The Permian-Triassic Impact Event

Overview of the P/T-Crater- & Ejecta-Ray areas

and

The resulting potential Oil- & Gas exploration areas

by Harry K. Hahn / Germany - 6.12.2018

www.permiantriassic.de → Please read my Study

Fig 1 : Permian-Triassic (P/T)-Impact Crater and tectonic motion of Earth's crust after the impact is indicated on the map
(→ polar-projection of north-pole area shown)

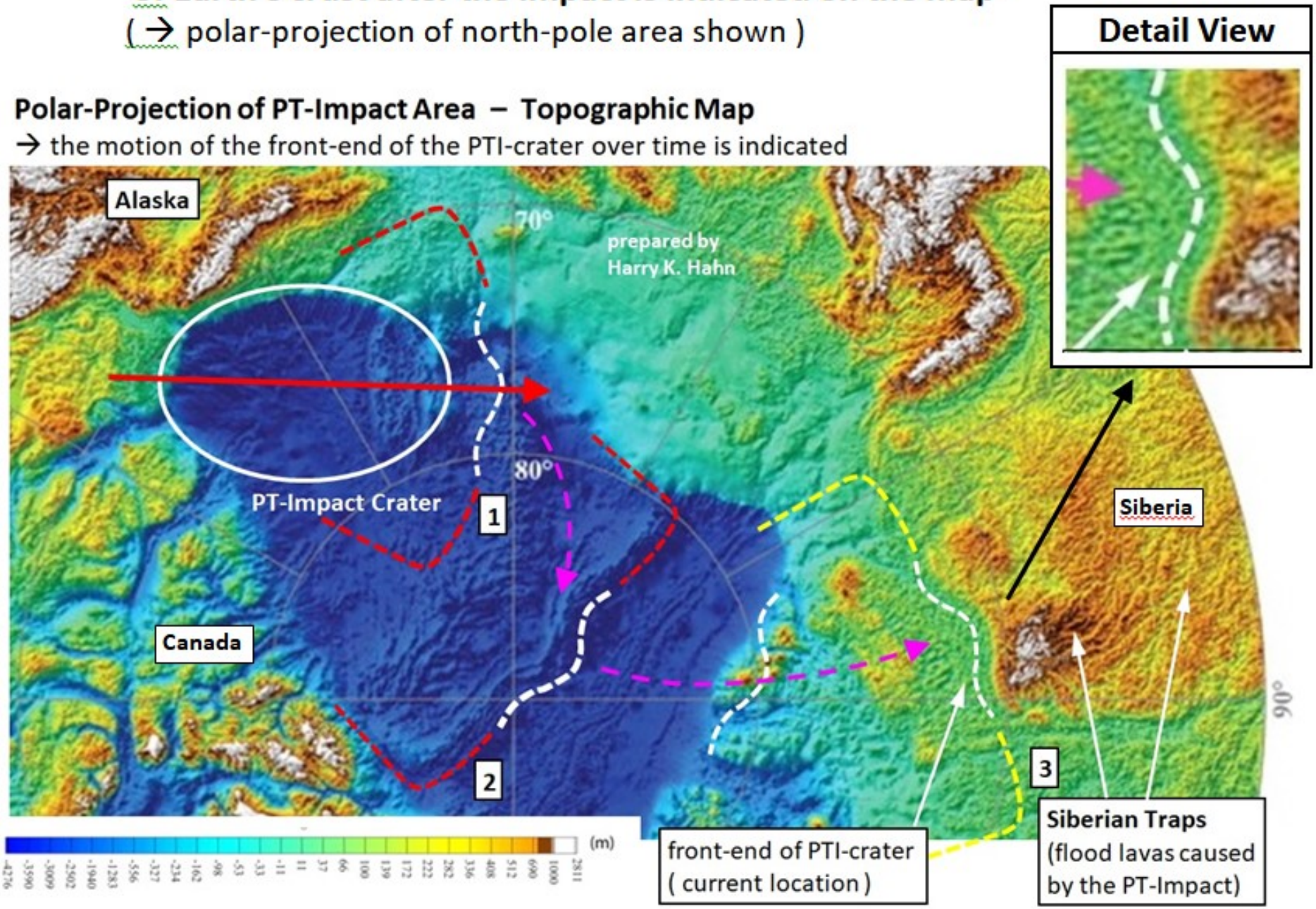
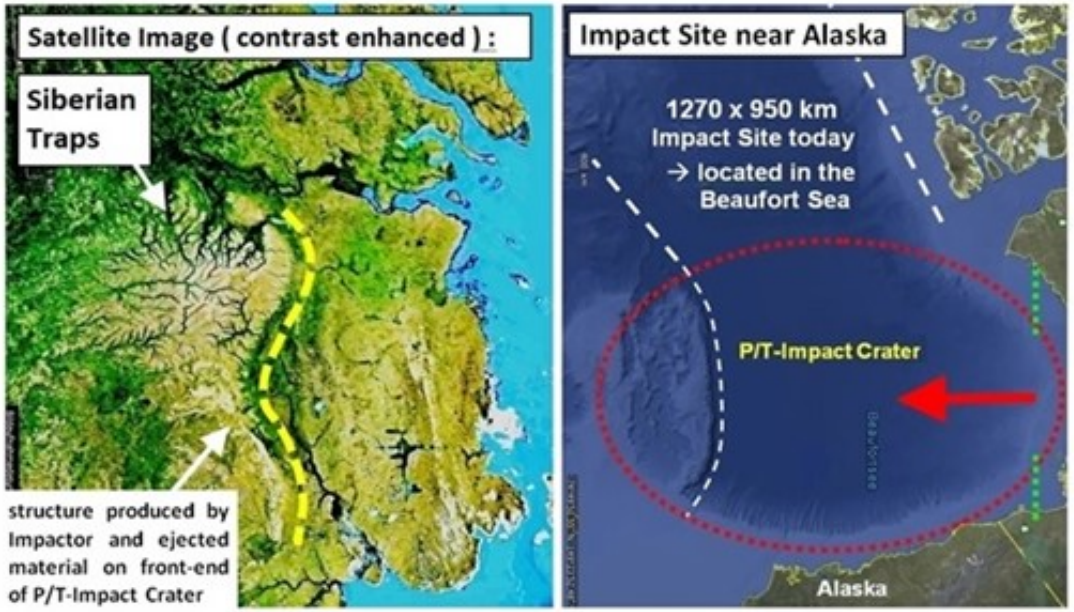
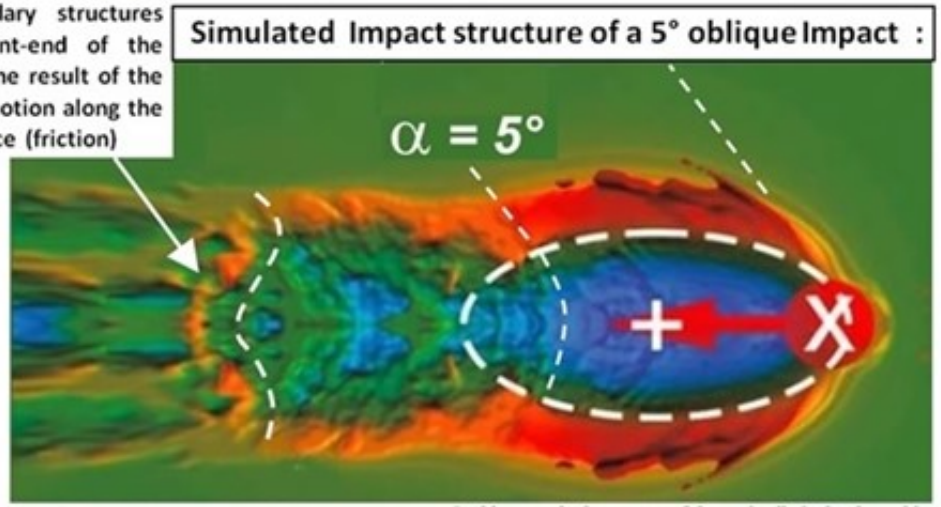


Fig 2 : The 1270 x 950 km elliptical Permian-Triassic (P/T)-Impact Crater (Satellite Map)

Fig 3 : The topography of the real P/T-impact Crater is identical to the structures resulting from a computer simulation of an impact with an impact angle of 5 – 7°



The secondary structures at the front-end of the crater are the result of the projectile motion along the target surface (friction)

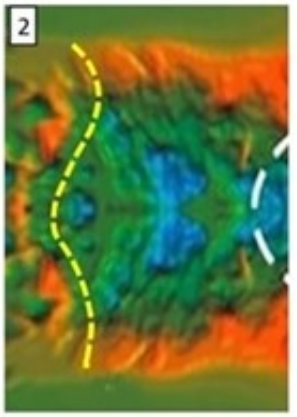


Early reflections of shock and rarefaction waves in the projectile prevent plastic deformation in the upper part of the body. The strong pressure gradient in the projectile suggests fragmentation of the projectile would likely occur.

In this case, the lower part of the projectile is decelerated by shearing along the surface while the upper part continues its motion nearly unaffected.

Note the similarity of the structures on the front-end of the Real- & Simulated-Crater

Compare → impact structures on front-end of crater :
1.) Reality : Satellite image **Siberia** (contrast enhanced)
2.) Simulation : front-end structure at ~ 5 - 7° impact angle

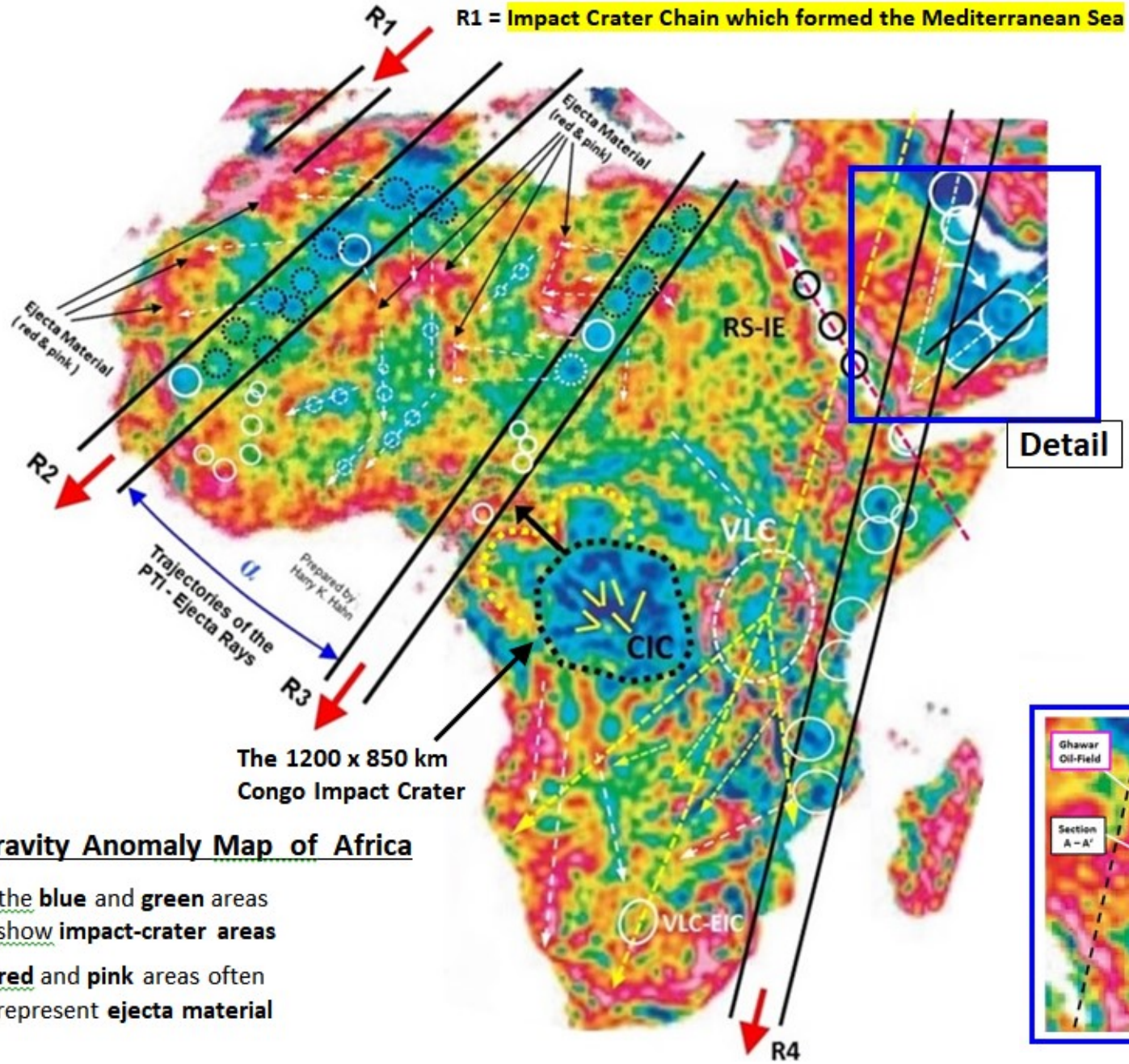


Structural Evidence for the P/T-Crater :

- Perfect elliptical outline of the Beaufort Sea Basin (open to one side)
- The structures of the P/T Impact Crater correspond precisely to a simulated impact
- Bow-shape of Brooks Range fits to the elliptical basin on the ocean floor.
- Age of Brooks Range **≥ 243 Ma** (~250 Ma) (→ corresponds to the P/T-boundary)
- Tongue-shaped outline of the Siberian Traps & bow-shaped edge of northern end fits to proposed location of the P/T-Crater

Fig 5a : R1 – R4 are Impact Crater Chains (secondary impacts) caused by the P/T-Impact

The blue areas (circular areas) are secondary impact craters with > Ø 150 Km !
Crater Chain R1 formed the original Mediterranean Sea Basin !



Gravity Anomaly Map of Africa

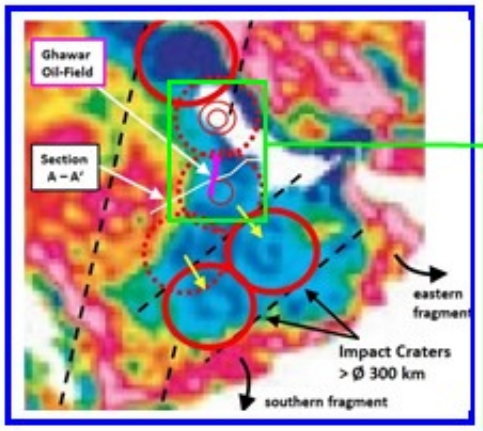
→ the **blue** and **green** areas show **impact-crater areas**

→ **red** and **pink** areas often represent **ejecta material**

Fig 5b : Map Detail

→ Saudi Arabia :

There is strong indication that the large oil-fields in Saudi-Arabia are a result of 3 to 4 large secondary impacts In the **Ejecta Ray R4**



NOTE : Ghawar is the worlds largest oil-field !

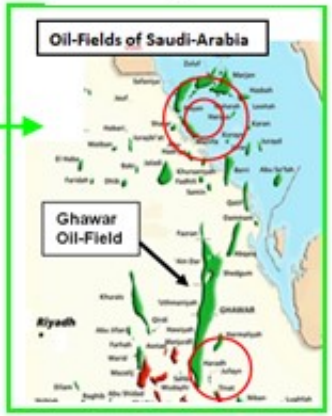


Fig 6 : Gravity Anomaly Map of Europe & Africa

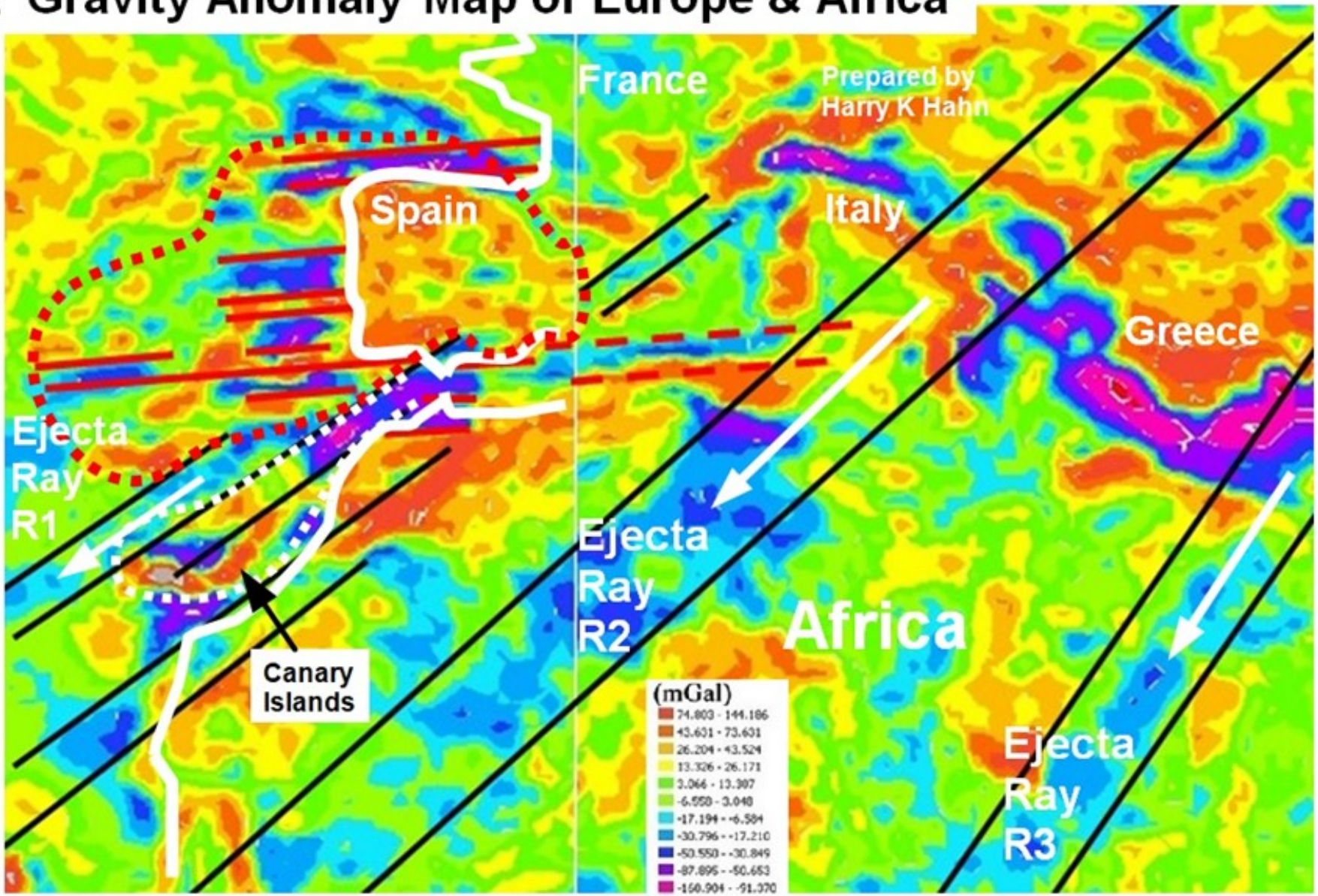
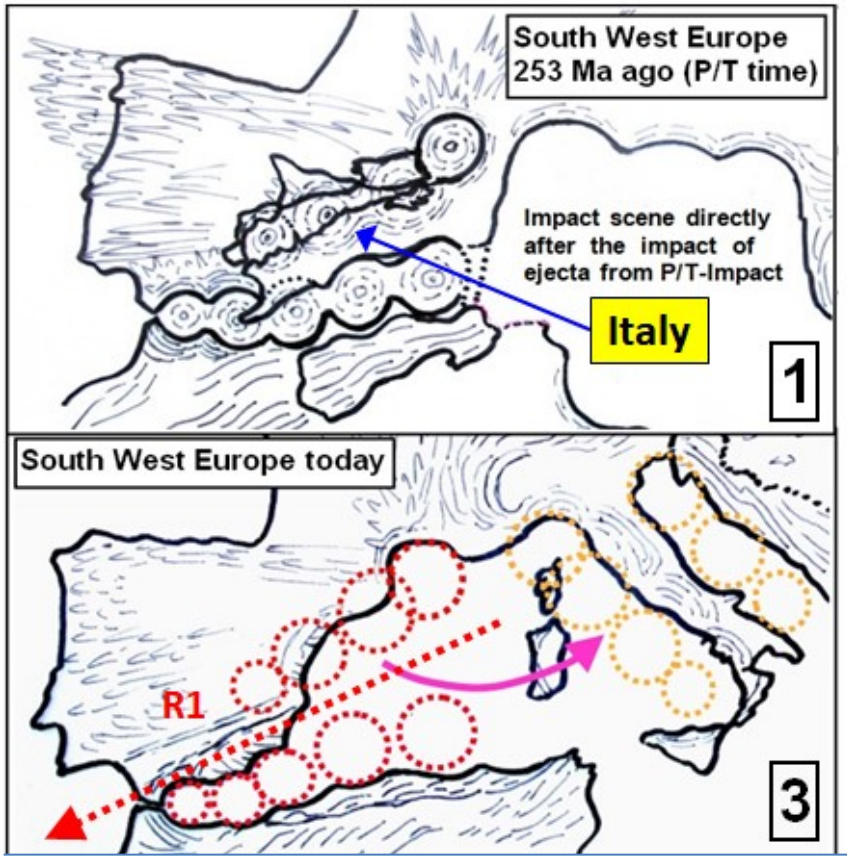


Fig 7 : Tectonic evolution of Europe after the impact of the P/T-Ejecta Ray R1

The drawings No. 1 to 3 show were ejecta material (thrown out of the P/T Impact Crater) impacted in Europe ~253 million years ago. This ejecta material (impactors with Ø10-20 km) formed chains of secondary craters with Ø150-200 km. These craters formed the original ocean basins.



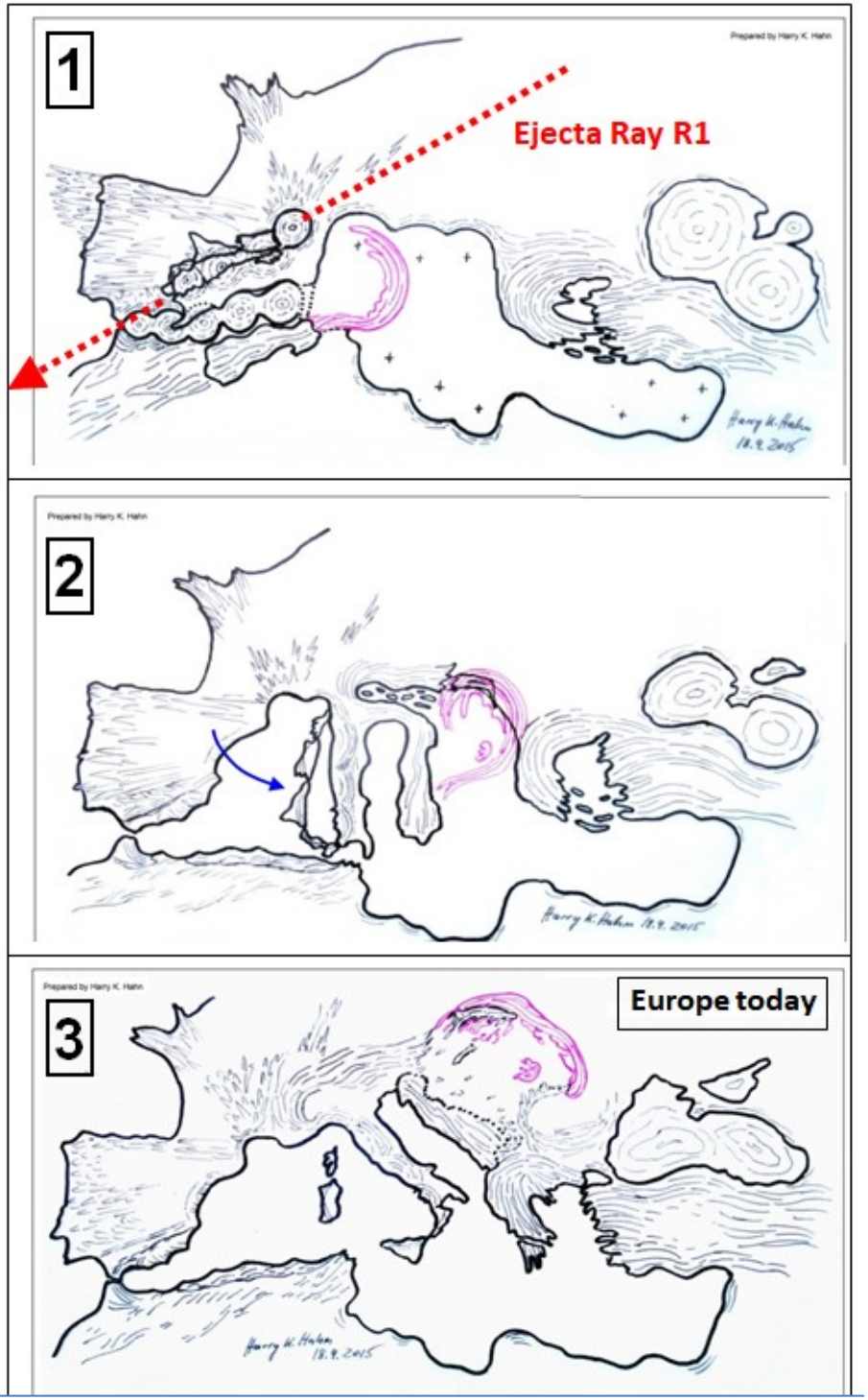
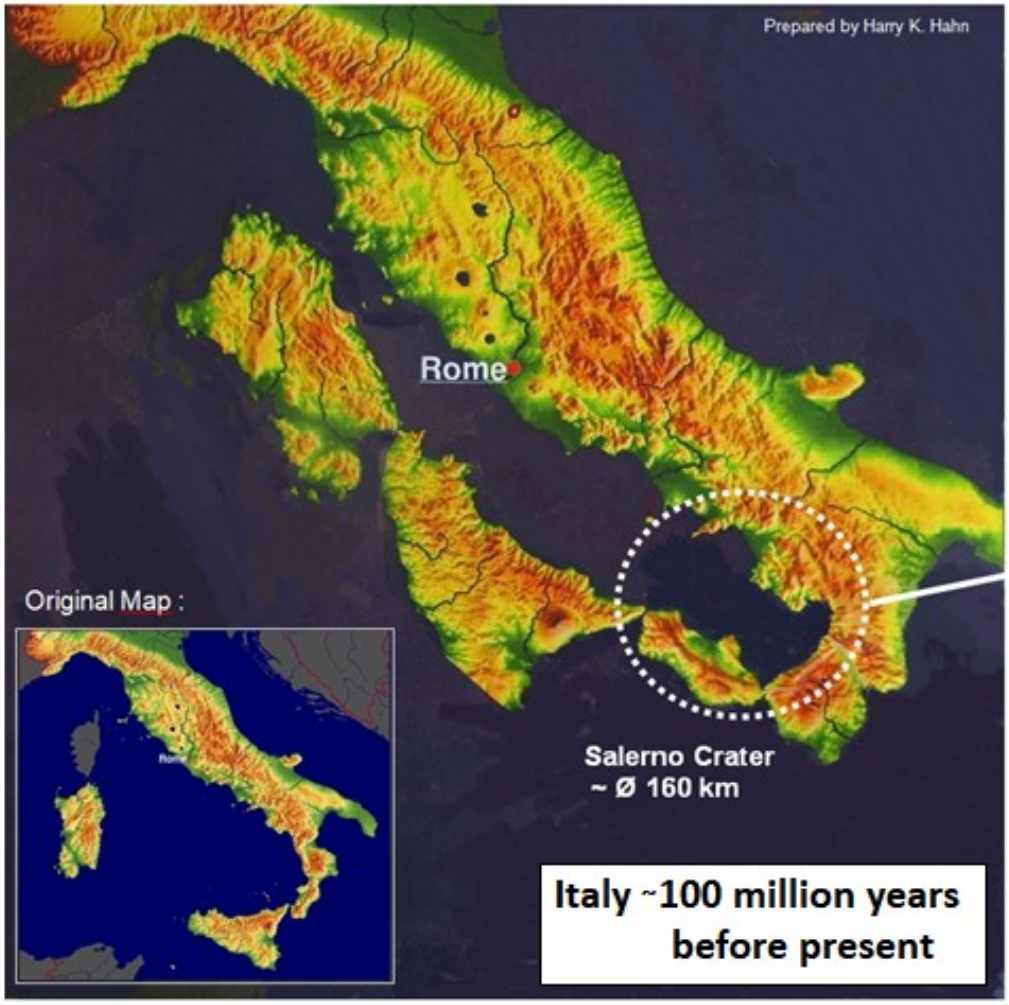


Fig 8 : The topographic map shows how Italy looked around 100 million years ago. The Ø 160 km impact crater near Salerno is clear visible on the topographic map



Tectonic Map of Tyrrenian Sea

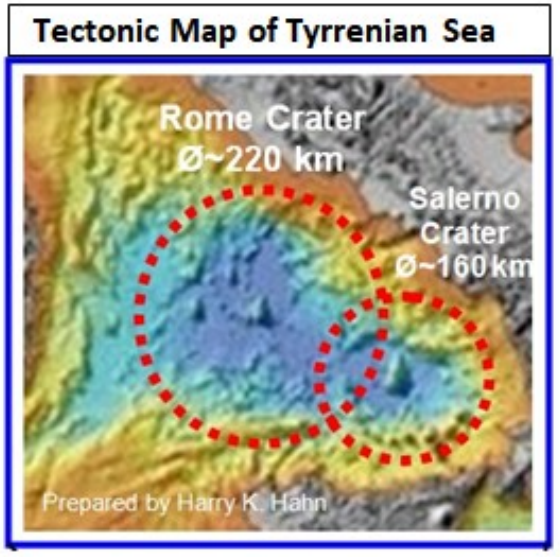


Fig 9a/b: The tectonic map on the righthand side and the geological map below also clearly indicate the Ø 160 km „Salerno Crater“ and the tectonic map further indicates another even larger Crater with around Ø 220 km. (→ „Rome Crater“). Rock Samples collected near the center of Salerno Crater indicate the impact origin !

Fig 9a : **This topographic map shows Italy with the original impact crater areas marked. The white circle sections represent the Salerno Crater area today**

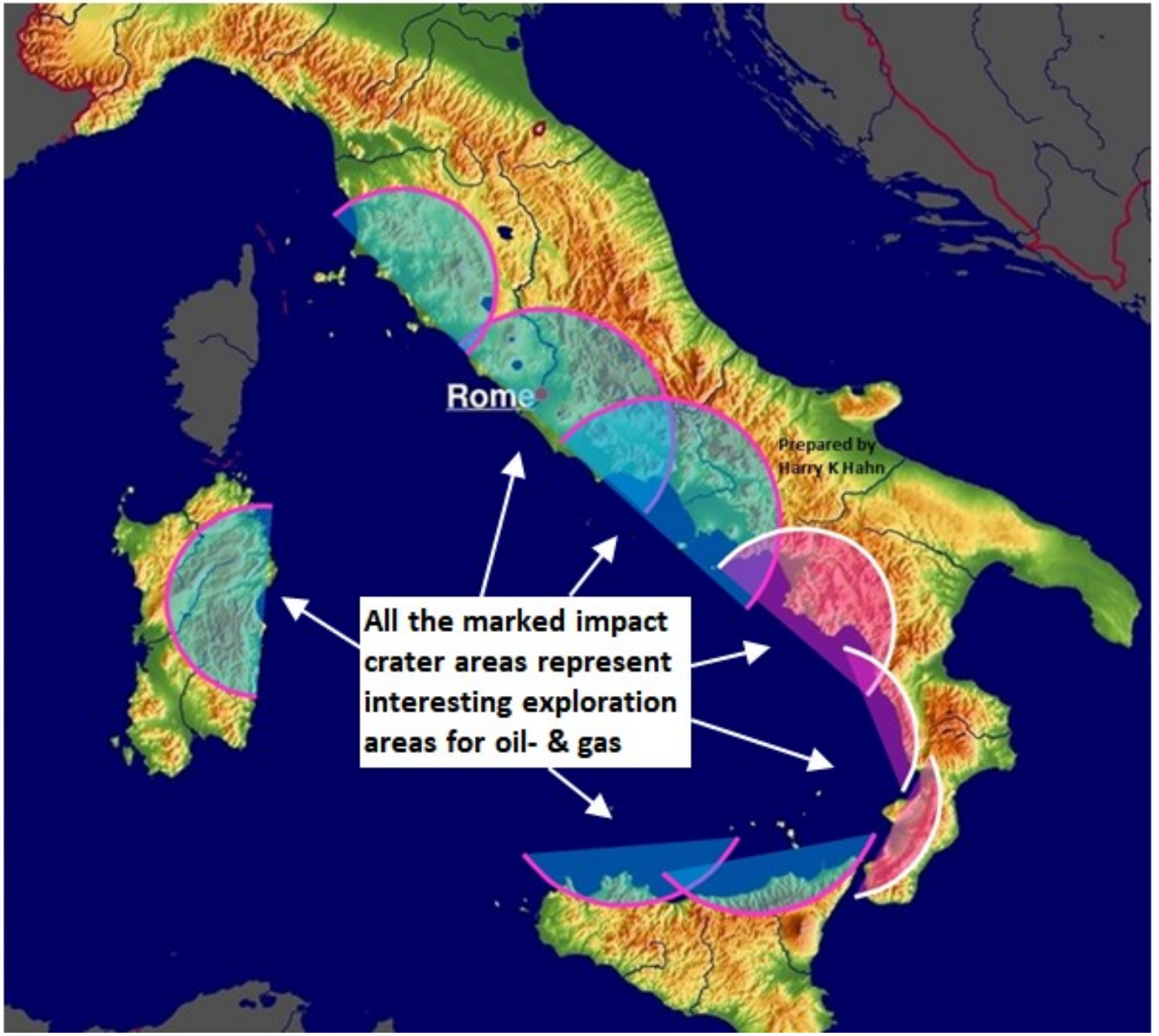


Fig 9b : For comparison : The map below shows the original location of the Salerno Crater (white) and of further 3 craters (pink) which originally formed a chain

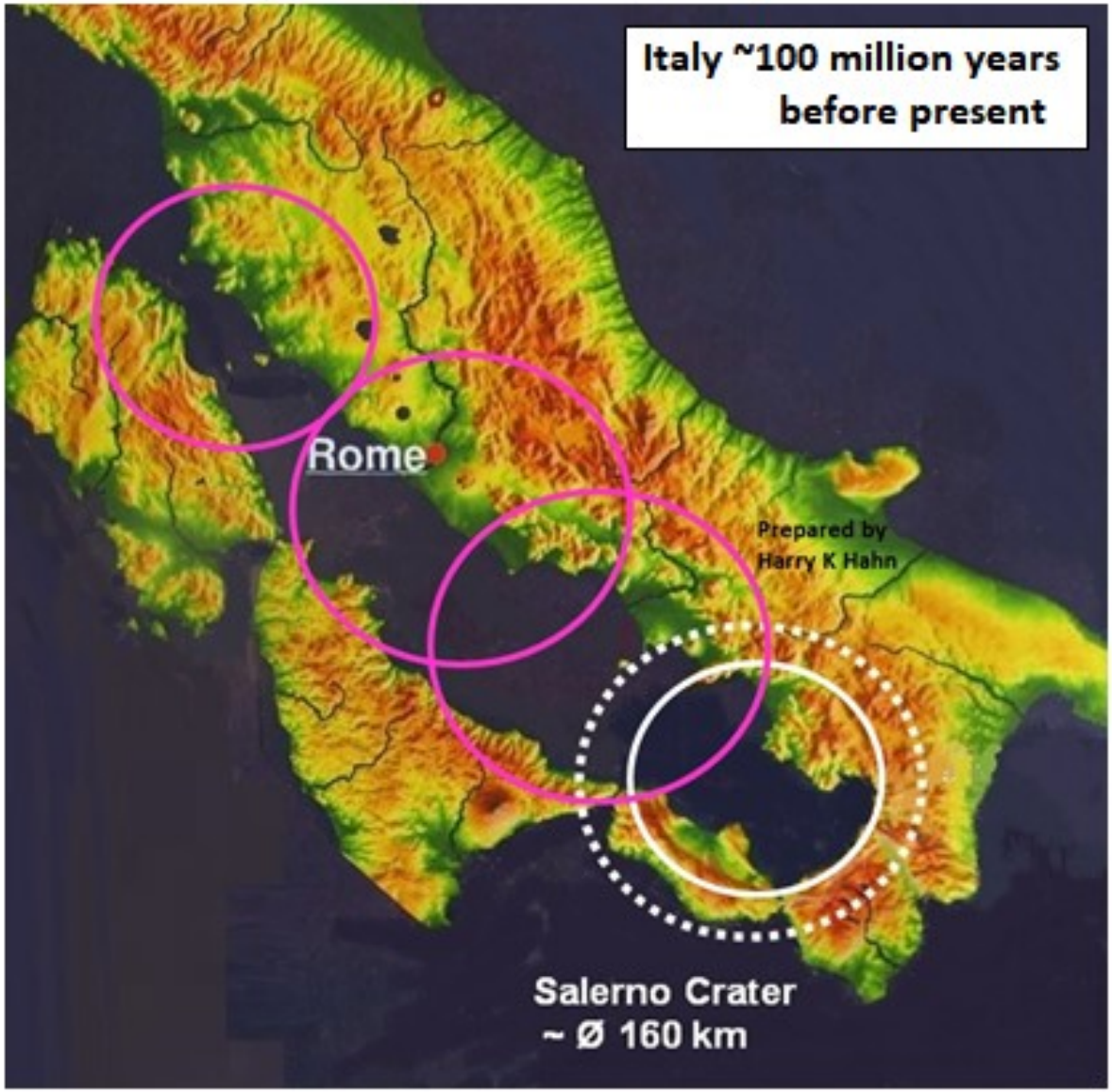


Fig 9c : The tectonic evolution over the last 250 million years

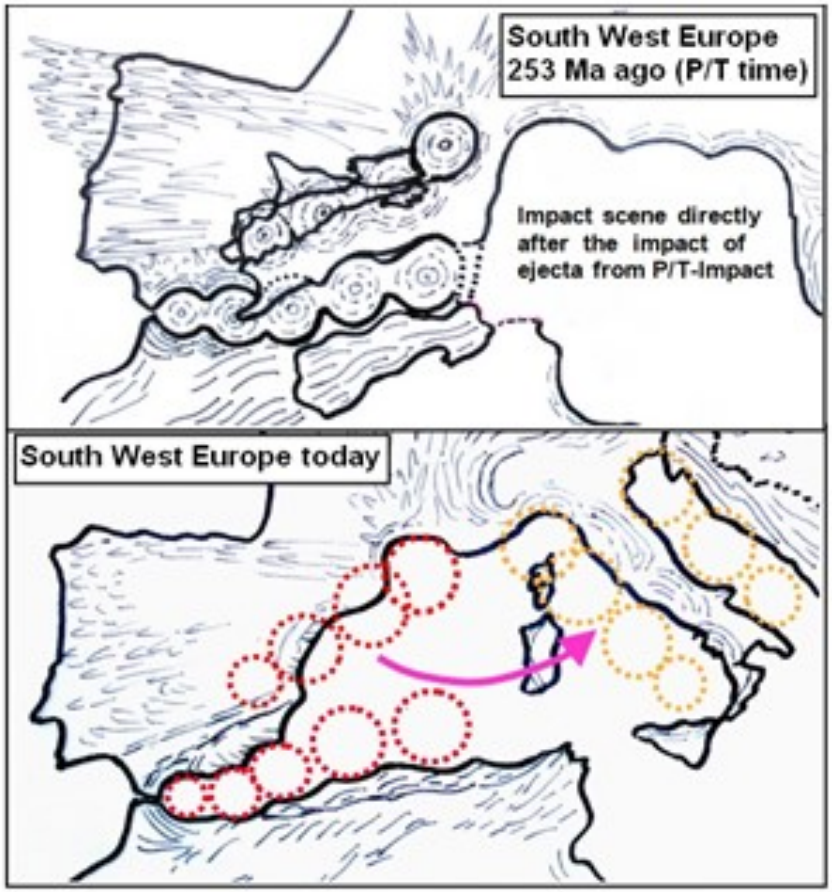
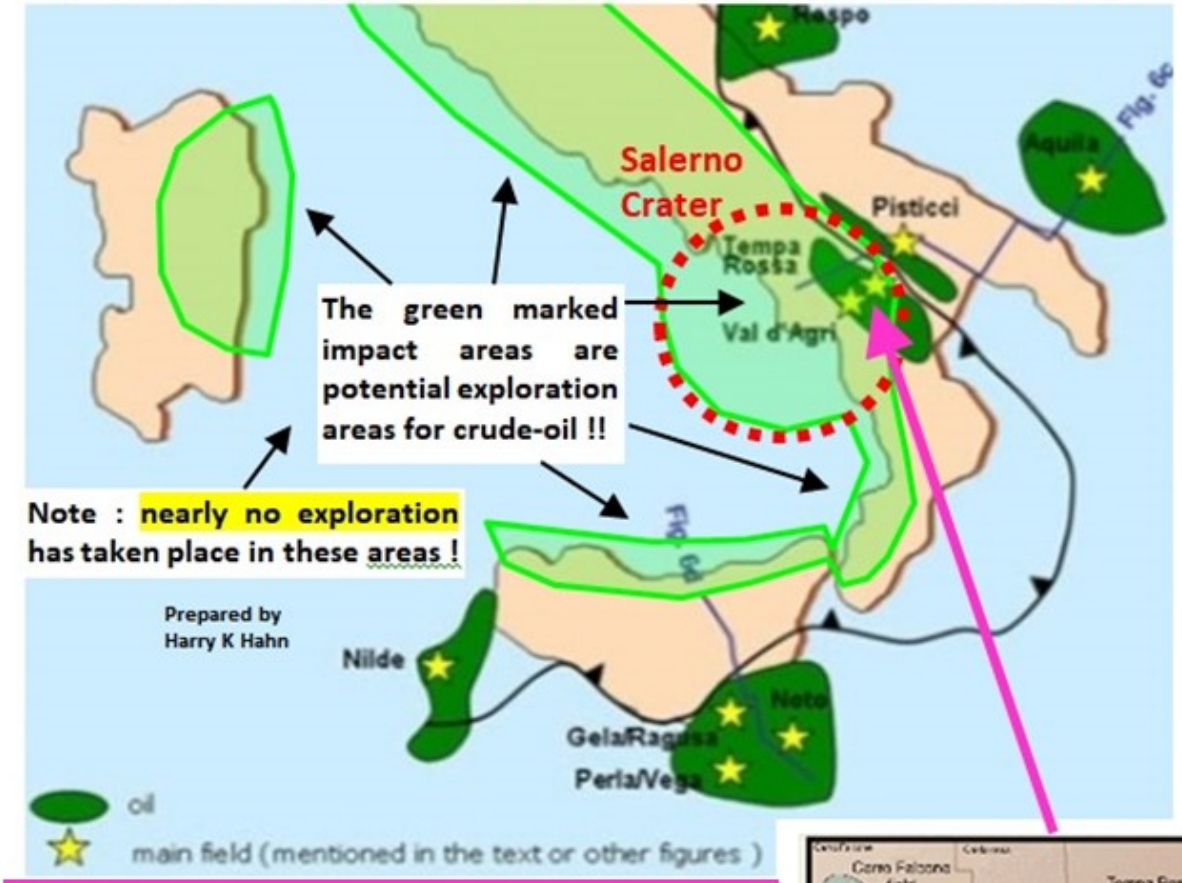
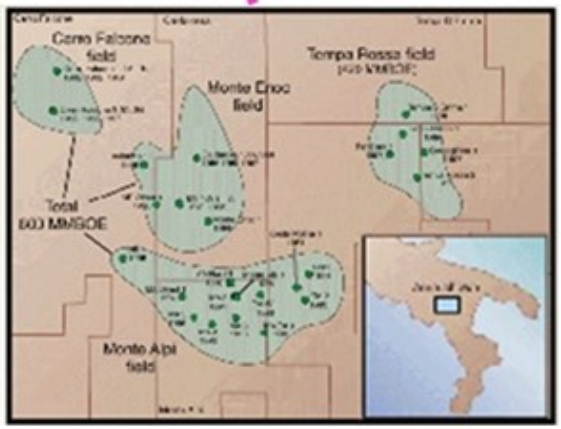


Fig 10 : **The largest "onshore" oil-fields of Europe are located within the Ø 160 km Salerno Crater (Italy). And there are more fields !**





The Val D'Agri fields Tempa Rossa, Monte Alpi, Monte Enoc, Cerro Falcone, and Costa Molina (Fig. 4) rank as some of the largest in Europe. The total proved recoverable reserves for the four fields are estimated at 1.02 billion BOE.3

Fig 11 : Potential "Offshore" deepwater exploration areas near Italy are → the "negative anomaly" areas : the Adriatic Sea, the sea west of Sardinia and the impact effected Tyrrenian Sea

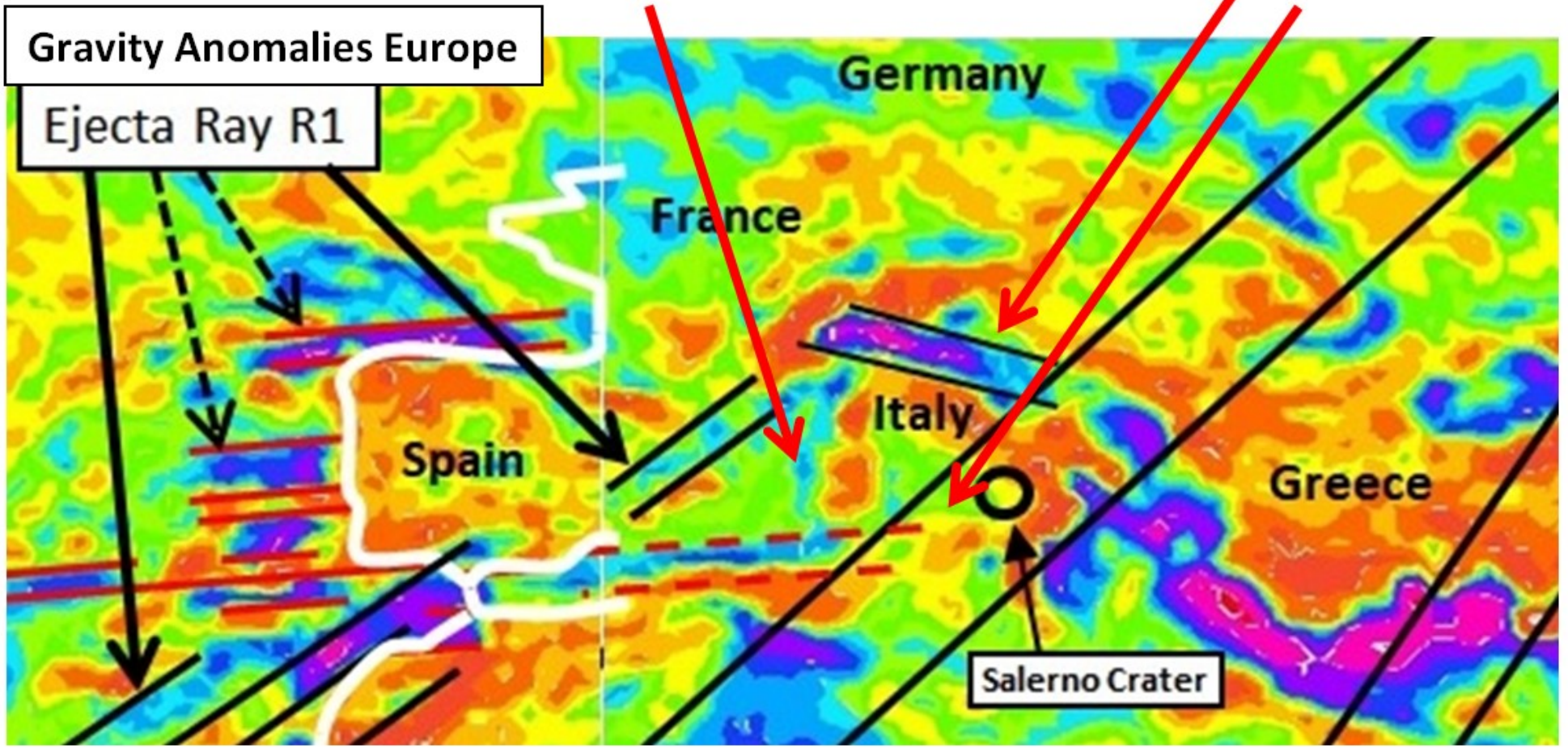


Fig 12 : Potential "Offshore" deepwater exploration areas near Spain → are the "negative anomaly" areas (→blue) located in the "ejecta ray tracks" This are exploration areas with high potential

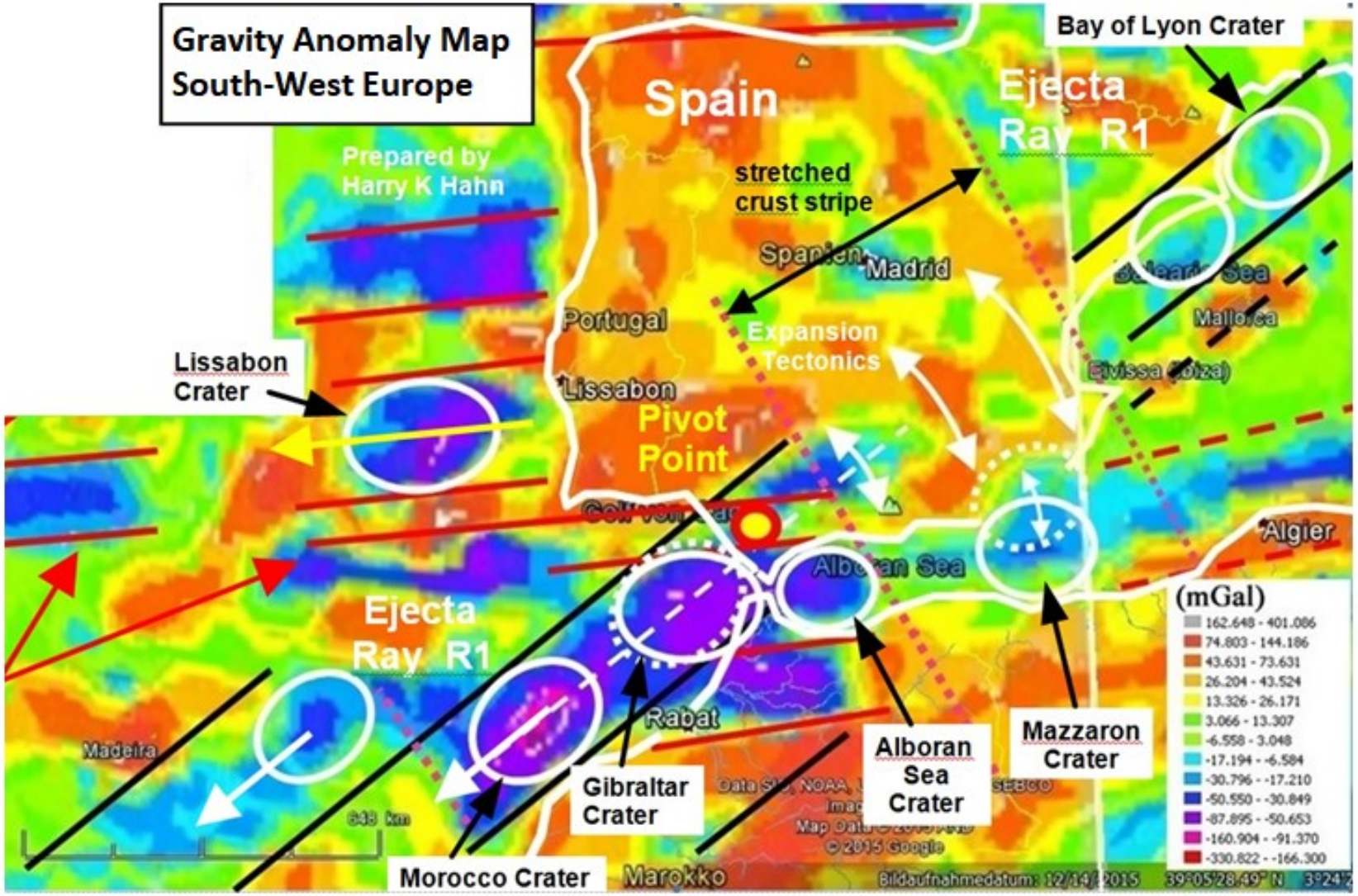


Fig 13 : marked crater areas are potential deepwater exploration areas

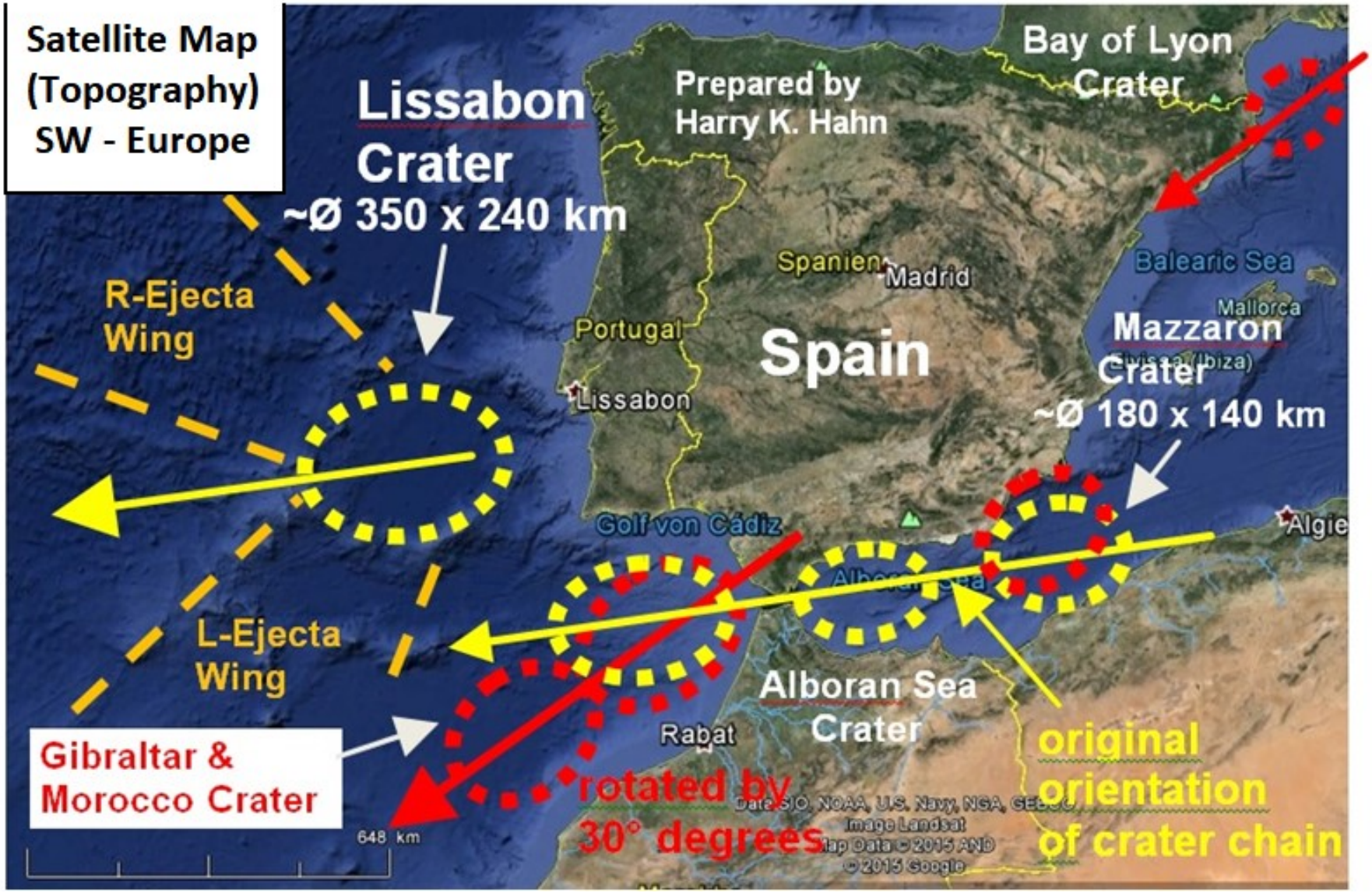


Fig 14 : **The Ejecta-ray tracks R2-R4 and the Congo Crater are potential "onshore exploration areas" The area east of the "Horn of Africa" (blue stripe) is a high potential "offshore" exploration area !**
→ "The 20 trillion $US Oil- and Gas-resources map"

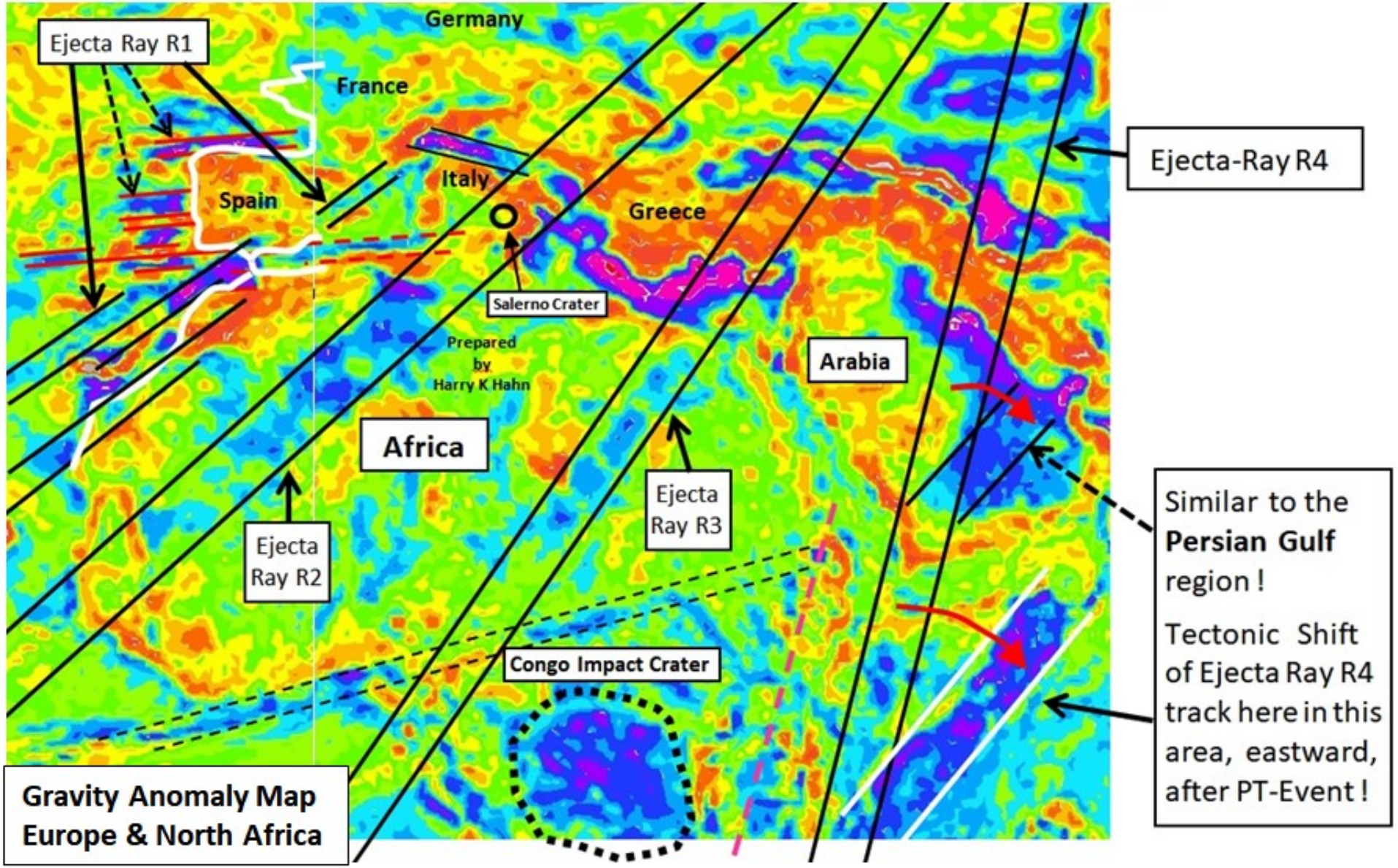


Fig 15 : The topographic World Map with the discovered craters marked

Around 70 Impact Craters with ≥ Ø 150 km were discovered during this study.
These impact craters should lead to new Oil- & Gas-field discoveries with a reserve volume of up to 600 billion barrels o oil-reserves, and up to 300 trillion cubic feet of gas-reserves !

Especially the crater chains R1 in Europe, and the crater chains R2 to R4 and the Congo Crater (CIC) and the VLC, which are locate in Africa, will contain a large share of these impact related Oil- & Gas-reserves. The craters of ejecta ray R1 (Europe) should contai oil- & gas-reserves with a volume of up to ~100 billion barrels of oil-reserves, and up to ~50 trillion cubic feet of gas-reserves Because around 35 ≥ Ø150km craters are located in the crater-chains R2-R4, the oil-and gas reserves in these crater-chains R2-R alone should have a volume of up to 150 billion barrels of oil-reserves, and up to 75 trillion cubic feet of gas-reserves. The CIC & VLC should contain a similar volume of oil- & gas-reserves as R2-R4. The same volume applies for the remaining craters.
Additionally large reserves of metal-ores should be located in the ejecta areas of the secondary craters

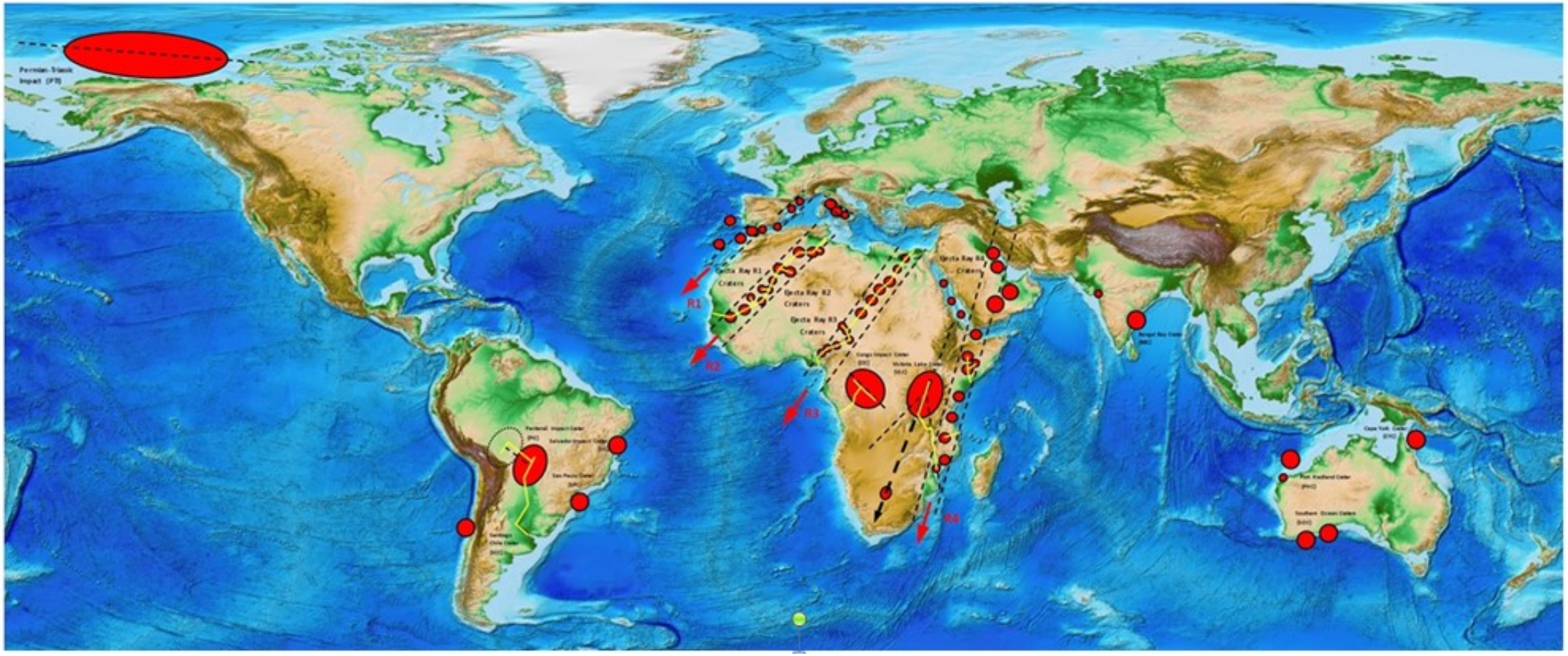


Fig 16 : The following images show the equipment in which Europe should invest in to explore the described deep-water areas

→ Drill-platforms & -Ships are available for 3500 m water-depth

≥ 100 of such deep-water drilling-platforms & -Ships are needed

Of course "onshore" exploration is easier & cheaper, therefore preferable

→ Possible in the "Salerno Crater" But deep-water has higher potential !

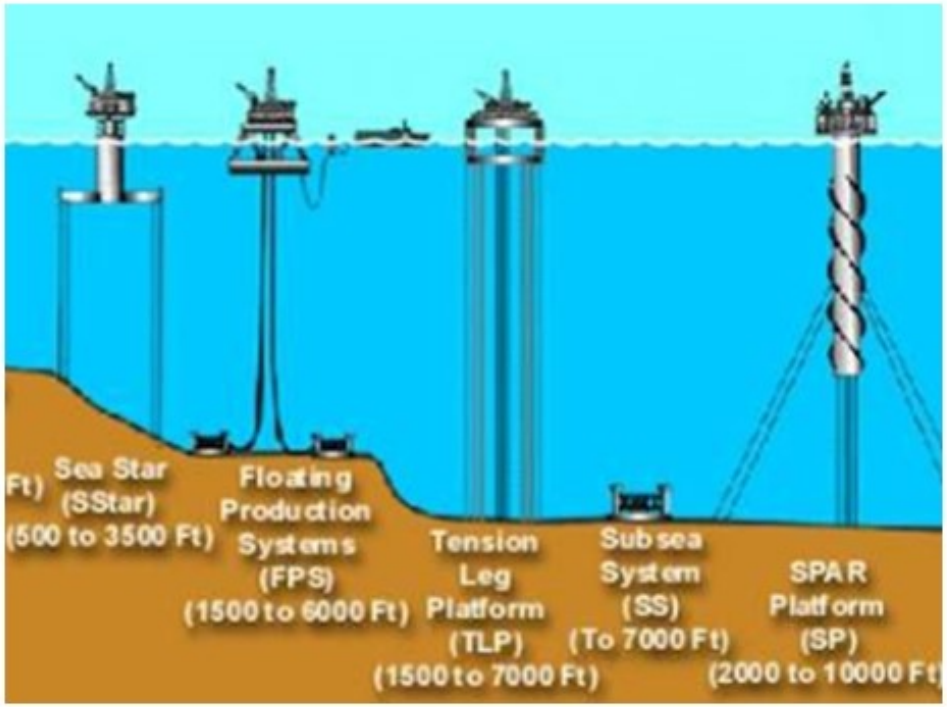
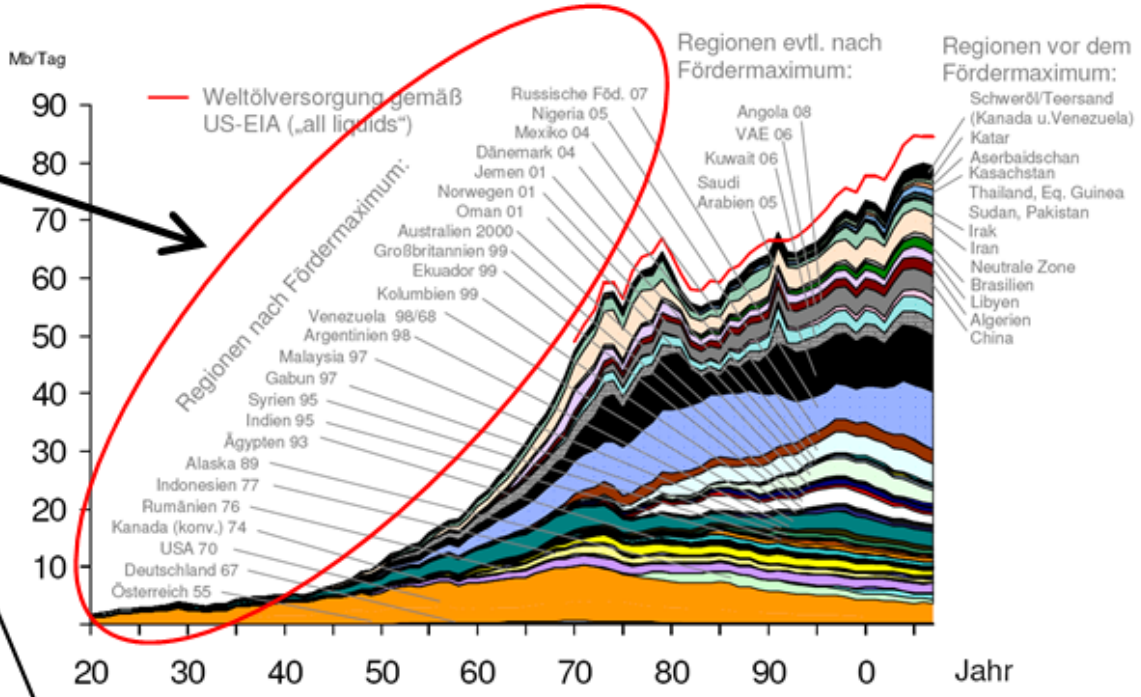


Fig 18 : Overview of the past and present oil-resource discoveries
→ WARNING : We are living on "old declining reserves" !!!

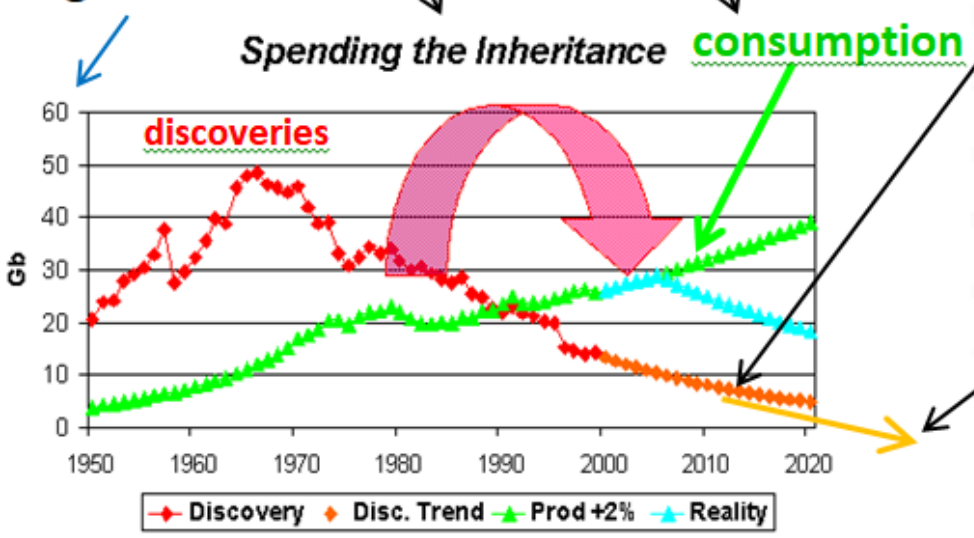
These countries have already passed "Peak-Oil" → crude-oil production is declining since that time !

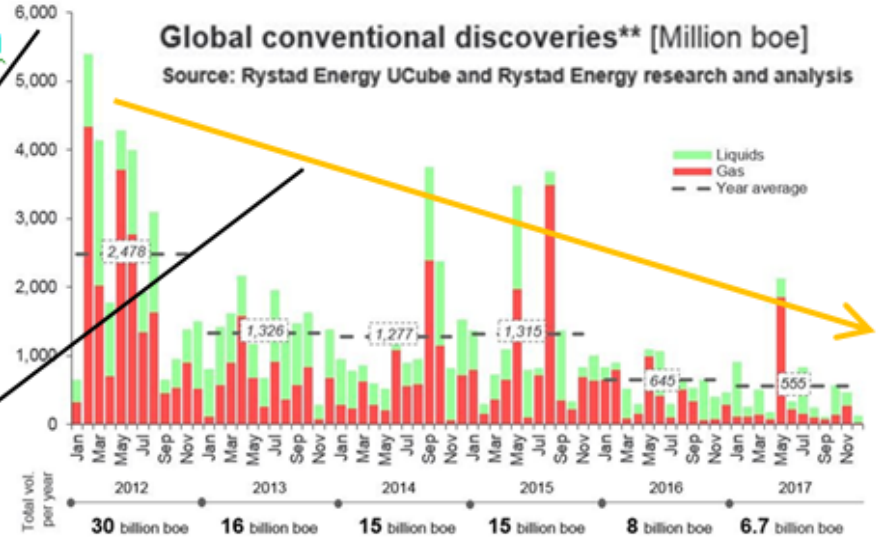
World consumption is still rising ! New discoveries are since 1965 declining !

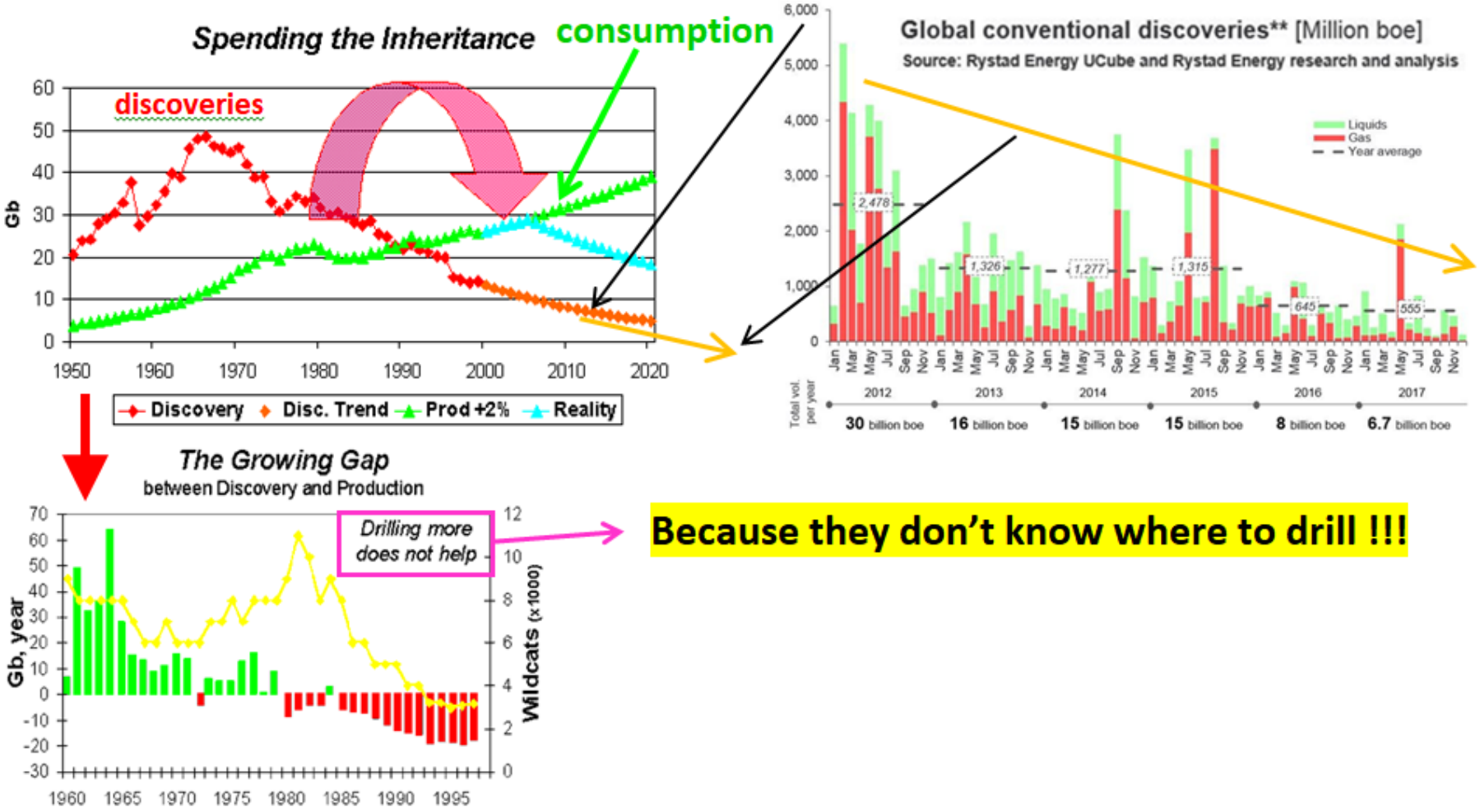
This is a serious problem !



Giga Barrel !







Because they don't know where to drill !!!

The last time oil and gas companies added to their reserves by as much as they were producing was in 2006, when the so-called reserve replacement ratio reached 100%. It was down to 50% in 2012, and 11% in 2017.

If oil discoveries continue trending down, we could be talking seriously about oil shortages in about a decade from now, Sonia Mladá Passos, a senior analyst at Rystad, estimates.

But shale oil cannot make up the shortfall in conventional oil development: Conventional sources account for 69 million barrels a day of the current global output of 85 million barrels a day ! Shale oil resources are also declining much faster !!