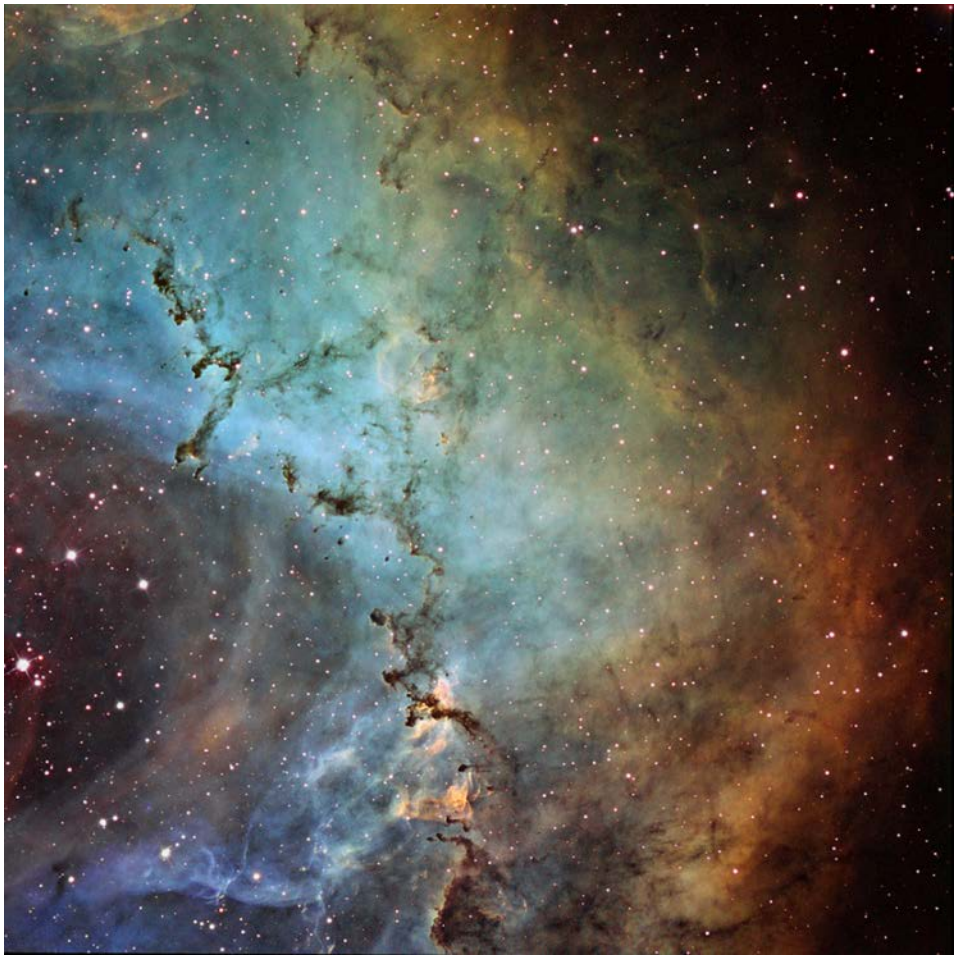
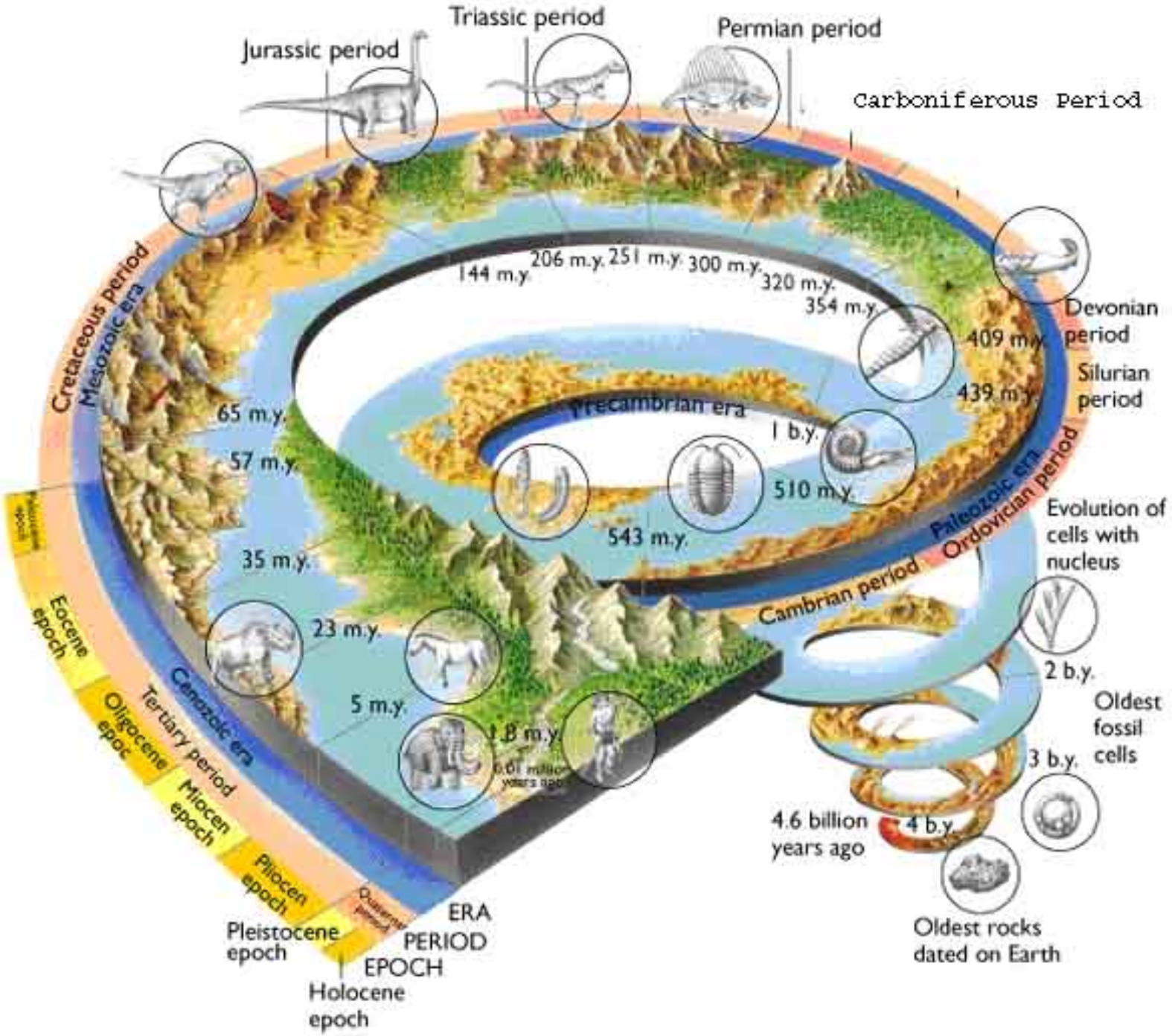
NEBULAR CLOUD



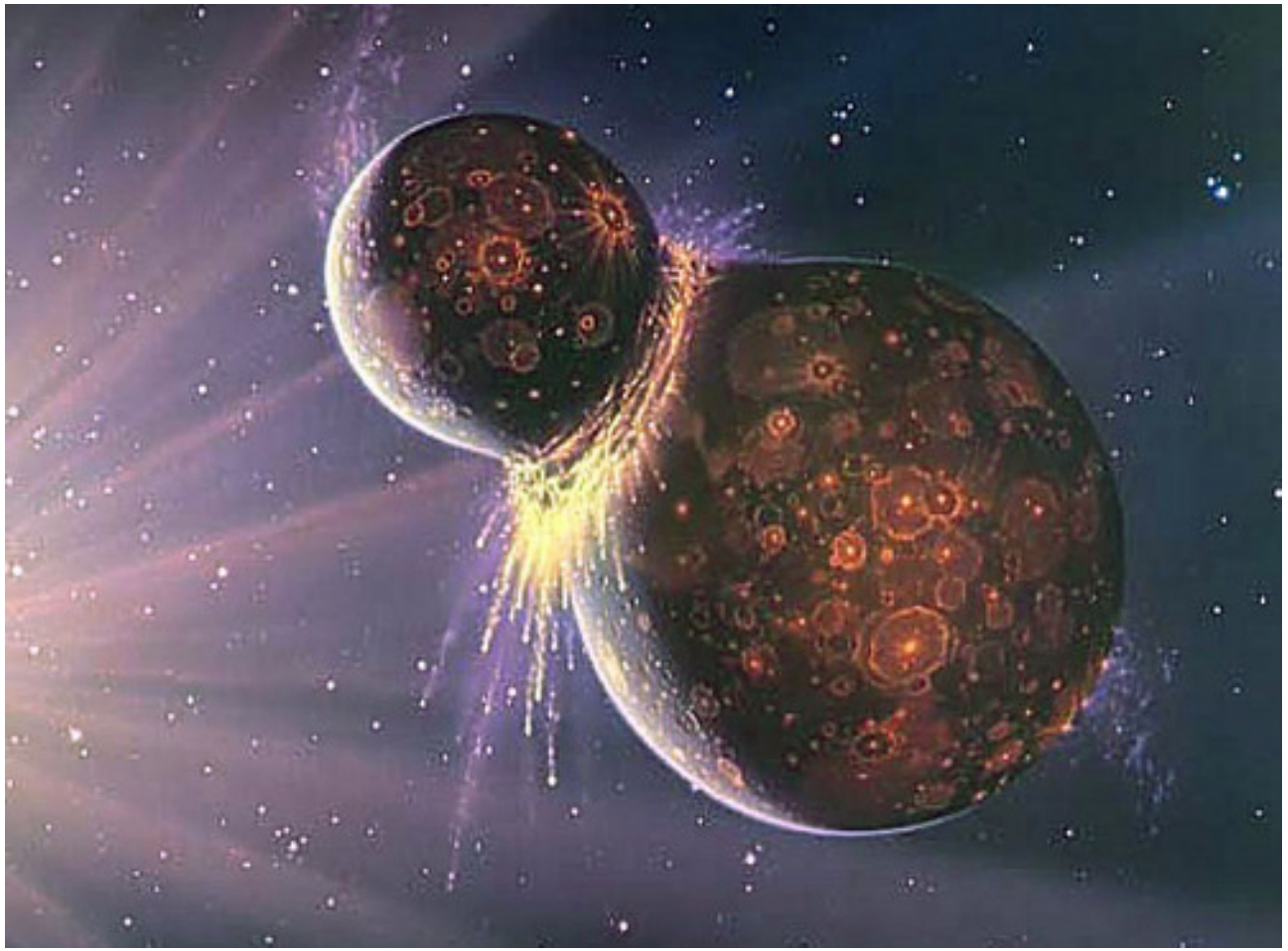
https://www.geol.umd.edu/~jmerck/geol100/lectures/02.html


Jurassic period
Triassic period
Permian period
Carboniferous Period
Devonian period
Silurian period
Ordovician period
Cambrian period
Precambrian era
Paleozoic era
Mesozoic era
Cretaceous period
Cenozoic era
Tertiary period
Eocene epoch
Oligocene epoch
Miocen epoch
Pliocen epoch
Pleistocene epoch
Holocene epoch
ERA
PERIOD
EPOCH
144 m.y.
206 m.y.
251 m.y.
300 m.y.
320 m.y.
354 m.y.
409 m.y.
439 m.y.
510 m.y.
543 m.y.
1 b.y.
65 m.y.
57 m.y.
35 m.y.
23 m.y.
5 m.y.
1.8 m.y.
Evolution of cells with nucleus
2 b.y.
Oldest fossil cells
3 b.y.
4 b.y.
4.6 billion years ago
Oldest rocks dated on Earth

THE EARTH FORMS

http://pics-about-space.com/solar-system-formation-animation?p=5#img16336549644699112596

MOON FORMS



https://www.geol.umd.edu/~jmerck/geol100/lectures/02.html

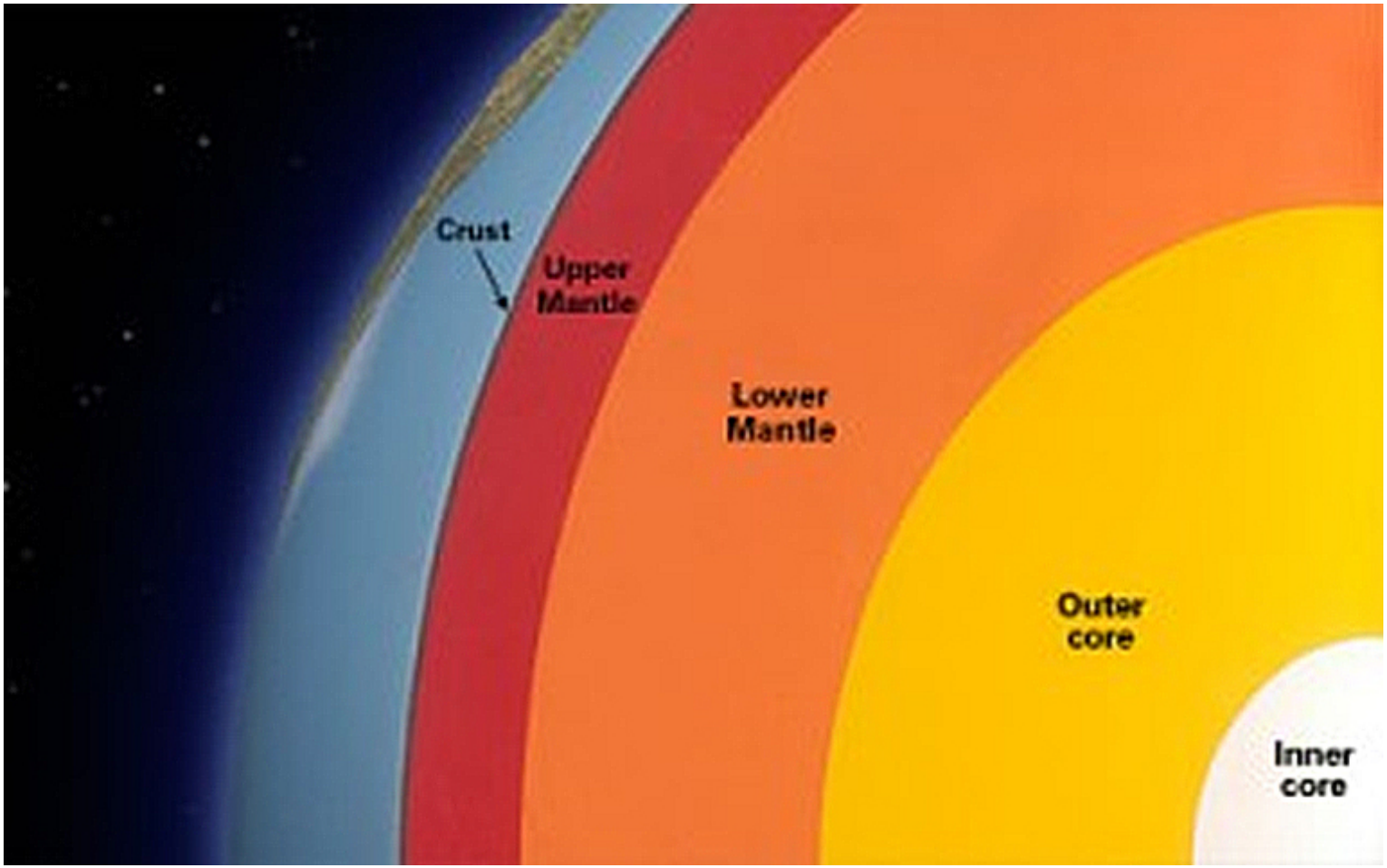
COOLING EARTH

http://www.novacelestia.com/images/hadean_earth_space_art.html

LATE HEAVEY METEORITE BOMBARDMENT

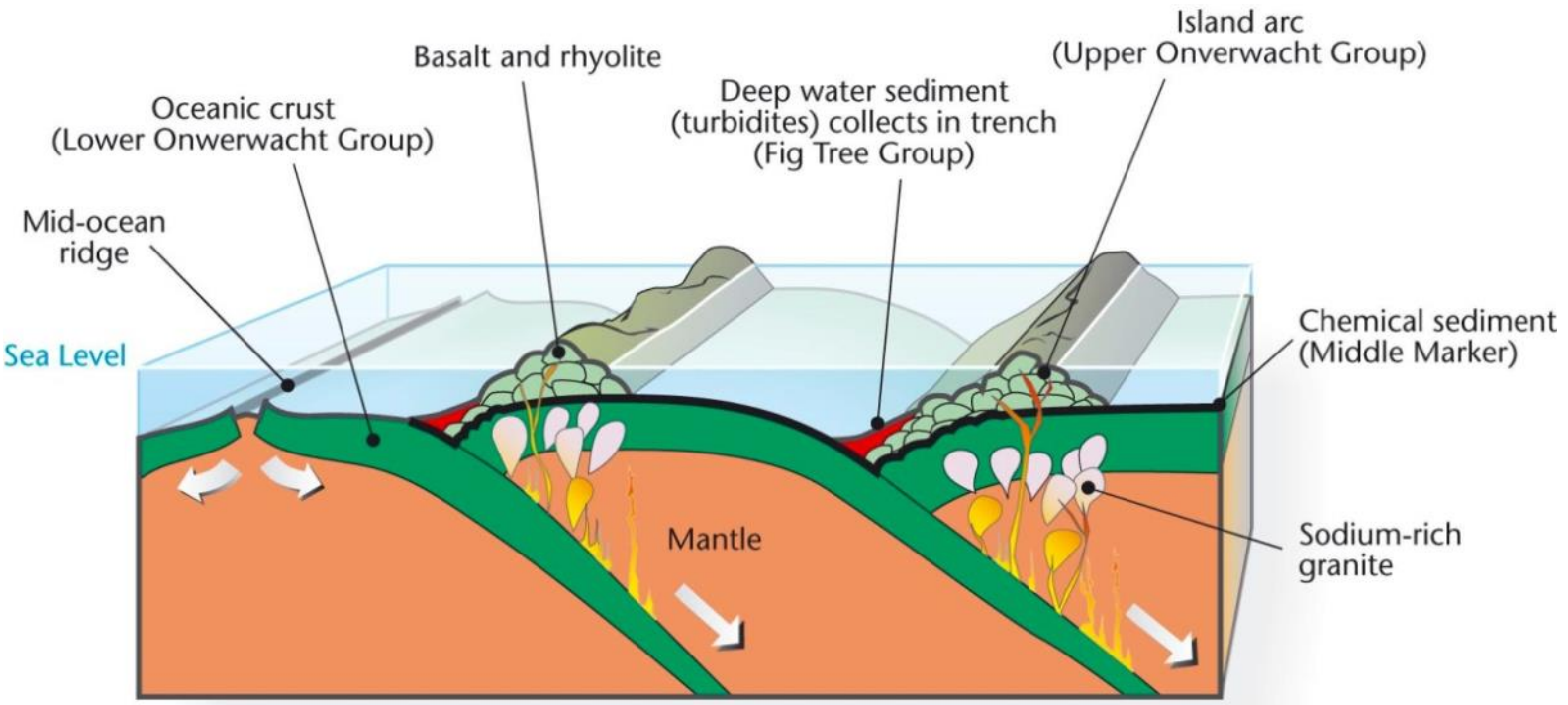
http://indeep.jp/plant-earth-human-4-5-million/

LAYERED EARTH



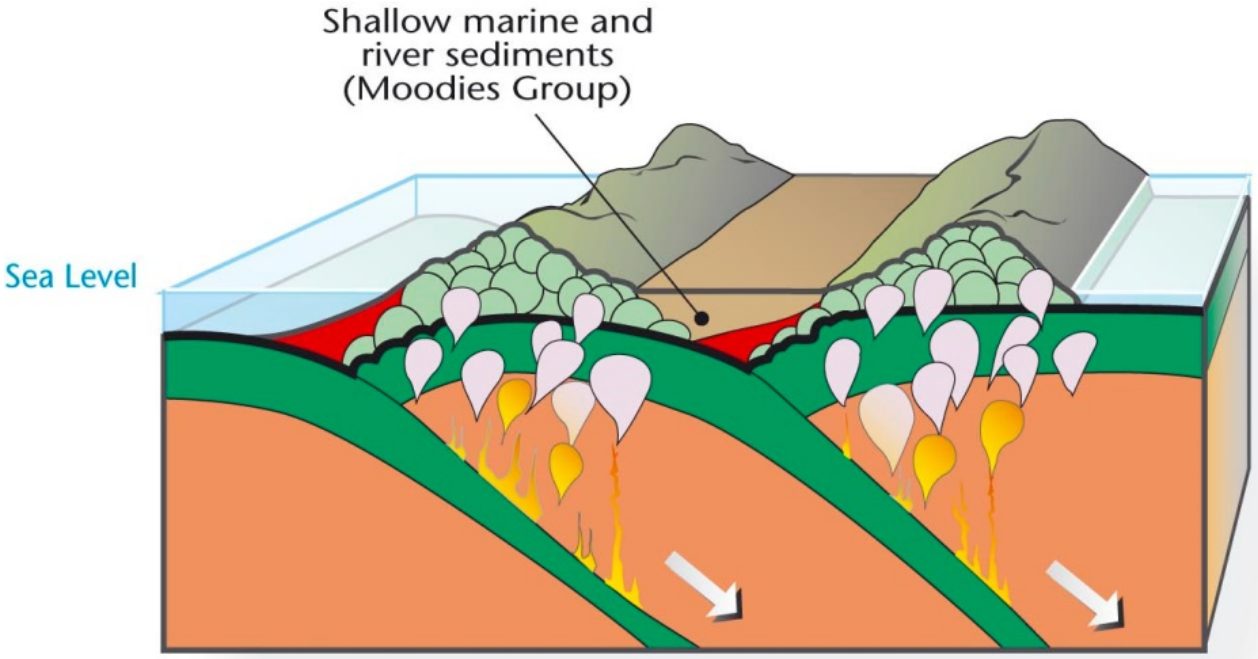
http://easyscienceforkids.com/all-about-earths-layers/

FIRST OCEANIC CRUST AND ISLAND ARCS



McCarthy, T and Rubidge B, 2005. History of Earth and Life. Struik

LATER SEDIMENTS, GRANITES, CONTINENTAL CRUST

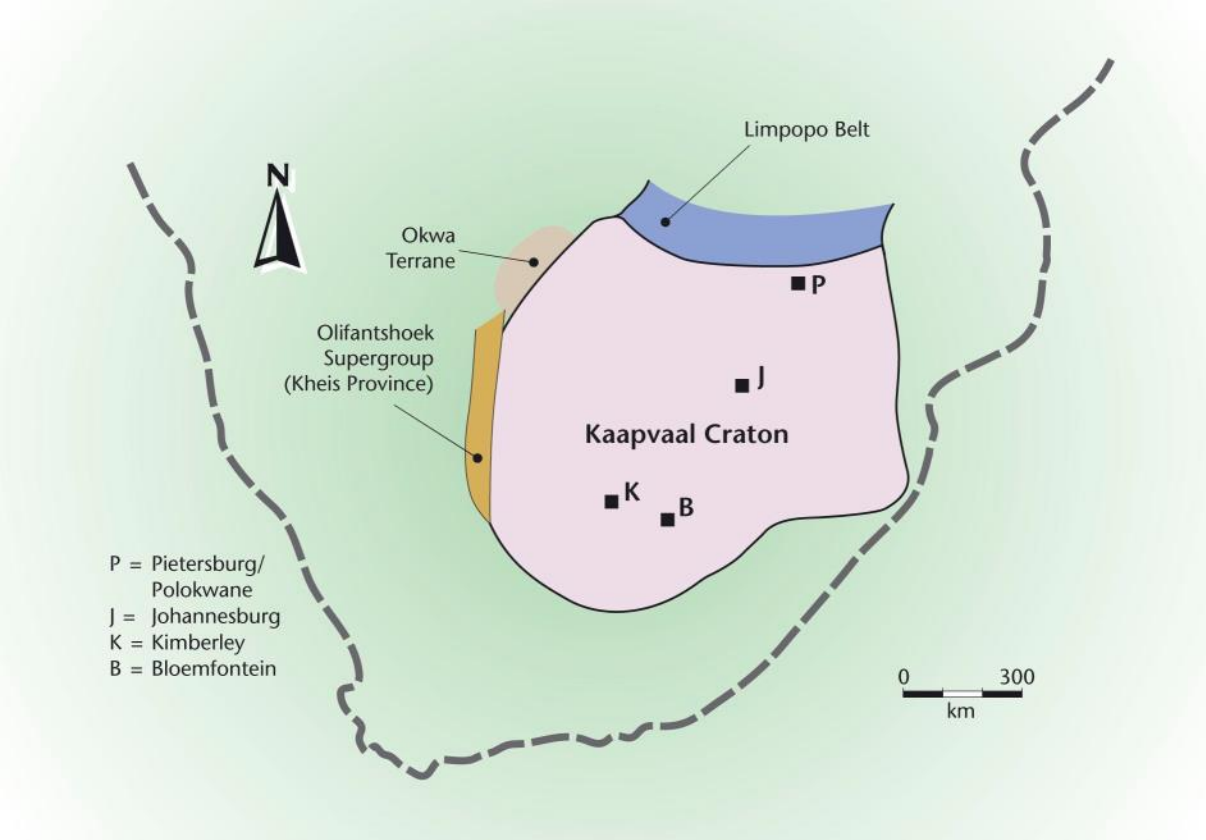


McCarthy, T and Rubidge B, 2005. History of Earth and Life. Struik

THE FIRST LIFE FORMS

http://indeep.jp/plant-earth-human-4-5-million/

EARLY CONTINENTS FORM



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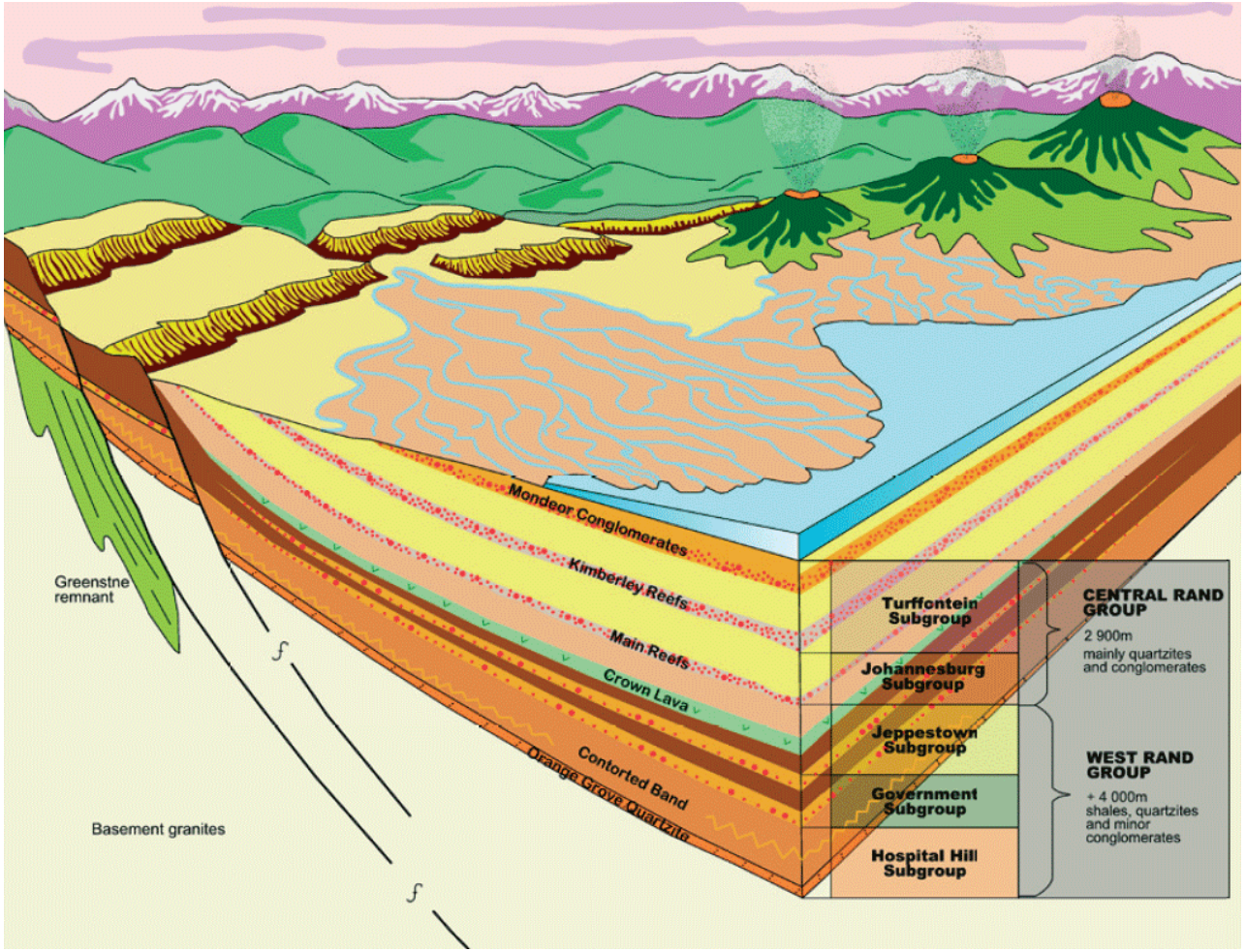
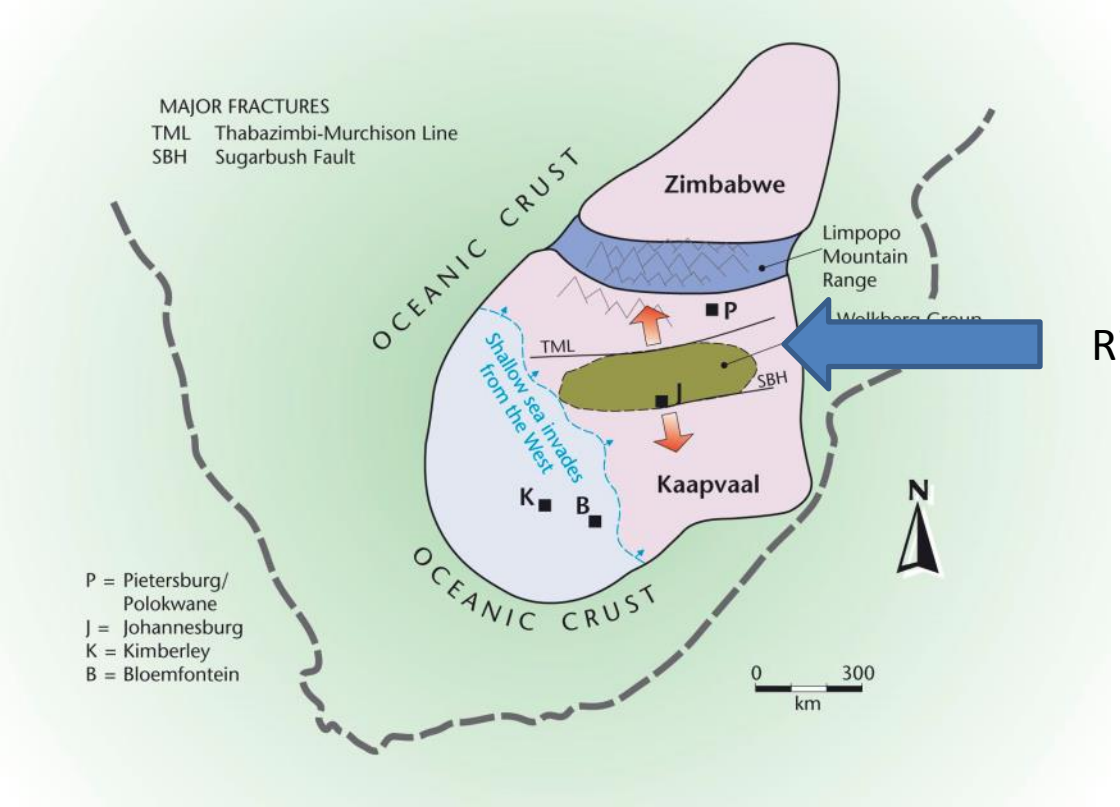
EARLY CONTINENTAL LANDSCAPE WITH ALLUVIAL FANS



THE KAAPVAAL CRATON IS AFFECTED BY A RIFT VALLEY WHICH FILLS WITH A SHALLOW SEA



Rift Valley

McCarthy, T and Rubidge B, 2005. History of Earth and Life. Struik

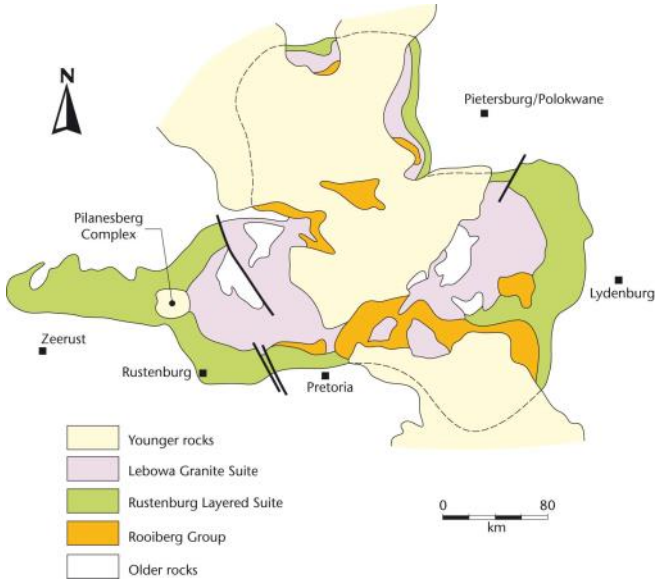
THE SHALLOW SEA IS THE PERFECT HOME FOR OXYGEN PRODUCING DOMES OF CYANOBACTERIA (STROMATOLITES) FORMING THE TRANSVAAL SUPERGROUP

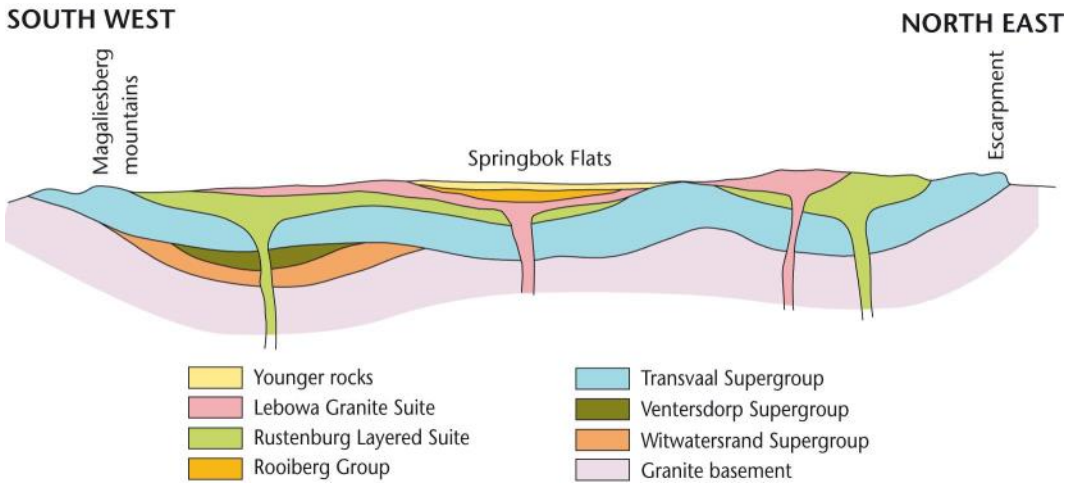
McCarthy, T and Rubidge B, 2005. History of Earth and Life. Struik

ATMOSPHERE BECOMES OXYGEN ENRICHED

BANDED IRON STONES
FORMED WHEN INSOLUBLE IRON IN OCEANS OXIDISED BECOM INSOLUBLE

VOLCANIC ERUPTIONS AND LOPOLITHS INTRUDE THE TRANSVAAL SUPERGROUP FORMING LAYERS OF MINERALS MANY OF THEM PRECIOUS





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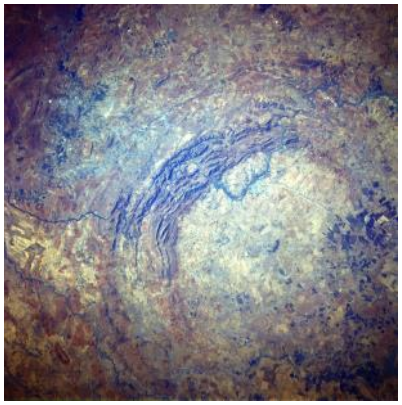
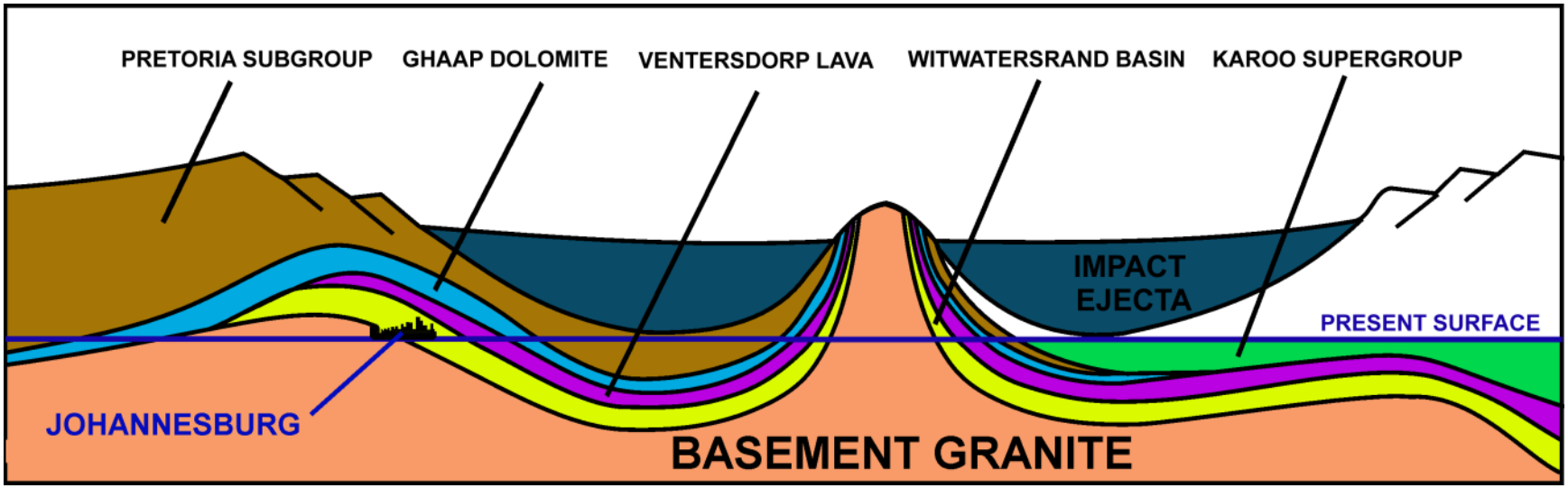
VREDEFORT METEORITE IMPACT CRATER (Largest and oldest in the world)

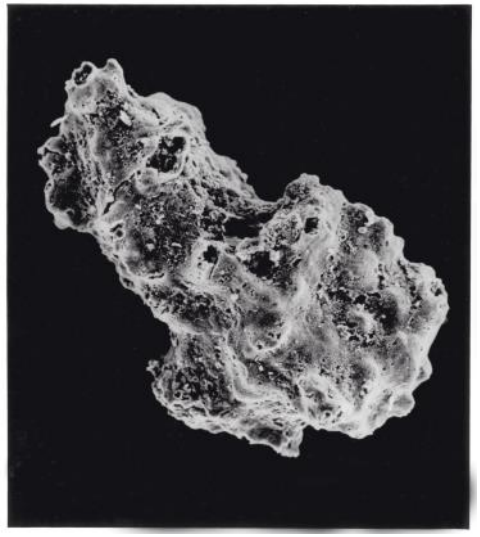
Diameter 300 Km





https://commons.wikimedia.org/wiki/File:Vredefort_crater_cross_section_2.png

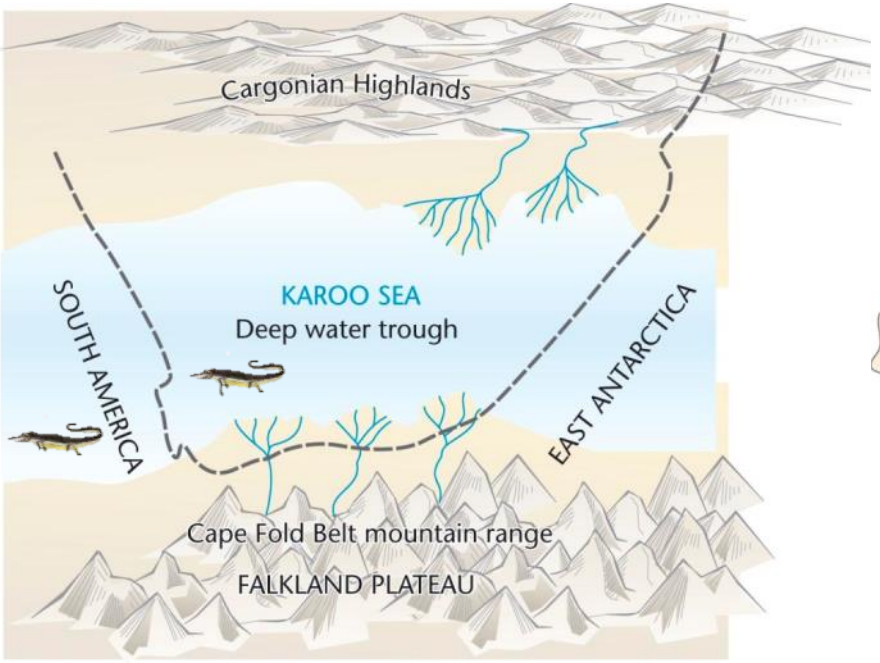
EDIACARAN FAUNA

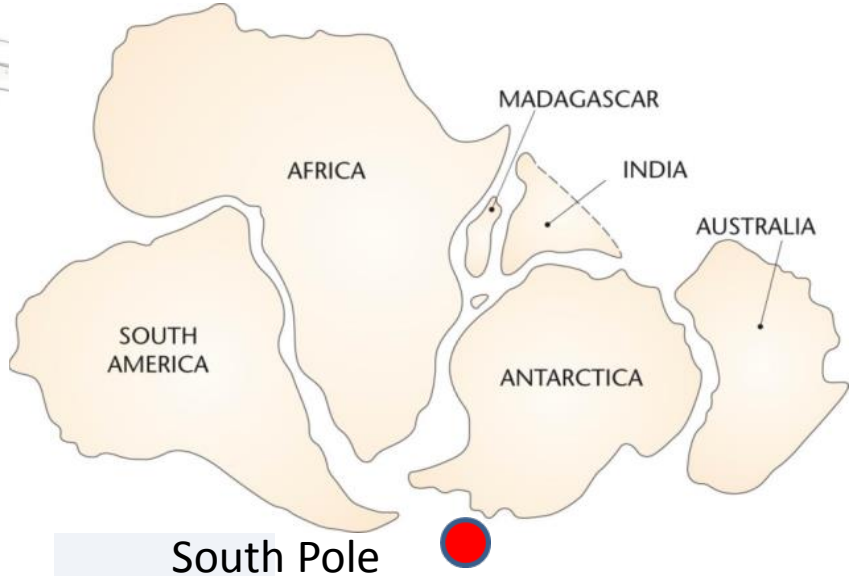


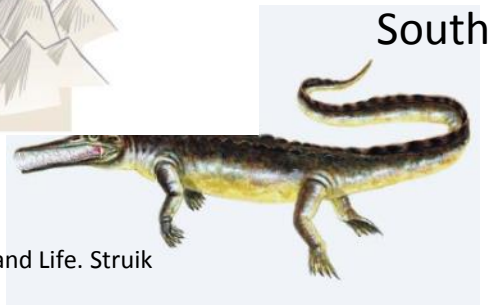
Good examples found in Namibia

CAMBRIAN EXPLOSION

KAROO SEA (ECCA GROUP)





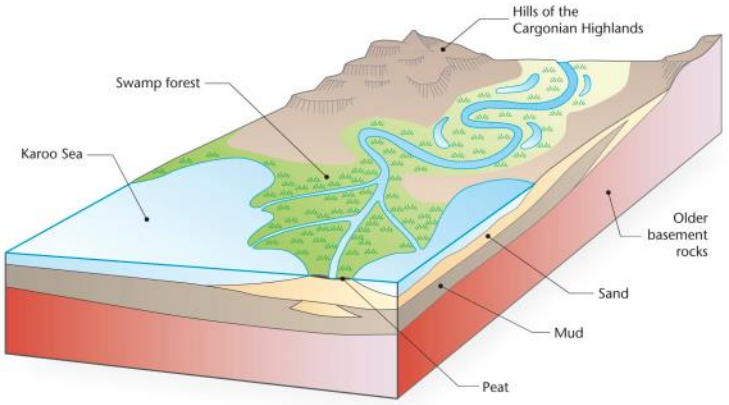


Mesosaurus

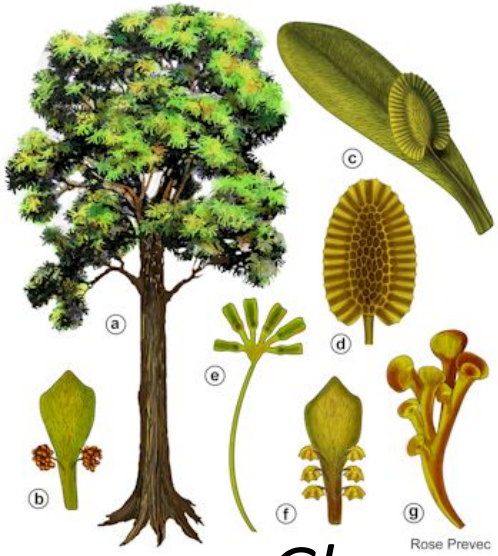
McCarthy, T and Rubidge B, 2005. History of Earth and Life. Struik

KAROO SEA (ECCA GROUP)

McCarthy, T and Rubidge B, 2005. History of Earth and Life. Struik



Artist: Maggie Newman



Glossopteris

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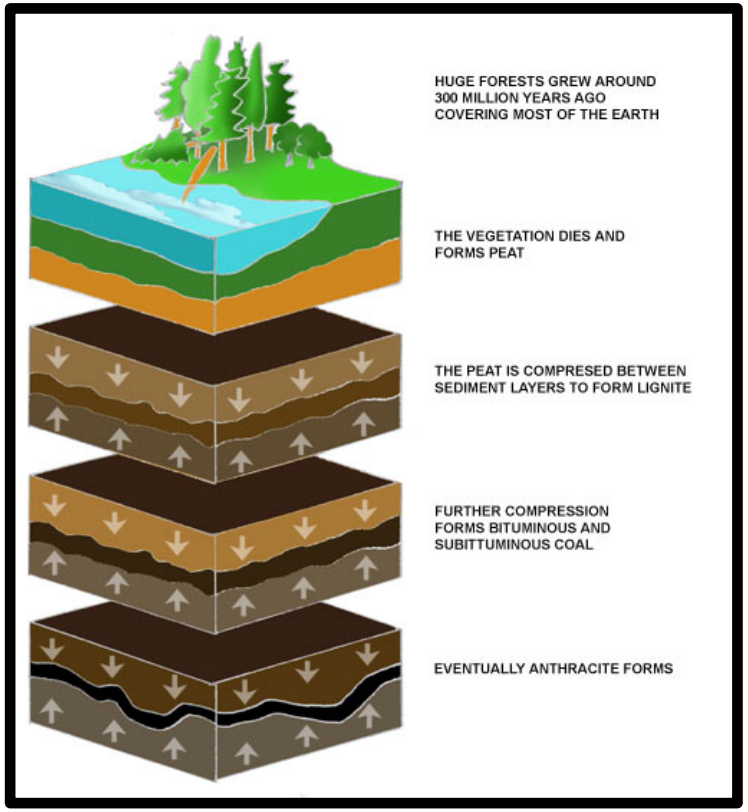
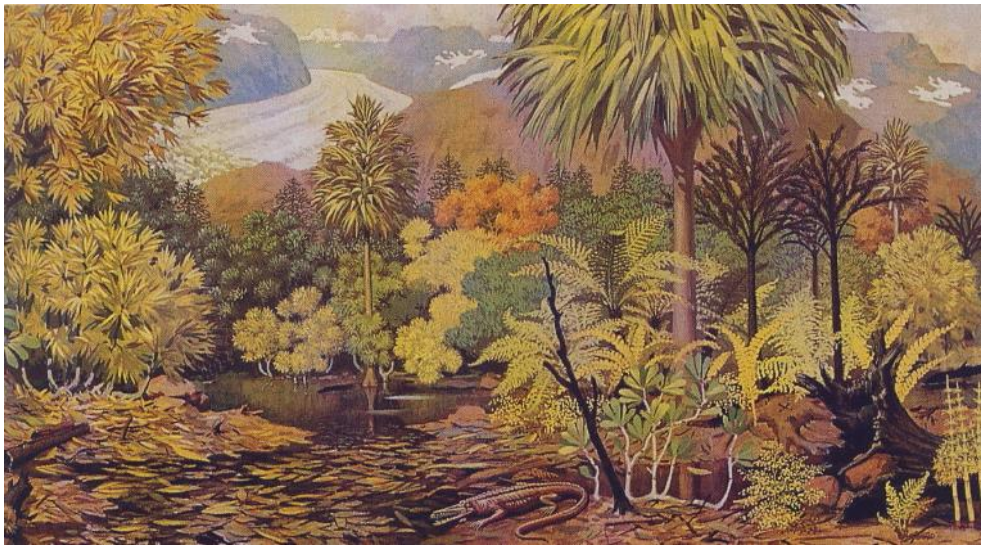
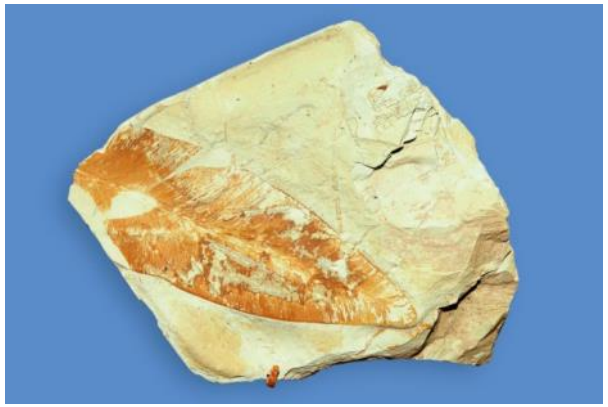
FORMATION OF COAL







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McCarthy, T and Rubidge B, 2005. History of Earth and Life. Struik

END-PERMIAN EXTINCTION

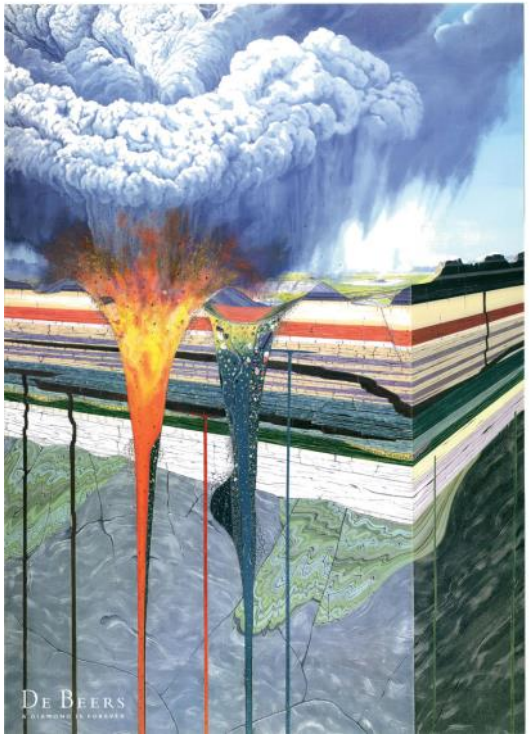
- Almost all life on earth was destroyed

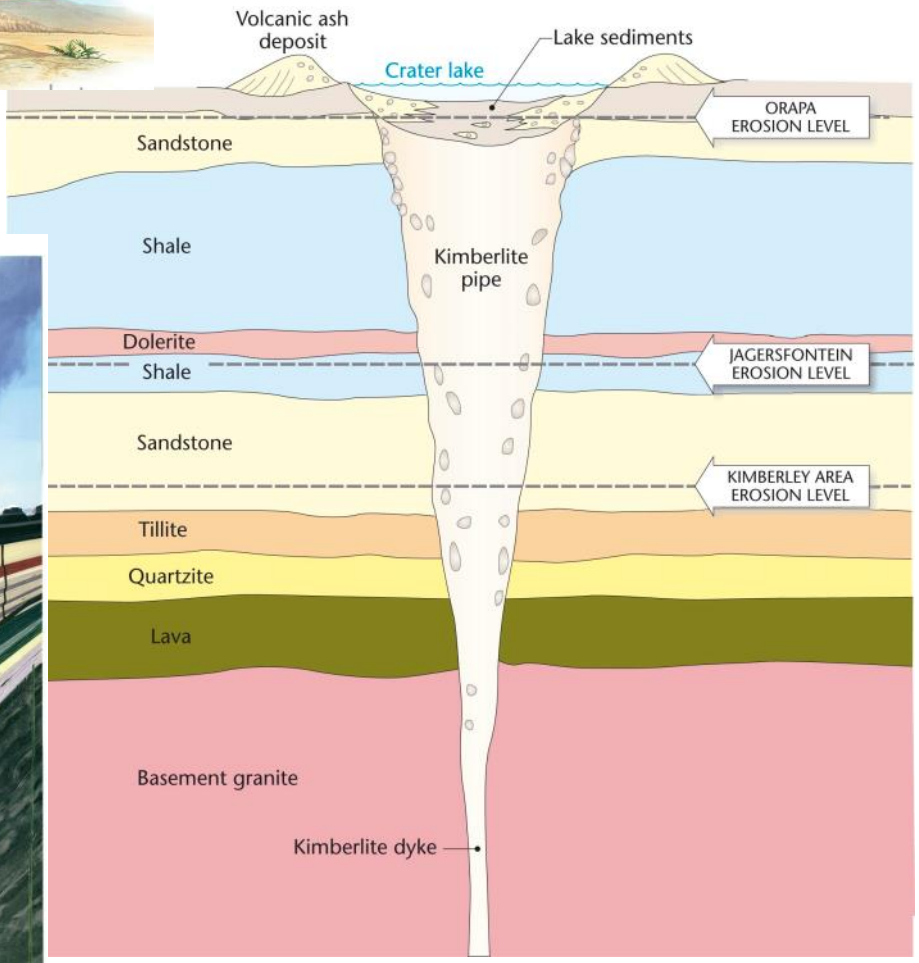
- Super rain shadow effect (Pangea)
- Tethys sea becomes surrounded by land and anoxix
- Sheet volcanics in Siberia

Artist Maggie Newman

AGE OF THE DINOSAURS

KIMBERLITE PIPES





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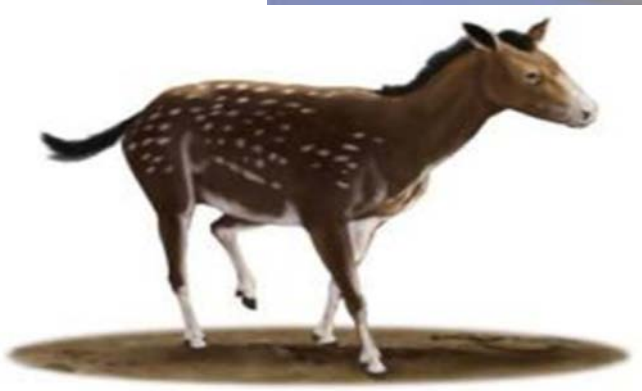
EXTINCTION OF THE DINOSAURS (AND OTHER ORGANISMS)

DIVERSIFICATION OF MAMMALS



ICE AGES

FORMATION OF THE ICE CAPS

- Drop in CO_2 levels from 1000 ppm to about 600 ppm
- Antarctic separated from South America
- Formation of a circumpolar current
- Isolated from warm tropical water

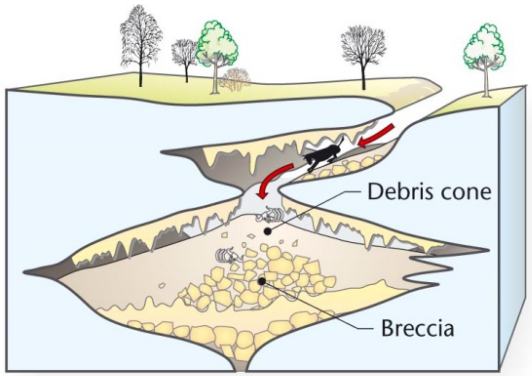
http://msuinantarctica.blogspot.co.za/2010_01_01_archive.html

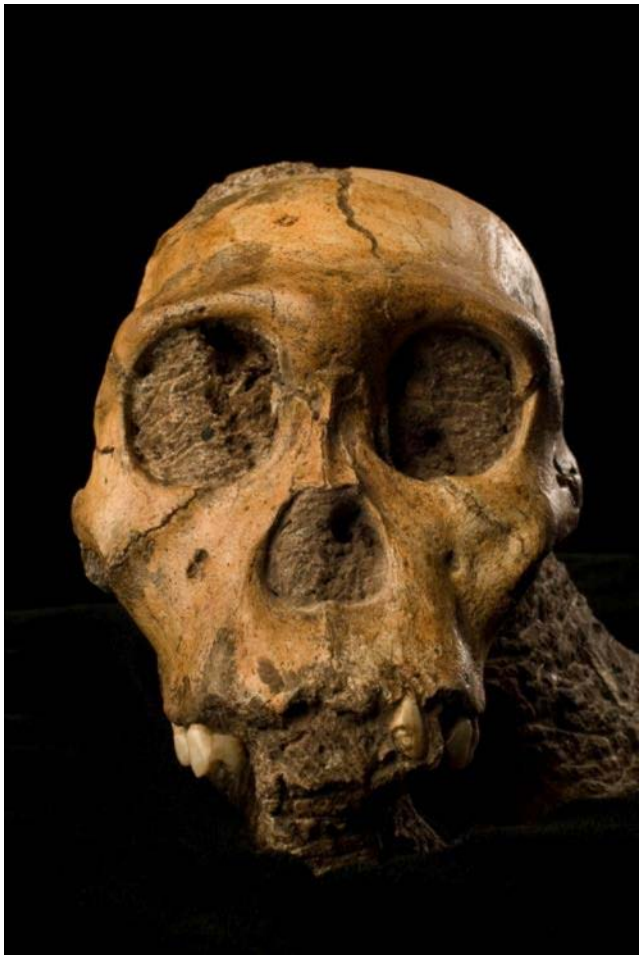
HUMANS

http://www.geotimes.org/apr05/WebExtra041505.html

SOUTH AFRICAN HOMININS

- Caves formed in dolomite rock
- Soluble in acidic water (carbonic acid)
- Fossil bones preserved by carbonate and mud





McCarthy, T and Rubidge B, 2005. History of Earth and Life. Struik

TSWAING METEORITE CRATER

- Second most well preserved meteorite crater in the world.

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HUMANS