

Sea-Floor Sediment and the Age of the Earth

by Larry Vardiman

Reviewed by Michael J. Oard

There is a vast difference between how uniformitarian scientists and creation scientists view Earth history and the data sets from the past. This monograph starkly illustrates this contrast by organising data from oceanography within the young-Earth paradigm. As a result, the outcome is radically different from the standard interpretation, and as Larry states:

'It is likely that an entirely new understanding of paleoceanography could be developed from this preliminary age model' (page 23)

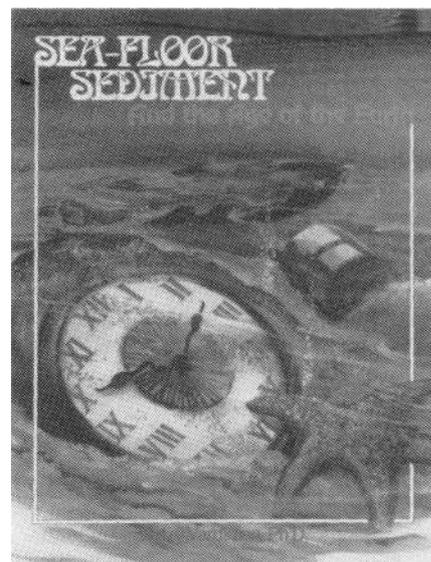
In this monograph, Larry (who has a Ph.D. in atmospheric physics) provides general information, mostly within five appendices, on the distribution, type, and average thickness of sediment on the ocean bottom. It came as quite a surprise to uniformitarian scientists when they first discovered that the average thickness of generally unconsolidated ocean sediment is thin compared to continental sediments—only 600 metres. Since these sediments have an average water content of about 50 per cent, they represent 300 metres of lithified sediment. He also gives us the modern sources and accumulation rates of sediments within the present uniformitarian age. He also presents an overview of the ocean drilling programme, including where the holes have been drilled. One big asset for the person unfamiliar with oceanographic and geologic jargon is a glossary.

In their paradigm, uniformitarian scientists simply extrapolate the current snail-paced accumulation rates of ocean sedimentation into the past.

One of the main points of this monograph is to show that from the global Flood model, we need to apply an exponentially decreasing rate of sedimentation from the Flood to the present. With this biblical model, the author derives a standard age equation, but uses biblical boundary conditions to reinterpret sedimentation and oceanic cooling rates after the Flood. As a result, sedimentation and oceanic cooling is very rapid immediately after the Flood. Based on oxygen isotope data from foraminifera shells in deep-sea cores (explained in appendices C and E), the ocean temperature falls about 15°C in several hundred years after the Flood (Figure 3.5). Since the warm water immediately after the Flood provides the copious mid and high latitude evaporation for a post-Flood Ice Age, this result agrees well with my model.¹

Such rapid cooling also causes a vigorous oceanic circulation, significantly greater than today. This in turn enhances vertical overturning and upwelling of nutrients for prolific biological reproduction. I might add that the atmospheric circulation and precipitation probably were enhanced after the Flood, increasing lithogenic and aeolian input into the sea. All these non-uniformitarian considerations would have resulted in significantly higher biogenic and lithogenic sedimentation rates. However, the details of these processes still need to be worked out. The problem of explaining all the biogenous sediments within the Genesis Flood paradigm was first brought up by Roth.²

This monograph is admittedly a



preliminary study. The exponential decrease in sedimentation, although a good first-guess trend, likely needs refinement. At this stage of the investigation, it is likely too early to speculate on the time-frame of oxygen isotope oscillations found at the tops of cores. These fluctuations have been correlated to repeating ice ages by uniformitarian scientists. The physical meaning of these oscillations still needs to be explained within the creationist paradigm.

Larry, sensitive to the Flood/post-Flood boundary controversy within creationism, opts as a first guess to use the top of 'Cretaceous' ocean sediments as the end of the Flood. Hence his equations are derived for the 'Tertiary' sediments. This is a sensible approach, but here is where we must be cautious, because the Cretaceous-Tertiary boundary in the ocean is a uniformitarian interpretation based on microfossils. Hence, the oldest ocean sediments are said to be Middle Mesozoic. Since these organisms were alive before and during the Flood, and probably after the Flood, we cannot simply borrow their relative time-frame for the Flood and say that the ocean floors are late Flood. For those creationists who believe the geological column is a Genesis Flood sequence, the uniformitarian time-

scale derived from oceanic microfossils may not be correlated to continental index fossils. The current oceanic distribution of microfossils and the lack of macrofossils on the ocean bottom is likely due to the mechanism of the Flood and its aftermath. There also is the common problem of reworking and the tendency to give multiple names for the same micro-organism if found in different aged layers.³ All this needs to be sorted out within creationism, which will not be easy.

Larry focuses on oxygen isotope ratios as indicators of oceanic temperatures, as well he should since this ratio usually is the main variable of interest to uniformitarian scientists. However, the meaning of oxygen isotope ratios needs to be kept in perspective. It is probably true that oxygen isotope ratios are a general

indication of temperature. However, there are many variables that can affect the down-core measurements of oxygen isotopes,⁴ several of which Larry describes. I believe the general increase in the oxygen isotope ratio in micro-organisms up-core, and hence decreasing temperature is a good trend with time, but the magnitude of the derived temperature change is questionable. Hence, the Tertiary and Quaternary wiggles superimposed on the general trend (Figures E1 and E2) may be due to the other variables that affect oxygen isotope ratios. Even some uniformitarian scientists have concluded that oxygen isotope ratios can be way off when compared to fossil information.⁵

This is a good monograph to acquaint the reader with the differences between the uniformitarian and creationist models of

oceanic sediments. It is preliminary, but a good start in hopefully incorporating oceanographic data sets within the creationist paradigm.

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Noah's Ark: A Feasibility Study

by John Woodmorappe

Reviewed by Michael J. Oard

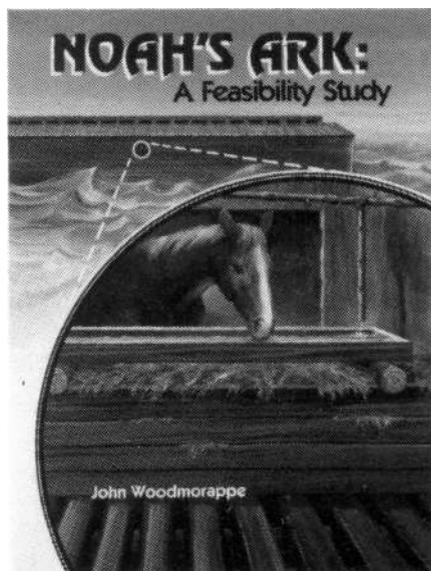
There is no doubt that this book is the definitive work on the Ark and its feasibility. John Woodmorappe analyses, numerically where possible, about every conceivable question Christians and critics, alike, have ever asked about the feasibility of the Ark. Woodmorappe really shines with those aspects of the Ark that critics deem the most contradictory to reason, such as the number of animals on the Ark, the gathering of the animals, how could the eight people care for all the animals, and waste management.

He also does not take the easy way out of difficulties. In the possible problem of the care of the animals, for instance, he does not opt for hibernation (although a possible solution, at least for some animals),

but goes through the rigour of working out the problem without this easy solution.

The types and number of animals needed for the one-year survival voyage are perhaps the most asked questions. Some critics go the extra mile in making up objections, such as Noah had to carry deep-sea creatures. However, the Genesis account says that '... all that was on the dry land, all in whose nostrils was the breath of the spirit of life, died' (Genesis 7:22). Marine creatures, thus, would be excluded.

One does not have to read much biology before he realises that the taxonomic definition of the species is restrictive and vague, usually with the phrase 'reproductive isolation' an



integral part. Successful interbreeding or potentially successful interbreeding is not necessarily part of the definition of a species, as one not trained in biology would have expected. The test of interbreeding is rarely performed anyway. So, critics really cannot claim that millions of 'species' had to board the Ark. Genesis uses the word 'kind' to describe distinct groups of animals.