Environmental impact of water, miracle and science

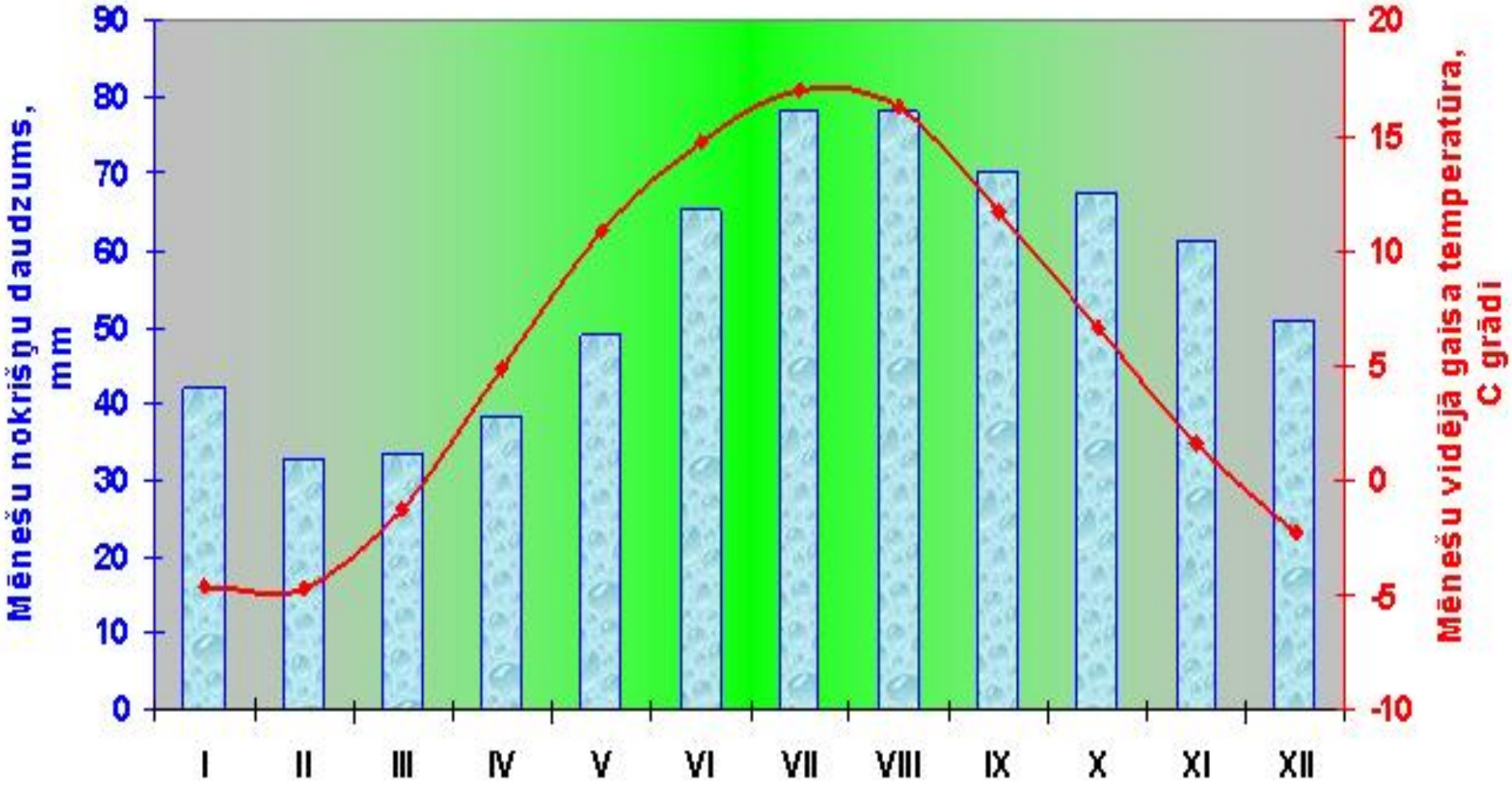
Karline Zvigure & Stella Tomsone Kundzina
advisor : Aigars Mihno
Agenskalns State Gymnasium
Latvia
2016

- Precipitation in Latvia,
  and the effect on the environment
- Karst - in Latvia and world,
  science or miracle?
- Explanation of this phenomena

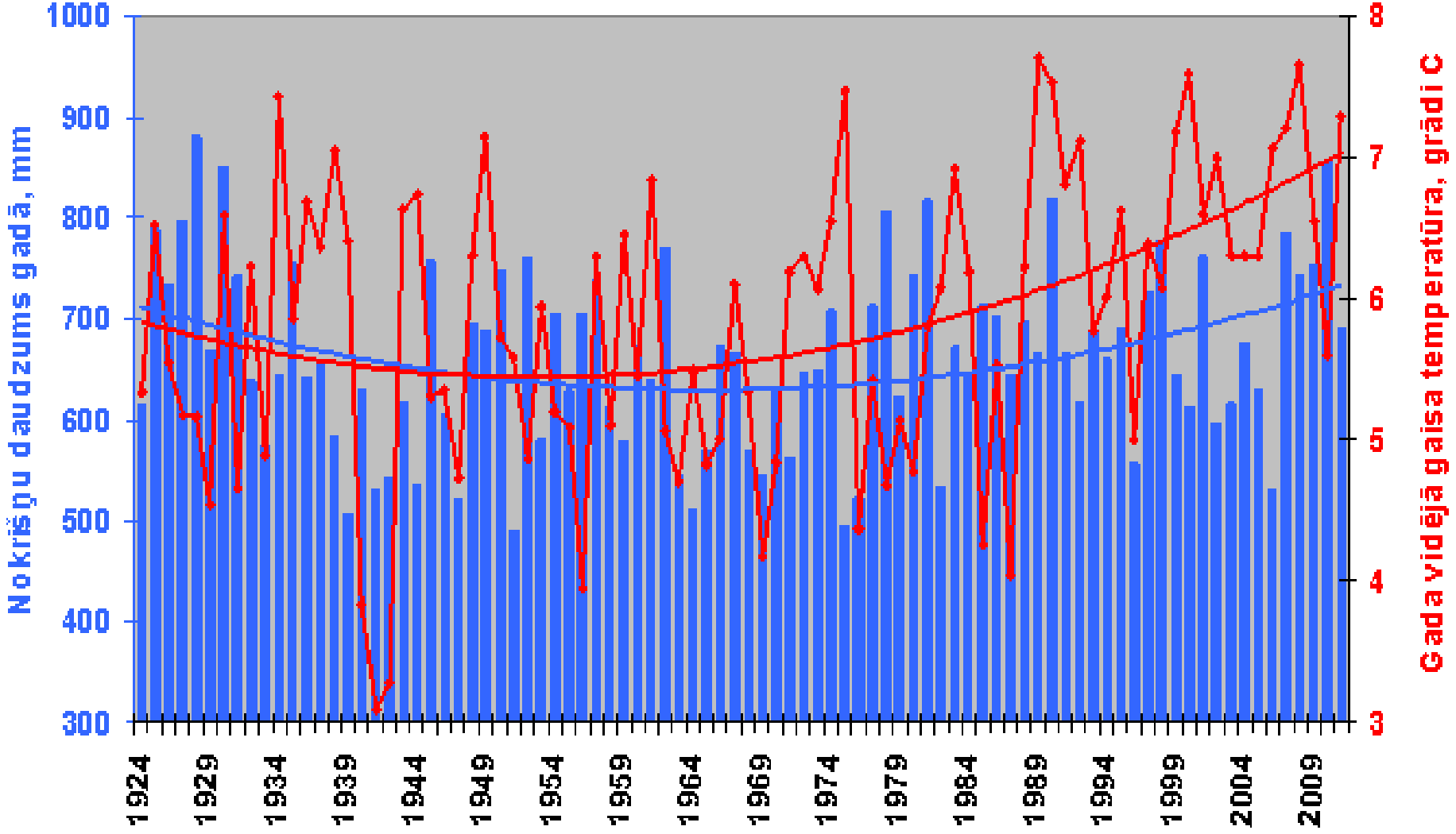
Precipitation in Latvia

Sidrabiņa lietiņš lija…..
(Latvian falk song)

Precipitation in Latvia in 2014 and 2015

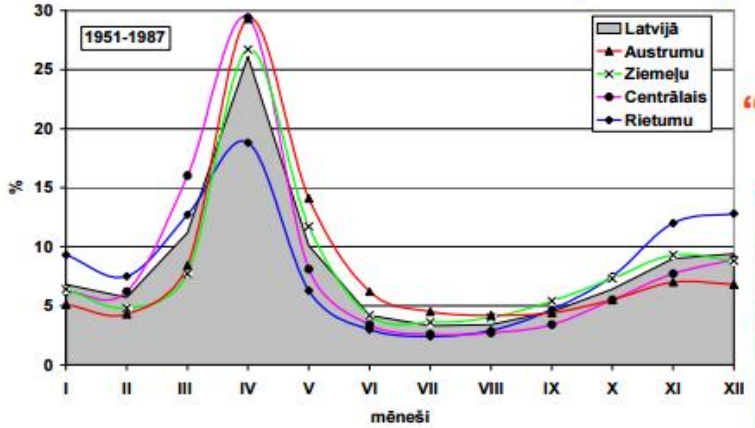


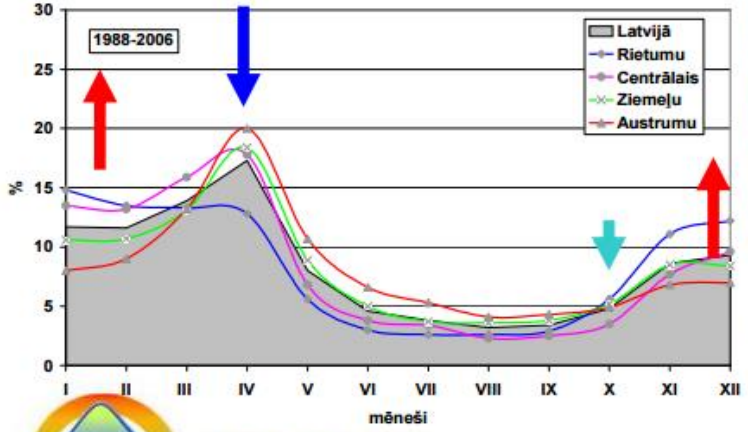
Precipitation in long time



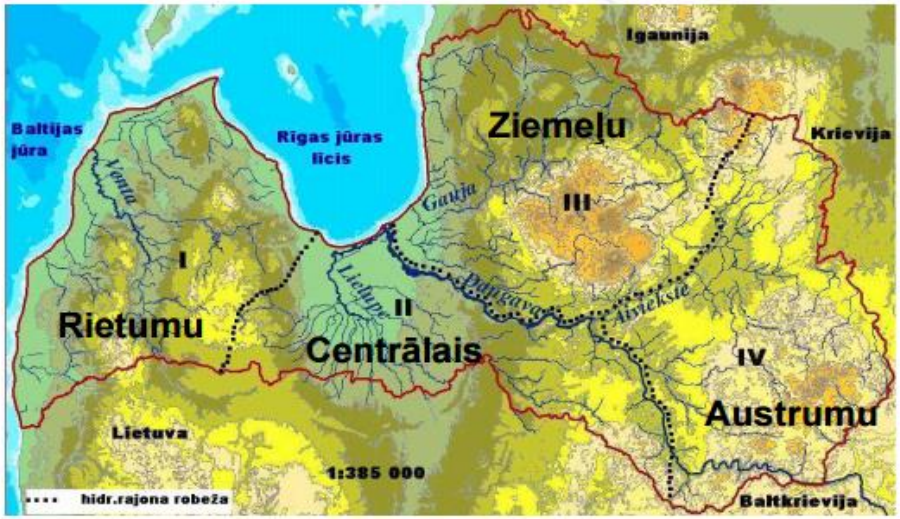
Rivers' runoffs in Latvia

Latvijas upju gada noteces sadalījums %: 1951-2006
Mūdienu klimata apstākļos





"nav būtiskas klimata pārmaiņas" līdz 1990



"būtiskas klimata pārmaiņas" pēc 1990

KALME
VALSTS PĒTĪJUMU PROGRAMMA
KLIMATA MAIŅAS IETEKME UZ LATVIJAS ŪDEŅU VIDI

Precipitation and the hydroelectric power plant

Producing of electric power 2010- 2014

Elektroenerģijas izstrāde (2010 – 2014)

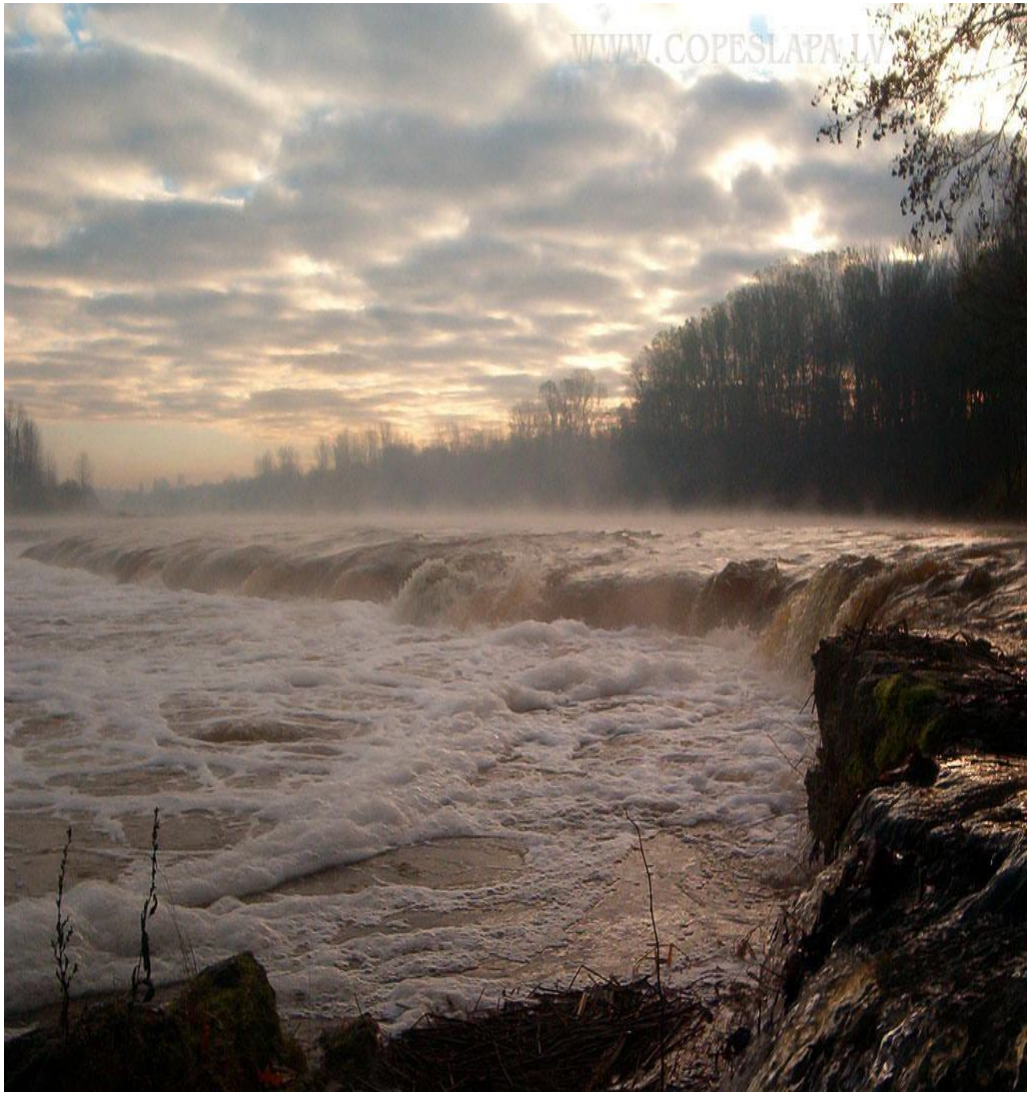
	Mērv.	Metode	2010	2011	2012	2013	2014
Daugavas HES	GWh	n	3 445	2 823	3 627	2 852	1 925
Rīgas TEC	GWh	n	2 402	2 425	1 409	1 957	1 648

Less rivers' runoffs,- less floods

You have to carry your boat

Few fish in the Abava river

If the level of water is high, the river overflows



Precipitation and mushroom harvest in Latvia

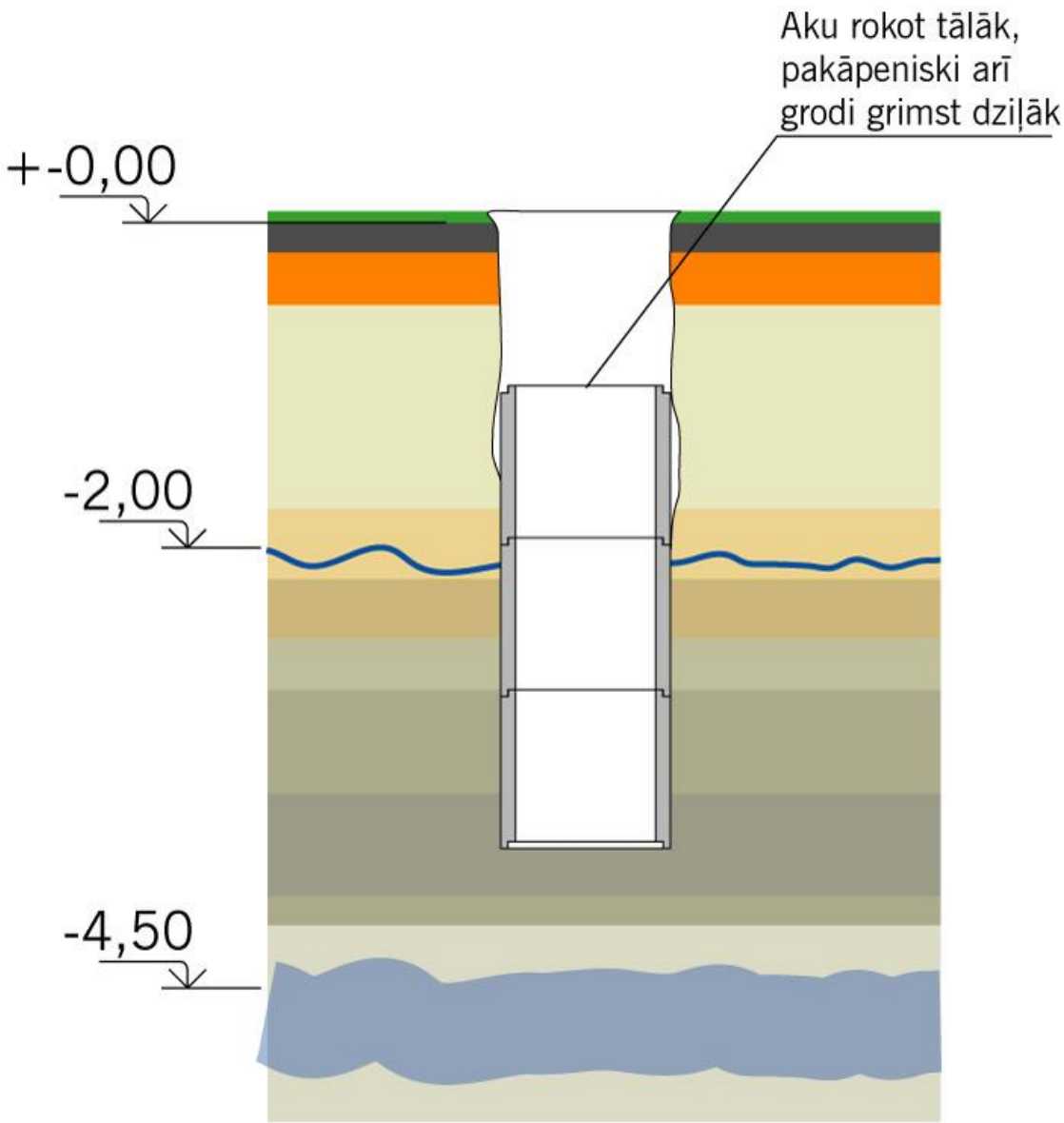
Grain harvest in 2015 – 2,6 million tons

Groundwater level in wells

How to dig a well?

Water diviners

Story about the groundwater level and digging a well



Karst phenomena

Ezernieku shore caves

Big ruptures in the Earth

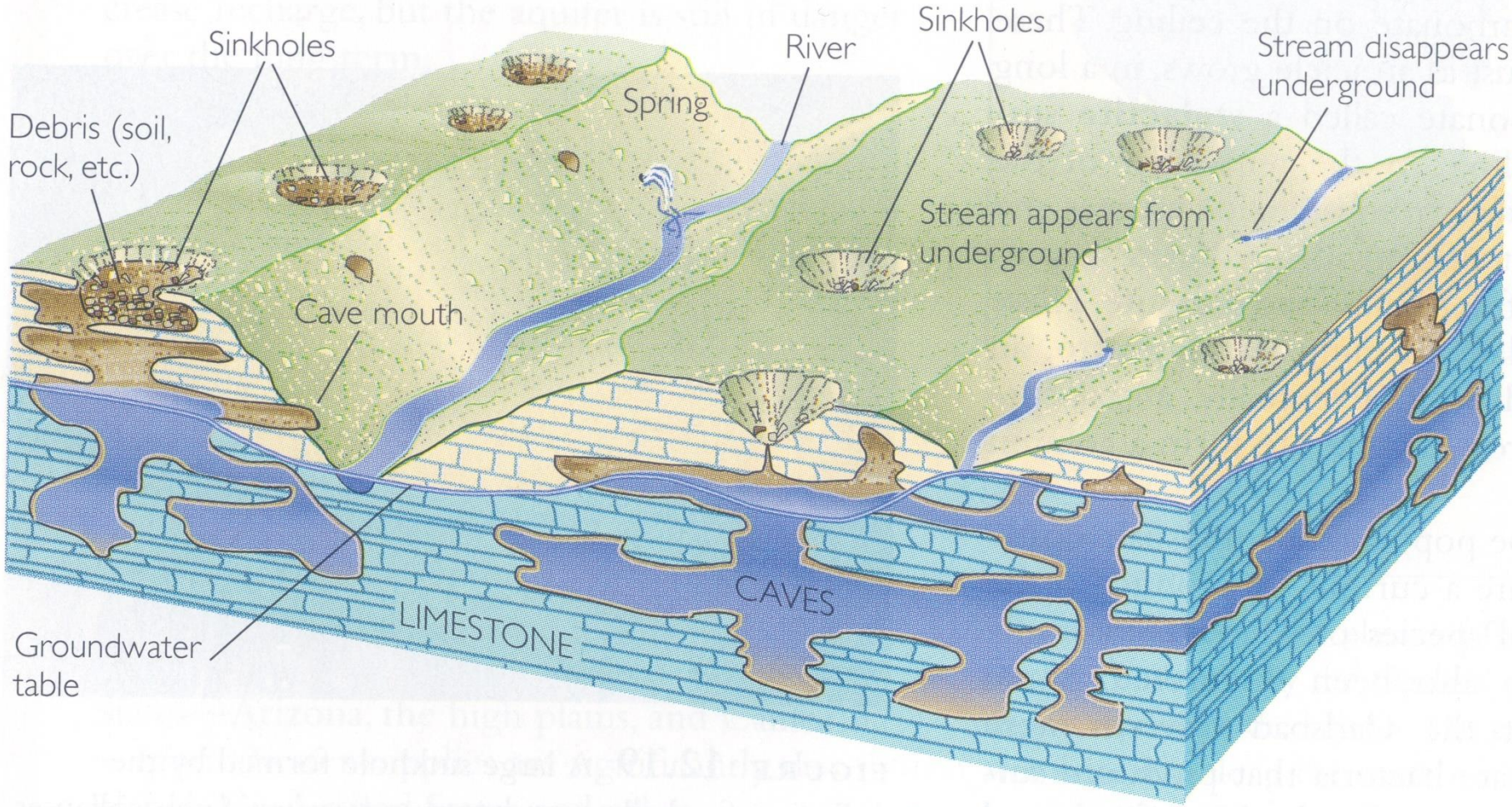

Sverige
Sweden
Norge
Norway
Suomi
Finland
Baltic Sea
Eesti
Estonia
Latvija
North Sea
Москва
Moscow
Danmark
Denmark
Lietuva
Lithuania
United
Kingdom
Ireland
Éire
Nederland
Netherlands
Berlin
Polska
Poland
Беларусь
Belarus
London
Deutschland
Germany
België
Belgique
Belgium
Česká rep
Czech Rep
Slovensko
Slovakia
Україна
Ukraine
Paris
Österreich
Austria
Moldova
France
România
Romania
Hrvatska
Croatia
Србија
Serbia
Italia
Italy
Black Sea
България
Bulgaria
Portugal
España
Spain
Tyrrhenian Sea
Ελλάδα
Hellas
Greece
Türkiye
Turkey
Google
Caspian Sea
Azərbaycan
Azerbaijan
O`zbekiston
Uzbekiston
Türkmenistan
Turkmenistan

Dips in Florida

Great Hole of Belize

Lisbon, Portugal in 2003 bus fallen in the hole

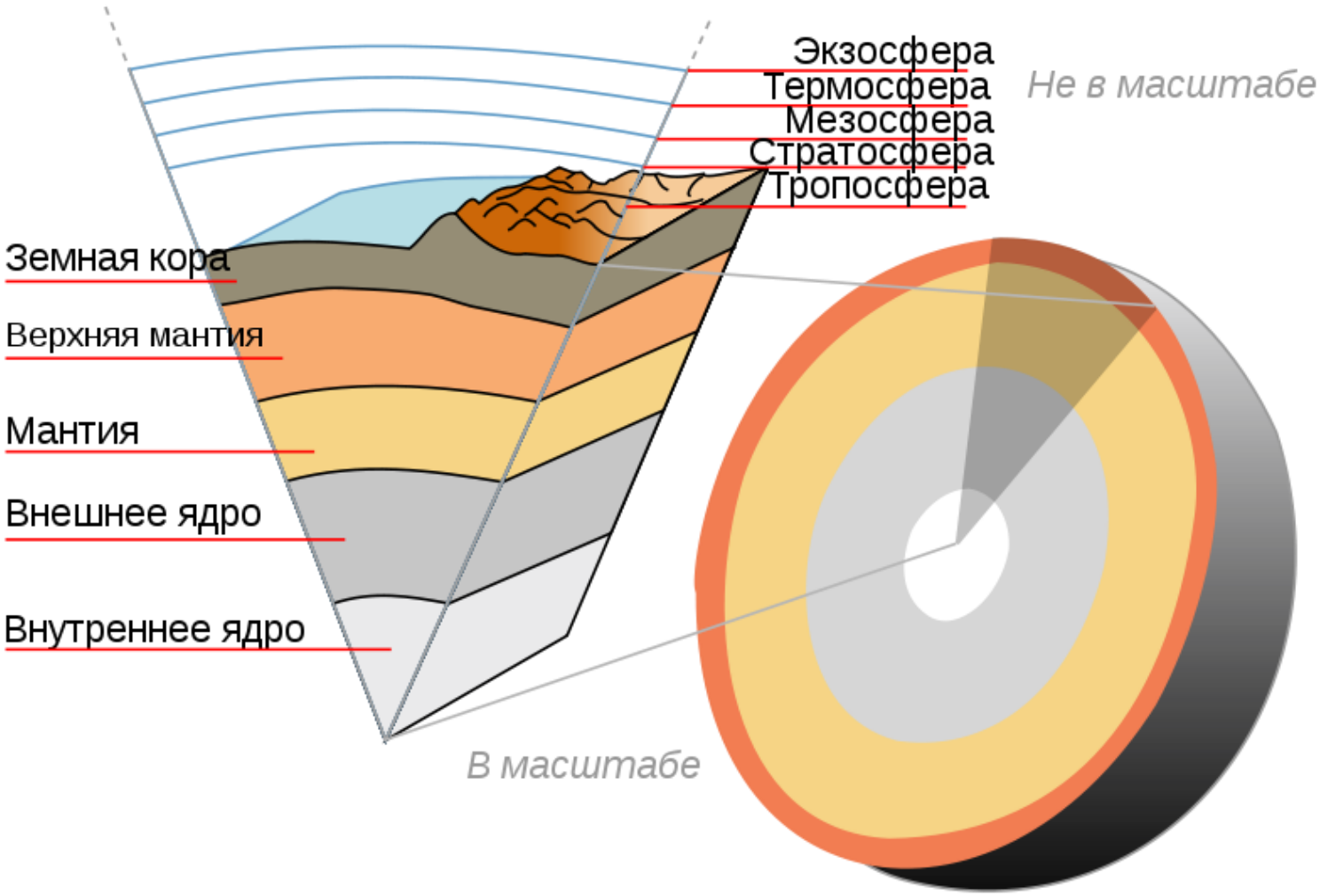
Explanation of this phenomena



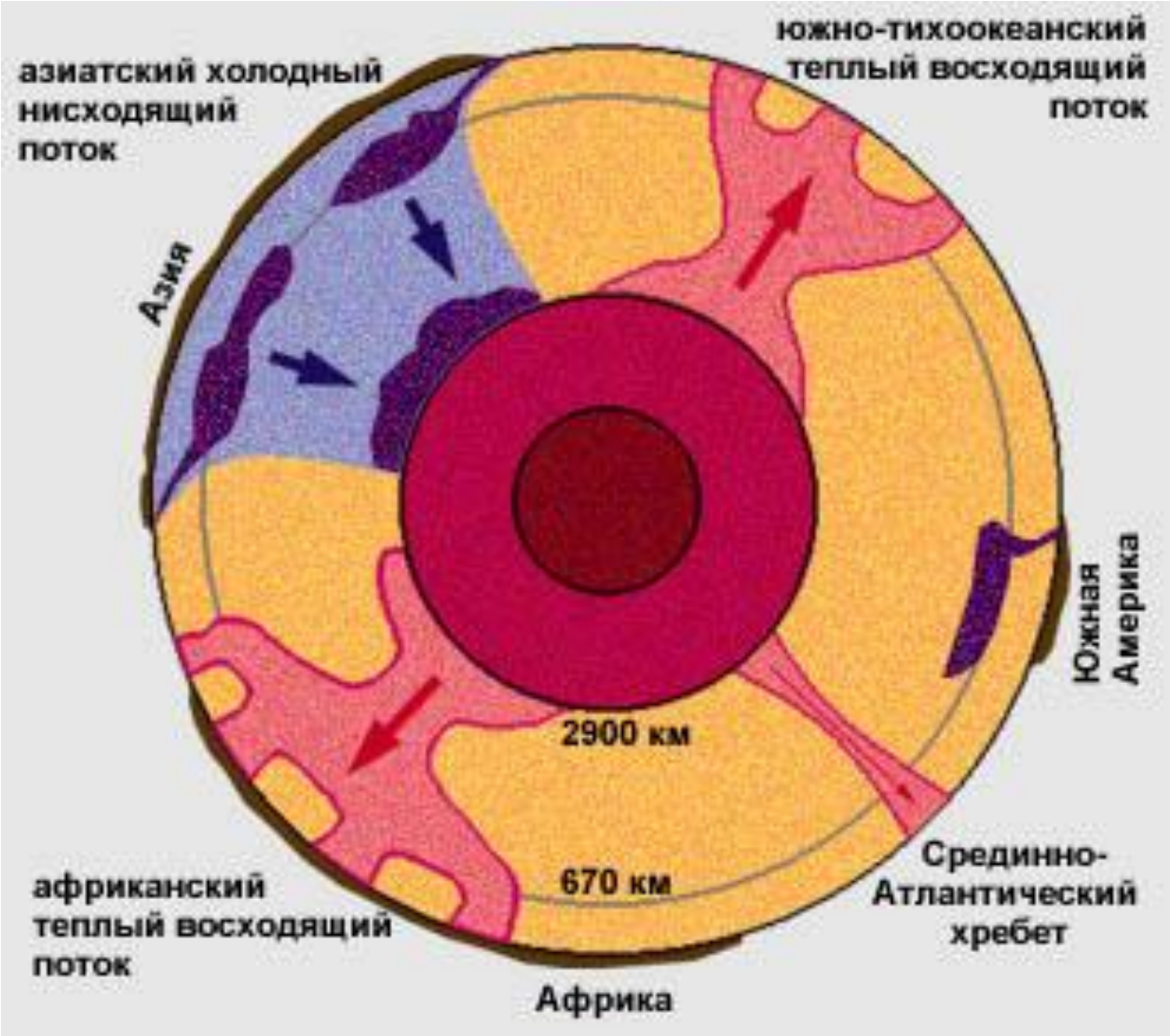
Alternative explanation more than 30 years ago: Vladimirs Larins

A big amount of hydrogen

(approximately 55% of all the atom amount)



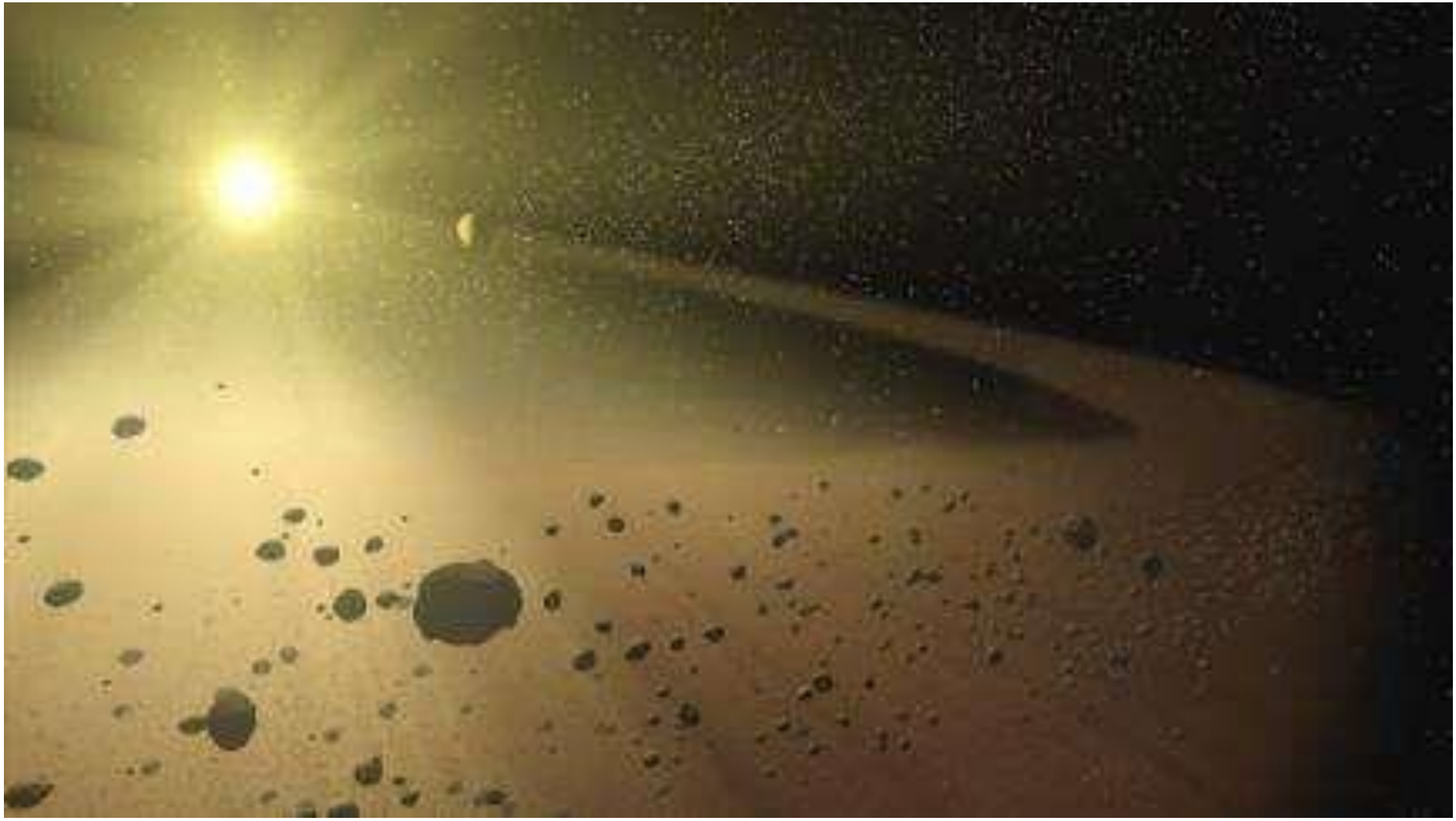
Hydrogen degassing from the core and travelling to the crust of the Earth



The latest holes in the crust of the Earth, Jamalas peninsula, Siberia

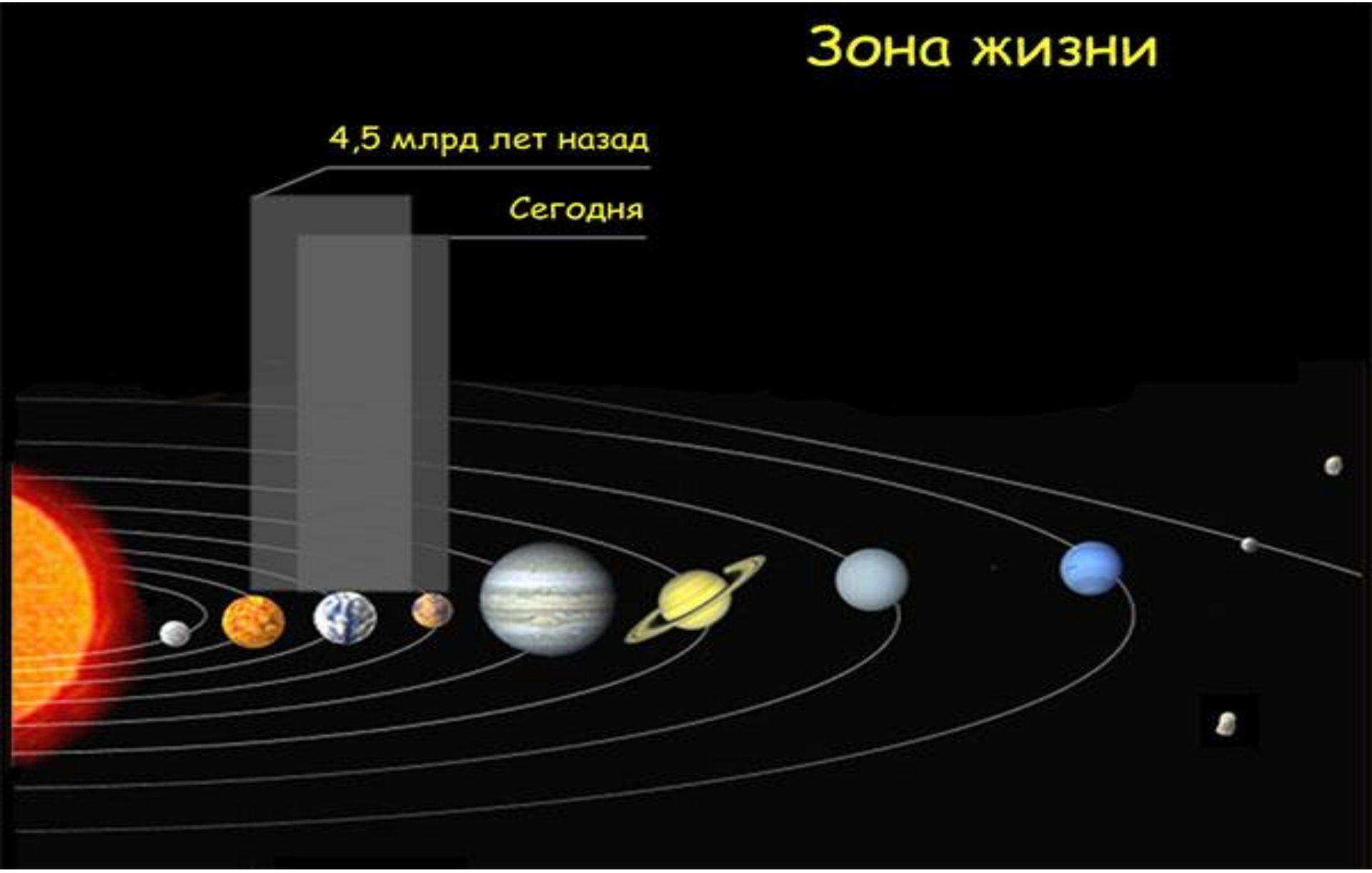
Russian geologist used the theory of Fred Hoyle (British astronomer) about the Earth's magnetic field and it's influence on the forming of Sun System

From nebula to the Sun and planets

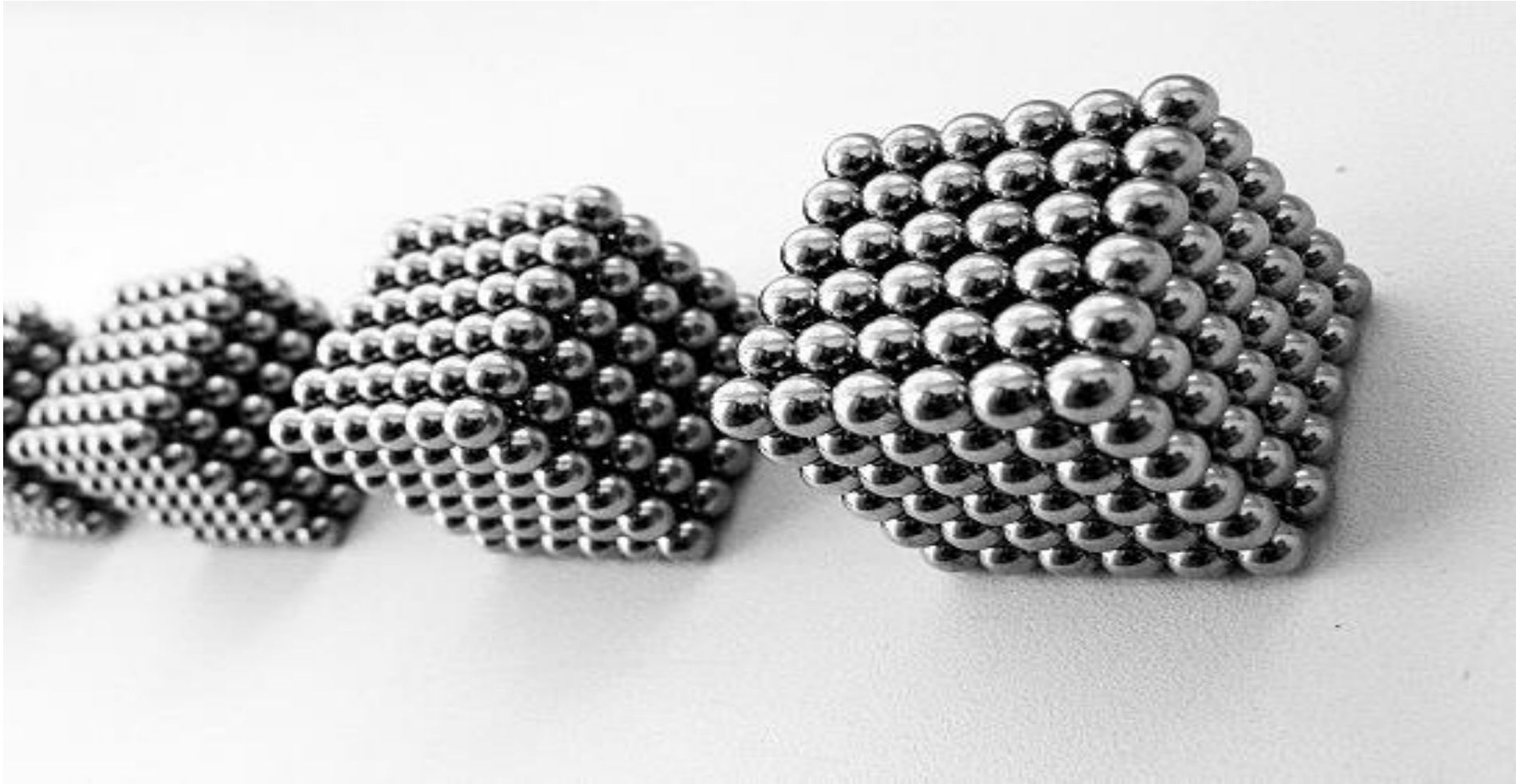


Separation of Charged particles in magnetic field

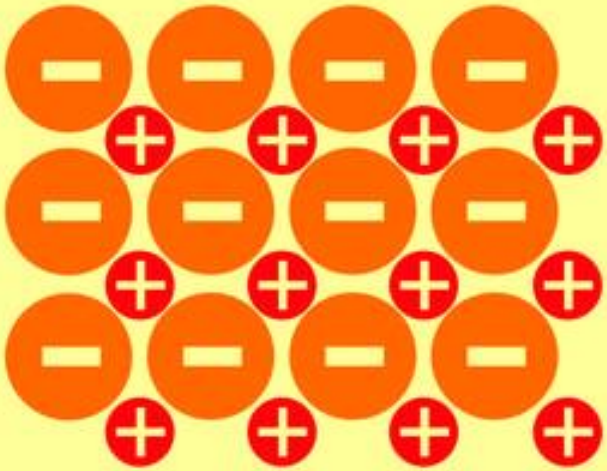
Planet’s corporeal composition

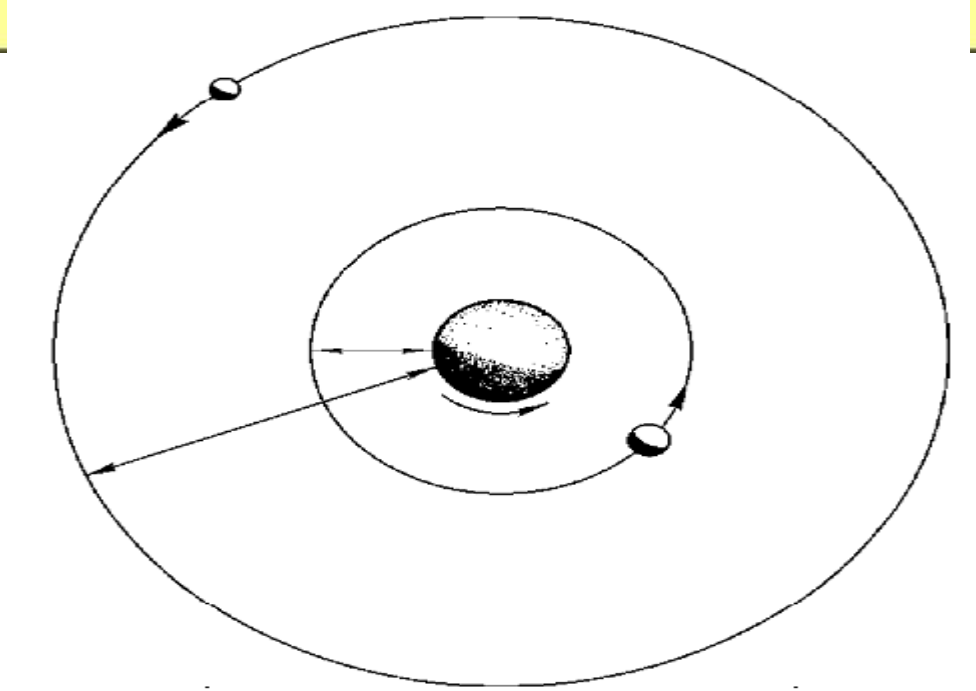


Hydrogen atoms dissolve in metals, increasing its density and reducing the volume

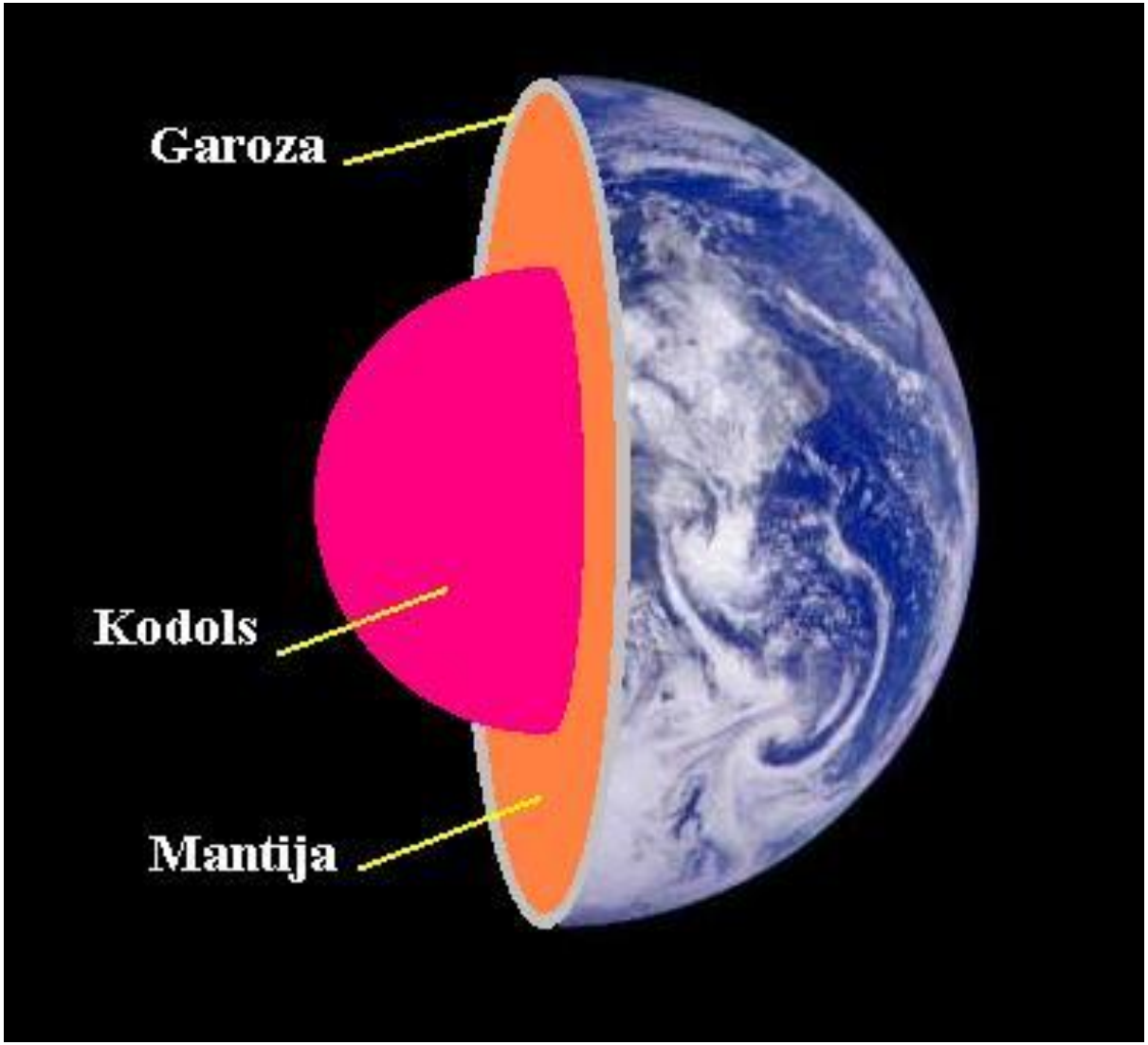


Характер трансформации кристаллической решетки ионного гидрида в условиях сверхвысоких давлений: знаками «-» помечены гидриданионы, знаками «+» помечены катионы металлов.

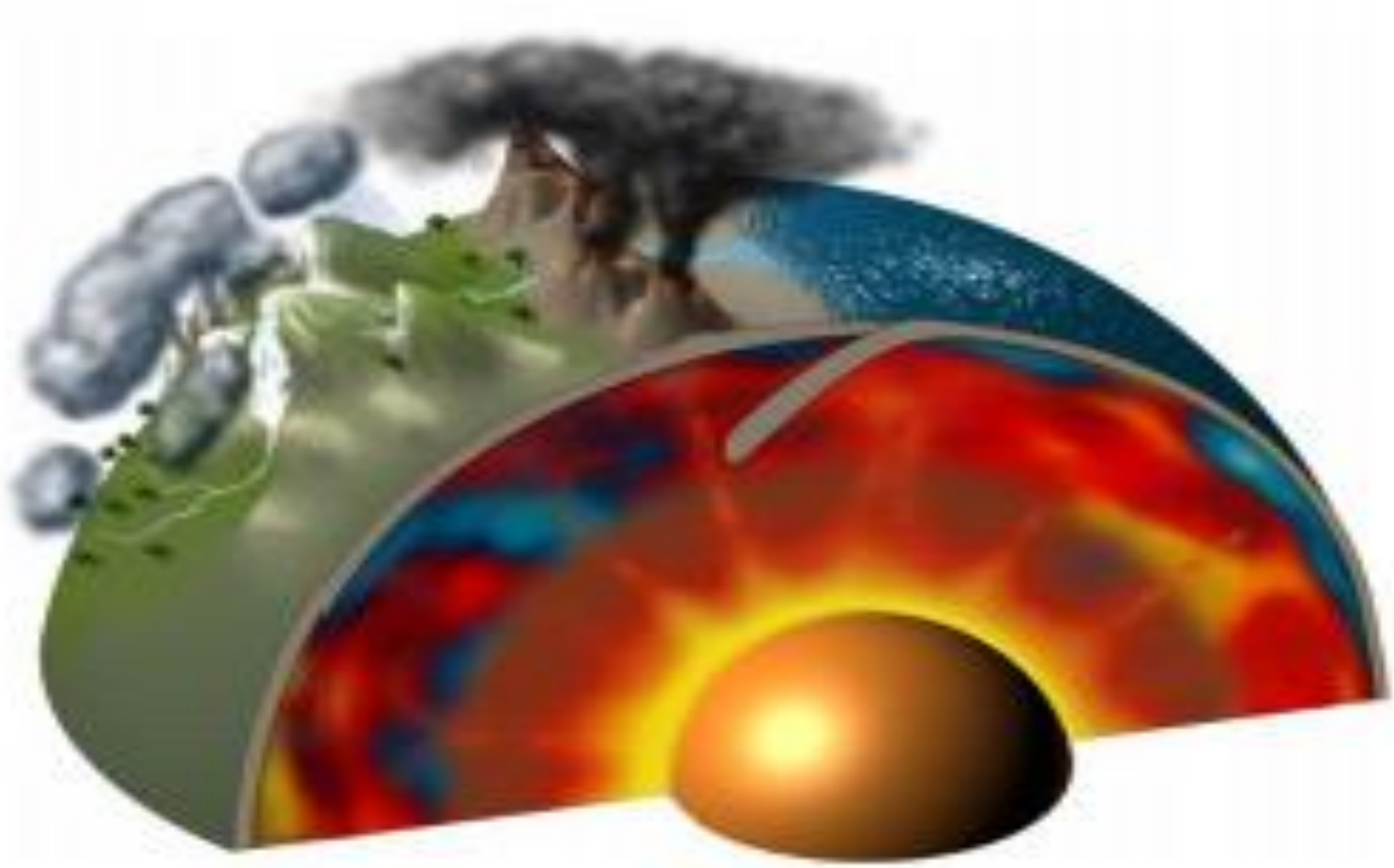




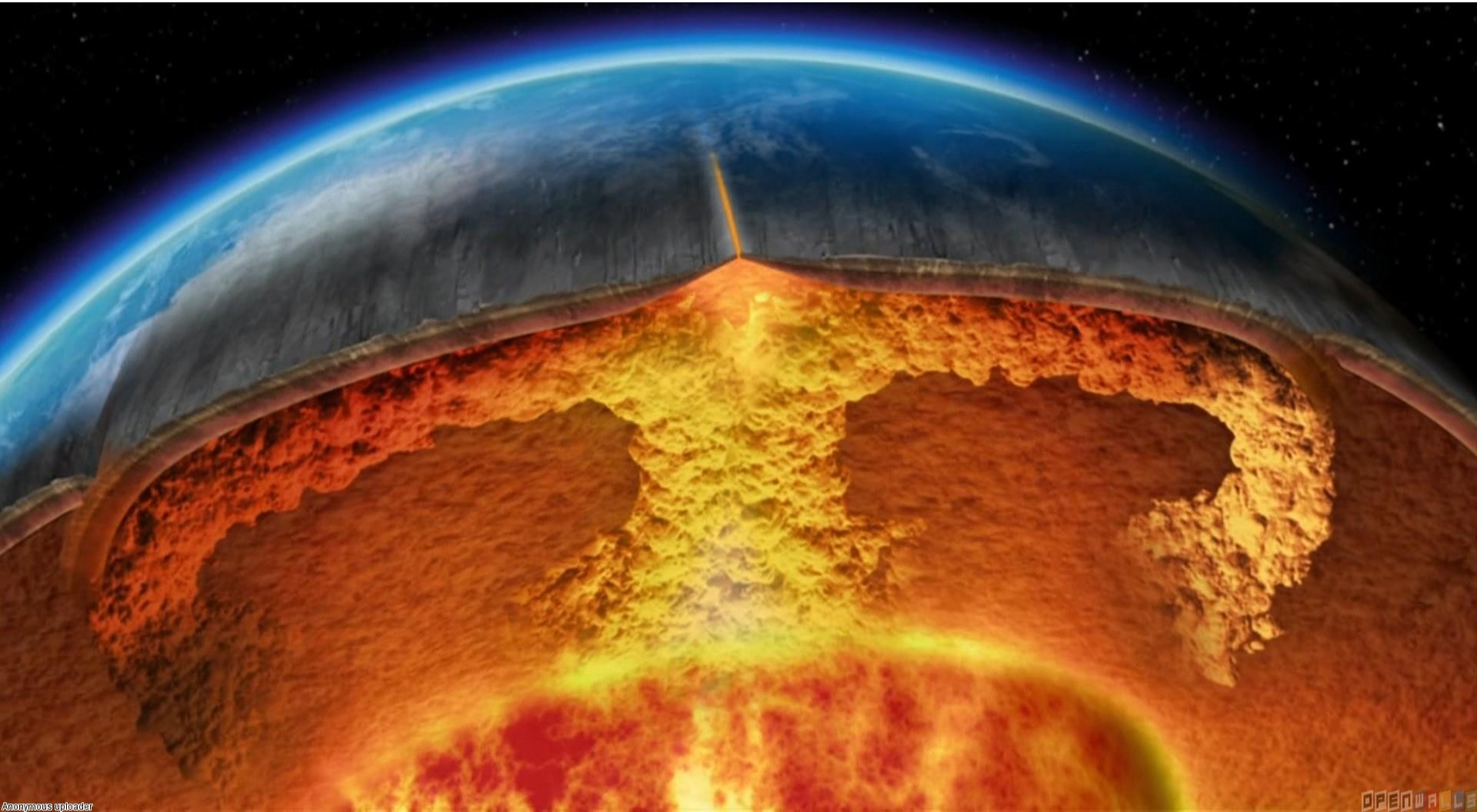
In the Earth's core hydrogen draws up to 4% of Earth's mass



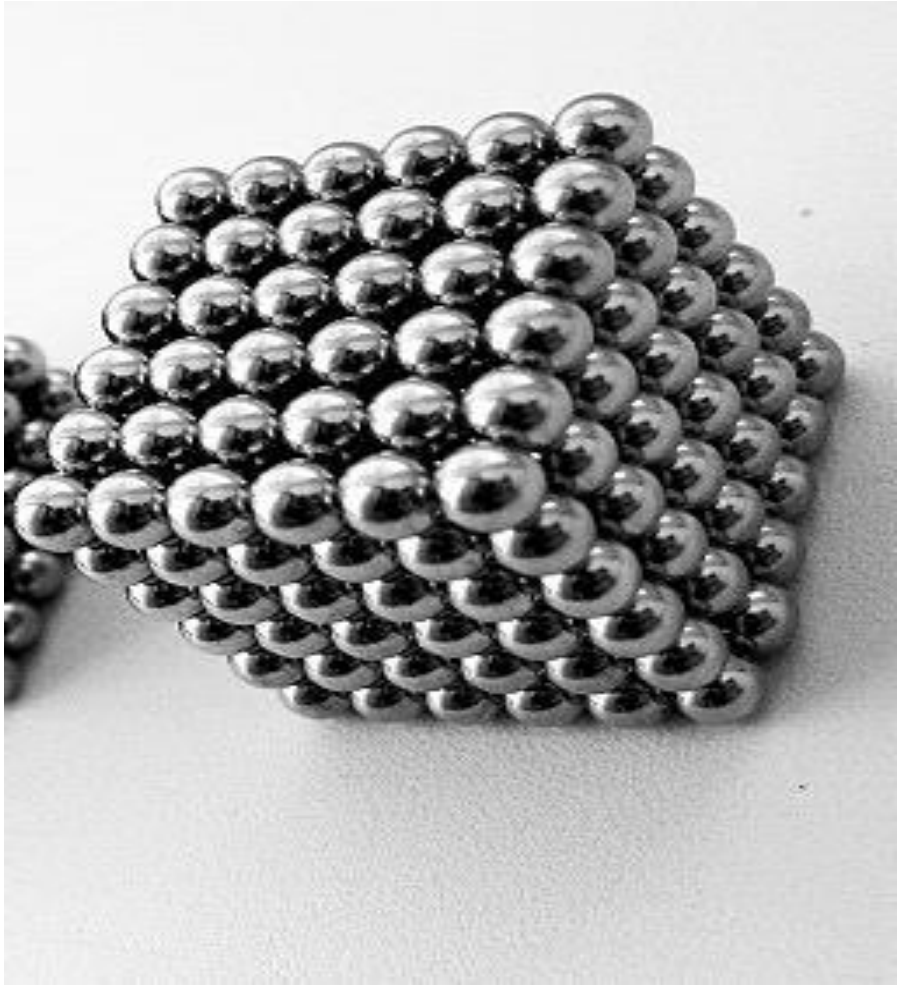
Radioactive oven in the centre of Earth and degassing process of hydrogen



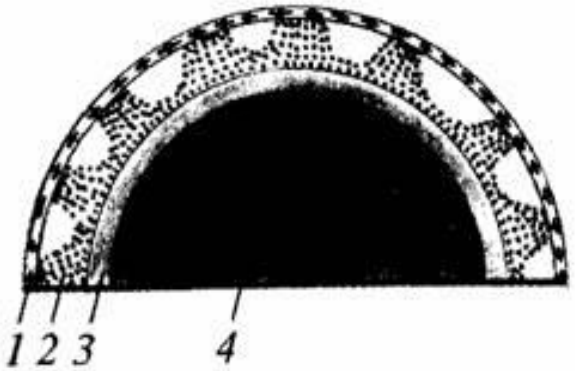
Degassing of hydrogen and travelling to the crust of the Earth

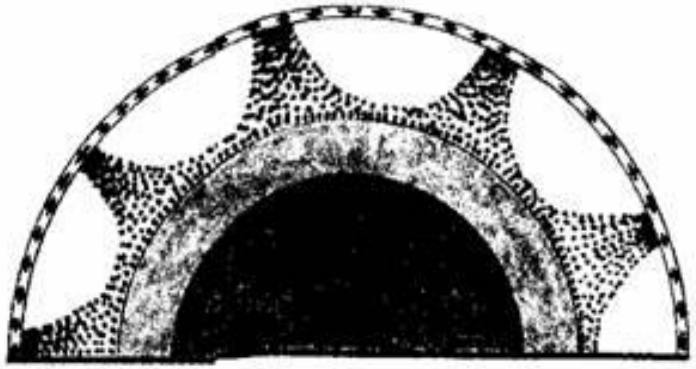


Earth’s volume increases and in the period of 4,5 billion years radius of the Earth has increased



Geological processes of the Earth





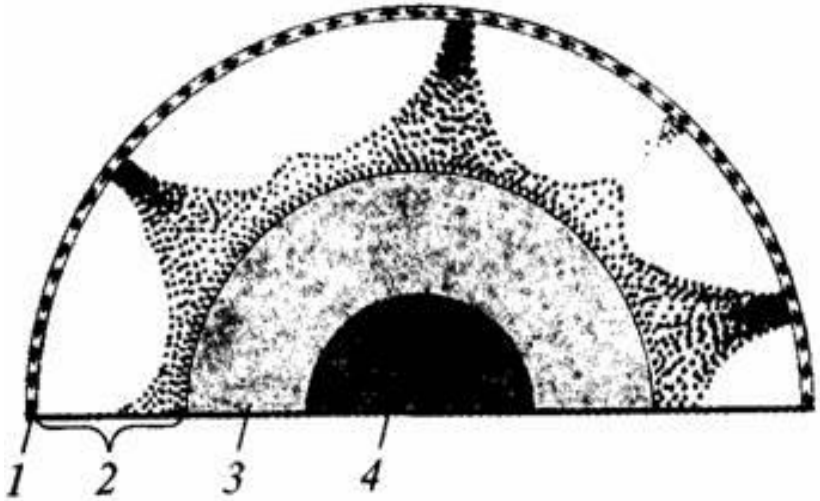
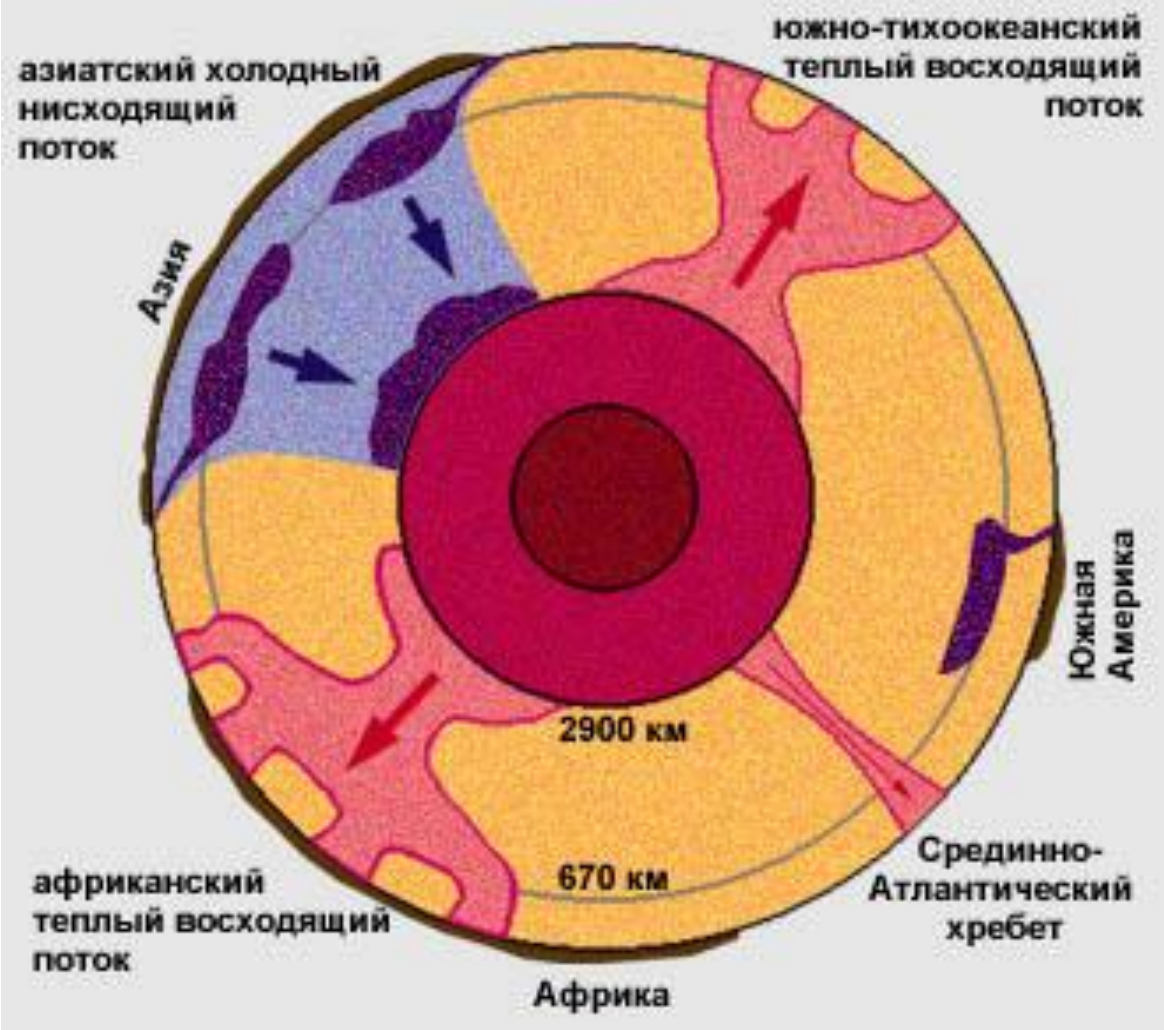


Рис. 8. Так растет Земля. Цифрами обозначены: 1 – литосфера (силикатно-окисная корка, на которой мы живем), 2 – металлосфера (точками показаны водородные струи), 3 – внешнее ядро (металлы с растворенным водородом), 4 – внутреннее ядро (металлогидриды)

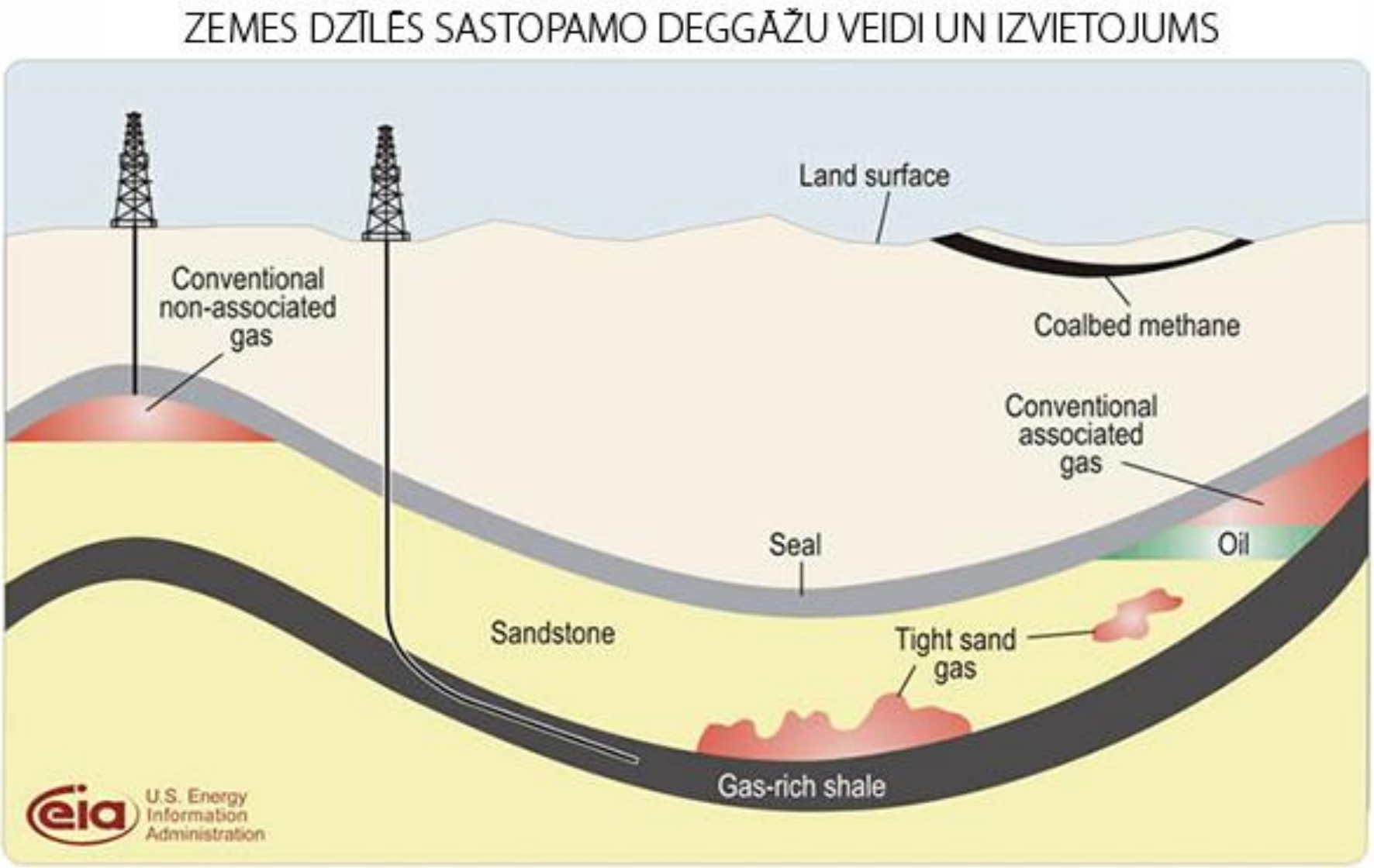
Earth’s volume redjustment

Origin of water: traditional explanations

Hydrogen degassing from the core and travelling to the Earth's crust



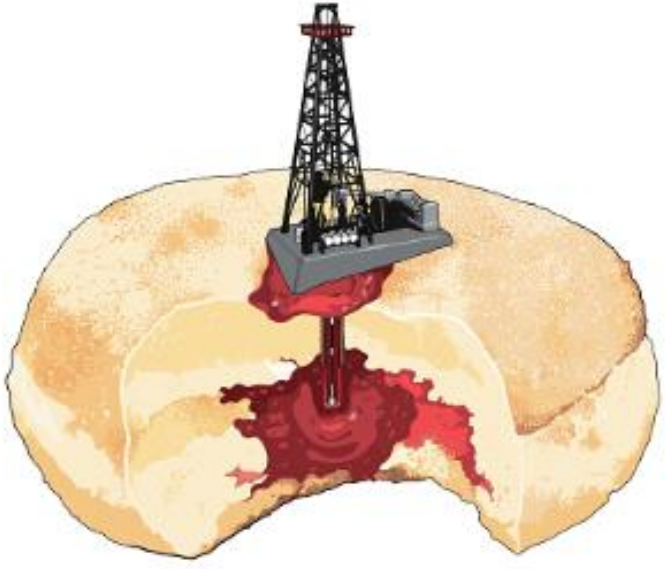
Fields of oil and gass in the ground



Old Way of Drilling

Jelly Donut

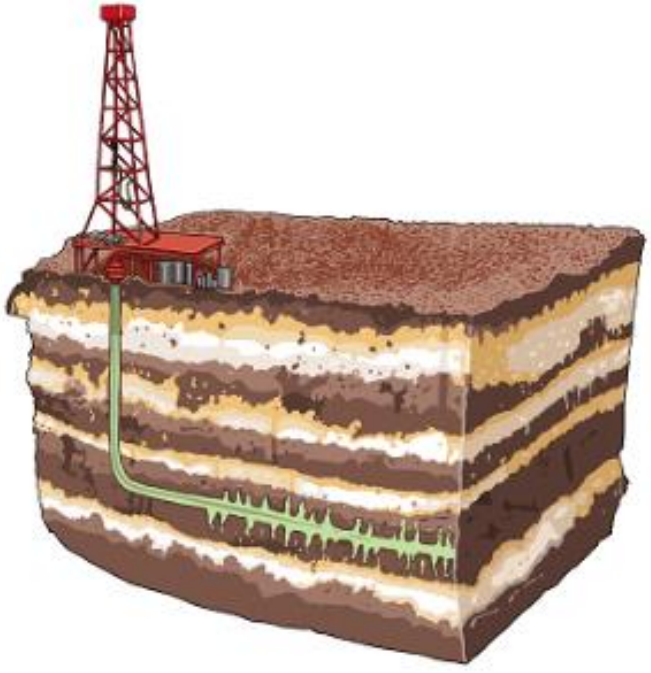
Conventional Drilling
Basic Vertical Penetration
Limited Formation Contact



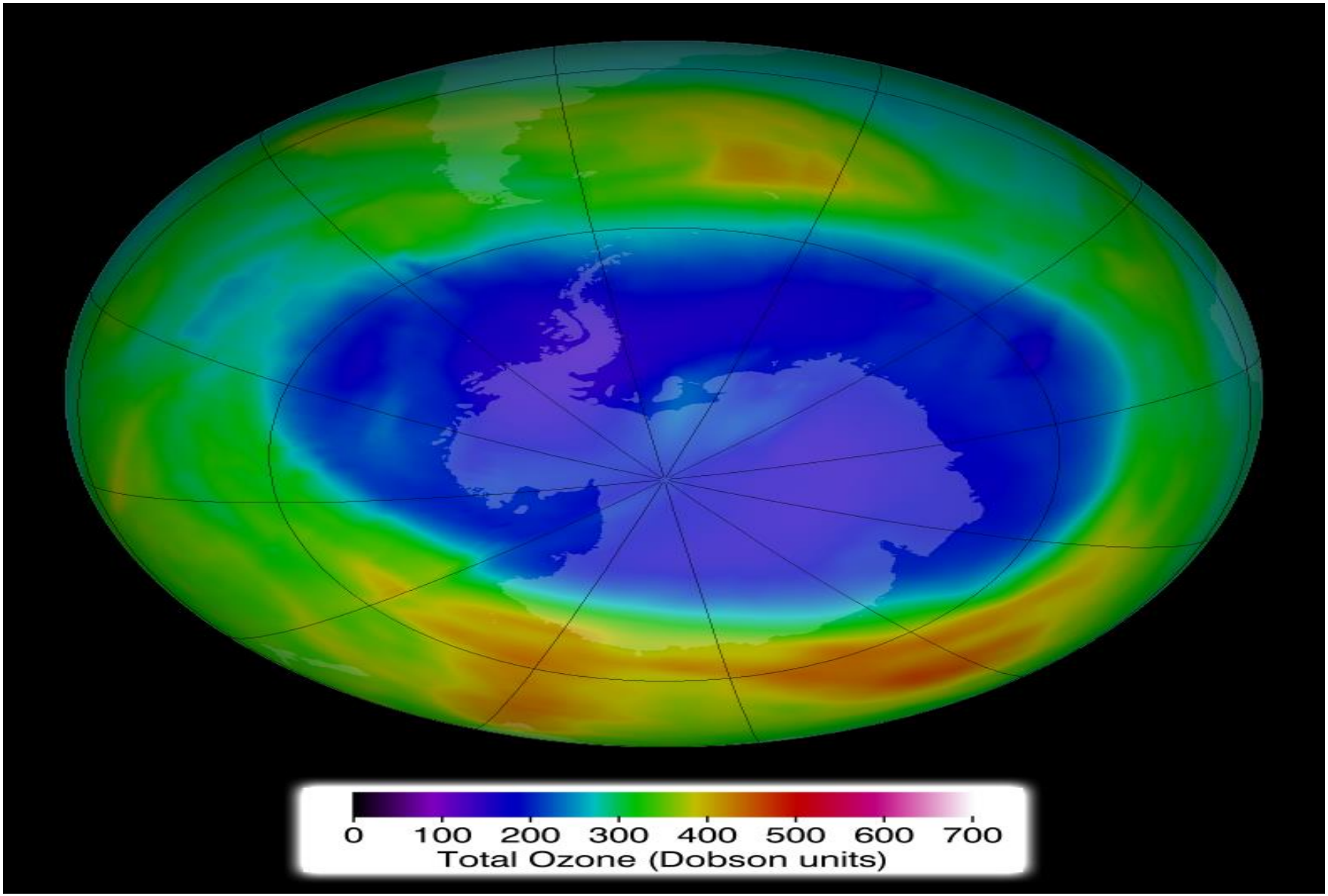
New Way of Drilling

Tiramisu

Unconventional Drilling
More Sophisticated Horizontal Penetration
Extensive Formation Contact



Ozone holes



Noctilucent clouds