

5760 BC: tsunami at Rhine Valley caused by Planet X

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Summary

In 5760 BC (7710 cal. BP, 6908 C₁₄ BP), satellites from a mysterious Planet X struck the continental shelf of Texas. Shock from the impacts liquified a layer of sedimentary quartz in the shelf. Without friction, a massive turbidite slid down a gentle slope into the Gulf of Mexico. Before completely clearing the shelf, friction suddenly regained and locked the turbidite to the shelf. Momentum pushed a piece of shelf the size of Massachusetts into the Gulf, where it appears on high resolution sonar.

Above the displaced shelf, the sea towered 1.9 kilometers high. The resulting tsunami dispersed in all directions and obliterated coastal communities around the North Atlantic.

In Germany, it surged over the Ruur Mountains west of the Rhine Valley, flooded the middle Rhine between Mainz and Karlsruhe, and continued over the eastern escarpment toward Heilbronn. It left extensive ripple marks in the Rhine Valley and the eastern plateau.

The entire episode was recorded by Bragi, son of Odin, on a cliff wall at Schmie, south of Odenheim. He did not offer a reason for the flood, but Voluspa may allude to it.

Introduction

In 2020, historian Christine Pellech asked me to translate a long inscription written on a protected cliff face at Schmie, Germany, south of Odenheim.

Covering the inscription were sets of lines that slant left and right.

"The scribe was counting something," wrote Christine, "two things that are similar but have a distinguishing characteristic." How right she was!

"A slanting line in one direction means 'woman', in the other direction means 'man'," I offered.

It was written by Bragi, son of Odin and the giantess Gunnlöð. He was about 32 feet tall because the inscription starts 41 feet above ground level. Bragi was the greatest bard of his time. Snorri Thurlson described Bragi in his poem *Gylfaginning*:

"Bragi is renowned for wisdom, and most of all for fluency of speech and skill with words. He knows most of skaldship, and after him skaldship is called bragr, and from his name that one is called bragr-man or -woman, who possesses eloquence surpassing others, of women or of men. His wife is Iðunn."

Based on this inscription, he was also the greatest painter of his time. His agonizing portrait of Oden was not equalled until the wooden statue of the Penitent Magdalene by Donatello.

Figure 1: Oðin grieving contrasted with an eclectic mix of small mortals going about daily tasks, who also provide scale. Oðin's head is wider than humans are tall. I have darkened the background to emphasize the figures.



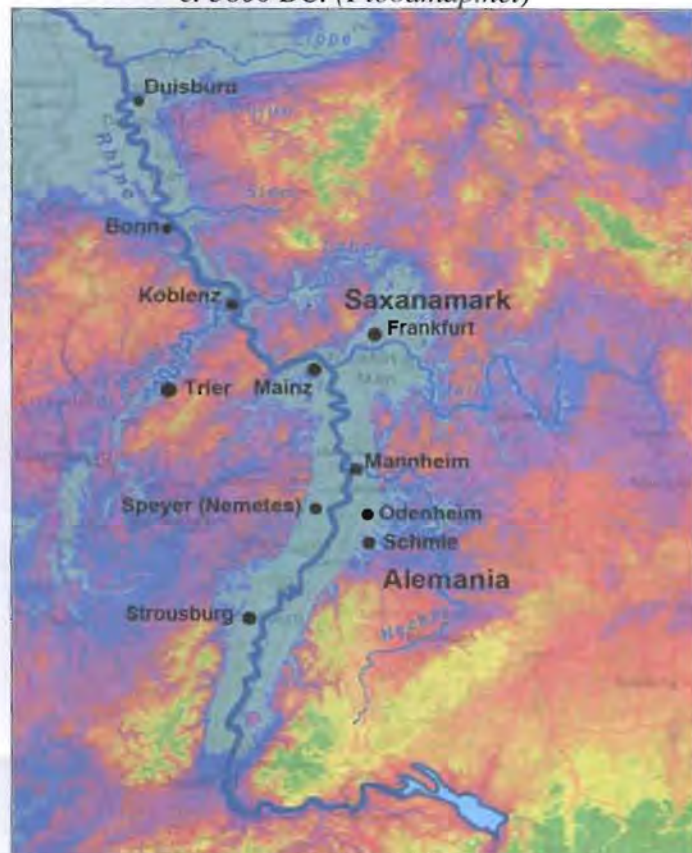
Bragi wrote the inscription sometime after 6280 BC, when Odin and Freyja ordered their extended clans to migrate south from their homeland in Finland. They needed to escape the incipient Fimbul Winter prophesized in Voluspa before the Baltic froze solid. Mortals, Immortals, cattle and belongings embarked on a fleet of ships piloted by Njord. They sailed west toward Doggerland, then south to the Netherlands, up the Rhine River, through a long gorge, to an immense valley that surrounded Mannheim.

Figure 2: In 6300 BC, a route was open from Finland to Mannheim. (Nat. Geographic)



Freyja and her husband Svipdag had already visited the Rhine Valley, and strongly recommended the location. High mountains surrounded the valley, which offered a sheltered climate and protection against the occasional flood (Figure 3).

Figure 3: Map of Alemania and cities along the Rhine c. 5800 BC. (Floodmap.net)



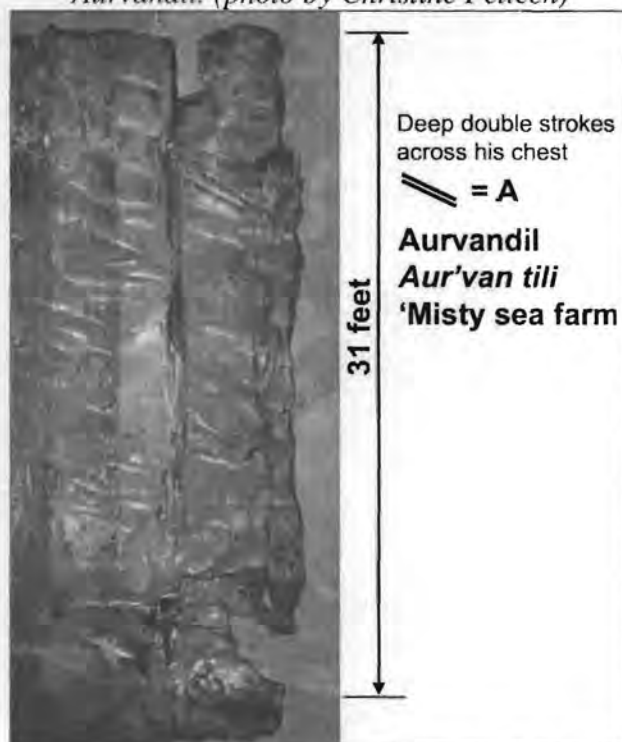
Bragi begins with a short essay on the wonderful life they enjoy, storehouses filled with grain, immense herds of cattle. Odin comes to visit from Odenheim, sitting on a wagon drawn by an elephant. Sif and Freyja prepare poetic mead in a large timbered hall, while Braggi helps his mother Gunlöd prepare psychedelic table beer in a barn. A group of Spear Maidens arrives from the Netherlands to partake in a nighttime ceremony.

Without warning, disaster strikes. An impossibly high tsunami breaches the Suur Mountains to the west, 400 meters high, and begins to flood the Rhine Valley. As the water rises, people have at most a half hour to climb to safety. Many run to Schmie, the highest hilltop east of the Rhine. Thousands of others perish, including seven immortals.

After the flood subsides, a hundred teams of women drive reindeer sleighs across the muddy terrain to collect bodies of mortals and cattle and transport them back to a ravine near Schmie. Here they lay the bodies in three piles: one for cattle, one for men side-by-side, and one for women side-by-side. As they proceed, men cover the bodies with earth, the largest graveyard in Europe, not yet discovered.

At the same time, Bragi uses a large wheeled cart to transport the seven Immortals to Schmie. Odin, Thor and Svipdag build two immense funeral pyres with trees stacked vertically, one for women, one for men. Bragi drew a life-size picture of Aurvandil, First Star of the Aesir, bound to the funeral pyre, 31 feet tall (Figure 4).

Figure 4: Aurvandil, First Star of the Aesir, wrapped in linen, 31 feet tall, tied to a funeral pyre. Deeply indented letter A across his chest spells Aurvandil. (photo by Christine Pellech)



Bragi counted dead men and women with slanted lines of clay on the cliff face. The seven Immortals were: Sif and Gunnlöd; Tyr, Njorð, Aurvandil and four other men.

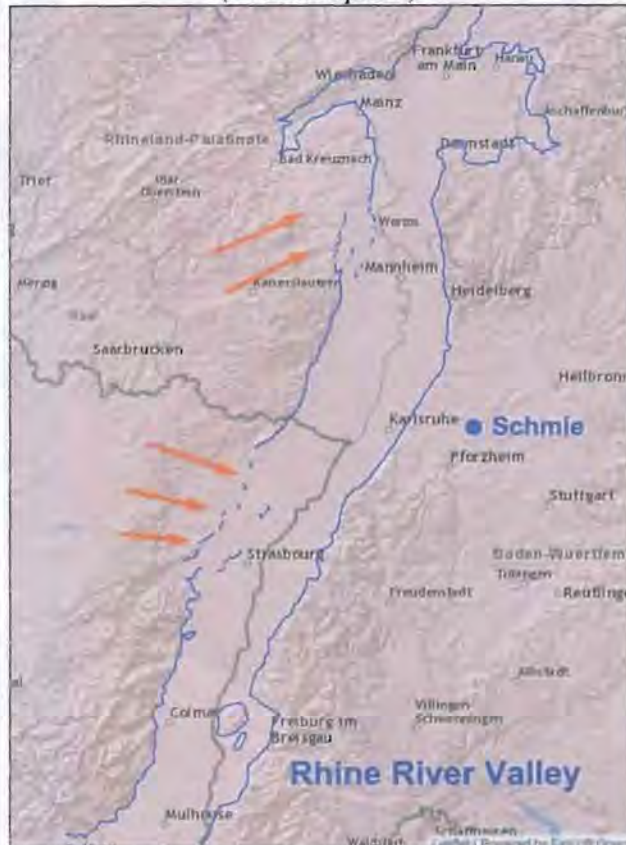
After the funeral, the remaining Immortals build a stepped pyramid of earth faced with immense cut stones to honor Njorð, the greatest navigator of his time.

Figure 5: Reconstructed flight of steps from the valley floor to the top of the hill. (Haug, 2002)



How, when and where did the flood originate?

Figure 6: Shaded relief map of the Rhine Valley reveals two breaks of its smooth outline on the west bank. Opposite Strasbourg, a third of a mountain range slumped into the Rhine Valley. Also visible - a layer of mud covers the plateau north of Schmie. (Floodmap.net)



The perimeter of the Rhine Valley has a crisp outline like a lake except at two places on the west bank adjacent to gaps in the mountain range. These broken terrains indicate that the flood came from the Atlantic Ocean and surged over France (Figure 6).

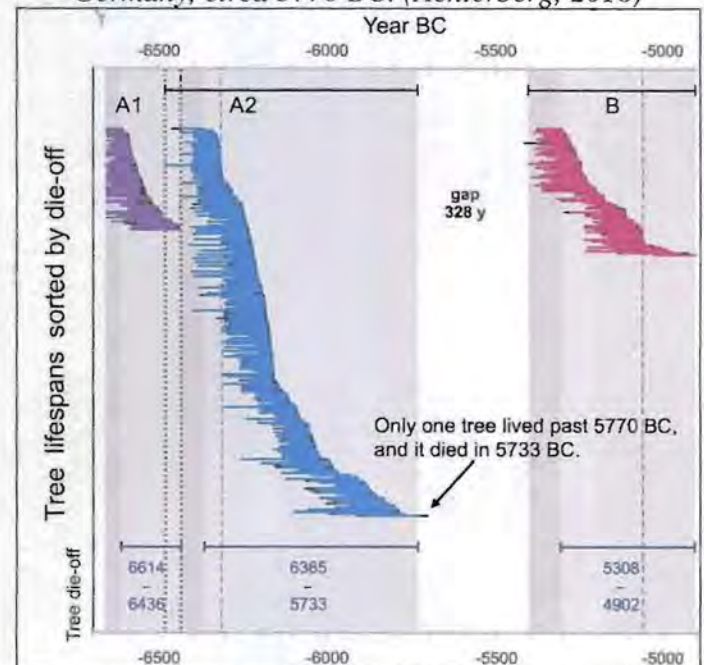
Timing of the flood

Along the coast of the Pacific Northwest, moderate tsunamis shear off trees and leave flat-topped stumps and a layer of sand. The effect of a much larger tsunami on a tree is unknown.

The last pine stump at Totes Moor, Germany, died in 5770 BC

At Totes Moor near Hanover, Germany, elevation 117 m, the moor preserved numerous pine stumps. Dendrochronology of 212 in-situ pine stumps reveals a 365-year gap after 5770 BC when salt water poisoned the moor and prevented regrowth. Surprisingly, the moor lacks a spike of stumps with the same terminal date. Unlike the Pacific Coast, this immense tsunami uprooted and removed all living trees except for one, which died in 5733 BC. Therefore, 5770 BC marks the upper limit of the flood (Achterberg, 2018). (Figure 7).

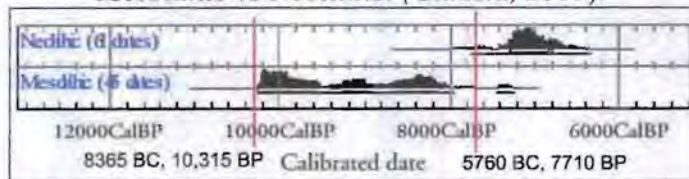
Figure 7: Ages of all pine stumps at Totes Moor, Germany, circa 5770 BC. (Achterberg, 2018)



End of Late Mesolithic in Germany

Germany experienced a population decline beginning in 6180 BC (Fimbul winter), a near termination in 6050 BC, and recovery beginning 5450 BC (Gkiasta, 2003). This suggests that Scandinavians migrated into Germany during the Fimbul Winter. Recovery efforts were wiped out by the tsunami. Bragi wrote that only 2000 survived.

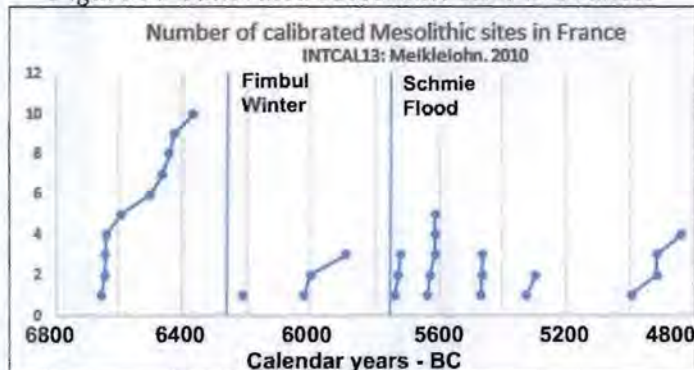
Figure 8: Number of dated sites in Germany, Mesolithic vs Neolithic. (Gkiasta, 2003).



Gap in Mesolithic sites in France occurred before 5750 BC

A lengthy record of Mesolithic sites occurs in France, which was severely flooded. Archaeological sites declined after the Fimbul Winter of 6280, then declined again before 5750 BC (Figure 9). Thus 5750 BC marks the lower limit for the flood.

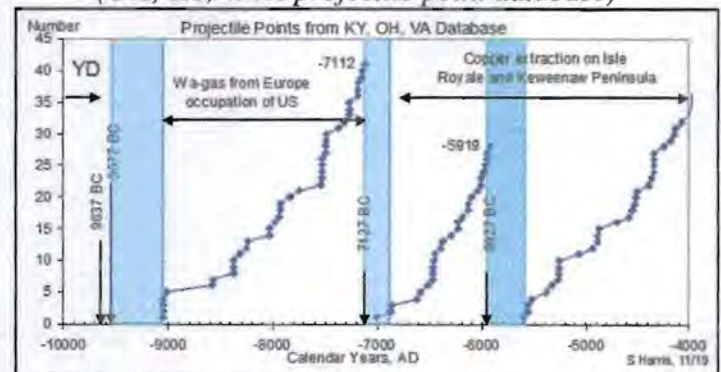
Figure 9: Calibrated Mesolithic sites in France.



Gap in projectile points in US between 5820 and 5720 BC

A flood in the North Atlantic would have affected the population of North America. The Ohio, Kentucky, West Virginia database of projectile points has a rare gap in calibrated sites that begins around 5820 BC and ends around 5720 BC (PIDPA, 2010). Thus the flood reduced the population of southeast USA to zero (Figure 10).

Figure 10: Gap in projectile point dates. (OH, KY, WVA projectile point database)



The last points before the gap are coastal.

Edisto Beach, SC, 6960 \pm 240 ^{14}C BP (5820 BC)

Hester, MS, 6965 \pm 180 ^{14}C BP (5820 BC)

Projectile points resume at three sites:

Koster, IL, 6860 \pm 80 ^{14}C BP (5730 BC)

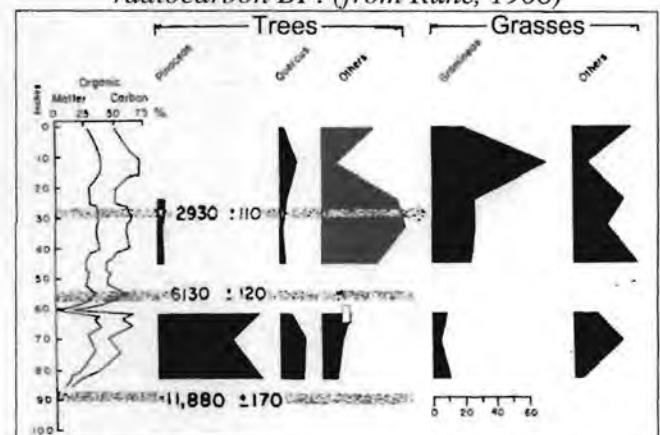
Dust Cave, AL 6840 \pm 120 ^{14}C BP (5722 BC)

Little Salt Springs, FL, 6830 \pm 155 ^{14}C BP (5720 BC)

A P\pollen core in Iowa lacks pollen for 550 years beginning around 5750 BC

Pollen cores reveal the severity of a flood. A pollen core from Sumner Bog in Bremer County, northeastern Iowa, elevation 1090 ft (332 m), had 4 inches of sterile silt from 5750 to 5050 BC (Figure 11; Walker, 1966; Ruhe, 1968). Afterward, grass dominated pollen for 550 years. Thus, the flood went far up the Mississippi Valley.

Figure 11: Pollen core from Sumner Bog, Iowa, showing collapse of all life at 62 inches, circa 5750 BC. Pine and oak trees never recovered. Dates are radiocarbon BP. (from Ruhe, 1968)



In this pollen core, a landscape dominated by pines and hardwoods never returned; instead, a variety of grasses became normal, with some pine and oak pollen blown in from far away.

An unconformity occurred at a depth of 62 inches. Below the unconformity, sediments were dominated by conifer and hardwood pollen. Above this unconformity lay 4 inches of reddish-brown silt, whose carbon content and pollen count were zero, which means that neither pines nor other life forms existed within a wide radius. Above the sterile reddish silt lay 2 to 24 inches of nearly sterile silt-loam, dark greyish brown to dark grey.

33 inches above the unconformity dated 1120 BC

5 inches above the unconformity dated 5050 BC

2 inches below the unconformity dated 8490 BC

By ratioing, the estimated date for the unconformity is 5750 BC. The sterile silt lasted for 550 years. Below the unconformity, the tsunami stripped away 20 inches of sediment. (Walker, 1966; Ruhe, 1968; Kleiss, 1970; Van Zant and Halberg, 1976)

Inland South America lost 80% around 5750 BC

The flood was not restricted to the North Atlantic, but impacted Central America and Brazil as well. Between 5750 BC and 5650 BC, the population of lowland South America declined by 80%, based on the number of dated sites. There was no change in the Andes (Riris, 2019).

Pacific Ocean not flooded

Every major Pacific flood felled trees into Heal Lake in Victoria, Canada. At this time, no trees fell into the lake, so the flood did not reach the Pacific.

Outline of flood implicates a Texas Turbidite

An Atlantic flood that devastates Europe, North America and South America points to the source of most floods, a turbidite slipping off the continental shelf of Texas. A turbidite on a gentle slope requires an underlying layer of sedimentary quartz to liquify, which reduces friction to zero.

The most common way to liquify quartz is by shock from a direct strike by a satellite of a passing planet. In the northern hemisphere, such a strike produces a

spike of ammonium in GISP2 ice core; the bigger the strike, the more ammonium (Baillie, 2007).

Repeated strikes in 16-year intervals

GISP2 ice core recorded a series of strikes spaced 16 years apart. These were caused by satellites of an unknown planet X with a period of 16 years. Six strikes are among the largest ever recorded, including 5760 BC. Major strikes are separated by a declining number of 16-year intervals. Mike Baillie (2012) was the first person to recognize this sequence. (Figure 12).

Therefore, 5760 BC is the definitive date for the Rhine Valley flood, which translates into 6908 BP in radiocarbon years.

Figure 12: Repeated strikes every 16 years in GISP2.

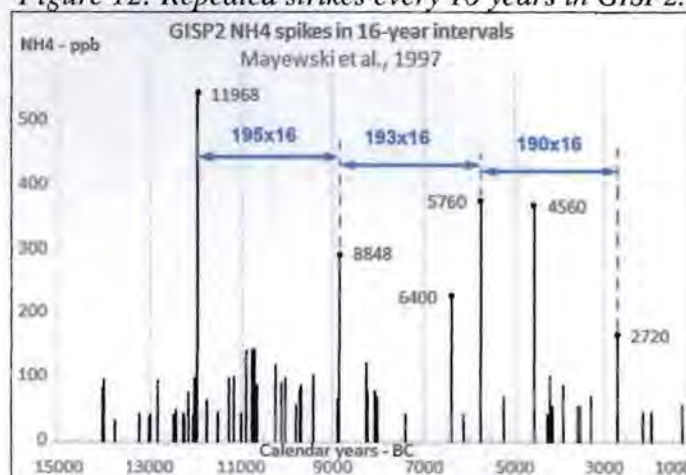


Table 1: Integer number of 16-year cycles between major impacts.

Meas.	Delta	16n
2720	--	--
4560	1840	115
5760	1200	75
6400	640	40
8848	2448	153
11968	3120	195

Who or what is mysterious planet X?

Planet X should appear in Sumerian, Mayan, Hebrew, Vedic and Norse literature, along with planet Nibiru and Comet Cluster Encke. All three periodically threatened Earth.

Nibiru came from outside the solar system, a flaming remnant of a supernova. Comet Cluster Encke also came from outside the solar system, beginning as a

giant snowball. However, X might be from within the Solar System, perhaps a large Moon of Jupiter, Neptune or Uranus disturbed by Nibiru during its initial passage toward the Sun. In some way, X acquired a host of satellites.

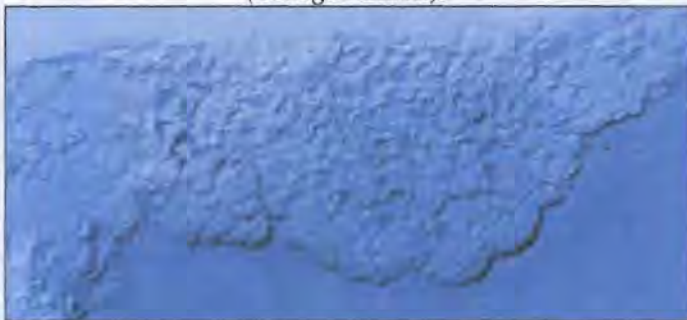
Planet X solves the mystery of the ancient Egyptian Calendar in Senemut's Tomb that labels Nibiru as the fifth planet from the Sun: Earth (1 yr), Tiamat (4 yrs), Jupiter (12 yrs), Planet X (16 yrs), Nibiru (20 yrs).

Sumerian literature features an advisor, Erdu, who is not accounted for. He is not a benign planet, nor a comet god, but equally deadly.

Initiation of flood by a turbidite

The flood of 5760 BC was one of many floods that originated on the continental shelf of Texas. A dramatic proof is the cratered surface left behind as oil, gas and naphtha erupted immediately after the overburden was removed (Figure 13).

Figure 13: Cratered continental shelf of Texas (Google Earth).



Island pushed into the Gulf of Mexico

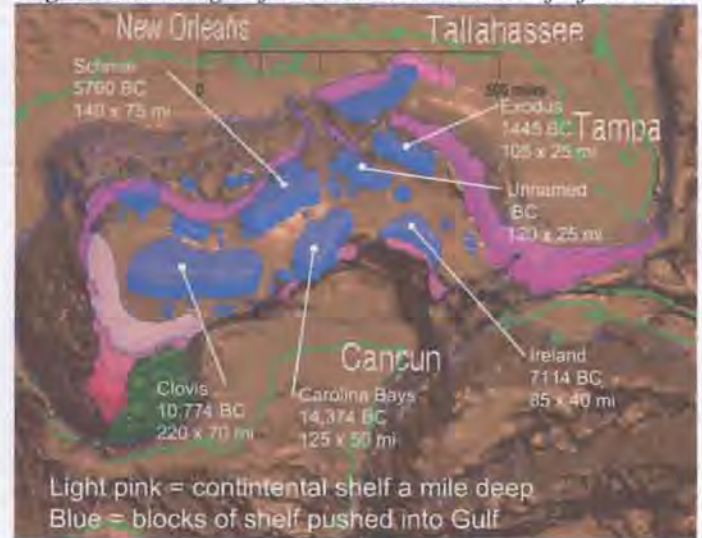
After the turbidite had slipped friction-free for a while, friction recurred. The fast-moving turbidite would latch on to the shelf beneath and carry it into the Gulf of Mexico, where it would stop and become an island.

The number of Texas floods can be estimated by how many large islands litter the floor of the Gulf of Mexico (Figure 14). High resolution sonar outlines these islands. As mud settles, more water escapes around the island than on top of the island. Consequently, the island profile rises slightly. This slight elevation change carries forward with subsequent floods.

The outline of each island matches the continental shelf at a depth of 1 km. Pushing the islands back

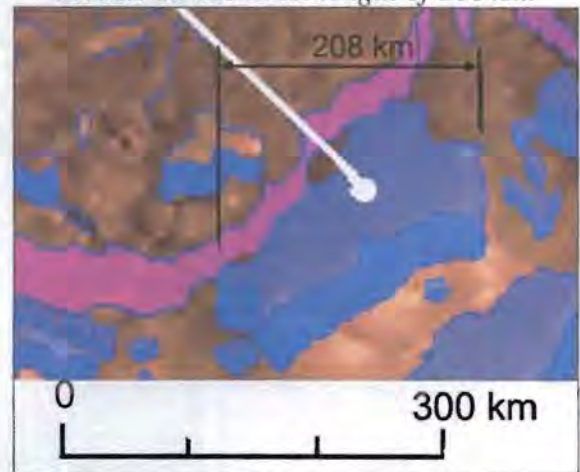
reveals that the original Gulf of Mexico was much smaller, an inland sea rather than a gulf.

Figure 14: Image of sunken islands in Gulf of Mexico.



Of the six largest islands, the best candidate for the Schmie flood lies close to Texas, labeled Schmie. It measures 115 km by 230 km, about the size of Massachusetts. An east-west length of 208 km is critical to establish runoff in Germany (Figure 15).

Figure 15: A closeup of the sunken island Schmie reveals an east-west length of 208 km.



Lake of oil caught fire

After the tsunami passed, an immense lake of oil floated to the surface of the Gulf and caught fire. Strong winds fueled the fire and produced a chimney of deadly black dust. Heat carried the dust high into the atmosphere, where jet winds blew the dust to some unlucky part of the world.

5760: Rhine Valley Flood

The ninth plague of Exodus describes a plume of deadly black dust. In the spring of 1445 BC occurred three days of Darkness caused by flammable, black dust brought to Egypt by a strong wind from the west. (Other sources say four days or even seven days.) No one could move. The Torah estimates up to 80% died. From this observation, one flood can be dated with precision, the Flood of Dardanus, which swamped all but the highest elevation of Denmark.

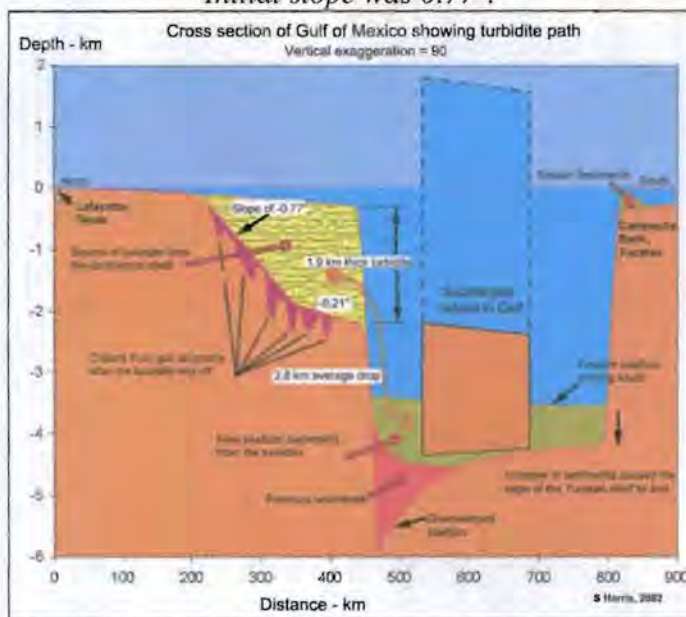
Initial height of the tsunami

A cross section of the Gulf of Mexico illustrates the vertical dimensions of a turbidite and its resulting tsunami (Figure 16):

- 1900 m thickness at the edge of the shelf
- 2800 m fall into the Gulf of Mexico
- 1900 m high tsunami above sea level
- 4300 m ocean depth below the turbidite

The island slipped under the sea like a piece of plywood and forced the sea to ride over it. The resulting tsunami was 1.9 km high.

Figure 16: Cross section across Gulf of Mexico illustrates the dimensions of a turbidite and tsunami. Initial slope was 0.77°.



Estimate of runup in Germany

Using the above numbers, a model of the tsunami by Hall and Watts produces a runup of 398 m through the Saar mountains that border the west side of the Rhine Valley (Table 2). This matches the estimated height of the tsunami that flooded the Rhine Valley.

Evidence of Flood at Schmie

Table 2: Calculation of runup at Saar mountains using Hall and Watts formula. First estimate runup at English Channel, then at Saar.

Variable	Amt. Unit
do = east-west turbidite length	208 km
ho = turbidite height at edge of shelf	1900 m
h1 = depth of Gulf of Mexico	4200 m
d1 = distance to Saar Mts	8380 km
d2 = distance to English Channel	7615 km
depth English channel today	75 m
sea level in 5900 BC	-10 m
h, depth of English Channel 5900 BC	65 m
k1 = do/d2 radial distance reduction	0.027
h2 = k1*ho radial lowering of wave height	51.9 m
k2 = ((ho+h1)/h)^.25, depth correction of wave	3.11
H = k2*h2 corrected wave height	161.5 m
Runup calculation, Hall & Watts (1953)	
a constant	3.02
g constant	0.91
k = R/h = a*(H/h)^g	6.915
R = k*h runup at English Channel	449 m
k4 = d2/d1 radial decrease to Saar	0.909
R1 runup at Saar mts, 5900 BC	408 m
sea level correction	10 m
R1 runup at Saar Mts today	398 m

Evidence of Flood at Schmie

Bragi wrote that Schmie was above the flood, which left mud all around.

Flood level at Schmie was 320 m asl

A flood of 320 m would cover the town of Schmie but bypass the high plateau south of Schmie, as per the text (Figure 17).

5760: Rhine Valley Flood

Figure 17: Schmie ridge (elev. 320 m) south of Schmie was above the flood, but Schmie (elev. 315 m) was flooded.



A flood at 320 m would isolate the ridge from the mainland, as per the text (Figure 18). In this image, Schmie is the central island of seven islands, which significance would not go unnoticed.

Figure 18: A 315 m flood surrounded Schmie Ridge with deep mud.



Mountains surround Schmie in all directions. However, two gaps open up at Saarland to the west. To breach this gap requires a flood 400 m (Figure 19). Referring to Figure 3, at these two places the smooth boundary of the flat Rhine Valley has been broken up and pushed east.

Evidence of Flood at Schmie

Figure 19: Direction of flood toward Schmie; a 400 m flood will clear the mountains west of the Rhine.



Tsunami passed through Saar Mountains to Schmie

Runup from the tsunami passed through mountains east of Saar, shown in Figure 20. The red line represents the extent of a 400 m runup. Beyond this line, a wall of water cascaded down into the Rhine Valley for over an hour.

On the east side of the Rhine, a high valley spreads eastward into farmland north of Stuttgart. Farmers easily plow this fertile land due to a thick layer of sediment left by the flood. The maximum extent of the flood was 315-320 m asl.

Here and there on this farmland rise wooded plateaus that escaped the flood; one of these is Schmie.

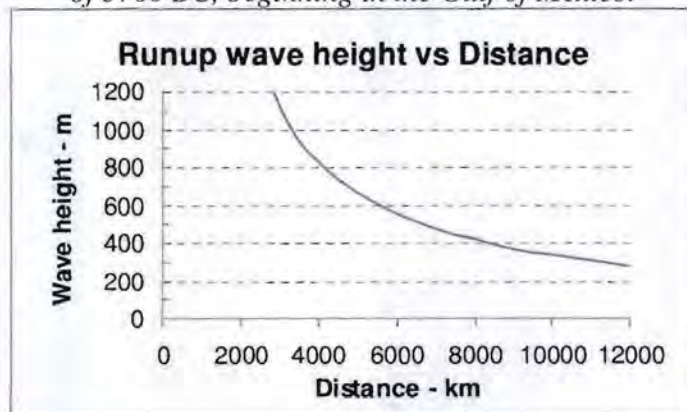
Figure 20: Runup of 400 m flooded the Rhine Valley, then the eastern plateau.



Back calculation of runup for any distance

Knowing the runup at the Saar Mountains allows a back calculation of runup for any distance. The distance between the center of the Texas turbidite and the Saar Mountains is 8380 km, whose runup was 398 m. Wave height / runup varies inversely with distance (Figure 21).

Figure 21: Runup height versus distance for the flood of 5760 BC, beginning in the Gulf of Mexico.



Ripple marks left by flood near Schmie

A flood from west to east would leave north-south ripple marks. Just such ripple marks occur beneath the forest throughout the entire region. At Aurich, for example, ripple marks are spaced 400 feet apart on the side of a hill (Figure 22). Likewise, the Rhine Valley is covered with north-south ripple marks, parallel with the river.

Figure 22: Ripple marks on 400 ft centers at Aurich. (Google Maps)



Creation of barrier islands of Frisland

It appears that the outwash of the tsunami created the barrier islands of Frisland, which otherwise have no reason to be there.

Their position at the north branch of the Rhine, in a circular pattern centered on the Rhine, resembles the islands at the mouth of the Mississippi River, which were created by outwash from a flood, then drowned by rising sea level.

Ad J. F. Van der Spek took a hundred core samples in the bay region behind the barrier islands, and the oldest peat he could find was 5100 BC. Everything older had been eroded away by the tsunami. (Van der Spek, 1996)

Erik W. Meijeles et al. reviewed the literature and concluded that calibrated sea level data on both sides of the barrier islands could not be used to date them. Like Van der Spek, they found nothing earlier than 6000 BC. (Meijeles, et al., 2018)

Flood in Europe

Extent of flood in Europe

The flood devastated Europe, as shown in the flood map below. It measures runup, which is twice the wave height at sea level. The tsunami acted like a fast tide rather than a wave.

The Mediterranean basin was protected by the narrow Strait of Gibraltar, which spared Spain, France, Italy, Greece, Turkey, Middle East, Egypt, Tunisia, Libya.

The Carpathian Basin was protected by a circle of mountains.

The Black Sea and Caspian Sea might have filled.

Asgard in Finland, elevation 60 m, was destroyed.

Frisland / Hyberborea was mostly submerged.

The highlands of Scotland escaped, but few lived there.

Those living in the mountains between Norway and Sweden survived, but others living lower perished.

Those living in Denmark, Netherlands, northern Germany, northern Poland, Latvia, Lithuania, and Estonia perished.

Those living in the mountains of central Europe (France, Germany, Switzerland, Austria, Poland, Romania, Hungary, Bulgaria), Iberia (Spain and Portugal), and North Africa survived.

Figure 23: Extent of runup in 5760 BC
(Floodmap.net).



5750 BC: end of Late Mesolithic in Portugal

A survey of well-dated sites in Portugal showed that the Late Mesolithic ended in 5750 BC. After a gap of 150 years, the Neolithic began in 5600 BC. (Zilhao, 2000)

5751 ± 49 BC: flood in Denmark

Aarhus Bay in Denmark flooded in 5751 ± 49 BC (7185 ± 36 14c BP, UBA-19002 on *Corbula gibba*), and changed from brackish to full marine conditions. At the same time, sedimentation rate increased dramatically (Rasmussen, 2019).

5750 BC: high rainfall and low temperature in Italy

Italy experienced peak rainfall accompanied by low summer and winter temperatures in 5750 BC. Enhanced Po River discharges changed the salinity of the Adriatic Sea surface and drove *Picea* and *Albies* pollen toward the core's site. The preceding years were dry and cold. This would be due to cloud cover from the explosion of Mt. Mazama. (Combourieu-Nebout, 2013)

5750 BC: fen peat ended in lowland bogs in Scotland

Around 5750 BC, fen peat ended in lowland bogs, replaced by wetter raised moss. This would be due to a salt water flood.

5730 BC: lowest level of peat at Isle of Mann

On the Isle of Mann, the lowest level of peat in the Central Valley begins in 5730 BC (Chiverrel, 2006).

Flood in North America

Based on the Iowa pollen core, maximum runup going north from the Gulf of Mexico was

m	km
100	4500
150	3000
200	2280
250	1800
300	1500
400	1150
600	760
800	570

Figure 24: Flood in USA. The flood stopped at the Great Lakes and St. Lawrence River. (Floodmap.net)



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Rasmussen, Peter, et al. (2019); Sedimentary and environmental development of Aarhus Bay; *Boreas*, V. 49, issue 1. A flood in 5750 BC changed Aarhus Bay from brackish to open sea.

Riris, Philip and Manuel Arroyo-Kalin (2019); Widespread population decline in South America correlates with mid-Holocene climate change; *Scientific Reports* 9, Article 6850, 2019. Between

5750 and 5650 BC, population declined 80% in South America.

Ruhe, R. V. (1969); Quaternary landscapes in Iowa; Iowa State Univ. Press, Ames, Iowa, 255 p. Replots the pollen core diagram taken by Walker (1966). 62 inches deep occurred an unconformity followed by sterile silt. 57 inches deep, a sample measured 6130 RCBP (5050 BC). 29 inches deep, a sample dated 2930 RCBP (1120 BC). By ratioing, the estimated date of the unconformity is 5750 BC. Above the unconformity lay four inches of sterile reddish-brown silt, followed by grey loamy silt. 29 inches below the unconformity measured 11,880 RCBP (11790 BC). 2 inches below the unconformity measured 9270 RCBP (8490 BC). By ratioing, a tsunami had stripped away 20 inches of sediments dominated by pine and hardwoods. Afterwards, trees no longer grew, only grasses. Van Zant (1976) confirmed the data.

Stuart, A. J. et al. (2004); Pleistocene to Holocene extinction dynamics in giant deer and woolly mammoth; *Nature*, 2005 Mar 17; 434(7031):413.

www.Theoi.com, excellent on-line source of Greek mythology.

Van Zant, Kent L. and George R. Hallberg (1976); A late-glacial pollen sequence from northeastern Iowa: Sumner Bog revisited; Iowa Geological Survey, Technical Information Series, No. 3, July 1976. Found the location of Walker's original pollen core, and sampled a much larger area of Sumner Bog. Discovered that Walker may have taken several pollen cores and reported only the very best one. Confirmed an unconformity at 6130 +130 RCBP above which lay four inches of sterile reddish-brown silt, followed by grey loamy silt. Two inches below the unconformity measured 9270 +90 RCBP. This unconformity matches other dates from this region. A tsunami had stripped away 3000 years of underlying sediments, dominated by conifers and hardwoods. Afterwards, trees no longer grew there, but some pollen blew in from far away.

Van der Spek, Ad J. F. (1996); Holocene depositional sequences in the Dutch Wadden Sea south of the island of Ameland; on line at ResearchGate. The peat he could find from a hundred cores was 7100 BP (5100 BC).

Walker; Patrick H. (1966); Post-glacial environments in relation to landscape and soils on the Cary Drift, Iowa; Iowa State U., Agric. and Home Econ. Exp. Sta., Res. Bull. 549, pp 838-875. Walker sampled Sumner Bog among many others in northeastern Iowa but did not report his disturbing results. Ruhe (1969) took his data and published it. Van Zant (1976) followed up and confirmed the data.

Zilhao, Joao, (2000); From the Mesolithic to the Neolithic in the Iberian Peninsula, Ch. 6, p. 150; *Europe's First Farmers*, ed. T. Douglas Price, Cambridge U. Press; 2000. In Portugal, the Mesolithic ended in 5750 BC; the earliest Neolithic date is 5600 BC.

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**Strikes from Planet X at
16 year intervals**

BC	ppb	11968	544
1055	60	12015	99
1263	57	12047	43
1985	46	12161	76
2160	47	12240	39
2720	167	12271	44
3311	72	12433	51
3553	55	12464	42
3616	56	12816	95
3935	88	12976	42
4175	56	13024	39
4224	102	13231	45
4288	43	13775	34
4560	370	14016	97
5231	71	14033	82
5760	377		
6113	43		
6400	228		
7423	42		
8015	72		
8095	78		
8240	76		
8271	123		
8848	295		
8895	68		
9424	103		
9681	88		
9713	80		
9792	57		
10049	100		
10112	92		
10239	120		
10641	88		
10656	88		
10720	145		
10752	145		
10895	143		
10991	44		
11167	101		
11279	100		
11505	47		
11744	65		