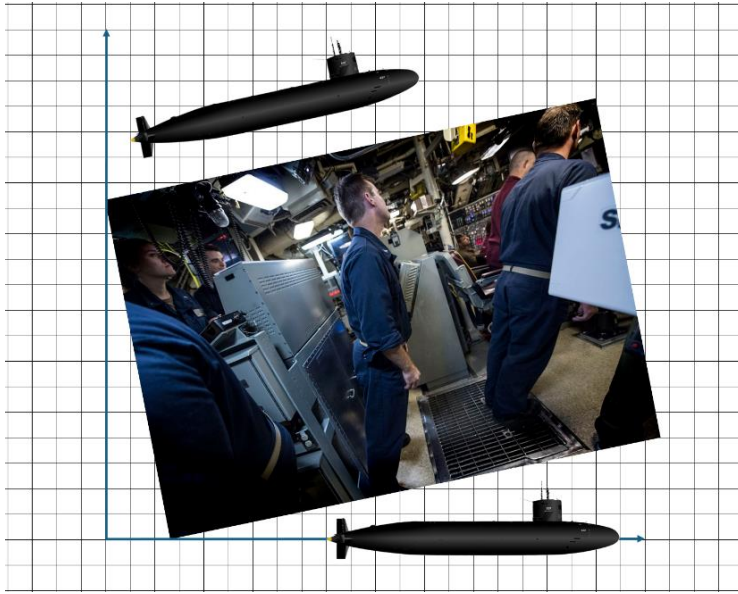


# OPERATIONAL ENVIRONMENT



This is a very sensitive subject and a good deal of it is classified even to this day. So, I will start off with, "I can neither confirm nor deny what is written here".

Now then, I will assume that you have visited one of the Wikipedia pages for the submarine you are wondering about and its operational environment. You know how tall a submarine is, how long it is and what depth of water is that it can operate in. On the left here I have put some scaled graphing images for you to think about in context. If you count the grid lines you should be able to figure out your margins for error.

If you pay particular attention to the angle at which the free-standing sailors are in, in the picture, I will tell you that operationally that is not uncommon. There are times when you really need to be holding onto something solid to properly orient yourself to your moving environment.

With that now in your mind, I will let you know that generally speaking when a submarine is leaving port, it will remain surfaced until it reaches the 100-fathom curve. And more frequently than not it will also surface well before going too far towards shore over waters of that depth as well. And with that the map off the coast of San Diego and LA, represented in Google Maps:



Looks like a world of opportunity huh.

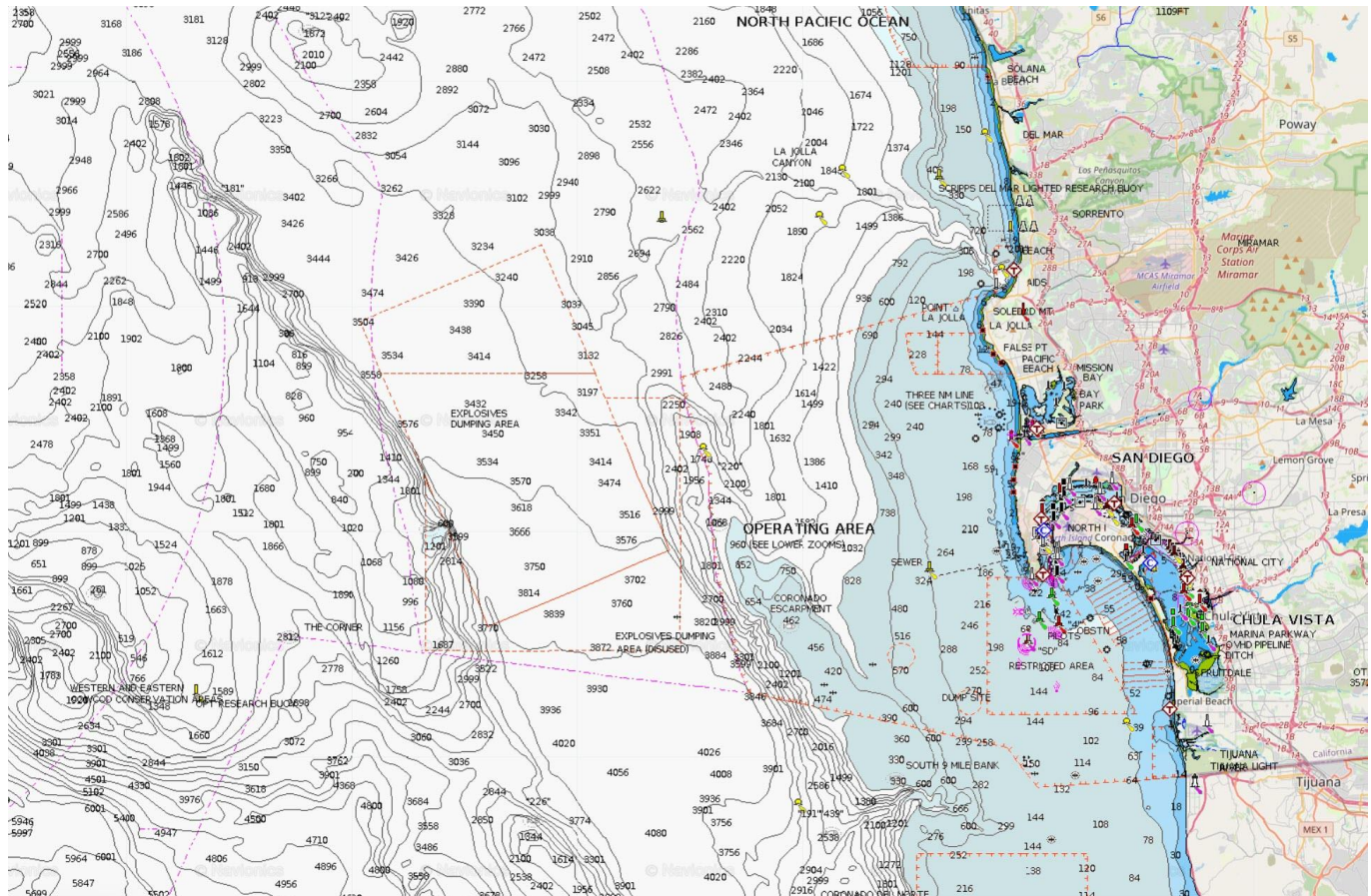


Well not so much:

All the way down in the lower right corner of this repeated picture from the previous page I have inserted a more detailed chart of the depths. That chart shown below has some shading applied. The darker blues in the harbor and running along the beaches lets you know you had better be on the surface.



THEN the light blue off the coast – well that's the 100-fathom curve, where anything colored light blue is LESS THAN 100 fathoms.



Now then one more thing from your data gathering from Wikipedia. The depth you found is called “Test Depth”. That is the depth where the manufacturer promises that all the work performed in building that particular submarine is guaranteed. Deeper than that you are on your own.

Can you go deeper than “Test Depth”? Certainly, you have the ability to control your depth with things like ballast, dive planes (those horizontal fins), and above all double redundancy on all pipes and valves that separate you from the water outside (including the hull). So, what is the depth where things get out of control? Well, that's called “CRUSH DEPTH”.

AND, I will finally tell you that the vast majority of the white area of the chart above. The numbers shown are larger than crush depth.

(Now then go back to the very first picture I put in this paper and think about it.)