

Why is there a huge spike in cruise ship width at 32 meters?

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I found [a web page that listed the sizes of a large number of cruise ships](#). Plot out¹ the widths:

80
70
60
50
40
30
20
10
0
20
40
60
80
100
120
140
160
180
200
220
240
260
280
?



Okay, first thing to note: What's up with that ship way out there at a width of 275 meters?

Ship name	Year built	Size (GT Tonnage)	Max Draft m/ft	Length m/ft	Width m/ft
Seven Seas Mariner	2001	48,075	7m / 23 ft	216m / 708.66 ft	275m / 902.23 ft

According to the chart,² this ship is 216 meters long and 275 meters wide. That's not a ship. It's a floating island!

Wikipedia gives the beam as 28.3 meters. My guess is that there was a transcription error when generating the table, and the width they meant to enter was 27.5 meters, not 275 meters.

Let's delete that bad data point and try again.

80
70
60
50
40
30
20
10
0
10
20
30
40
50
60

There is a clear spike at 32 meters, followed by a gap with nobody 33 meters wide, and only two ships 34 meters wide.

Why is 32 meters so popular? And why doesn't anybody want to be 33 meters wide? Is there some structural limit at 32 meters? Is there some construction method that doesn't work past 32 meters?

The dimensions of the largest ship that will fit through the original Panama Canal is known as Panamax, and the width of Panamax is (surprise) a little over 32 meters. People are building ships as large as possible, but not so large that they can't fit through the Panama Canal. And if you're going to be too big to fit through the Panama Canal, there's no point being *just barely* too big to fit, hence the gap at 33 meters.

There is a similar spike in length at 294 meters.

20
15
10
5
0
20
40
60
80
100
120
140
160
180
200
220
240
260
280
300
320
340
360

The Panama Canal added a new, larger set of locks in 2016, increasing the maximum possible ship width to 49 meters. The names *New Panamax* and *Neopanamax* have been coined to refer to the dimensions of the largest ship that will fit through the updated Panama Canal. In the chart of widths, you can see a blip of ships whose widths get up to 49 meters, and then a hole at 50 meters. It's not as obvious as the 32-meter spike, though.

The Panama Canal opened 105 years ago today.

¹ Normally, when the domain is continuous, it would be better to show cumulative counts rather than a straight bar chart, because you want six bars of height 1 very close together to count about as much as a single bar of height 6. But the spike here is so obvious even without the cumulative chart, so I won't bother.

² You can see from the chart that the values are recorded in whole meters, but they convert to feet with two decimal places of accuracy, which is absurd, since the original measurement error was 0.5 meters, or around 1.5 feet.

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