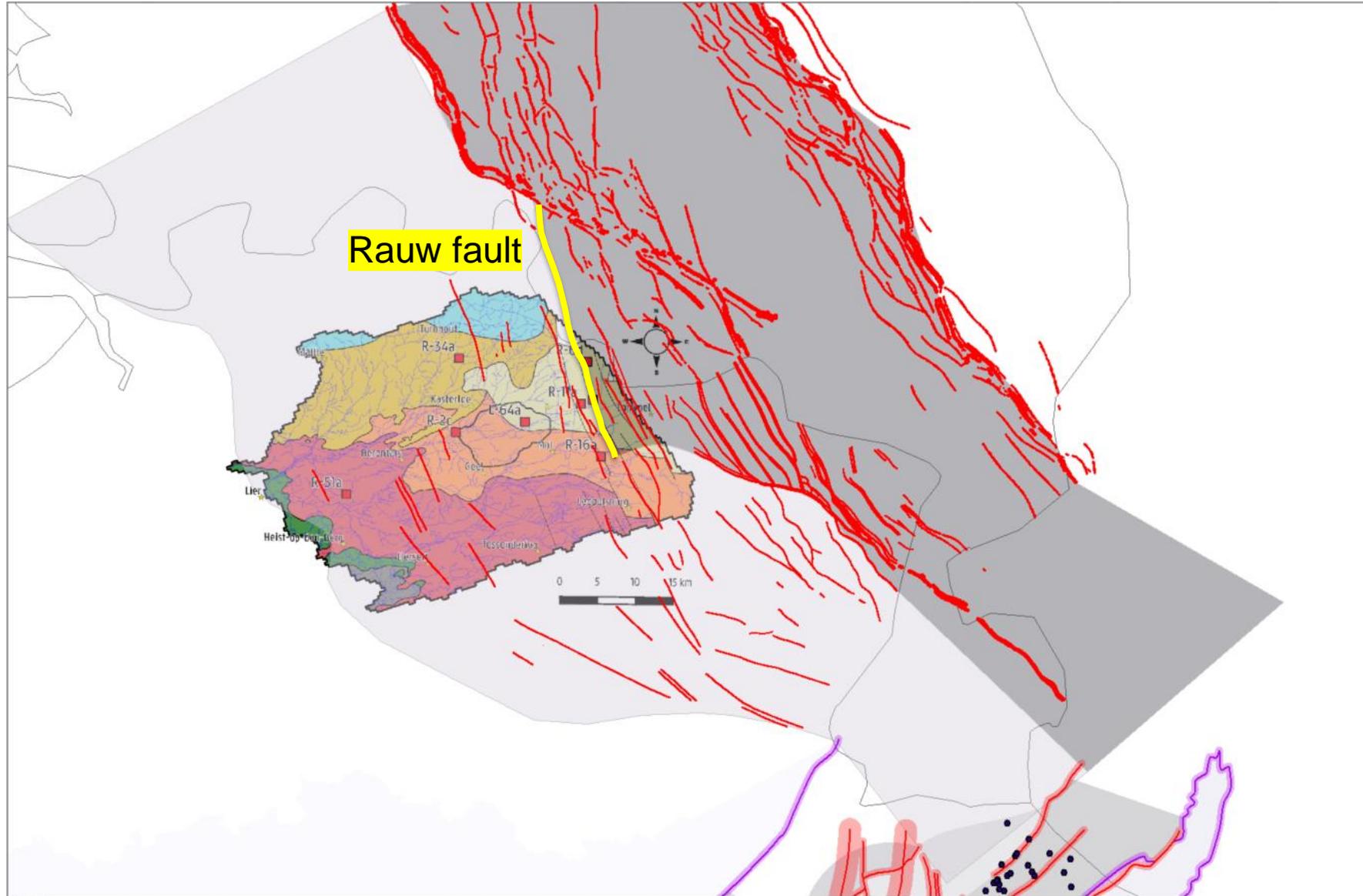
anomalies



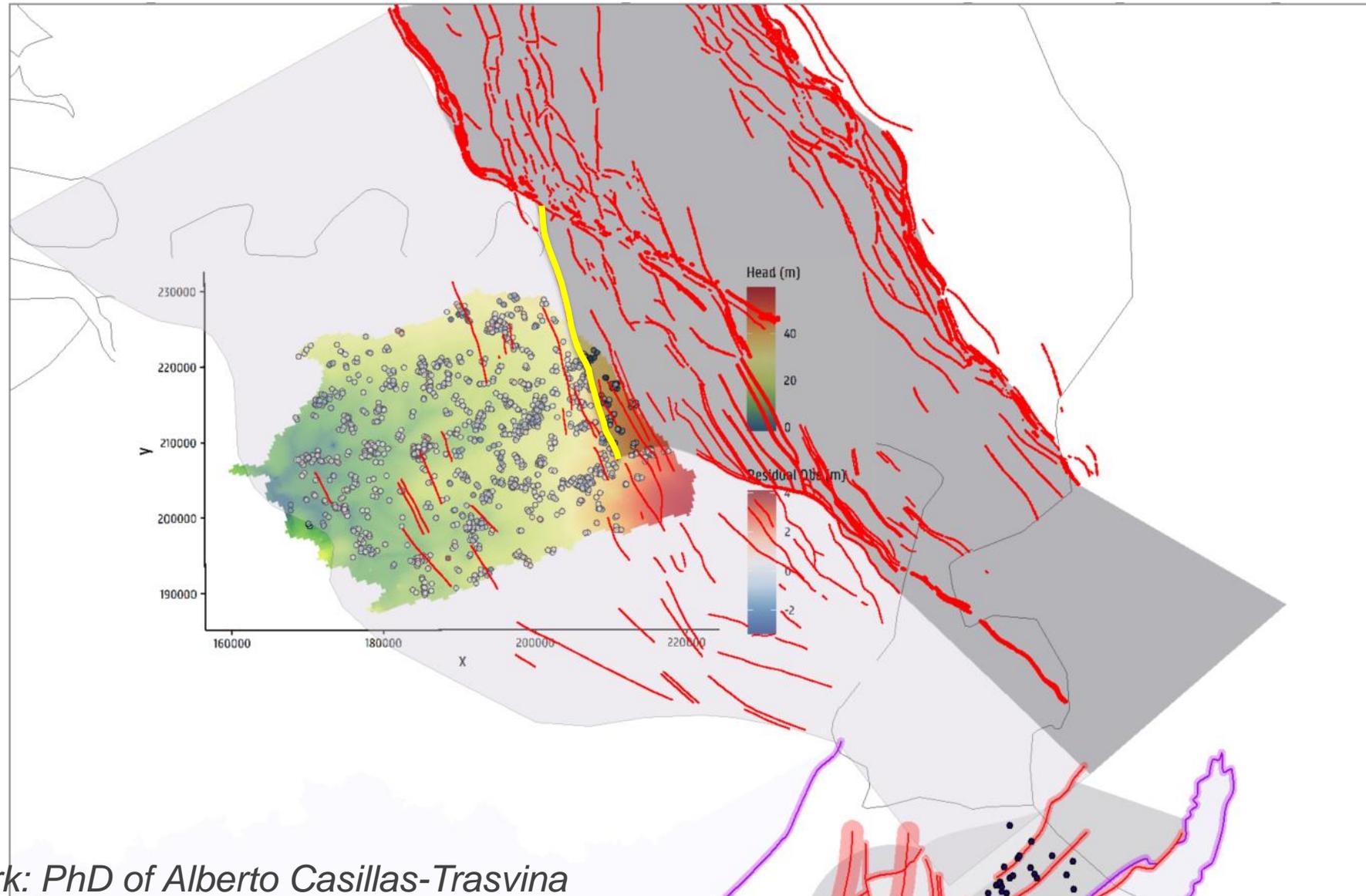
How much can one basin pack

- Determine interference, connectivity...
- Faults can be conduits or barriers
- Graben setting: deep seated folds

FRAMING VoGERA

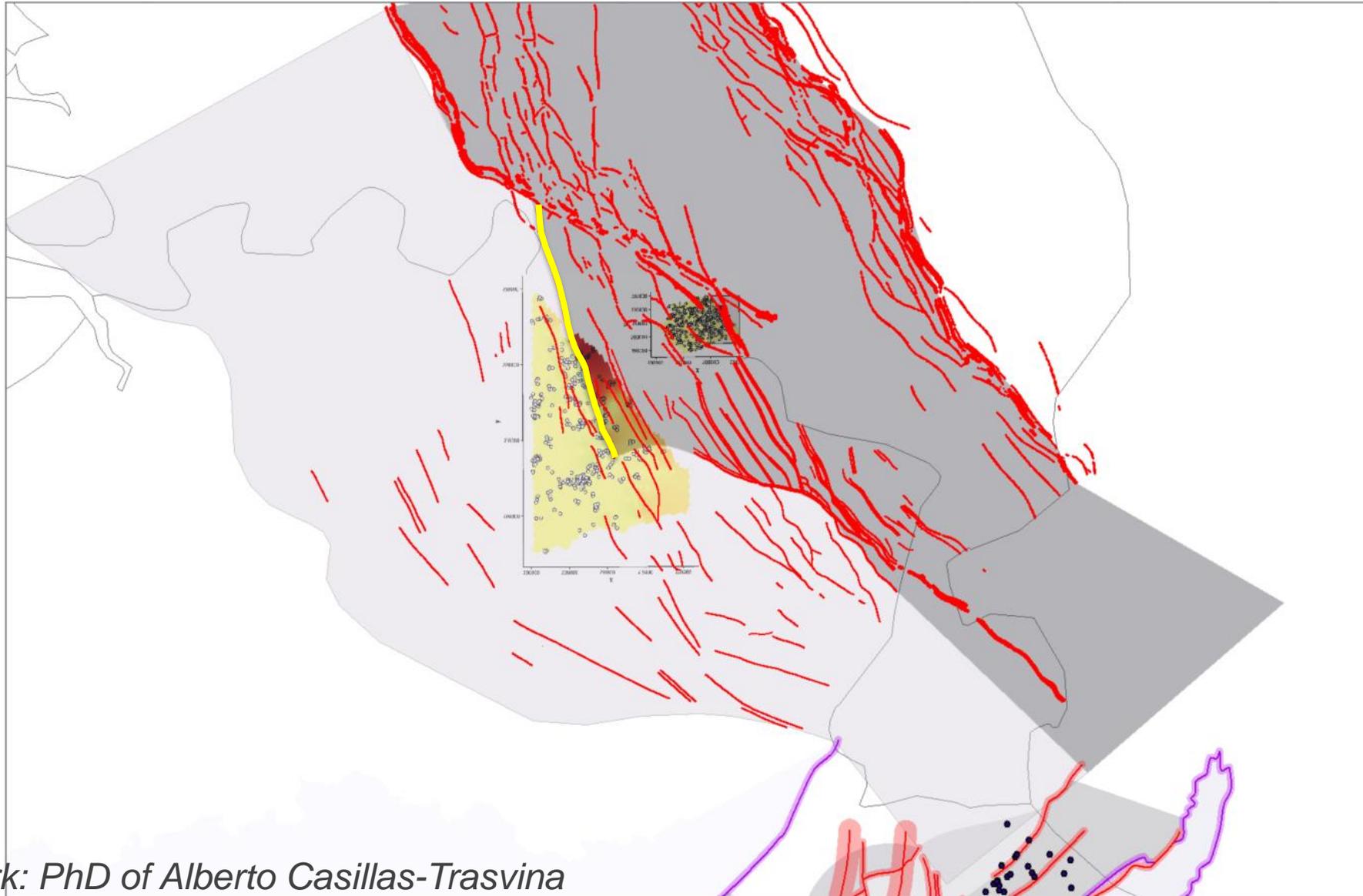


FRAMING VoGERA

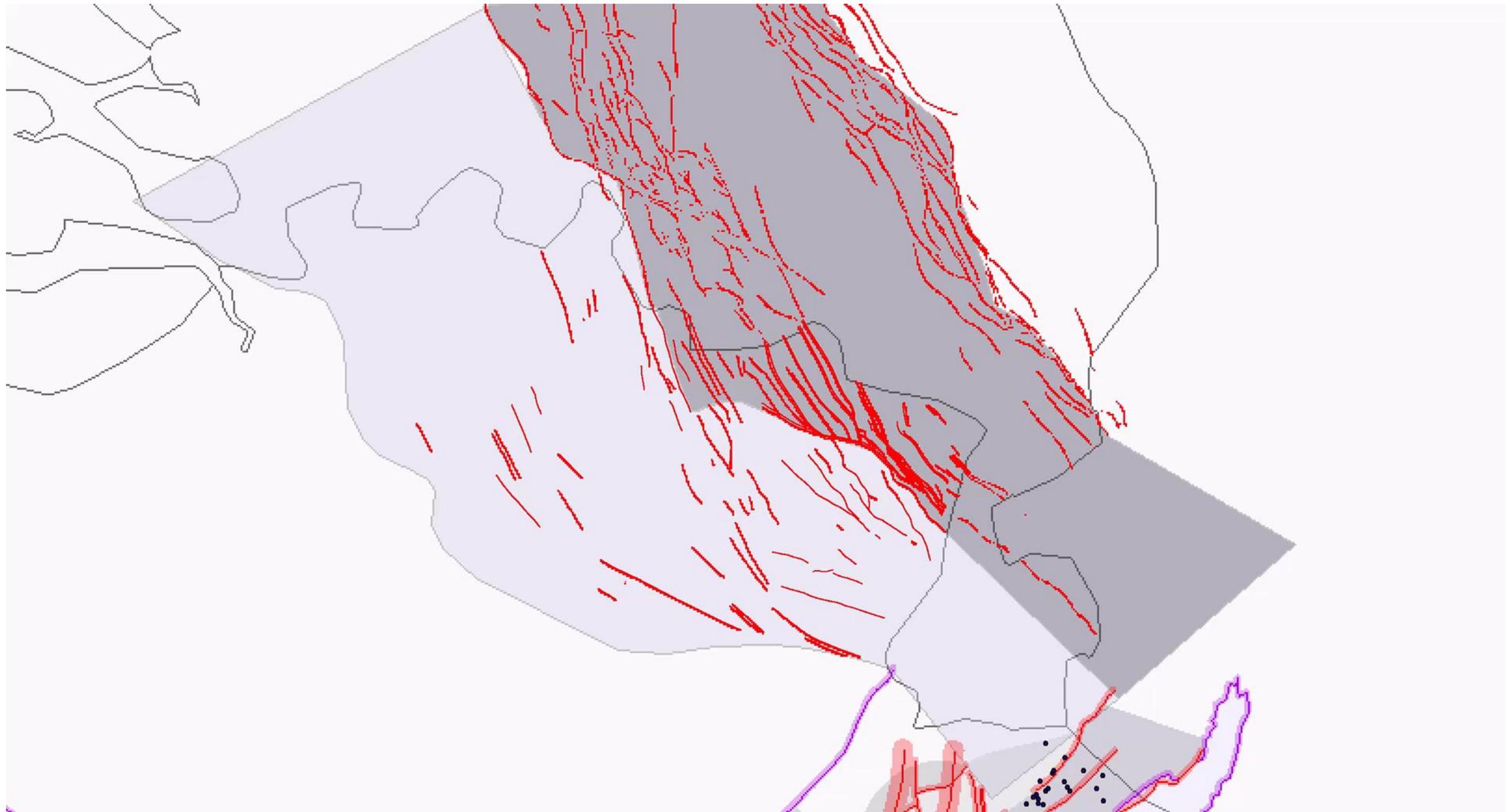


Unpublished work: PhD of Alberto Casillas-Trasvina

FRAMING VoGERA



Unpublished work: PhD of Alberto Casillas-Trasvina



WHAT did we LEARN TODAY

- Rauw fault is important:
 - Structurally significant
 - Hydrogeologically: compartmentalisation
 - Very similar faults behave differently:
we can observe, but not yet predict

WHAT did we LEARN TODAY

- Rauw fault is important
- Take anomalies serious:
*Outliers can not be ignored,
but should be explained*

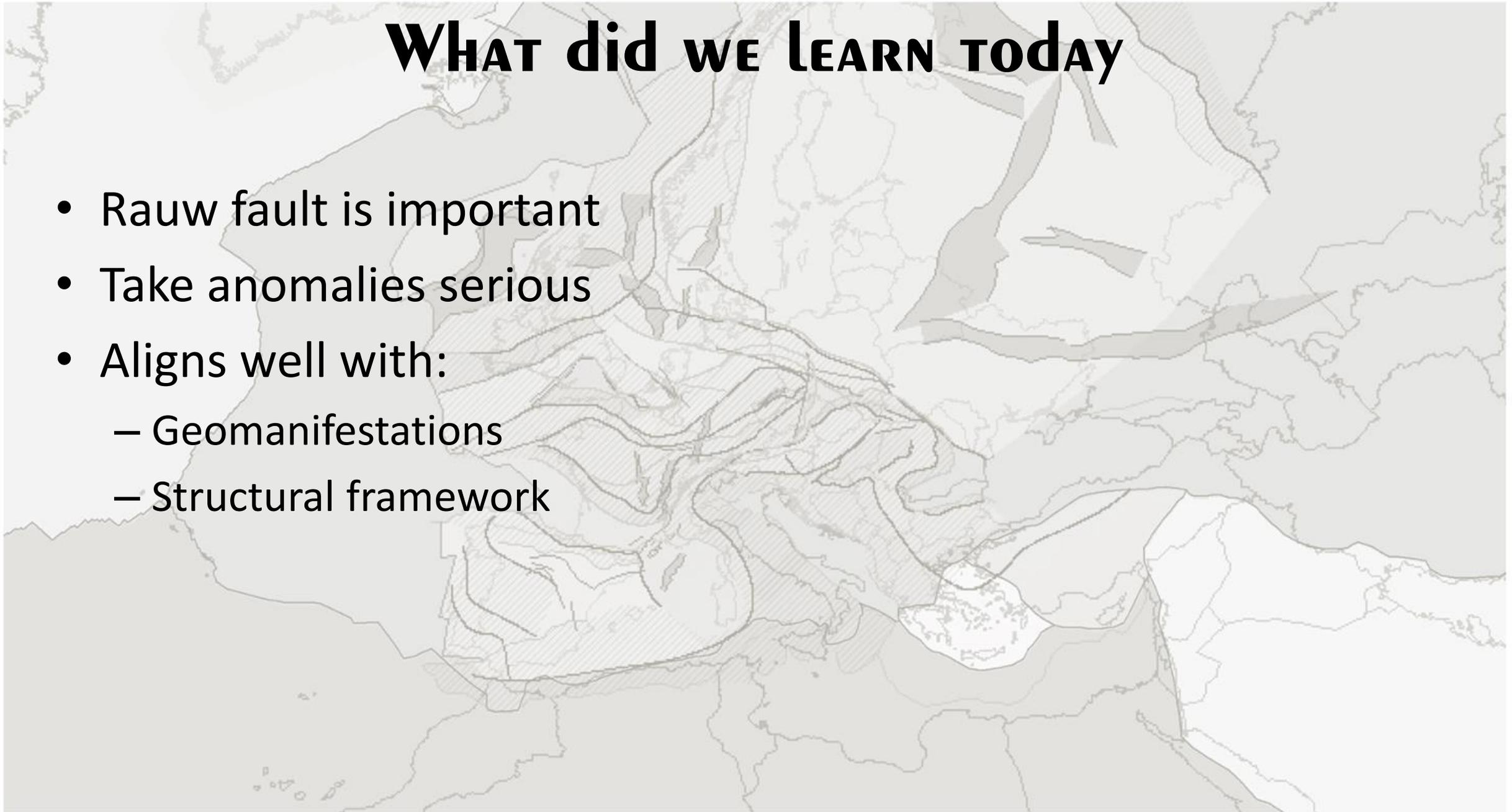
Potential heads
are 'off'

Explained by
horizontal barrier

Consequence are
vertical flow paths

WHAT did we LEARN today

- Rauw fault is important
- Take anomalies serious
- Aligns well with:
 - Geomanifestations
 - Structural framework



GROUNDWATER is ESSENTIAL AND THREATENED



groundwater

Nurrishes Humans
Nurrishes Nature

Threatened by Climate Change
Threatened by Overexploitation
Threatened by Contamination

...

ONE way? Two way?



the Drinkable

Nurrishes Humans
Nurrishes Nature

Threatened by Climate Change
Threatened by Overexploitation
Threatened by Contamination
...
Threatened by 'Deep Activities'

ONE way? Two way?



the Drinkable



the Deep

ONE way? Two way?



