

SEATIMES

The Newsletter of the Nautical Professional Education Society of Canada
(Society founded in 1995 by the British Columbia Branch of The Nautical Institute)

August 2026

From Paper Charts to Satellites:

A Journey Through the Evolution of Marine Navigation

In this article we explore some of the key advances since the days of paper charts and sextants that are keeping modern ships safe from catastrophic accidents.

The officer of the watch on the bridge of a modern cargo ship or cruise liner is responsible for the safe navigation of these giants of the sea. They rely on an array of navigational technology to safely find their way and avoid collisions with other ships or natural obstacles. But how has navigational technology advanced in the past 50 years?

“Steady as She Goes” – Navigating a Ship 50 Years Ago

Even in the 1960s and 1970s, ships already had some impressive modern technology available. The increasing accuracy and reliability of gyrocompasses had made error-prone magnetic compasses obsolete except as a backup. Gyrocompasses rely on a rapidly spinning gyroscope to detect the rotation of the earth and point towards the centre of rotation at the North Pole.

The widespread use of radar onboard ships, originally developed for military application started to find application in civilian ships from the 1940s. This was a major advance allowing ships officers to effectively see in the dark or even in thick fog or low cloud. Later, Automatic Radar Plotting Assistance was added to help make sense of complex traffic situations by keeping track of objects the radar had picked up.

VHF radio was widely adopted and allowed ship-to-ship and ship-to-shore voice communication, replacing signal flags and semaphore. To fix the ship's position, radio direction finding was used. Hyperbolic radio-fixing systems such as LORAN-A and DECCA were considered the state of the art in navigational technology. By triangulating the bearing of radio signal transmitters at known locations, the ship's navigator was able to fix the ship's position down to the accuracy of approximately one nautical mile, even in the open ocean. These radio-fixing aids simplified the navigator's problem of determining how far from land the ship was but did not do much for precise coastal pilotage. Skilled local pilots with the ability to steer the ship from visual marks with knowledge of local currents and hazards remained critical to safe navigation.

Environmental Disasters Create a Focus on Safety

The 1970s and 1980s saw rapid developments in ships and shore-based technology. Global attention was focused on the environmental consequences of shipping accidents by a number of high-profile and severely damaging groundings and oils spills. Notable examples among these were the 1967 SS *Torrey Canyon* grounding and spill of more than 100 million litres of oil on the south coast of the UK, and the 1978 *Amoco Cadiz* spill of 256 million litres of oil on the beaches of Brittany. In Canada, the



groundings and spills of the SS *Arrow* (1970, 10 million litres) and SS *Kurdistan* (1979, 6 million litres) drew attention to shipping risks in Chedabucto Bay and Cabot Strait.

In response, Traffic Separation Schemes (TSS) were established, commencing in 1967 with the Dover Straits (mandatory in 1971) and now extending to all areas of major marine traffic confluence. TSS, as the name suggests, create a system of separated one-way traffic lanes. The routes are established through the IMO Convention on the International Regulations for Preventing Collisions at Sea (COLREGs), and implemented through national regulation, help to streamline traffic flow, reduce crossing and heads-on meeting situations, thus significantly reducing the risk of collision. The value of TSS continues to be recognized with new TSS being added each year to the list sanctioned by the IMO. The IMO established the TSS in the Strait of Juan de Fuca in 1981 and Canada now has 5 mandatory and 7 recommended routing systems.

In conjunction with TSS, Vessel Traffic Services (VTS) were established to provide oversight of vessel movements. This was pioneered in Liverpool and Rotterdam in 1949 and 1956 respectively and was implemented in the very busy Dover Straits by 1973. VTS were initially quite rudimentary, comprising manual radar surveillance and radio call-in points for ship self-reporting. In recent years VTS have been augmented by digital ship tracking and sophisticated computer algorithms for highlighting collision and grounding risks. Trained VTS operators aid safety of navigation by alerting ships to dangers and providing a critical interface with search and rescue, pollution and other marine response agencies.

Military guidance systems help the development of GPS

Onboard the ship also saw revolutionary changes in technology in the 1970s and 1980s, starting with the development of satellite navigation systems in the 1970s.

The US Navy's TRANSIT navigation system of determining terrestrial positions by cross-fixing obtained from radio Doppler-shifts was made available for civilian use and then superseded in the 1980s by the more accurate Global Positioning System (GPS), which determines distance by precise time differences. In the year 2000, all users were given access to the highest accuracy service when the military disabled a system they had been using to degrade accuracy for civilian users called Selective Availability.

The increased accuracy led to the explosion of geographic information systems (GIS) and georeferenced applications in all aspects of civilian life. Modern navigation systems now have access to American, European, Russian and Chinese satellite constellations simultaneously which allows them to accurately fix positions to within less than one metre. The combined constellation of technologies has been recognized with the acronym GNSS – Global Navigation Satellite Systems.

These high degrees of navigational precision provided by GNSS was complemented by the digitization of paper charts through Electronic Nautical Charts (ENC). The combination creates the ability for mariners to precisely view their position in space on the chart through an Electronic Chart Display and Information Systems (ECDIS). The result is highly accurate, fully automatic electronic navigation available both commercially and recreationally.

Automatic Identification Systems (AIS) Uses Radio Data to Help Avoid Collisions

Ships still had to rely on radar, radio communication or visual observations to detect other ships until the advent of Automatic Identification Systems (AIS). AIS is a system of automated VHF radio transmissions that exchanges between ships key identification and navigational data such as a ship name, IMO number, type of ship, destination, activity/status (underway, anchored, fishing, etc.) position, course, and speed. The information is displayed on the ship's navigation system (radar or ECDIS) as symbology with leaders to indicate true and relative movement. In this way, the navigator is able to correlate ships with radar contacts, and to immediately identify them for bridge-to-bridge radio communications in resolving collision avoidance situations. This same technology has also aided marine safety with the use of Virtual Aids to Navigation (V-AtoN) to highlight navigational hazards or temporary exclusion zones. These are navigational warnings or dangers transmitted to the ship's radar/chart plotters as symbology, showing apparent contacts through AIS technology without the need for a physical object like a warning buoy.

Autopilots and Satellite Connectivity

The cross-referencing of radar and geographic (charted) information on both radars and ECDIS, combined with AIS, gives navigators the ability to make risk assessments and decisions based on accurate and complete information, even in low visibility conditions. It is even possible for ships to follow planned tracks through the use of autopilots. Such autopilots can operate in three modes: course maintaining, track-following, and route-following. Most ships use the first, with the bridge watchkeeper making adjustments for track following, maintaining personal awareness of the ship's set and drift. Almost always in situations of critical pilotage or complex traffic, and in heavy seas, ships will revert to hand steering for greater control and quicker response.

Communication technology also advanced significantly in the last few decades of the 20th century. Increasing prevalence of mobile phone data connections has created the opportunity for real-time acquisition of weather, wind, bathymetry, water-level and air-gap data through localized networks. Satellite communication initially opened the door to voice communication even when outside of the range of VHF radio. Increasingly, satellite communication is used for data. Lower-cost satellite internet brought about by low-earth orbit satellite technology (e.g., Starlink, Telesat or Iridium) means that modern ships can now have access to real-time data sources over extended ranges, subject to satellite coverage and service subscription.

The above was taken from "Clear Seas Research into the Technology Implications for Marine Pilotage".

Author: RAdm Nigel Greenwood, RCN (Retired), FRIN, FNI

There is much more to the article and the balance can be found at: -
<https://clearseas.org/insights/evolution-of-marine-navigation/>



A proper degree of mistrust.

Challenging equipment readings has always been important.

It must be quite alarming to discover that a navigation system, which you have learned to trust for its unfailing reliability, has suddenly misled you. But it is happening quite often, in certain parts of the world, as hackers and spoofing cause serious problems for navigation. And not just on the bridge, because many of the other ship systems that depend upon satellite-borne signals can be similarly interrupted. The Black Sea, eastern Mediterranean, Red Sea and Gulf, and certain parts of the South China Sea have been affected, and those aboard ships in these areas are urged to be on their guard.



Navigators are told to check their position using other means when in these waters and at least one large ship has come to grief on a shoal as a consequence of this spoofing. Suddenly, lighthouses, compass bearings, radar ranges and even sextants come back into their own. While it might seem something of a backward step after the wonderful convenience of GPS, it is a reminder that the advice to seek a second opinion, and check something as important as the ship's position is as old as the hills.

Electronic interference, particularly that from malicious sources, may be something new for navigators to contend with, but seamanship has always faced the unexpected. Sunspots – politely termed solar radiation these days – have caused all sorts of problems as their electro-magnetic waves surge around the Earth. Even the faithful magnetic compass could develop unexplained errors; some quite natural and some following the loading of a cargo of iron. Failure to employ a compass adjuster from time to time could be a most unwise economy.

Moving targets: Tidal variations could make a landfall in thick weather problematical – maybe this was spoofing by the moon, or weather systems – leaving those employing dead reckoning confused. Even

early forms of radio navigation like the Decca Navigator used half a century ago and thought miraculous in foggy north European waters, could 'slip' its lanes and bewilder the user. When employing radar, users have always been trained to be cautious as to what the screen might be showing and what the radar waves might really be bouncing off. Interference and false echoes long pre-date hacking or spoofing. We are told that windfarm arrays have caused surprising 'ghost' echoes on radar.

Perhaps forms of spoofing go back even further in maritime history. Wreckers, we are told, would extinguish crucial lights to lure unsuspecting ships onto the shore. It is even said that they would put out false lights or even mount them on the back of a horse, to further confuse those afloat. In wartime, all sorts of strange ruses, like dropping metal foil from aircraft, were used to simulate ships and bewilder enemy radar operators.

Quite who is responsible for this surge in interference with our tried and trusted navigation systems is almost immaterial, but the ease with which relatively weak satellite signals can be distorted is indisputable. It is said that equipment that will interfere with electronics can be bought cheaply online and is employed widely. State-sponsored hackers presumably use more sophisticated weaponry. And while equipment manufacturers are devising counter-measures, the advice to carefully check the ship's position using more than one source of reference remains, as it has always been, good advice.



By Michael Grey <https://www.missiontoseafarers.org/the-sea/a-proper-degree-of-mistrust>

1948 – A class of 16 or 17 year old Cadets from the training ship HMS Conway visit the m.v. *Telemachus* at Gladstone Dock, Liverpool.

It was a dismal grey morning when the coach arrived at Woodside from Bangor, after a pleasant if chilly journey through the snow covered countryside. Crossing over to the Pier Head in the ferryboat, *Hinderton*, we were shown through the engine room by Mr. Nicholls, who accompanied the party of 24 of us on the trip.



Then came the interesting journey along the Overhead Railway to Gladstone Dock. Ships I noted in dock were *Ascania*, *Prome*, *Suffolk* and *Clan Urquhart*, and numerous smaller ones.

m.v. *Telemachus*

We reached our destination just after noon and found the *Stentor*, another Holt boat, and the *Empress of Canada* and *Scythia* in dock with the *Telemachus*. There was no unloading in progress because it was the dockers' lunch hour then.

Having left our coats in the midshipmen's cabin, we divided up into two parties, one for the engine room and the after part of the ship, and the other for the

bridge, cabins and forward part of the ship. On the first glimpse I was surprised at the spaciousness and cleanliness of the engine room. I had imagined the engines to be somewhat bigger, though not nearly so high as they really were. Everything seemed to be oiled much more than I expected, and the machinery that was working, dynamos etc, was almost silent except for a high-pitched hum. After a very interesting forty minutes down here and at the steering engine, when we all saw Mr. Nicholls' engineering and ship construction drawings on the blackboard "alive", we went back to the saloon for lunch.

This was a hearty meal by any standards, with the piled plates of steak and kidney pudding*, but it seemed quite magnificent to us.

After the lunch, which ended up with coffee, we divided into our two parties again, each going over the part of the ship we had not seen before. The party I was in first went to the bridge, the cabins and then up forward in the ship. The bridge and chartroom were far less pretentious than one would expect for a vessel of this size, but this, I afterwards learned, was usual on Blue Funnel ships, where the bridge is usually very small and compact. We then went up to the "monkey island" above the bridge, where, for the first time, I was aware that they had resumed unloading. The modern electric winches on the ship were almost noiseless

apart from a slight hum, as were the dockside cranes, also electric. The only noise came from the small mobile cranes on the wharf engaged in stowing the cargo in the warehouses and on to trucks and lorries. Her cargo comprised of palm oil in the deep tanks, crude rubber sheets in bales, and high grade latex in drums. There were a few bales of rope fibres, but most of them were unloaded before we arrived, and sacks of meal. It was interesting to see how easily the winchmen worked the winches while handling union purchases. I realised now how useful the hooks are to the stevedores while handling cargo, though I noticed they had punctured several of the sacks with them. Apart from a few working in the hold and on the winches, about half of the gang seemed to be watching or keeping warm in the warehouse.

We then looked over some of the officers' cabins and the smokeroom, also the passenger accommodation, all of which was quite pleasing, though the midshipmen's quarters were somewhat cramped, I thought.

From there we went along the deck to the fo'c'sle head where we saw the windlass, hawse pipe etc. There was a metal beam about 18 inches high set almost at right angles to the fore-aft line to prevent seas breaking over the bow from crashing on to the hatches. They were now unloading the drums of latex with can hooks on to the quay.

By now we have seen most of the ship, if rather briefly, and, after we had watched the stevedores for a short time, the other party showed up and it was time to leave. I was rather reluctant to go, but what I had seen was rather instructive and I feel sure the few hours on the *Telemachus* taught me more than many a lecture on H.M.S. *Conway*, as I could see the various parts of the ship that were little more than drawings in the mind before, now vividly pictured as I had seen them aboard m.v. *Telemachus*. N.L.A.B.



HMS Conway

From "The Cadet August 1948"
(The Official Organ of HMS Conway)

(A Cadet with the initials N.L.A.B. left the *Conway* in July 1948 to join the Blue Funnel Line.

Perhaps it was the steak & kidney pudding that attracted him to that Company).

* **Steak & Kidney Pudding:** <https://www.bbcgoodfood.com/recipes/steak-kidney-pudding>

Ship Safety Bulletins. Issued June 4th 2026

Subject: Safety measures concerning life-saving appliances

<https://tc.canada.ca/sites/default/files/2026-06/ssb-09-2026e.pdf>

Subject: 2026 Fire Hazard Prevention Concentrated Inspection Campaign

<https://tc.canada.ca/sites/default/files/2026-05/SSB-07-2026E.pdf>

Coming into force of the Vessel Traffic Services Zones Regulations (SOR/2025-275) - SSB No.: 06/2026

<https://tc.canada.ca/en/marine-transportation/marine-safety/ship-safety-bulletins/coming-force-vessel-traffic-services-zones-regulations-sor-2025-275-ssb-no-06-2026>

Protecting killer whales in the waters of southern British Columbia, 2026 - SSB No.: 08/2026

<https://tc.canada.ca/en/marine-transportation/marine-safety/ship-safety-bulletins/protecting-killer-whales-waters-southern-british-columbia-2026-ssb-no-08-2026>

Read this blog from Georgian College.

Lilian Kuka, the first female marine pilot in Canada, reflects on 50 years since graduation.

<https://www.georgiancollege.ca/blog/program-stories/first-female-marine-pilot-in-canada-reflects-on-50-years-since-graduation/>

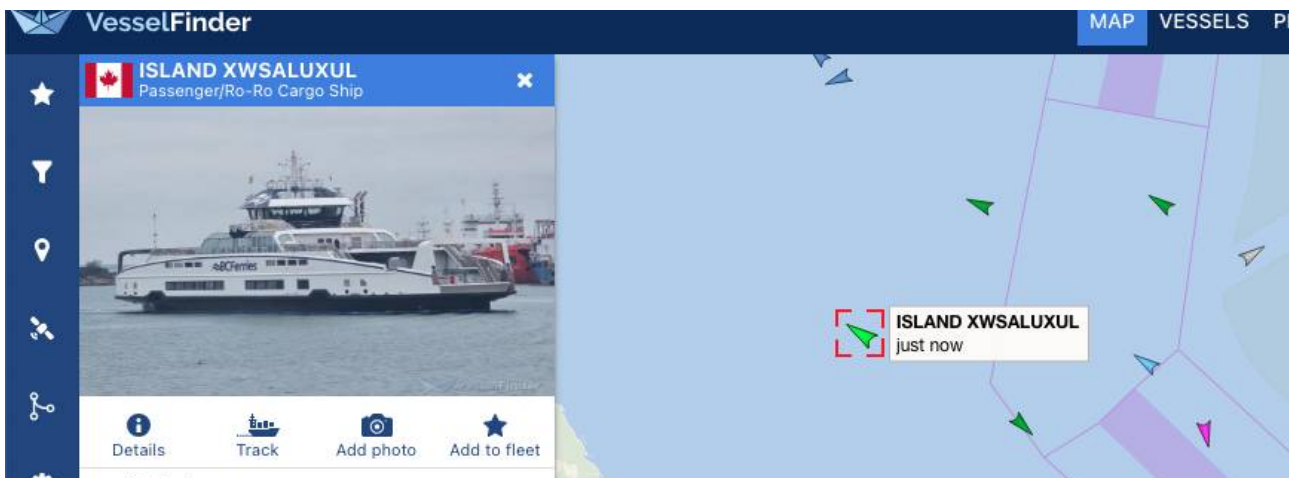
Early in June, this ferry was observed following an unusual route in the Strait of Georgia. The BC Ferries' Press Release from June 1st, the first part of which appears below, explained that this was a new ferry, not yet in service. Click on the link for the full report.

BC Ferries celebrates the arrival of *Island xwsaluxul* to strengthen inter-island ferry service

Summary

- *Island xwsaluxul* is the first of four new Island Class vessels arriving as part of BC Ferries' ongoing fleet renewal program. The vessel name was gifted by Snuneymuxw First Nation.
- This new vessel is expected to enter service this summer between Nanaimo (Nanaimo Harbour) and Gabriola Island (Descanso Bay), replacing one of the existing Island Class vessels currently operating on the route.
- As additional Island Class vessels enter service, BC Ferries is planning for existing vessels to be redeployed across the ferry system with the goal of improving reliability, capacity and operational flexibility on various inter-island routes.

<https://www.bcferrries.com/news-releases/BC-Ferries-celebrates-the-arrival-of-Island-xwsaluxul-to-strengthen-inter-island-ferry-service>



Following is a letter received from Nicole Pickering who graduated from the BCIT Nautical Sciences Diploma Course in 2021. During her time on the course she received awards from the Nautical Professional Education Society and the Vancouver Transportation Foundation.

Wow, if you were to ask me 10 years ago if I saw myself having such an adventurous life as I do now, it would have been an absolute dream come true!

I always had an idea of what I wanted to do with my life, but not to this magnitude.

While still working at my last job in sales, I had a goal, which was to travel to all 7 continents before I was 30. I did so and one of the Continents was Antarctica. Little did I know, that by going to Antarctica, that

this would change my life. I had saved up all year in order to go as it had cost me about \$15,000, but I wanted to see this continent so much, so it really motivated me to work hard to get there.

When I was 29, I had finally stepped foot on Antarctica and I fell in love. Not only with Antarctica, but also with being on a ship. I went with an expedition company called Hurtigruten on one of their ships



called *Midnatsol*. What I really love about the expedition ship was the fact that, you are always learning, you meet the most interesting people, and you get to see the most remote beautiful places on the planet.

Midnatsol

Being super curious about how to work on a ship, I asked the Captain of *Midnatsol* how to do this. He

had told me that you have to attend nautical school. I then looked up online, nautical schools in Canada, and one of them was right in my back yard in Vancouver - 'BCIT' Marine. Literally only 30 minutes from my house! I was so excited! I had made up my mind onboard when we were in the Falkland Islands (New Island to be exact) on our way back to Chile from Antarctica, that I was going to get into that school no matter what.

Within a week of getting back from Antarctica, I met with the Co-op Coordinator at 'BCIT' and asked him "how do I sail the polar regions as a Navigation Officer?"

He had suggested to do the bridge watch program to start as I had no sea experience. So I tried to get in and it kept on being full. The ultimate goal was to get in to the Cadet Program, but it was still a few months away. In the mean time, I was advised by the Co-op Coordinator to take a few math and physics courses as I had been out of school for over a decade. He reassured me that this would help with the courses, and he was right!

I then just kept calling him, telling him about my progress for a couple months and he finally just told me to apply for the Cadet Program. He could see that I really wanted to get in, so I could go back to Antarctica. I had a very clear goal in mind. Later that same year, I got into the Program!

Three years later, I was the first in my class to get my Watchkeeping Mates License (and only girl) and then one year after that, I was back in Antarctica! Only this time, not as a guest, but as a 1st Officer Navigation for National Geographic! I was and am so thankful to still be doing these Expeditions! I have actually officially done a full circle now as I am working with HX Expeditions, which was the first company that I went to Antarctica with. I was always curious about sailing with them ever since I stepped onto *Midnatsol*.

That being said, I have had the blessing to travel all over the world with my career. Antarctica, South Georgia, Falkland Islands, Europe, Iceland, Greenland, Northwest Passage, French Polynesia and Japan to mention a few.

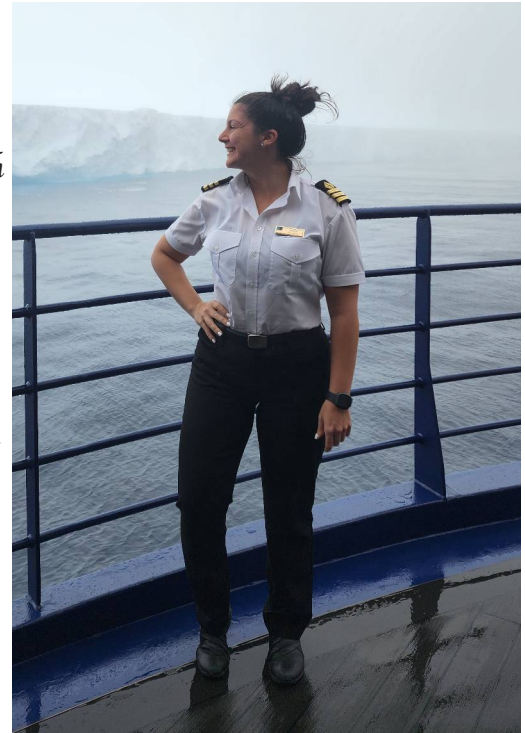
One of the most exciting things I remember seeing was when we were leaving Antarctica, on our way to South Georgia. We had seen over 1000 Fin whales! There were blows all over the horizon. It was absolutely incredible! Not only that, but I was standing on the bridge wing with the expedition leader and right under the bridge wing we saw three fin whales and also a blue whale, the largest mammal on the planet. All four came up at the same time. This allowed us to see the size difference between the Fin whales and the Blue whale.

As a Navigation Officer, I am in charge of doing all the planning for future routes that we get from the office, as well as the routes we do on the ship for each voyage. I am also responsible for all the bridge equipment which is very interesting on these newer ships with all the newer technology.

With regards to what the future holds, as of right now, I have my Chief Mate Unlimited, and have just two more courses to do until I can go for my Master Mariners License. I actually just completed my sea time this last contract which was exciting. The great thing about the rotation with working on an international ship, is you get your seetime quite quickly. I work 8 weeks on and 8 weeks off, so it has been very manageable to attain the goal of getting all the sea time for my Master Mariners License.

I am very open for what ever comes my way as I am very happy to just explore the world and continue learning. I do however want to get my Master Mariners as then a lot of doors open as far as the career goes. If I can do this, anyone can!

Nicole Pickering



They graduate to six figure salaries, and gruelling work.

Steve Kastenbaum. National Public Radio.

The gangway up to the *Empire State VII* slopes from the dock at Fort Schuyler in the Bronx, where the East River meets the Long Island Sound. The ship is massive — 530 feet, nine decks - and it's being prepped for its annual summer teaching cruise.

The *Empire State VII*, a first of its kind training ship, at SUNY Maritime College by the Throgsneck Bridge in the Bronx. Steve Kastenbaum/NPR

Tom Murphy, SUNY Maritime College's Chief of Staff and a 1993 alumnus, has spent a lot of time on vessels at sea. But this one is different. "This is the first ship purposely built for training cadets," he said. "This isn't just a working ship, this is a school on water."

SUNY Maritime is one of six state-run maritime academies in the country. Most are run like quasi-military academies. Students wear uniforms, follow regimented schedules, and learn through a



curriculum that blends traditional engineering and seamanship coursework with the Coast Guard-required licensing classes students need to work aboard a ship.

"Each student is required to do three summer sea terms to accumulate their 360 days of sea time," Murphy explained, "required to sit for the license." A U.S. Coast Guard license can open the door to lucrative careers in the maritime industry, and right now, the country doesn't have nearly enough people who hold one.

Most students pursue one of two tracks. One leads to positions running a ship's systems and the engine room. The other is focused on seamanship and maritime shipping. Opportunities for work are wide and varied; from cargo ships to oil tankers, from the private sector to government work supplying ships in the U.S. Navy.

Without enough mariners, navy ships could run dry in days: Industry groups say there are roughly 8,000 open positions across the U.S. maritime sector. More than 5,000 are with the Military Sealift Command, the federal agency responsible for keeping Navy ships stocked with fuel, food, and ammunition in waters around the world. Without enough supply ships operating in the Persian Gulf, some Navy vessels near the Strait of Hormuz could exhaust their provisions in as few as five days.

John Okon, SUNY Maritime's president and a 1991 graduate, puts it plainly. "The Navy does not have global reach, our national defence does not have global reach, without the logistical supply chain, which is our merchant marine," the retired U.S. Navy Admiral said from his office inside Fort Schuyler.

SUNY Maritime College and the other state-run maritime academies are trying to fill that gap. The school asks a lot of its students. They take between 18 to 24 credits a semester, and grind through a course load the SUNY cadets describe as a double major: traditional engineering or operations classes stacked on top of all the Coast Guard-required licensing coursework.

"Our kids graduate highly educated, focused," Okon said. "When they graduate, their biggest problem is how are they going to manage all the money they're making and all the opportunities that they're going to have?" Starting salaries for entry-level officers are running well over \$100,000.

Longer stretches at sea and closer to conflict: The need to staff vessels that supply U.S. Navy warships is so urgent, Military Sealift Command is offering signing bonuses of up to \$54,000 for a three-year contract and starting salaries that can exceed \$170,000. But those ships can sometimes operate for months at a stretch and venture into conflict zones. Videos posted on social media, showing missiles flying over the Persian Gulf, [illustrated the inherent risk](#) of working alongside the Navy during the Iran war.



Graduating senior Finn Mahan said the additional money is appealing to students who want to serve their country in a civilian role while filling a critical need. "That also makes us heavy targets," he said, "because the enemy knows just as well how valuable and how important these supply ships are to our active-duty Navy vessels."

SUNY Maritime College Seniors attended the commencement ceremony at Fort Schuyler in the Bronx, N.Y. Steve Kastenbaum/NPR

Faced with a shortage of merchant Marines, the Trump administration unveiled the Maritime Action Plan in February. It aims to grow the pipeline of licensed mariners to meet that need.

Admiral Okon framed the stakes in terms that stretch beyond the current graduating class and the

conflict with Iran. "Name something you went to purchase at a store," he said, "or that miraculously showed up through an Amazon truck. Just know that there is an army of mariners on the ships, moving those goods around the world."

Maxwell Cappella is part of that army. He graduated from SUNY Maritime last year and recently wrapped up a four-month cruise as a third assistant engineer on a ship under a federal contract, but not part of the Military Sea Lift Command. (He's not at liberty to discuss the ship's operations.) He and a crew of five others managed the engine room and all mechanical systems. "We're like the heart of the ship," Cappella said.

The lure of a \$50,000 signing bonus wasn't enough to draw him away from a shorter cruise, 24/7 internet access and other benefits that come with the job. While at sea he had almost no expenses. "You don't have to drive to work. You don't have to cook your meals, no rent," the 22-year-old said. The work below deck is the same, regardless of a ship's purpose — 12 hours on, 12 hours off, 7 days a week without interruption, even on holidays.

The *Empire State VII* will sail this summer with hundreds of cadets aboard, logging sea time toward their Coast Guard licenses, moving closer to the moment when they'll have to decide what kind of mariner they want to be, and where they're willing to go.

<https://www.npr.org/2026/05/09/nx-s1-5789051/merchant-marine-sealift-jobs>



NYK tests autonomous navigation link-up with Singapore port systems on LNG-fuelled car carrier *Elder Leader*



NYK has tested the integration of an autonomous navigation system with Singapore port systems on the LNG-fuelled car carrier *Elder Leader*, according to NYK Line.

The trial was carried out on 29 April during the NYK-operated vessel's first call at the port of Singapore. It involved NYK, NYK Group company MTI Co Ltd and the Maritime and Port Authority of Singapore.

The demonstration verified transmission of voyage planning data from the vessel to prototypes of Singapore's next-generation vessel traffic management system. It also tested the sharing of pilotage route information from an onshore support system to the

ship, as well as real-time transmission of operational data and video from the vessel. NYK said the trial also used MPA's Just-in-Time platform to support smoother and more efficient vessel arrival.

Remote pilotage was limited to navigation through channels and fairways. The trial followed a prior risk assessment and was conducted with the ship's master, bridge team and a pilot in attendance.

Elder Leader is fitted with an autonomous navigation system, a large-motion mitigation system and an onboard Wi-Fi network covering the whole vessel. NYK said the car carrier also uses LNG as fuel in a design intended to reduce carbon dioxide emissions.

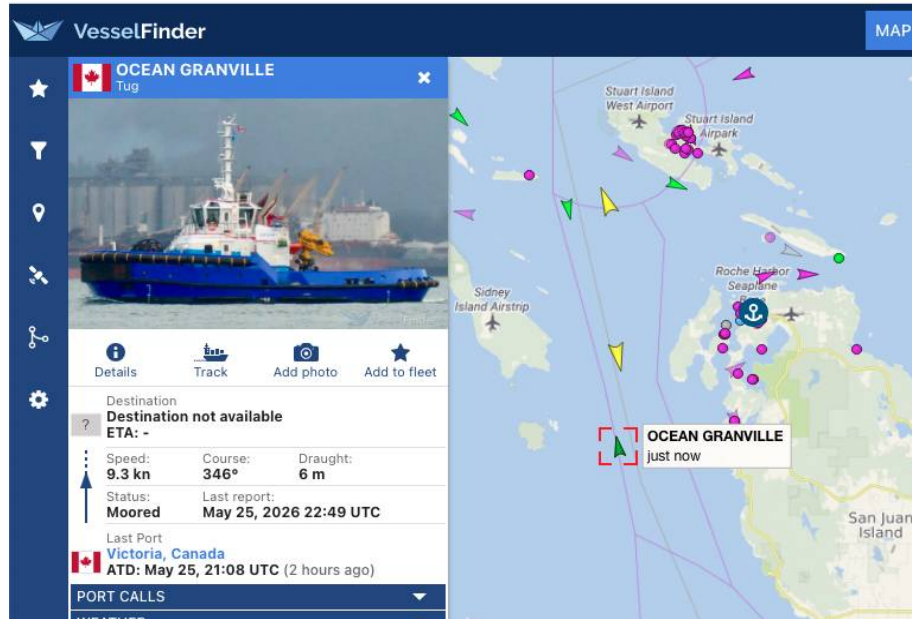
The trial was conducted under a 2024 memorandum of understanding between NYK and MPA covering decarbonisation, digitalisation and maritime human resource development. NYK said the results will be used in work on next-generation vessel traffic management systems and shore-based support systems able to interface with autonomous vessels.

NYK Line is a Japanese shipping and logistics group with operations across liner-related logistics, car carriers, dry bulk, tankers, LNG shipping, offshore business and port-related services.

MTI Co Ltd is an NYK Group technology company focused on maritime research and development, including ship operations, digitalisation, navigation support and environmental technologies.



The Maritime and Port Authority of Singapore is Singapore's statutory maritime authority, responsible for port regulation, vessel traffic management, maritime safety, port development and the wider maritime sector.
<https://en.portnews.ru/news/391347/> May 12th 2026



Perhaps it is not important but, how can a vessel have a speed of 9.3 knots when it is said to be moored?

WHERE DID THE PHRASE "BETWEEN THE DEVIL AND THE DEEP BLUE SEA" ORIGINATE, AND WHAT DOES IT MEAN? First seen in print in 1621, this phrase has a nautical origin. The "devil" referred to one of two seams that ran the length of a ship's wooden deck. One was on the inside, closest to the ship's railing, and the other was on the outside, near the waterline of the ship's hull. Those seams, like the rest of the ship's planked deck and frame, had to be caulked regularly to prevent leaks. In high seas, this job could be fatal, with sailors in dire peril of being washed overboard. Being "the devil to caulk," the seams thus earned their nickname. The choice "between the devil and the deep blue sea" soon came to mean a choice between two undesirable consequences.

The Farmers' Almanac 2020.

Also see: <https://www.phrases.org.uk/meanings/between-the-devil-and-the-deep-blue-sea.html>

Did you know? *By and large* is originally a sailing term meaning alternatively *close-hauled* and *not close-hauled*. A ship that is sailing close-hauled is sailing as directly into the wind as possible (typically within about 45 degrees of the wind). The *by* part of the phrase means *close-hauled*. (This *by* also appears in the term *full and by*, meaning sailing with all sails full and as close to the wind as possible). *Large*, by contrast, refers to a point of sail in which the wind is hitting the boat abaft the beam, or behind the boat's widest point. A 1669 variant of the spelling of *by and large* gives us a sense of the range implied: thus you see the ship handled in fair weather and foul, *by and learge*.

["Merriam Websters's Word of the Day" <word@m-w.com>](https://www.merriam-webster.com/word-of-the-day)

On our Forum: Don't try to fix mechanical failures yourself... By Michael Grey
When things break on board ships, the natural inclination of seafarers is to "work around" the problem, seek alternatives and use their training and initiative to restore the situation. It is, one might think, in the seafaring genes and one only has to consult the maritime history books to find

umpteen examples of heroic voyages when everything went wrong, but those aboard went to extraordinary lengths to get the ship to port. Every examination question in Mates' Orals seemed to require an answer that began with "take three stout spars"*** and until the days when ships had no useful wood in them, and were far too large for human intervention – humans successfully would intervene.

Jury rigged steering systems were fashioned out of rope and wire, lost rudders replaced by hatchboards and spars, anchors carried out by lifeboats lashed together. The crew of a disabled cargo liner would dine out for the rest of their lives on the tale of how they managed to produce a full set of sails using hatch tarpaulins hung from the derricks, to sail half way across the Atlantic. Those were just the headline grabbers; all around the world seafarers on deck and in the engine room, were patiently fixing things when they broke, so that the job could be kept running, and the ship sail.



But in contemporary times, there are very many cautions attached to doing what comes naturally to a seafarer as lawyers, regulators and worst of all, law enforcement, is quick to condemn seafarers who try and fix things, rather than stopping where they are and demanding assistance. There are a lot of hapless engineers rotting in US prisons, after they unwisely took steps to "work around" oily water separators that

were just so much non-functioning junk.

Subsequently, the official attitude assumes the convenient fiction that all equipment must be fully functional at all times and if something breaks, it will be somebody's fault, with the enforcers scrutinising the circumstances to see if charges can be laid. The laws have been adjusted accordingly. Some people live in a perfect world, but few do so afloat, not that the regulators could ever admit this. These gloomy thoughts resurfaced earlier this month with the case of the unfortunate high-speed dash of the containership **MSC Michigan VII**, which, it might be recalled went berserk on leaving the Port of Charleston in June 2024, after its engine controls stuck on full speed. As the engineers wrestled with the faulty mechanical linkages below, the bridge team led by the master and pilot managed to weave their way down the Cooper River at 15 knots. The ship had caused all manner of damage to berths and moored craft, including a large bulker being swept from its moorings. The harbour bridge was closed as a precaution, memories of the Baltimore catastrophe being very raw, and the ship was in the roadstead before proper control was established.

We now learn that the chief engineer of the ship has, through the plea-bargaining system beloved of US jurisprudence, admitted his guilt for a string of offences revolving around the maintenance of the vessel, with the governor mechanism and its linkages being worked on as the ship left for sea. Not unreasonably the authorities have concluded that with such known deficiencies, the vessel should have remained safely alongside until they had been fixed.

One can only guess at the sort of pressures they were under to get off the berth, but the ship's senior engineer looks to pay the penalty, facing five years and a \$250,000 fine on one count, and six years and another \$250,000 on another. He probably thought he was acting for the best.

Meanwhile lawyers for just about everyone who was involved with those lively minutes on the Cooper River are having a field day with the lucrative litigation. We must therefore conclude that “working around” a mechanical problem is no longer a sensible strategy, especially in countries which have somewhat brutal sentencing policies.

One can hardly be aware of the myriad of possible charges that are expanding almost daily by those producing laws and bylaws applicable in their ports around the world. Best to stay safe, risk the wrath of a delay and demand external assistance, even though this does go against the grain. Meanwhile it appears that the UK authorities are about to toughen up the laws and penalties which could descend on anyone who damages undersea cables, with huge fines and lengthy prison sentences for those who have been found responsible. Understandable, of course, as just this sort of interference has become part of the hybrid warfare attributed to the Russian state. It is a message to all to make sure their anchors are well secured and that the bottom trawler skippers are always sure of their positions. Sadly, these are the likely soft targets for these tougher laws, as the malicious parties will rarely face the music and our seas are increasingly criss-crossed by undersea obstructions.

Maritime
 Magazine

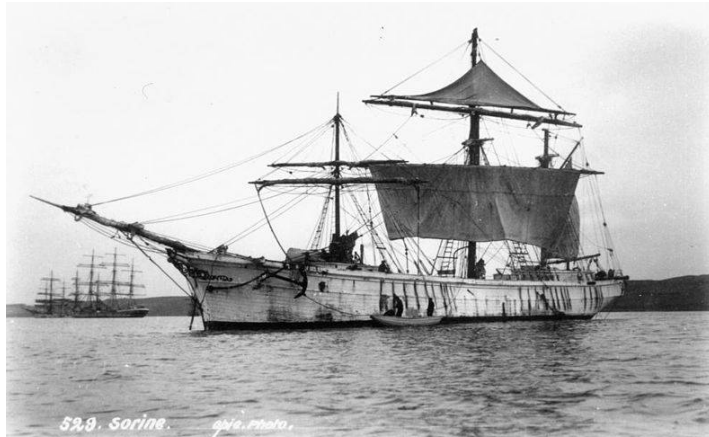
(Screen photo from YouTube of the *MSC Michigan V11* docked at the Port of Charleston)

**Michael Grey is former editor of Lloyd's List. This column is published with the kind permission of The Maritime Advocate.*

<https://maritimemag.com/en/dont-try-to-fix-mechanical-failures-yourself/>

**** The reference to “take three stout spars” reminded me of the following report which featured in the July 2016 edition of Seatimes. David**

All in a day's work: Interesting old postcards crop up at collectors' fairs and, if one is lucky, there are enough clues to match the old advertising slogan “every picture tells a story”. As with this one.....



A three-masted sailing vessel lies at anchor. She is wood-built, quite small, judging by the scale of the crewmembers in the boat alongside, and she has obviously been in trouble and is jury-rigged... The postcard is labelled simply *Sorine*, and the publisher's name suggests a UK location, probably Falmouth in Cornwall.

Well, she **was** small, just 398 tons gross, and had been built at Nordby on the Danish island of Fano in 1891. But despite her modest size she had voyaged the world – Valparaiso, Batavia, Westport NZ, Tahiti, Acapulco, Antofagasta, Samoa and Rio de Janeiro were just some of the ports she had seen in the first twenty years of her life.

Then, on November 23rd 1909, she sailed from Santa Cruz in Cuba bound for Antwerp with a cargo of mahogany. It must have been a stormy

passage, for on December 26th she was spoken by a steamer in latitude 36N, longitude 48W – about as close to the middle of the Atlantic as one can get. She was reported “hove to with sea anchor, with loss of rudder, foremast gone at the deck, jibboom, bowsprit and main topgallant mast gone. Signalled did not require assistance. Weather moderating after heavy NW gale, with very heavy seas”.

On January 21st 1910 she was spoken by another steamer, this time in 38.21N, 35.8W – “a jury mast rigged forward and her main topgallant mast and mizzenmast gone”. On February 11th she reached Falmouth unassisted –

“Falmouth, arrived – *Sorine* from Santa Cruz, lost sails, foremast and all attached, bowsprit, main topmast and all attached, also rudder gone; sailed off harbour jury rigged and towed into port by tug *Victor*.”

“Signalled did not require assistance...” From their own skill and resources the crew had set up a jury foremast – it looks as though it might have been the original mizzen topmast – and two small upper yards have been crossed on it. What might have been the main topgallant mast has been saved to serve as a bowsprit, lashed down to the broken stump of

the original spar; a staysail has been sent aloft as a sort of raffee* upper topsail; Heaven knows what they did for a rudder....

They had a few days in Falmouth to lick their wounds, but on February 16th they left in tow for Antwerp, where the mahogany was discharged and permanent repairs in hand. Mind you, the temporary ones hadn't done too badly – from mid-Atlantic (winter North Atlantic, at that) to Falmouth. No one made any salvage out of the *Sorine* or her crew.

**All in a day's work to them! Rick Hogben.
 Fairplay Magazine. March 7th 1991.**

Later that year the crew refused to take the ship to sea because they considered it to be unseaworthy. The ship was repaired in a shipyard and then in 1911 it was chartered to the Hudson Bay Company to sail to the company trading posts established in the Arctic. It became locked in ice in the Hudson Bay and in this picture the crew can be seen chopping the ice away from the hull to prevent it being crushed.

* Raffee: a triangular sail set in the manner of a square sail above the uppermost yard of a topsail schooner.



Hormuz ceasefire deal leaves shipping in familiar wait-and-see mode

June 15, 2026: Reports emerged yesterday that Washington and Tehran have reached a ceasefire-linked agreement to reopen the Strait of Hormuz and suspend tolls. The deal is due to be signed on Friday, but major operational questions remain over mine clearance, traffic control, insurance, security arrangements and the durability of the ceasefire.

Hormuz threat level stays severe despite peace breakthrough

June 16, 2026: The Strait of Hormuz remains one of the world's most dangerous waterways despite diplomatic progress toward reopening the vital shipping artery, with explosions reported in the area, vessels still requiring military protection and uncertainty lingering over when normal trade can resume.

Several explosions were heard in the strait on Monday, while reports also emerged that Iranian forces had fired on a vessel attempting to transit the waterway.

Industry sources said ships without permission from the Persian Gulf Security Authority (PGSA) are still not permitted to pass through the strait independently, with some vessels transiting under US air support.

The US military has warned shipowners not to attempt crossings until a formal peace agreement between Washington and Tehran is signed on Friday.

The Joint Maritime Information Center (JMIC), part of the US-led Combined Maritime Forces, maintained its threat assessment at "severe" despite the diplomatic breakthrough.

"Mariners should expect increased naval presence, enhanced force protection postures, potential VHF hailing and congestion near anchorage areas," JMIC said.

There are, however, tentative signs that traffic is beginning to move. Iranian state media reported that several Iranian vessels have already passed through the US-enforced naval blockade zone in the Gulf of Oman following a preliminary agreement between the two countries.

Speaking on the sidelines of the G7 Summit in France, US president Donald Trump suggested that shipping movements were gradually resuming.

"The strait is already partially open. They are doing a little hunting for a couple of mines that they've already found," Trump said. "Ships are starting to go out. On Friday, it'll be completely open."

Vice-president JD Vance indicated that a formal announcement could come sooner, saying Trump may release details of the agreement before Friday after suggesting the deal had already been signed.

Shipping markets, however, remain cautious about declaring the crisis over.

“Even as the market reacts to Hormuz opening headlines cleanly, the operational reality is likely to be messier,” said Charu Chanana, chief investment strategist at Saxo Markets.

“Mine-clearing, insurance costs, port congestion and the risk of geopolitical spoilers could all keep barrels moving more slowly than the headline suggests.”

Shipbroker BRS also warned that any recovery in traffic volumes is likely to be gradual rather than immediate. “All told, if the deal is signed on Friday and then holds, we suggest that it should take four to five months for maritime traffic to return to normal in the strait,” BRS said in a market assessment.

Even if security conditions improve, shipowners face another challenge after more than 100 days of disruption: biofouling.

More than 500 vessels have reportedly been stranded across the wider Gulf region since the crisis erupted on February 28. Many have spent months anchored or drifting in some of the warmest waters encountered by merchant ships anywhere in the world.



The Persian Gulf and Gulf of Oman routinely record summer sea surface temperatures above 30°C, creating ideal conditions for the rapid growth of barnacles, algae, biofilm and other marine organisms.

Anti-fouling coatings are designed to perform when vessels are sailing at normal operating speeds, but prolonged inactivity significantly reduces their effectiveness.

The consequences could prove costly. Industry studies have shown that moderate hull fouling can increase fuel consumption by between 15% and 30%, with heavier marine growth resulting in even larger penalties. Owners hoping to quickly reposition vessels as freight markets reopen may instead find themselves facing higher bunker bills and reduced vessel performance.

There is also a regulatory risk. Countries including Australia, New Zealand and parts of the United States have introduced strict biofouling requirements aimed at preventing the spread of invasive marine species. Vessels arriving after extended periods of inactivity in Gulf waters may face underwater inspections, cleaning requirements or operational delays before being allowed to enter port.

The challenge may be compounded by limited cleaning capacity. A sudden rush by hundreds of vessels seeking underwater hull inspections and remediation could overwhelm available dive teams and specialist service providers across the region.

<https://splash247.com/hormuz-threat-level-stays-severe-despite-peace-breakthrough/>

*****Ships stranded in Gulf could pose global invasive-species threat, study says*****

'Worst-case scenario' as idle vessels may carry invasive species worldwide.

<https://www.cbc.ca/news/world/hormuz-invasive-species-super-spreader-9.7293025>

Mitchell Fox. **CBC News.** August 2nd 2026

Learn about IFSMA (International Federation of Ship Masters' Associations) at: -

<https://www.youtube.com/watch?v=9wDIXa4y7-w>

Find the IFSMA Newsletters at: <https://ifsma.org/newsletter->

AIS-assisted collisions: The risks of overreliance

<https://safety4sea.com/gard-warns-ais-should-support-not-replace-traditional-navigation-practices/>

This day in history: August 10, 1934: In the days before air travel, people used to take a lot of cruises. And not just across the ocean - early Vancouverites often took boats for day trips up the coast. In 1934, The Sun's Friday travel section was packed with ads for local cruises.

Union Steamships offered a day trip to Bowen Island from the company dock at the foot of Carrall Street in Gastown for 90 cents. The sail to Bowen was only an hour long, but the Saturday night cruise had a live band and dancing. It was nicknamed the Booze Cruise, because revellers would sneak in some liquid sunshine to enjoy while they plied the waves.

The same company offered "scenic all-day cruises" on Sundays to Squamish and Britannia Beach aboard the SS *Lady Cynthia* for \$1.50. For an extra buck, you could disembark at Squamish and climb aboard a Pacific Great Eastern train to Alta Lake in Whistler.

"This varied excursion - combining a scenic boat trip on beautiful Howe Sound to Squamish and a spectacular rail trip from Squamish through Cheakamus Canyon to Rainbow - is certainly the most interesting outing which can be accomplished anywhere in a single day," boasted the Union Steamship ad.

Union Steamships also had the *Lady Cynthia* booked for a special day cruise to Savary Island and Powell River the following Tuesday. "Enjoy the tonic breezes along the 'Gulf Coast Riviera' of British Columbia, and bring along your swim suit," read the ad. The cost was \$2, lunch was 50 cents, and you got to spend two hours on Savary or three and a half hours



at Powell River before returning.

Not to be outdone, the Canadian Pacific had steamships offering a day cruise to Victoria for \$2 and to Newcastle Island for \$1.35. The most enticing CP excursion was an all-day cruise to the world-renowned Jervis Inlet, "travelling 180 miles through sheltered blue green waters bounded by rugged snow-capped peaks." It was only \$2, with 50 cents for lunch and 75 cents for dinner.

If you didn't want to leave town on Aug. 10, 1934, the Beacon Theatre had "the glamorous Casanova Revue," "the fast-moving, peppy, girlie stage show of the season."

"The management certifies it as really fine entertainment," stated the Beacon ad, which featured a scantily clad blond in high heels in front of a musical note.

BY JOHN MACKIE, VANCOUVER SUN AUGUST 10, 2013

<http://www.vancouversun.com/travel/This+history+August+1934/8773209/story.html>

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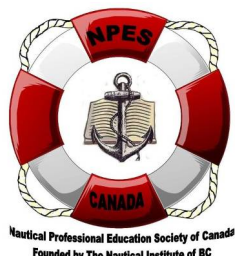
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