

Scientific Problems for "Scientific Creationism"

How Old is the Earth?

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What is 'Scientific Creationism'?

- ⇒ Belief that earth & universe are very young compared to usual secular dates
 - Only thousands of years instead of billions
- ⇒ Claims the geologic record was laid quickly
 - Nearly all in one year of Noah's flood
- ⇒ But there are creationists who are scientific who do not subscribe to this view, so a better name would be "young-earth creationism."

Some Problems with a Young Earth

- ⇒ These problems can be categorized under two headings:
 - Problems with a young earth in general
 - Problems with flood geology in particular
- ⇒ We will consider these in reverse order.

What is 'Flood Geology'?

- ⇒ Claims geologic record is not a history of earth.
- ⇒ Rather geologic record is a history of Noah's flood.
 - Nearly all geologic strata laid down in one year.
 - Thus all geologic phenomena formed very quickly.
- ⇒ Flood geology is a major (indispensable?) feature of young-earth creationism.

Scientific Problems for 'Flood Geology'



Too Many Fossils

- ➡ There are thousands of feet of marine fossils.
- ➡ Was the earth really covered many feet deep with marine life just before the flood?
- ➡ This is no problem if these sediments are millions of years of deposits.



Too Many Species

- ⇒ An enormous variety of plants and animals are found in the fossil record.
- ⇒ Were there really hundreds of times as many species living at the flood as there are now?
- ⇒ This problem is solved if these varieties of plants and animals lived at various times in a much longer history of the earth.

Too Few Land Animals

- ➡ There are far fewer fossils of land animals than of marine animals.
- ➡ This is surprising if all these creatures perished in the same sudden catastrophe that buried them all in water or soil.
- ➡ This makes better sense if most land animals died on land (not in a flood), where scavengers & decay destroyed their carcasses before they could become fossils.

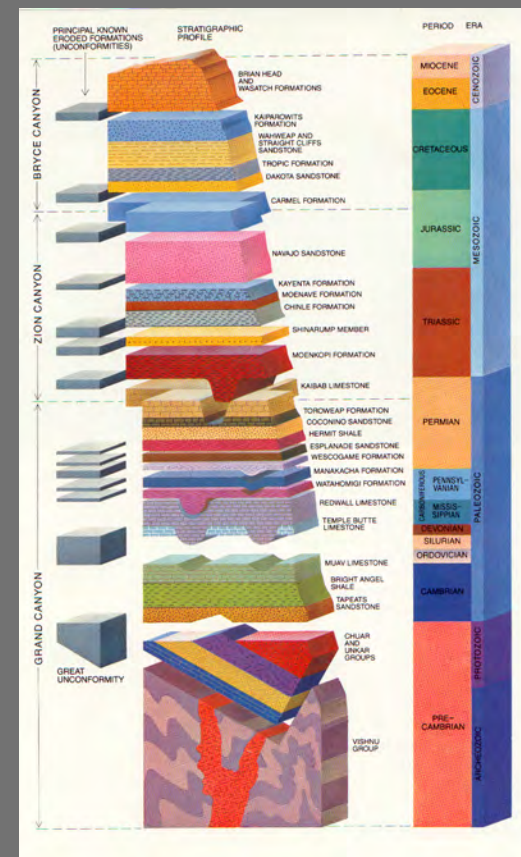
Sediment Distribution

- ➡ If the geologic record is largely that of a one-year flood, then the sediments should have settled into the lowest places – sea bottoms.
- ➡ But there is too much sediment on land, not enough in the oceans, to fit this scheme.
- ➡ This fits an old earth, in which sediments washed into the oceans are recycled by continental drift dragging them down into the mantle.

Strata Deposited Quickly?

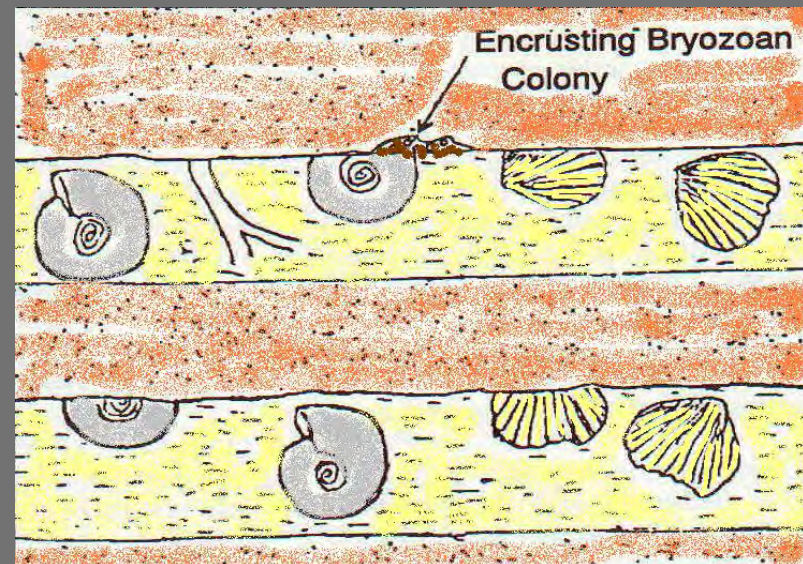
➡ This claim ignores the evidence of slow deposition & slow formation in much (but not all) of the geologic column:

- Erosion surfaces
- Potholes
- Types of cementation
- Metamorphosed sediments
- Conglomerate rocks



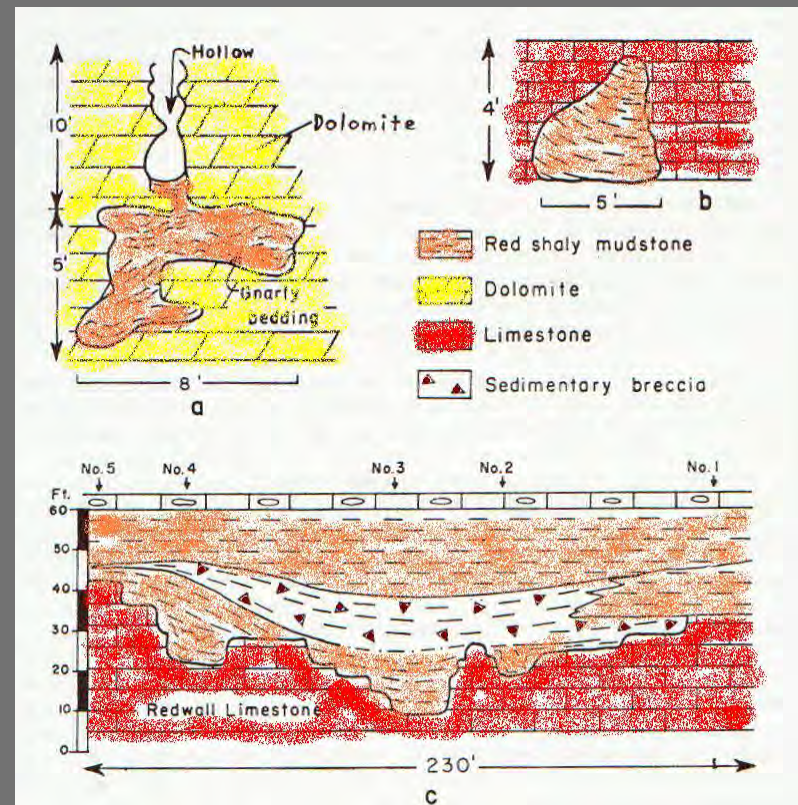
Erosion Surfaces

- ➔ Throughout the geologic column we find hills, valleys, stream beds.
- ➔ A number of these have embedded pebbles or shells which are eroded flat to match the surface.
- ➔ This shows the material holding these objects was already solid when the erosion occurred.



Potholes

- ➡ Potholes are roundish, vertical-sided holes found in river bottom bedrock.
- ➡ They are also found in buried strata, implying they were formed by rivers long ago.
- ➡ These structures need to be solid rock to form vertical or undercut sides.
- ➡ They show these layers were exposed at the surface as solid rock.



Cementation

- ⇒ Sedimentary rock consists of small particles cemented together. Some kinds are:
 - Sandstone – particles are sand
 - Siltstone – particles are silt
 - Limestone – particles are coral or shells
- ⇒ The cement is typically the same material as forms the particles.
- ⇒ This is surprising if all material was laid down quickly as mud by the flood, rather than gradually in water containing dissolved minerals.

Metamorphosed Sediments

- ⇒ Metamorphic rock has been chemically & physically altered by high heat & pressure.
- ⇒ Some metamorphic rocks were clearly water-laid sediments before they were altered.
- ⇒ Some of these have since been eroded and reburied, pointing to a long history of formation, not a one-year flood.

Conglomerate Rocks

- ⇒ Conglomerate rocks often consist of pieces of one sort of rock in a matrix of another type rock.
- ⇒ Some of these have rounded pebbles for the pieces.
- ⇒ Some of these rounded pebbles are sedimentary rocks.
- ⇒ Some of the sedimentary pebbles even contain fossils.

Summary on Quick Deposit

- ⇒ Not claiming that no sediments have ever been laid down quickly, e.g., Mt. St. Helens.
- ⇒ But clearly not all sediments were.
- ⇒ Like the processes of:
 - Breadmaking,
 - Decoupage,
 - Lacquering,
- ⇒ The time taken for the whole process is controlled by the **slowest** steps in the process.

Other Phenomena in the Geologic Record

⇒ The flood won't produce much of the detailed phenomena we actually find in the rock record:

- Salt layers
- Clay-silt layers
- Carbonate reefs
- Chemical separations
- Footprints
- Wind-laid sediments

Salt Layers

- ⇒ Sea water is about 3% salts, mostly NaCl, with a little CaCO_3 and CaSO_4 .
- ⇒ As sea water evaporates, the salts precipitate when different fractions have evaporated:
 - CaSO_4 when 50% evaporated
 - CaCO_3 when 80% evaporated
 - NaCl when 90% evaporated
- ⇒ If sea water has evaporated to:
 - Below 10%, get a triplet layer of salts
 - 10-20%, get a doublet layer
 - 20-50%, get only a singlet layer

Salt Layers in West Texas

- ➔ 200,000 doublet layers of CaCO_3 and CaSO_4 .
- ➔ Correlated up to 40 miles apart
- ➔ Average total thickness is 1300 feet
- ➔ Each layer < 0.1" thick.
- ➔ Looks like a summer-winter phenomenon, implying at least 200,000 years.
- ➔ Need to evaporate a **million feet** of seawater for this!



Clay-Silt Layers

- ⇒ Paired paper-thin layers deposited in lakes or seas:
 - Clean clay layer
 - Coarser layer with organic material (pollen, spores)
- ⇒ Looks like a seasonal phenomenon:
 - Pollen, spores washed in during growing season.
 - Fine material settles out when lake is ice-covered.

Examples of Clay-Silt Layers

- ➡ Green River Shales (WY, UT, CO)
 - Several million pairs (up to 20 million)
 - Covers over 10,000 square miles
 - Thickness varies with frequency of sunspot cycle and procession of equinoxes.
- ➡ Haymond Formation (TX)
 - 15,000 sandstone/shale pairs
 - Large area, almost a mile thick
 - How does one get silt to settle quickly?

Carbonate Reefs

- ⇒ A reef is a mound of limestone consisting of the skeletons of corals.
- ⇒ Coral animals can live only below water in the top 100 feet of the sea (to get enough light).
- ⇒ Corals have to process much seawater to get the CaCO_3 they use to make the reef.
- ⇒ The fastest known growth rates are $\frac{1}{2}$ inch per year.

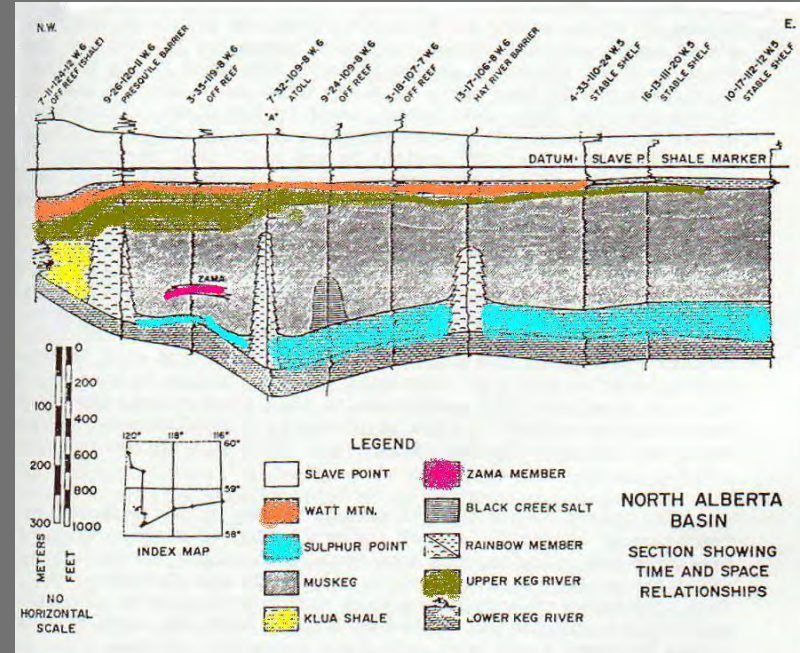
Examples of Carbonate Reefs

➔ Eniwetok Atoll

- 4600 feet thick
- 100,000 years to form at fastest known rates
- Erosion and land-plant pollen at some levels

➔ Buried Reefs (TX, Alberta)

- Underlaid by 1000s ft of sediments
- Reefs up to 1000 ft thick, many miles long
- Evidence that reefs have grown in place

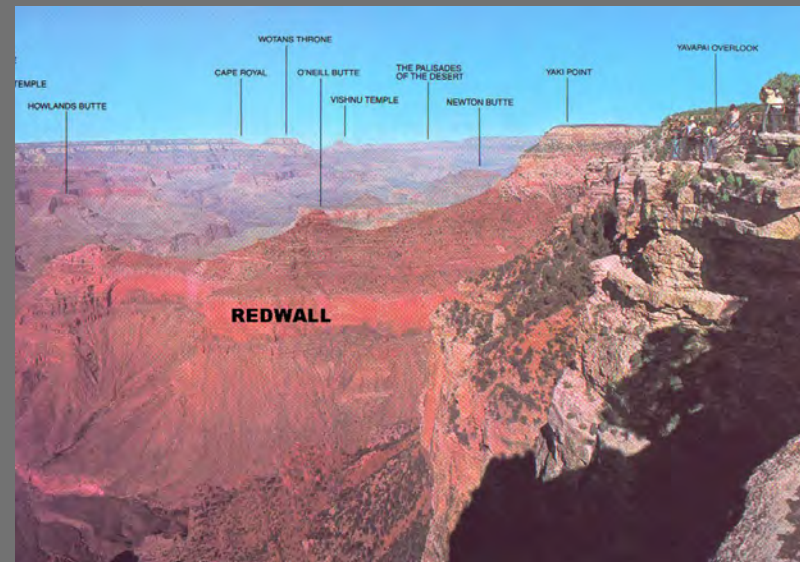


Chemical Separations

- ⇒ A number of geologic strata are nearly pure salt, limestone, shale or sandstone.
- ⇒ If the flood was characterized by huge tidal waves (to form layers), how do we get these nice separations rather than everything mixed up?
- ⇒ In an old-earth view, these represent long-term environments, for example:
 - Tropical tidal flat with strong evaporation
 - Temperate lake or bay with sedimentation

Example of Chemical Separation

- ➔ Redwall Limestone in Grand Canyon
- ➔ 500-700 feet thick, nearly pure limestone
- ➔ 175 mi NS, 275 mi EW
- ➔ Enormous number of marine fossils, vs layers above
- ➔ Many fossils delicate & unbroken, so apparently was rock before 2000 feet of sediment above added



Fossil Footprints

⇒ Young-Earth Interpretation

- Claimed both human and dinosaur prints in same strata, so both lived at same time, so evolutionists wrong.

⇒ Problems with Young-Earth Interpretation

- Paluxy strata underlain by 8500 feet of sediment.
- Though at surface here, overlaid E and S by much sediment.
- Thus in young-earth view, tracks were made **during** the flood!

Paluxy Footprints

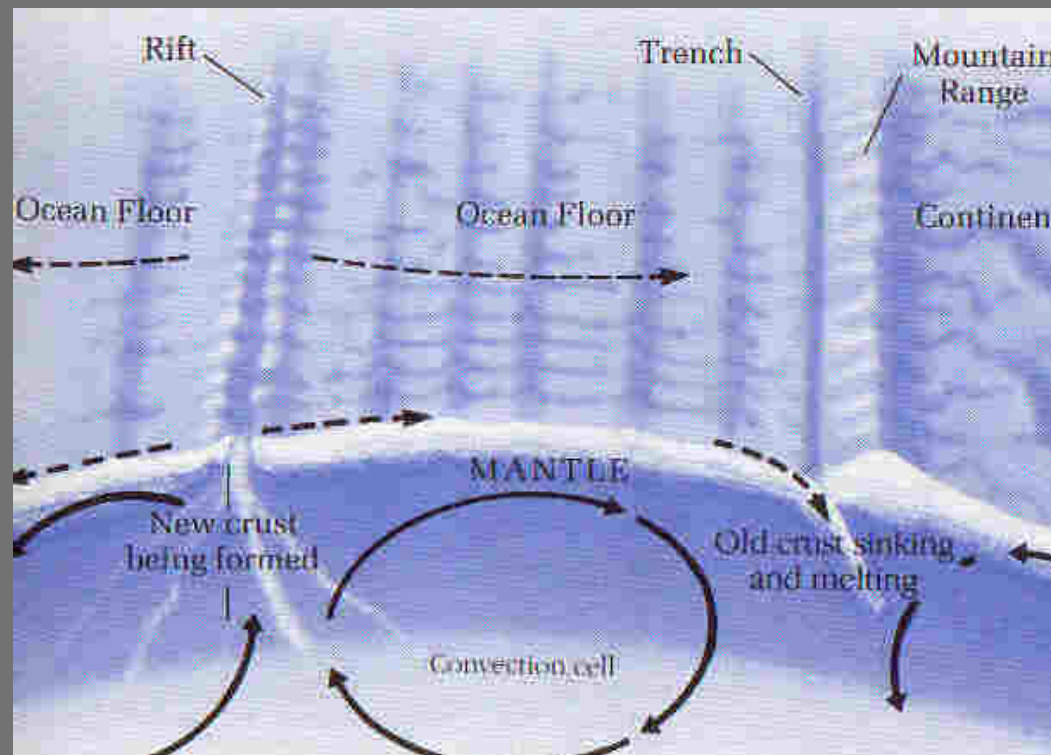
- ⇒ Recent evidence indicates that most of the claimed human tracks are parts of sequences that are clearly dinosaur tracks further on.
- ⇒ Other "human" tracks:
 - Some clearly fraudulent
 - Some irregular erosion patterns
 - A few might be genuine; more work needed to establish this.
- ⇒ About 60% of underlying strata is limestone, with fossils indicating this was rock before other sediment laid down

Wind-Laid Sediments

- ➡ In many places wind-laid sediments (desert dunes) are interspersed with large thicknesses of water-laid sediments above & below.
- ➡ Are we to assume that parts of the earth were bone-dry during the one-year flood, and that large dunes had time to form?
- ➡ This better fits an old earth.



Other Problems with Young Earth



Other Scientific Problems

- ⇒ There are other scientific problems with a young-earth view of origins besides those related to flood geology:
 - Changes from current rates
 - Astronomical problems

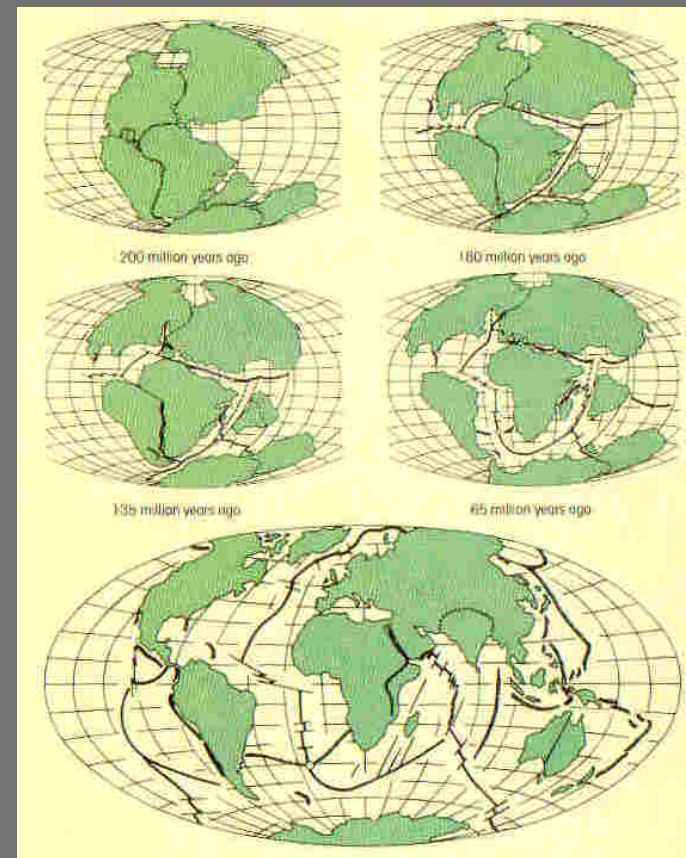
Current Rates

➡ To have a young earth, one must assume that many things happened much more quickly in the past than they do today:

- Speed of light
- Radioactive decay
- Cooling of rock
- Movement of continents
- Growth of corals
- Magnetic field reversals

Movement of Continents

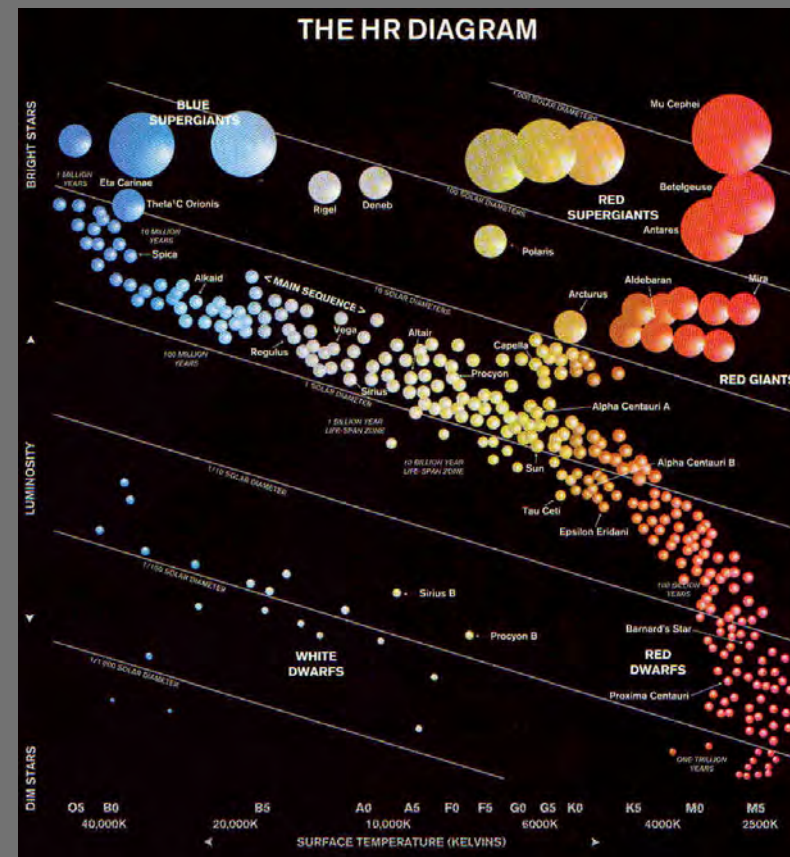
- ➔ We can measure the current rate at which continents move, ~ one inch per year.
- ➔ This is consistent with geologic dating for their separation & collision.
- ➔ It also fits the increasing depth of sediments as one moves away from the spreading centers.
- ➔ It also fits the pattern of magnetic reversals.



Astronomical Phenomena

A young earth is not the natural reading of:

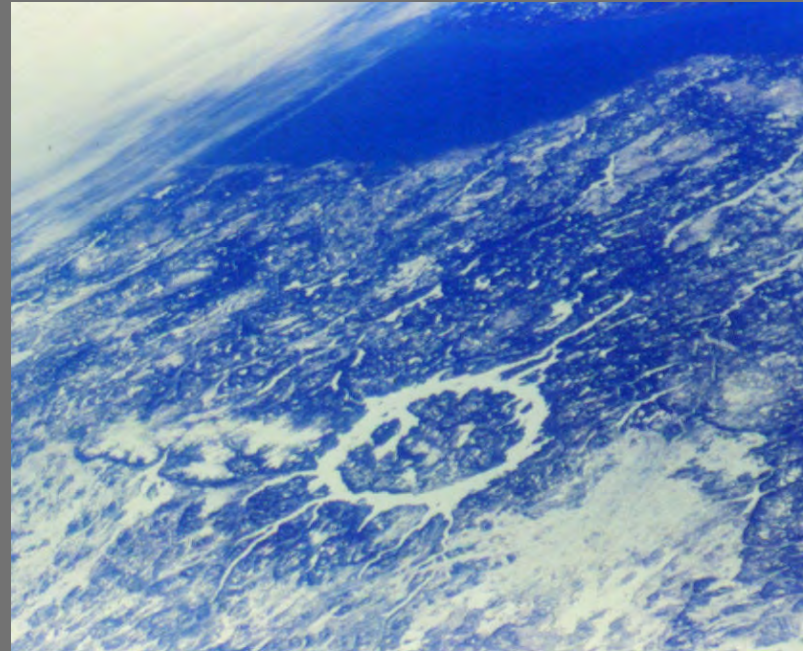
- ➡ Light travel-time
- ➡ Stellar life cycles as calculated & observed
- ➡ Planetary cratering
- ➡ Tidal slowdown



The Young-Earth Track Record

... Is not impressive!

- ⇒ Dinosaur-human tracks
- ⇒ Decaying magnetic field of earth
- ⇒ Changing speed of light
- ⇒ Shrinking sun
- ⇒ Moon dust
- ⇒ No old meteor craters



Similar to Geocentrism

- ⇒ The arguments for a young earth have a similar structure to those for geocentrism.
- ⇒ According to geocentrism, the sun goes around the earth instead of the earth around the sun.
- ⇒ Emphasis is placed on the alleged meaning of various Bible passages as ruling out other views.
- ⇒ Proponents refuse to let scientific data count in deciding what the Bible might mean.

A Caution

As Augustine teaches, there are two things to be observed in questions of this kind. First, that the truth of Scripture be inviolably maintained. Second, since Divine Scripture may be explained in many ways, that no one cling to any particular exposition with such pertinacity that, if what he supposed to be the teaching of Scripture should turn out to be plainly false, he would nevertheless presume to put it forward; lest thereby Sacred Scripture should be exposed to the derision of unbelievers, and the way of salvation should be closed to them.

Aquinas, *On the Work of the Second Day*

The End

"Test all things;
hold fast to that which is good."

For Further Study

- ➔ Alan Hayward, *Creation & Evolution*
- ➔ Moreland & Reynolds, *Three Views on Creation and Evolution*
- ➔ Newman & Eckelmann, *Genesis One & the Origin of the Earth*
- ➔ David Snoke, *A Biblical Case for an Old Earth*
- ➔ John Wiester, *The Genesis Connection*
- ➔ Dan Wonderly, *Neglect of Geologic Data*
- ➔ *See our website at www.ibri.org.*