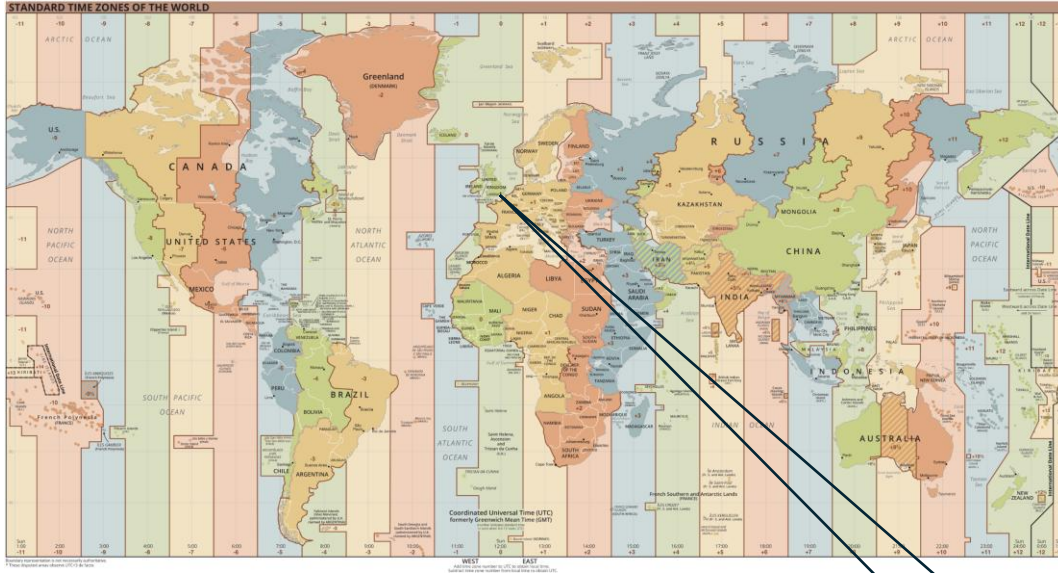
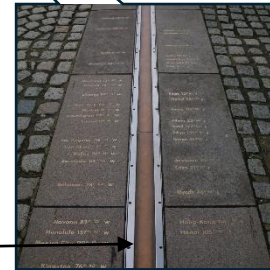


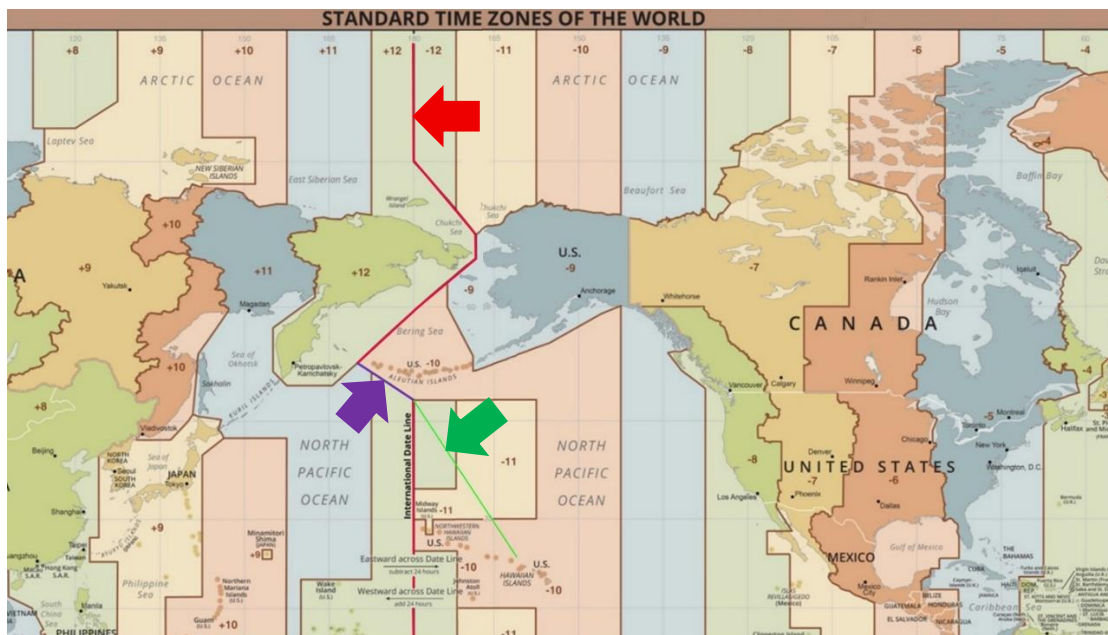
# Time Travel



Above you will see the Time Zones of the world according to Wikipedia. It's an excellent map, and it provides all the details you need for world travel and keeping track of time. You have to keep in mind that this "keeping track of time" is a human vantage point. We humans have divided up the day on the surface of this planet into 24 hours all referenced to the 1675 English establishment of the Greenwich Mean Time (GMT) center point which is located at the Royal Observatory in Greenwich England.

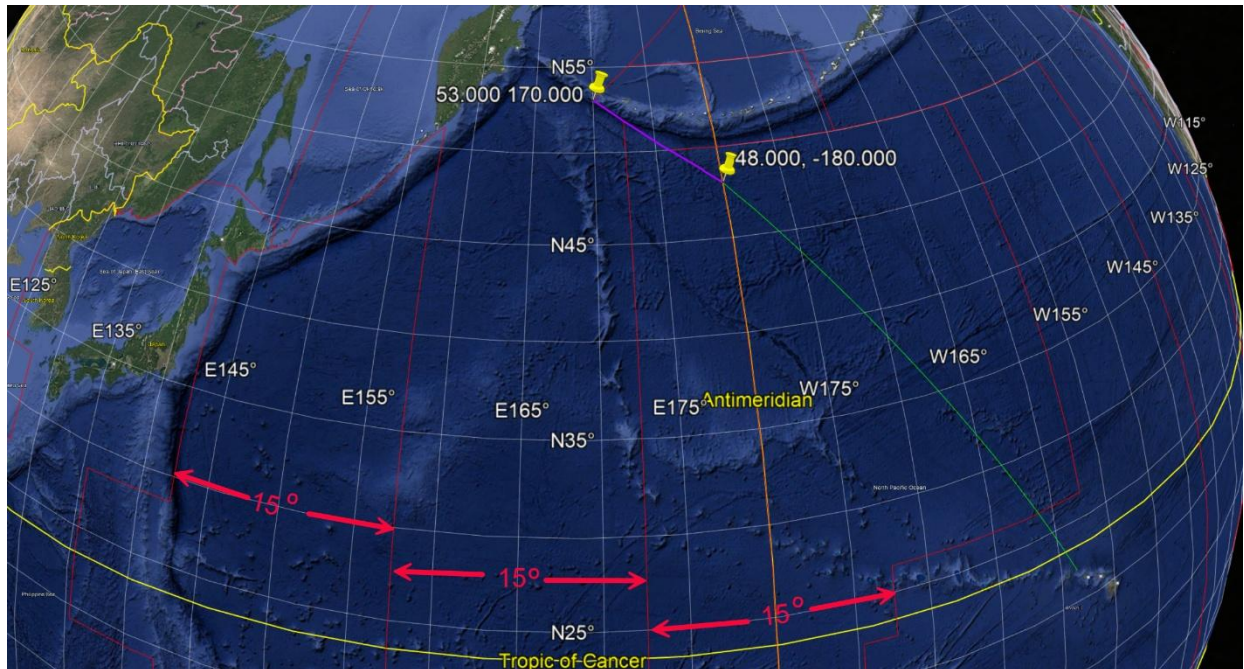


My story about this particular aspect is on the other side of the world from that central point marking the center of GMT, which the US Navy refers to as "Zulu" time. Zulu time is the time we on Submarines used because if you don't see the movement of the sun across the sky and you are traveling under the world's oceans and seas – why reference anything to something you can't see. With that said my particular story is about one mission I was on, shown below here in **green** is our course. With the International Dateline (opposite GMT) in **red**, and then the actual center of the story where our course and the international dateline were along the same line shown in **purple**.



While the Mercator Projection map was designed for Sea Travel, I would rather describe my “Time Travel” experience with the Google Earth projection. But before we depart, I would like you to take note of the fine print regarding the “crossing” of the International Date Line that is key to this story.

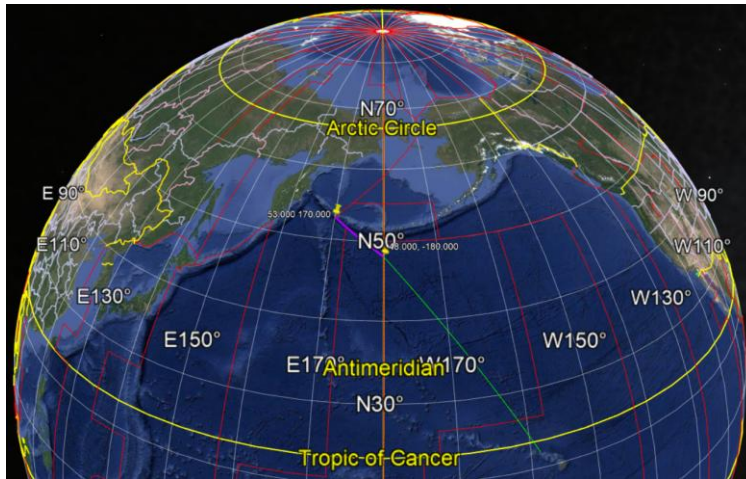
Something else to keep in mind, when flying most people, if they wish to “track the time” roughly, the instructions are to add or subtract 1 hour for every 15 degrees of longitude. This becomes clearer (shown in red below) when the map is a global map that shows the curvature of the Meridian Lines and time zone lines.



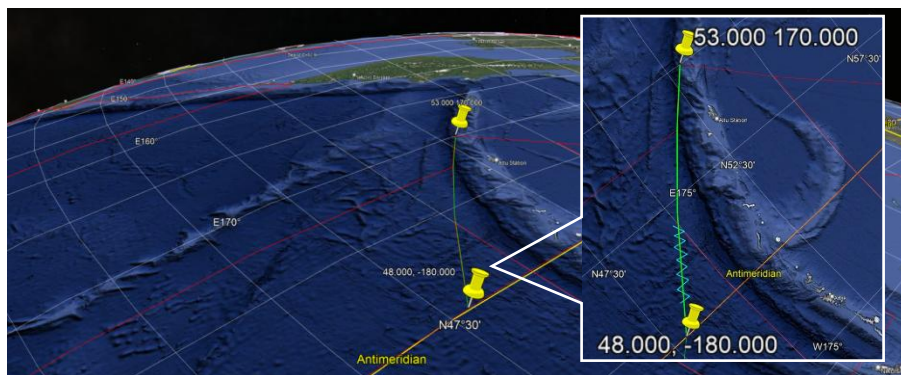
The “close-up” view above that encompasses our operational orders to the northern portion of the Western Pacific. It also starts to take the emphasis off of “Time”, other than the noted in red average one-hour shift for every 15 degrees of compass for those traveling across them quickly. And “quickly” does not really apply to those traveling submerged for a long period of time on their mission.

Our Commanding Officer following his orders decided to start our “mission” at the very top of what would be our operational area for a lengthy period of time. So, we left Pearl Harbor and remained on the surface until we had the Kilauea Lighthouse on the Island of Kauai abeam of us. At that point we submerged and began our transit along the eastern perimeter of our triangularly shaped patrol area headed for the top.

This is when the jumble of the national desires of changes to the date lines became of interest. The first being the United States desire to keep all of the Hawaiian Islands in the same time zone. That is of course with the exception of Midway Island that was an additional 1-hour shift before hitting the time zone that encompassed the International Dateline. If we had wished to start our patrol at the bottom of the triangle, then we could have just sailed due west of Pearl Harbor and been in the same time zone all the way. But no – we wanted the “Time Travel” adventure experience at the beginning of our patrol.



It was our objective to arrive at 48 degrees North and 180 degrees West precisely at “midnight”, splitting the +/- 12 time zone, and subtracting a day from the calendar we made for this adventure. That calendar was lengthy and not laid out as most calendars were, running from Sunday to Saturday left to right. It was one long set of boxes covering our actual positions from our base course from 48N 180W to 53N 170E.



Our special linear calendar started with a box noting our actual position as we approached the Dateline just a tad south of 48N 180W. We noted our position and the Zulu Time in that box. Then when we crossed over “the line” we moved down and one box to the left, as we had just subtracted 24 hours. Again, we made note of our actual location and the Zulu time in that box. Then as we passed over the line between the two points we made an entry below the first box, as we had just added 24 hours. Headed westerly subtract a day, headed northerly add a day.

I remember thinking, if we were a sailboat we were tacking back and forth over the line, as shown with the blue line in the inserted view above. We did this for the next number of days (Zulu Time). Can you visualize what our Calendar looked like when we finally reached 53N 170E? (PS the actual Calendar ended up being classified so I never got a copy of it – just a great memory.) Back and forth over the International Dateline on a GMT hourly basis over and over and over again for DAYS, subtracting some and adding others in matched sets.

**TIME TRAVEL OVER DISTANCE = A ONCE IN A LIFETIME EXPERIENCE!!!!**