

Waves, rogue waves and mega-tsunami

Nigel Bernard

IN DESCRIBING the time of the end the Lord Jesus Christ spoke of the sea and waves: "And there shall be signs in the sun, and in the moon, and in the stars; and upon the earth distress of nations, with perplexity; the sea and the waves roaring" (Lk. 21:25). As Psalm 65 shows, the sea and waves represent the nations of the world in tumult: "[God] stilleth the noise of the seas, the noise of their waves, and the tumult of the people" (v. 7). In addition to this symbolic meaning, however, it may be that we can also expect to see these words being fulfilled in relation to the physical sea and waves. In this article we will consider some aspects of waves.

Waves roaring more?

It is thought by some scientists that average wave sizes have increased in recent years. The journalist Rosemary Kingsland quoted the Professor of Geography at Memorial University of Newfoundland, Norm Catto, as saying: "Wave heights appear to have been getting higher and certainly the frequency of storms seems to be increasing".¹

According to Junger, writing in the late 1990s, "wave heights off the coast of England have risen an average of 25 percent over the past couple of decades".² He mentions three possible reasons suggested by scientists which might explain this. Firstly, stricter environmental laws have led to less oil being flushed into the sea by tankers. A film of oil on the sea tends to inhibit the formation of capillary waves. These waves facilitate the wind getting a purchase on the water thus leading to larger waves. A reduction in oil on the surface means this is more likely to happen. Secondly, plankton levels have reduced in recent years in the North Atlantic. Plankton releases a chemical which has a similar effect on capillary wave formation as oil. Thirdly, it is claimed by some that the so-called greenhouse effect has led to an increase in the frequency and severity of storms. Whatever the underlying causes, it seems that "the sea and the waves" have been "roaring" more in recent years.

Rogue waves

Over the years there have been reports by sailors of freak waves reaching as high as a ten-storey building. These reports were once dismissed as myths, but it is now accepted that such waves can occur. In the past twenty years over 200 supertankers and container ships have been sunk by severe weather. Rogue waves are thought to have been a factor in many of these cases.

The European Union launched a scientific project in 2000 called MaxWave to investigate these so-called rogue waves. Data was used from two satellites belonging to the European Space Agency.³ These were the Earth Remote Sensing satellites ERS-1 and ERS-2, which use radar to produce pictures, or 'imageries', of ten-by-five-kilometre sections of the ocean. By mathematically analysing these 'imageries' it is possible to determine the size of waves. The findings of this research were released in July 2004. A total of 30,000 'imageries' recorded in a three-week period were studied, and there were ten instances of waves over twenty-five metres in height. This confirmed that rogue waves are a rare but terrifying reality.

Junger describes a rogue wave as follows: "Typically they are very steep and have an equally steep trough in front of them—a 'hole in the ocean' as some witnesses have described it. Ships cannot get their bows up fast enough, and the ensuing wave breaks their back".⁴ Junger cites the experience of Beryl Smeeton, an Englishwoman who experienced a rogue wave in the 1960s when sailing round Cape Horn with her husband. She wrote in her journal: "The whole horizon was blotted out by a huge grey

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1. Kingsland, R. (1999), *Savage Seas*, London, Macmillan, p. 64.
 2. Junger, S. (1998), *The Perfect Storm*, London, Fourth Estate, p. 121.
 3. http://www.esa.int/export/esaCP/SEMOKQL26WD_Protecting_0.html
 4. *Op. cit.*, p. 122.



Rogue wave photographed by Philippe Lijour aboard the supertanker Ezzo Languedoc off Durban, South Africa in 1980. Credit: Philippe Lijour via ESA

wall. It had no curling crest, just a thin white line along the whole length, and its face was unlike the sloping face of a normal wave. This was a wall of water with a completely vertical face, down which ran white ripples, like a waterfall”.⁵

The description of a rogue wave as a “wall” is a common way of depicting such waves. This is also seen in the account of a rogue wave experienced by Jerome Nickerson while serving as a US naval officer on an aircraft carrier in the Mediterranean in 1950. Kingsland quotes him as saying: “All of a sudden a wave comes up, moving at 30 miles an hour, about 50 feet high and it looks like its going to eat you—what can you do? The carrier came to a dead stop in the water, it was just like hitting a brick wall”.⁶

In Scripture there is no moving ocean wave described as a wall. However, there is a wall of water mentioned when the children of Israel crossed the Red Sea: “And the children of Israel went into the midst of the sea upon the dry ground: and the waters were a wall unto them on their right hand, and on their left” (Ex. 14:22). From the perspective of the children of Israel the walls of water were a protection. This corresponds with the way walls are used in Scripture to typify salvation:

“In that day shall this song be sung in the land of Judah; We have a strong city; salva-

tion will God appoint for walls and bulwarks” (Isa. 26:1);

“Violence shall no more be heard in thy land, wasting nor destruction within thy borders; but thou shalt call thy walls Salvation, and thy gates Praise” (60:18).

However, when a wall of water collapses it does so with great destructive force. This force was brought upon the Egyptians: “And Moses stretched forth his hand over the sea, and the sea returned to his strength when the morning appeared; and the Egyptians fled against it; and the LORD [Yahweh] overthrew the Egyptians in the midst of the sea. And the waters returned, and covered the chariots, and the horsemen, and all the host of Pharaoh that came into the sea after them; there remained not so much as one of them” (Ex. 14:27, 28).

Causes of rogue waves are thought to include the way normal waves interact with eddies and currents. It is also thought that sustained winds may cause them to form. In terms of Scripture, to describe nations which suddenly come to prominence as ‘rogue waves’ emerging from the general interplay of the roaring seas of the nations is probably not forcing the analogy too far. Under providential control, ‘rogue states’ can be brought to prominence very quickly in order to further the purpose of God.

Mega-tsunami

In Psalm 46 we read: “God is our refuge and strength, a very present help in trouble. Therefore will not we fear, though the earth be removed, and though the mountains be carried into the midst of the sea; though the waters thereof roar and be troubled, though the mountains shake with the swelling thereof. Selah” (vv. 1-3).

It might be thought that the idea of mountains being carried into the sea is far-fetched. However, scientists think that just such an event may happen at La Palma, one of the Canary Islands in the Atlantic. On this island is a volcano called Cumbre Vieja. One side of this mountain borders the sea, and it is feared that if the volcano becomes active part of it may collapse into the sea, leading to a giant wave, or mega-tsunami,⁷ sweeping across the Atlantic. The BBC

5. *Ibid.*, p. 124.

6. *Op. cit.*, p. 65.

7. A tsunami is a destructive wave usually caused by earthquake or volcanic eruption.

quotes Professor Bill McGuire at a recent news conference on natural disasters as saying that, "Eventually, the whole rock will collapse into the water, and the collapse will devastate the Atlantic margin".⁸ He urged both the Spanish and US governments to begin monitoring the mountain for signs of volcanic activity.

What makes Cumbre Vieja particularly susceptible to collapse is that it contains large amounts of water. A BBC documentary described what could happen as follows:

"When a new column of magma rises and starts erupting, water trapped between the dykes will be heated up. This will make it expand, creating enormous pressures within the heart of the Cumbre Vieja . . . scientists believe this will trigger the collapse of the western flank of the volcano into the sea".⁹

It is interesting to compare this with Psalm 46:3: "though the waters thereof roar and be troubled, though the mountains shake with the swelling thereof". As the waters are heated in Cumbre

Vieja the mountain will shake and swell and then eventually slide into the midst of the sea.

It could be that Cumbre Vieja will collapse as a consequence of the great earthquake when Christ returns. When this earthquake occurs "the mountains shall be thrown down, and the steep places shall fall" and "the fishes of the sea . . . shall shake" (Ezek. 38:20).

Conclusion

Though faced with both the tumult of the nations and also the possibility of natural disaster, we know that we have no need to fear, for soon Christ will return and will rebuke "the winds and the sea" so that there will be "a great calm" (Mt. 8:26). As the psalmist wrote: "God is our refuge and strength, a very present help in trouble. Therefore will not we fear".

8. <http://news.bbc.co.uk/1/hi/sci/tech/3553368.stm>

9. http://www.bbc.co.uk/science/horizon/2000/mega_tsunami_transcript.shtml

Moses' last words to Israel

4. Blessings for Reuben and Judah

David Green

REUBEN

Deuteronomy 33

v. 6 Let Reuben live, and not die,
Nor let his men be few.*

Live and not die

BECAUSE OF Reuben's sin, Jacob took away his birthright, and said: "thou shalt not excel" (Gen. 49:4, AV; cf. 35:22). The outworking of Jacob's words can be seen from the census records. At the second census, shortly before entering the Promised Land, only two of the twelve tribes had a smaller number of fighting men than Reuben, whereas at the first census, shortly after leaving Egypt, that tribe was seventh in order of size. In a period of forty years the number of men above twenty years old had reduced from 46,500 to 43,730 (Num. 1:21; 26:7).

Much later on, in the days of Jeroboam II of Israel, the trans-Jordanic tribes, Reuben, Gad and the half-tribe of Manasseh, could muster a total

force of only 44,760 fighting men (1 Chron. 5:18). It is very probable that the destruction of the Reubenite leaders Dathan and Abiram, together with their households, and then the later destruction of many Israelites by plague at Peor, had a significant impact on the size of the tribe of Reuben.

In contrast to Jacob's prophecy, the blessing by Moses, "Let Reuben live, and not die", brings salvation and prosperity to Reuben. In order to emphasise the importance of what is being said, the common Scriptural idiom is used in which one thing is affirmed and the opposite is denied. For example, the Kohathites were not to watch while the holy things were covered by the priests, "that they may live and not die" (Num. 4:19), and Hezekiah was instructed to set his house in order, "for you shall die and not live" (Isa. 38:1).¹

* All quotations are from the NKJV unless stated otherwise.

1. Other examples are Genesis 43:8; Deuteronomy 9:7; 1 Samuel 1:11; Psalm 118:17; Jeremiah 20:14; John 1:20; 1 John 2:4,27.