Chapter 6

Springs Burst Forth

Noah's grandfather had died the day before. His neighbor Fred had helped with the burial. Fred liked Noah, but he thought he was rather strange. Noah once told him a story about his ancient relative Adam, whom he claimed was the first person who ever lived. And that huge house he built next door . . . he said it is for animals that God told him would come one day. He also said something about a flood that was coming. "How could that be," he wondered, "up here on a high mountaintop?" Suddenly he saw what looked like two baby elephants coming up the path!

This chapter describes how the orbital energy of 150 million cubic miles of water was dissipated while in outer space, falling onto planet Earth at a temperature of 175° F below zero. The sleet that fell covered the earth to an average depth of 4,000 feet. The depth near the poles measured more than 100 miles. Toward the equator it measured more than 20 feet.

The superior world of the patriarchs came to an abrupt end as the springs of the great deep burst forth. The following passage, a promise given to Noah after he exited the

ark, reveals that the planetary ring's destruction was orchestrated by the One who created it:

> *And never again will I destroy all living creatures, as I have done* (Genesis 8:21).

The passage certainly leaves room for a supernatural triggering of the ring's destruction. But one example of how the process could have been triggered within the laws of nature as we know them today is if the ring's Creator caused a large meteor to penetrate the multiple layers of the planetary ring at or near the Ecliptic Plane. It would have been necessary for the meteor to be of sufficient size so as to have remained intact down to an altitude of 250 miles. Figure 20 depicts a one-integer-revolution ring being impacted by an exaggerated-size meteor.

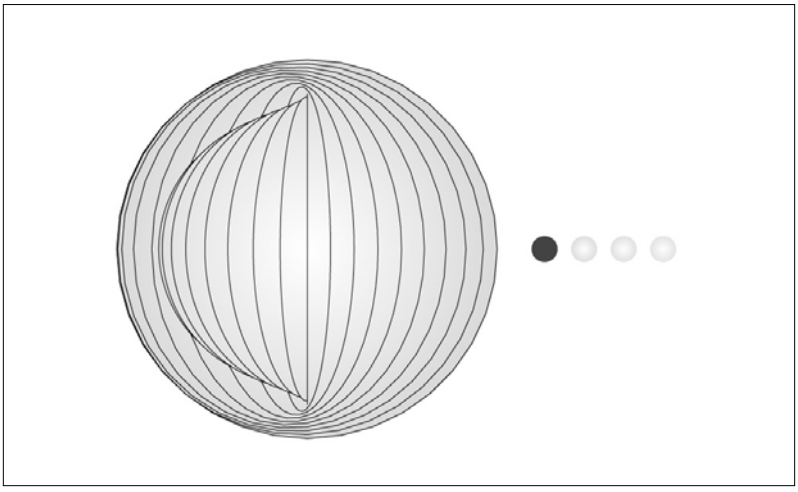

Figure 20. A meteor strike may have triggered the Flood.

Both upwardly moving and downwardly moving snowballs would have been struck by the meteor. Snowballs that were directly impacted would have been instantly vaporized, spewing hot molecules in random directions. The orbits of other nearby snowballs would have been deflected.

Depending upon the ring's number of integer revolutions and where the meteor struck the ring, one spring of the great deep may have been reached by the deflected snowballs that were moving in one direction before the other spring was reached by those moving in the opposite direction (or vice-versa). As discussed in chapter 8, there is some evidence that the spring in the Southern Ecliptic Hemisphere may have been reached ahead of the spring in the Northern Ecliptic Hemisphere. The polar icecap atop Antarctica is thicker than the icecap atop Greenland. However, in what follows it will be assumed that the disturbances from the upwardly moving and downwardly moving deflected snowballs reached both springs of the great deep at approximately the same time.

For a one-integer-revolution ring, the deflected snowballs would have approached the springs of the great deep at only one position along each of the 8,000-mile-tall columns. For more revolutions, there would have been a proportional increase in the number of positions along the columns.

As deflected snowballs arrived at the springs of the great deep, their orbits were no longer interleaved. Collisions occurred. Assuming a deflected snowball collided with a same-sized snowball at the shallow angle of 6° or more, there would have been enough energy released to change them both into a vast number of water vapor molecules.

Myriads of water vapor molecules erupted at the affected positions along the two 8,000-mile-tall columns. Because the molecules were vaporized, they tended to move at a high rate

of speed in random directions. They collided with other vaporized molecules. Whenever two molecules collided head on, the energy released upon impact was sufficient to vaporize both molecules up to 20 times over. The temperature at the affected positions began to soar. A chain reaction of hot, colliding molecules erupted along each spring.

As the energized molecules that originated from collisions between deflected and undeflected snowballs moved up and down the full height of the 8,000-mile-tall springs of the great deep, they encountered ice crystals that were intermingled with the undeflected snowballs. More collisions between molecules ensued, and the chain reactions were strengthened. Arriving snowballs were greeted at the springs of the great deep by extremely hot water vapor molecules moving randomly in all directions. The heat generated by the collisions insured that the arriving snowballs were vaporized no matter what their size, thus generating more vaporized molecules.

The reactions continued for nearly four hours (the time required for snowballs in the uppermost orbit to travel half way around the earth to the opposite Ecliptic Pole). During the four hour period, all 150 million cubic miles of water that remained in orbit around planet Earth were changed into invisible water vapor molecules. As stated in chapter 2, the energy that was released was equivalent to more than 200 trillion Nagasaki-style atom bombs, 100 trillion bombs for each Ecliptic Hemisphere. The event gives new meaning to what Moses described as the "bursting forth" of the springs of the great deep.

The first law of thermodynamics states that energy is neither created nor destroyed, but transformed. This principle can be used to determine the speed at which the hot water vapor molecules subsequently spewed out from the springs of

the great deep. At the uppermost altitude of 8,250 miles where snowballs approached the springs at a speed of 10,070 miles per hour, hot water vapor molecules spewed out in three-dimensional starburst fashion at a speed of 5,800 miles per hour. At the lowermost altitude of 250 miles, snowballs approached at 17,150 miles per hour, and hot water vapor molecules spewed out at 9,900 miles per hour.

An interesting phenomenon would have occurred within seconds of a molecule leaving the springs of the great deep. It has to do with the rate at which the water vapor molecule would have cooled, becoming an ice crystal. On one hand, a body's surface area determines the rate at which heat is added or removed. Surface area increases with the square of a body's diameter. On the other hand, a body's volume determines its capacity to retain heat. Volume increases with the cube of a body's diameter. A water molecule is unimaginably small. Because it is so small compared to visible objects, its ratio of surface area to volume is enormously large. Thus, an individual molecule loses and gains heat very rapidly.

Once an invisible molecule broke loose from the cloud of other hot water vapor molecules, it would have been exposed to the absolute zero of outer space. The transfer of radiant heat can be readily calculated. A breakaway water vapor molecule would have cooled down to -300°F in approximately one second, becoming a single ice crystal.

Even though single ice crystals are so small that they are invisible, their undisturbed trajectories in the vacuum of outer space can be computed if their starting conditions are known. The starting conditions that were applied to the trajectories that follow can be explained with the help of Figure 21. At every vertical position along the 8,000-mile tall springs of the great deep, molecules are assumed to be uniformly distrib-

uted, spewing outward in starburst fashion. Two such positions along the springs are shown along with 36 directions of travel at each position.

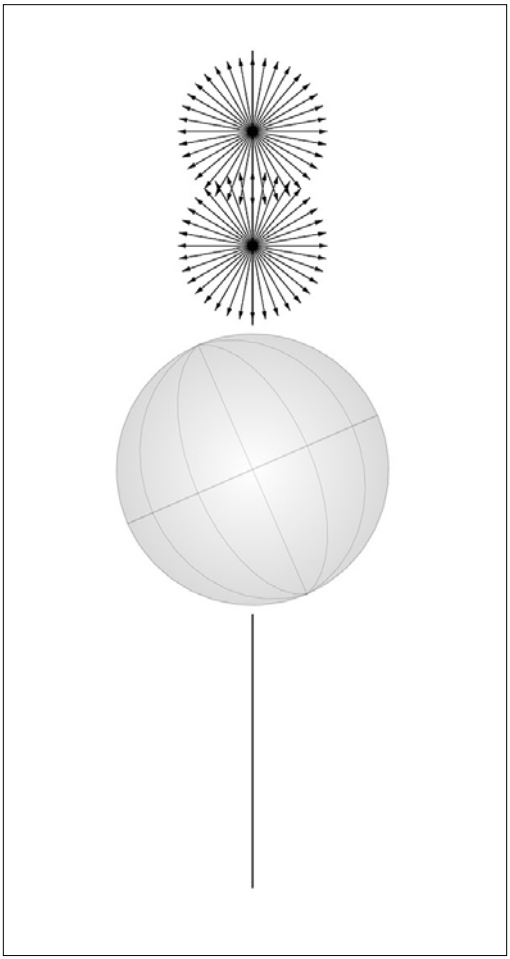

Figure 21. A close look at molecules as they randomly burst forth

As the two positions are drawn closer and closer together, the vertical components of the velocity vectors interfere with one another. The overlapping vectors shown in Figure 21 serve to demonstrate that interference. In the analysis that follows, the downward velocity component of one velocity vector at the upper position can be thought of as canceling out the corresponding upward velocity component at the lower position, leaving only the two horizontal components. Thus, instead of 36 directions of travel to consider, top-bottom symmetry reduces the number to 18. In addition, there is left-right symmetry so that of the 36 directions, only 9 need to be analyzed.

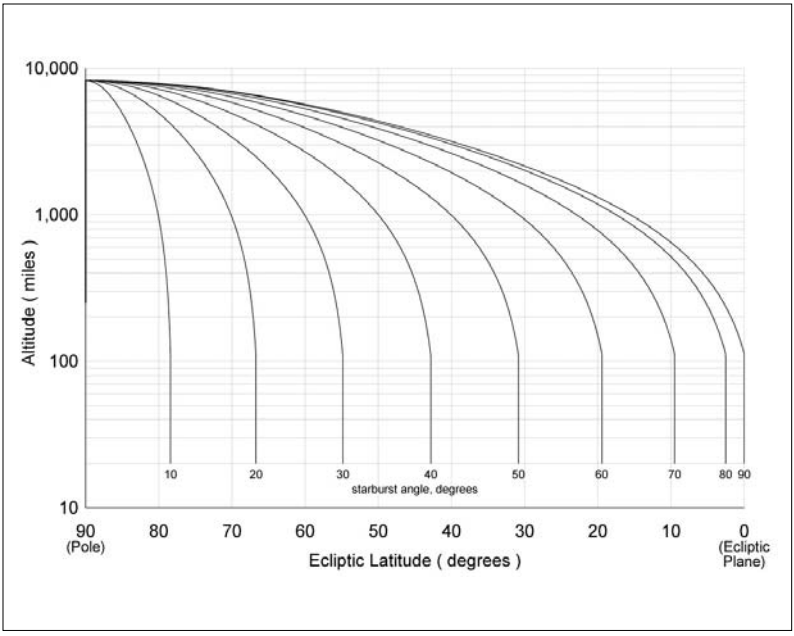

Figure 22. Typical ice crystal trajectories

In Figure 22, nine such ice crystal trajectories are shown emanating from the uppermost altitude of 8,250 miles. Their starburst angles are labeled from 90° (horizontal) to 10°. Altitude is plotted along the vertical axis using a logarithmic scale in order to show details at the lowermost altitudes. The trajectories are shown extending down to an altitude of 20 miles. Ecliptic Latitude is shown along the horizontal axis.

The trajectory that started with a maximum horizontal velocity of 5,800 miles per hour is shown to reach just beyond the Ecliptic Plane. Each spring covered one half of the earth's surface. This result did not happen by accident. It demonstrates the way in which the altitude of the uppermost snowball-laden layer was selected. Higher starting altitudes were found to reach across the Ecliptic Plane farther than what is shown, and lower starting altitudes failed to reach the Ecliptic Plane at all. In this way, an altitude of 8,250 miles was selected by trial and error.

Other ice crystal trajectories with initial velocities less than 5,800 miles per hour are also shown in the illustration. The initial velocities used to compute these trajectories are the horizontal components that remained after the vertical components of the starbursts of Figure 21 canceled out one another.

The influence of the earth's atmosphere can be seen in Figure 22 by the way the ice crystal trajectories suddenly become near-vertical at an altitude below 100 miles. This is the altitude at which atmospheric density begins to play a dominant role. It is here that an ice crystal began to quickly decelerate, having fallen from a very high altitude. It is important to pause and note the following: Any heat generated by the deceleration process above an altitude of 20 miles would have been quickly removed by radiative cooling because of the

smallness of an ice crystal. The absolute zero of outer space insured that the invisible ice crystals remained at a constant temperature of -300°F all the way down to the 20-mile altitude.

If the ice crystals fell through the atmosphere as a uniform blanket, it would have taken more than 8 days to reach the 20 mile altitude because their downward rate of fall would have eventually slowed to 0.05 miles per hour. Although the final stragglers may have, in fact, required 8 days to reach the 20 mile altitude, the initial onslaught of ice crystals would have penetrated the atmosphere in the form of higher-speed fingers that reached downward to the 20-mile altitude. The finger-like flow pattern is known as Rayleigh-Taylor Instability. It occurs whenever a fluid of much higher density rests atop a fluid of much lower density.

The 9 trajectories of Figure 22 were purposely terminated at an altitude of 20 miles to underscore the fact that liquid water cannot exist at the upper altitudes. But once the ice-crystal-laden air fell below 20 miles, moisture from the surrounding air, heated by friction, would have allowed ice crystals to unite with one another, falling to earth as frozen precipitation (hereinafter referred to as "sleet"). The potential energy of water molecules falling from an altitude of 20 miles would have been enough to raise their temperature by only 135°F. Thus, if no radiative cooling occurred, the falling sleet would have reached the earth's surface at a temperature no warmer than -165°F. However, allowing for 10°F of radiative cooling, it is assumed that the sleet reached the earth's surface at a temperature no warmer than -175°F.

Was a sleet temperature of -175°F sufficiently low to freeze the Berezovka Mammoth fast enough to render it in the condition it was found? In a *Saturday Evening Post* article

entitled "Riddle of the Frozen Giants,"[14] author Ivan T. Sanderson reports that the mammoth had to be frozen at a temperature "well below -150°F" in order to produce the observed results.

What follows next is a discussion of how the sleet that fell was distributed across the face of the earth. The data of Figure 22 showed a certain distribution using 9 trajectories emanating from the uppermost altitude of 8,250 miles. Instead of the single altitude along the springs of the great deep, trajectories emanating from 230 equally-spaced altitudes have been simulated. Also, instead of the 36 directions of travel shown, trajectories corresponding to 360 directions of travel have been simulated. The Ecliptic Latitudes at which the numerous trajectories reached an altitude of 20 miles were tabulated and assembled into a plot of sleet depth vs. Ecliptic Latitude as shown in Figure 23. The depth calculation took into account the fact that the lines of constant Ecliptic Latitude varied in length between the Ecliptic Plane and the Ecliptic Poles.

A logarithmic scale was chosen for the sleet depth in order to retain resolution at the lower Ecliptic Latitudes. At the Ecliptic Pole, the depth spiked because the line of constant latitude across which the sleet was distributed approached zero. At the other end of the scale (Latitude 0°), the depth fell off sharply, an effect attributable to the earth's atmosphere.

An assumption was made when Figure 22 was constructed. It has to do with the idea that none of the ice crystals were assumed to collide with other ice crystals during their fall to earth. In fact, there would likely have been a great many collisions. A downward falling ice crystal emanating from a high altitude at a low speed could have collided with

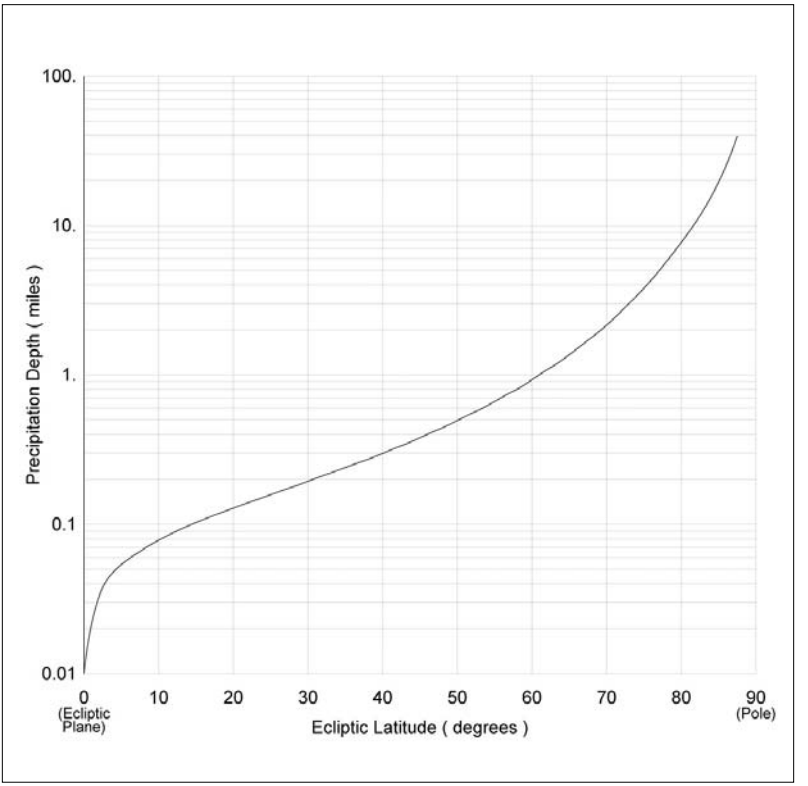

Figure 23. Sleet depth distribution
from the Ecliptic Plane to the Ecliptic Pole

an ice crystal emanating from a lower altitude at a higher speed. The trajectories of the two colliding ice crystals would have both been altered. However, the sleet depths at the Ecliptic Plane (Latitude 0°) and at the Ecliptic Pole (Latitude 90°) would have remained unchanged for the following reasons: At the Ecliptic Plane, the trajectories that

came close to reaching across to the Ecliptic Plane would likely have been unaffected because there would have been no ice crystals emanating from an altitude higher than the uppermost altitude of 8,250 miles. At the Ecliptic Pole, those trajectories that fell straight down would have continued to fall straight down.

Unfortunately there is no way to analytically determine the magnitude of what effect the colliding ice crystals would have had on Figure 23 at intermediate Ecliptic Latitudes. Intuitively, fewer ice crystals would have fallen at the lower Latitudes and more would have fallen closer to the Pole.

The ice crystals that entered the earth's upper atmosphere became locked into the positions where they eventually fell to the ground as sleet. Figure 24, a view from above the North Pole, shows the region in the Northern Hemisphere where known glacial action once occurred. A large, tilted circle has been drawn on the map. It approximates the edge of the glacial action region. Its center is shown as a cross hairs and is located toward the northwest corner of Greenland (latitude 80°, longitude 60°W) near the now-abandoned settlement of Etah. Latitude 80° suggests that the springs of the great deep had wobbled away from the Ecliptic Axis by at least 13-1/2° at the time of the Flood due to the influence of the moon. The Etah-centered circle is drawn using a radius of 40° of earth arc where the sleet depth would have been 0.85 miles (4,500 feet) according to Figure 23. For reference, a smaller circle has also been drawn on the map representing the Arctic Circle.

There can be no analysis conducted for the Southern Hemisphere similar to that of Figure 24 because the line of known glacial action would lie entirely in the ocean surrounding the continent of Antarctica. However, if the inter-

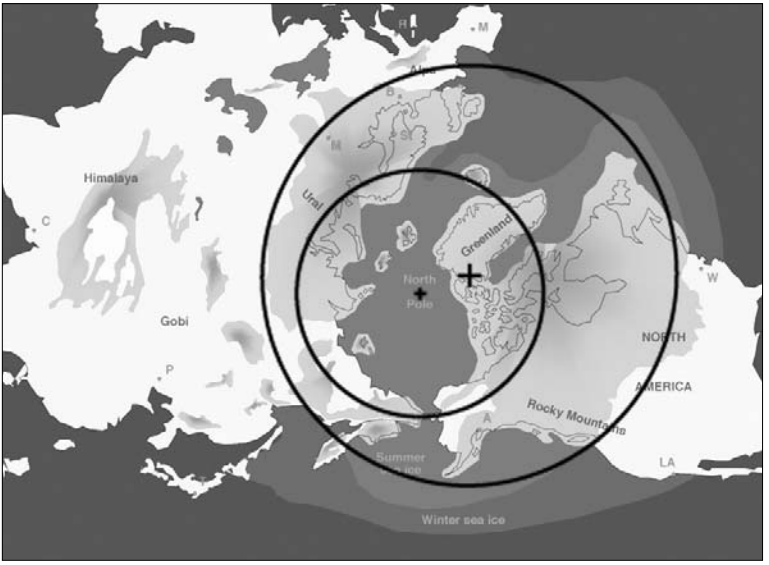

Figure 24. The extent of glacial action in the northern hemisphere

pretation placed on the map of Figure 24 is correct, then the axis of the springs of the great deep would have penetrated the opposite side of the earth at latitude 80°, longitude 120°E. More will be said of this location in chapter 8. The entire continent of Antarctica lies within the implied region of known glacial action.

The earth's atmosphere can support at most four inches of water. Compared to the worldwide average of 4,000 feet of ice crystals that fell, it can be safely said that substantially all of the precipitation reached the ground in a matter of hours from the time the meteor first struck the planetary ring. But wait, according to the Bible, the Flood continued over a period of 40 days:

> *For forty days the flood kept coming on the earth, and as the waters increased they lifted the ark high above the earth* (Genesis 7:17).

As the last of the ice crystals made their way into the earth's upper atmosphere, they would no longer have weighed heavily on the earth's atmosphere below. No Rayleigh-Taylor Instability would have been present. It would have required eight days for these stragglers to make their way down to the 20 mile altitude. Below 20 miles, if no water whatsoever would have been available to promote the union of ice crystals, the length of time it would have taken for the stragglers to make their way down to the earth's surface would have been 80 days. However, it is likely that some moisture was present in the air below the 20-mile altitude so it seems reasonable to assume that the length of time required for the slowest of the stragglers to complete their overall journey was on the order of 40 days.

The Bible also has something to say about the minimum coverage of the precipitation that fell on planet Earth:

> *They rose greatly on the earth, and all the high mountains under the entire heavens were covered. The waters rose and covered the mountains to a depth of more than 20 feet* (Genesis 7:19-20).

As stated earlier, the ice crystal trajectory of Figure 22 that started with a maximum horizontal velocity of 5,800 miles per hour reached just beyond the Ecliptic Plane. The altitude of 8,250 miles was selected by trial and error to accommodate this requirement. So the fact that the analysis resulted in a depth somewhat "more than 20 feet" was by design.

It is humbling to admit that the exact size and makeup of the true planetary ring probably differed somewhat from my predictions. As previously stated, one such difference is that the ring's lowermost altitude may have been something other than 250 miles in order to achieve a flow rate of 300 cubic miles of water per day into the earth's atmosphere. Another is that the ring's uppermost altitude may have been something other than 8,250 miles in order to account for ice crystal collisions that may have slightly altered the more than 20 feet sleet depth at the Ecliptic Pane. And thirdly, only the ring's Designer knows the number of integer revolutions that were built into the planetary ring in order to achieve a loss of 180 million cubic miles of water in 1,656 years. An exciting conclusion to all of this, however, is that even though my numbers may all need tweaking in order for the simulated Flood to agree with the actual Flood, I believe the overall theory still works no matter how much tweaking may be required.

Summary

- The Designer of the planetary ring may have used a meteor to trigger its destruction, striking the ring at or near the Ecliptic Plane.
- Afterwards, wayward snowballs arriving at both Ecliptic Poles were no longer at their formerly interleaved positions.
- As snowballs collided, clouds of water vapor molecules erupted.
- Molecule-to-molecule collisions resulted in chain reactions that spread up and down the 8,000-mile-tall springs of the great deep.

- During the ensuing four hours, snowballs arriving at the springs of the great deep were vaporized no matter what their size.
- The orbital energy of 150 million cubic miles of water was transformed into heat, representing an equivalent energy release of 200 trillion Nagasaki-style atom bombs.
- High energy water vapor molecules randomly spewed out from the springs of the great deep.
- Their temperatures quickly fell to -300°F due to radiative cooling, becoming ice crystals (single frozen water molecules) in approximately one second.
- Water vapor molecules and ice crystals are smaller than the wavelength of visible light. The ice crystals were invisible.
- Ice crystals entered the earth's atmosphere, decelerating as they approached an altitude of 20 miles. Radiative cooling insured that the ice crystals remained at or near -300°F even though the deceleration process generated heat.
- The ice crystals that fell were far heavier than that which the earth's atmosphere could support. Above an altitude of 20 miles, finger-like columns of ice crystals pierced the rarified stratosphere.
- Below 20 miles, moisture began to appear due to the heat of friction. Unions between ice crystals developed.
- During its fall from 20 miles, the sleet became warmer due to the heat of friction, settling to the ground at a temperature no warmer than -175°F.
- Within hours after the meteor struck, the eventual distribution of ice crystals across the face of the planet was locked into position.

- From a map of known glacial action, it can be implied that the axis of the springs of the great deep pierced the planet near Etah, Greenland.
- Based on the maximum amount of moisture that a saturated atmosphere can support (4 inches), and based on the rate at which the ice crystal "stragglers" fell, it is reasonable to assume that 40 days were required to clear the atmosphere of the remaining moisture.
- The average depth of sleet over the entire face of the planet was 4,000 feet.
- As the sleet melted from the continents, the water made its way into the oceans of the world. Their levels rose by an additional 1,500 feet for a total increase of just over one mile.