Can Noah's Flood Make ANY Chalk Beds?

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Young earth creation science advocate Andrew Snelling proposes in his article "Can Flood Geology Explain Thick Chalk Layers?" [1] that it is possible to lay down massive layers of chalk in a short amount of time. It is necessary for him to prove this can happen, because the chalk layers must be laid down during the Flood of Noah for him to prove that the earth is young, and that the days of creation were literal twenty-four hour days.

So, what is chalk? For that I refer you to Dr. Snelling's article, and the section so titled. Then come back here and continue reading.

The Hook, Line, & Sinker Tactic

Further down in his article, he aptly describes the problems that must be solved for flood geology to account for these thick chalk layers. The key problem here is the production rate of these organisms. In order to lay down these thick chalk layers, these organisms must be very prolific. In fact, he states the deep ocean floor as the place with the purest calcareous ooze, and its reported accumulation rates range from 1-8 centimeters per 1,000 years and 2-10 centimeters per 1,000 years, depending on the origin of the ooze. At this rate, his obvious problem is to figure out a model which can produce 1,329 feet of chalk in only the time frame of the Flood of Noah (371 days).

To propose the young earth model, Snelling relies on the research of Dr. Ariel Roth and John Woodmorappe. He does so by slowly upping the ante, by gradually leading us up and up the scale of believability. He starts by Roth's calculations that *"the top 200 metres of the ocean would produce 20 grams of calcium carbonate per square centimetre per year, or at an average sediment density of 2 grams per cubic centimetre, 100 metres in 1,000 years."* Okay, now we don't have millions of years as geologists propose, but if you do the math, you can create 1,329 feet of chalk (the amount in the cliffs of Dover, England) in only 4,050 years. We are closer to 371 days, but still far away.

These calculations were based on the source of the chalk being foraminifera. Now, Dr. Snelling leads us into the other source of chalk, coccolithophores. Roth, using this source, argues that these organisms can multiply at a rate of 2.25 divisions per day. Now, we are able to *"produce an average 100 metre (305 feet) thickness of coccoliths as calcareous ooze on the ocean floor in less than 200 years."* Following this math out, we could produce 1,329 feet of chalk in 750 years. We have gone from millions of years,

down to 4,050 years, and now to 750 years. We still have a ways to go to get to 371 days.

It is obvious at this point what tactic is being employed by Dr. Snelling. Call it the "Bait and Reel." He presents the problem, then tempts you with the bait. First, he lowers it to 4,050, then to 750 years. What he is doing is gradually reeling in the reader into believing his conclusions. Of course, the average reader with no knowledge of the subject will fall for this tactic 'hook, line, and sinker.' However, if you take the time to step back and look, you realize he has to use this tactic to convince his audience, because a straightforward approach would fall flat on its face. Anyway, let's allow him to continue.

Now we move into the "Blooms" part of his argument. The two supporting geologists "recognize" that coccolith accumulation is not a slow, steady process, but is highly episodic. In other words, they have periods of highly increased production rates, even to the point that near Jamaica you can see "white water" conditions because of the density of these organisms. The various reasons suggested for this condition is *"turbulence of the sea, wind, decaying fish, nutrients from freshwater inflow and upwelling, and temperature."*

At this point, Snelling claims all of these "reasons" would be present during the catastrophic global Flood, "thus rapid production of carbonate skeletons by foraminifera and coccolithophores would be possible."

He states, *"It has been reported that oceanic productivity 5–10 times greater than the present could be supported by the available sunlight."* The reported 5-10 times production rate would lower the 750 years to 75 years at best...not to the 371 days required by the flood model. (Notice that although he can get us down to 75 years, the rest is speculation.)

Why Noah's Flood Can't Produce Chalk Layers

Okay, even if you believe this, it is impossible to overcome the following argument.

Let's back up to the beginning of the article. Remember that these chalk beds form when the organisms die, and their calcium carbonate shells start falling slowly to accumulate on the ocean floor. *"It has been estimated that a large 150 micron (0.15mm or 0.006 inch) wide shell of a foraminifer may take as long as 10 days to sink to the bottom of the ocean, whereas smaller ones would probably take much longer. At the same time, many such shells may dissolve before they even reach the ocean floor."*

What happens when you have a planet full of water? A study of the currents during such an event was done by young-earth creationists Baumgardner and Barnette, and young earth proponents depend heavily upon this study. You get ocean current rates of 40 to 80 meters per second, or 131 to 262 feet per second, which equates to 89 to 179 miles per hour currents. Imagine a football field, with the starting point at one goal line.

After one second, the water would be at the 13 yard line, 87 yards away. These currents are centered over the continental land masses in cyclonic gyres, and are stronger towards the western margins.

Chalk forms in shallow, calm water. The continental slopes adjacent to the continents would be drastically affected by these gyres. Unfortunately for Snelling, these organisms thrive in calm waters, not turbulent waters. You can imagine what would happen to an organism's production rate of 2.25 divisions per day. Division would be the last thing on its mind, it would merely be trying to survive.

In the Baumgardner/Barnette model, the point of lowest current is over the deep ocean basins. Unfortunately, these organisms do not live in deep ocean basins.

The bloom effect they propose would not be possible either. In Jamaica, you can see these placid, calm seas, which are white with organisms. Try running a 90 mile per hour current through there, and see what happens...oops, no more white clouded water. Since they live on the shallow continental shelves, which are affected by these gyres, they would be dispersed all over the ocean currents. By this model, it would be impossible to "bloom" in one place...as these blooms would be carried along on the currents, scattering their remains all over the world, instead of the one spot over England that you need for the Dover cliffs. In fact, you would get NO chalk beds anywhere in the world! (Remember, blooming is a shallow water phenomenon...it doesn't occur in the deep ocean basins, where the flood waters would be the calmest.)

Furthermore, remember the statement two paragraphs up, *"many such shells may dissolve before they even reach the ocean floor."* The size of the larger shells is 150 microns. Using Stokes Law, which determines the velocity at which a particle will settle out of the water and be deposited on the bottom of a fluvial system, a particle of that size would sink to the bottom when the water velocity goes below 1.5 centimeters per second, or 1/30th of a mile per hour.[2] Please note the Flood model flow rate is at a minimum 89 miles per hour in the cyclonic gyres. The current for the open ocean away from these gyres is not given. However, it would be difficult to imagine the current dropping below this threshold in the open ocean, therefore these particles would never fall out of the ocean currents, and would dissolve as they were carried along. Again, the Flood model would yield NO chalk beds at all.

Can you discard the current studies done by Baumgardner and Barnette? Go ahead. The problem is...if you do that, you don't have the erosional forces to supply the material to form all the other sandstones and siltstones! Either way you choose, you can't account for the layers of rock we see using the young earth model.

Conclusion

According to the Flood model, we should not have any chalk beds. However, chalk beds exist all over the world. The only possible explanation is that they formed exactly as geologists have theorized. It is obvious that the Flood of Noah could not have produced them.

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[1] "Can Flood Geology Explain Thick Chalk Layers?"

answersingenesis.org/home/area/magazines/tj/docs/v8n1_chalk.asp

[2] Depositional Systems: A Genetic Approach to Sedimentary Geology, by Richard A. Davis, Jr., Prentiss Hall Publishers, 1983. Pages 43-44.