AI, Machine Learning, seen revolutionizing undersea activities

A Sail Drone of the type recently used by NOAA to monitor fisheries in Alaska. This one is transiting the southern Chukchi Sea in 2017. U.S. Coast Guard / Petty Officer 3rd Class Amanda Norcross

Artificial intelligence, machine learning and unmanned systems are enabling surface and undersea activities even while COVID-19 hampers the ability to put humans on ships, maritime leaders said during a webinar on Sept. 17.

Retired Rear Adm. Tim Gallaudet, deputy administrator of the National Oceanic and Atmospheric Administration and the former Oceanographer of the Navy, said COVID has put ship deployments on hold for months, but the agency has leveraged autonomous systems to keep the work going.

For instance, NOAA sent Sail Drones to Alaska to perform a critical fishery survey and for coastal mapping.

“We were able to map in pretty shallow areas that would have been hazardous for ships,” Gallaudet said in the webinar, hosted by the Marine Technology Society’s Washington section and the company Oceaneering.

NOAA was also able to use underwater gliders to measure water temperatures, which helped accurately predict the track of Hurricane Laura. This was done with the deployment of just a few operators on small boats in the Caribbean and Gulf of Mexico.

The agency is leveraging artificial intelligence, machine learning, autonomous systems, data management and other

advances and “applying those technologies in everything we do,” he said, including setting up a NOAA AI center.

The U.S. Navy is also leaning into these technologies, said Adm. Bill Houston, director of the Undersea Warfare Division in the Office of the Chief of Naval Operations (N97).

His unmanned underwater vehicle portfolio alone is worth $2.8 billion, he said, including the MK18 and the Knifefish, as well as the larger Orca, Razorback and Snakehead UUVs that are being developed. AI and machine learning are going to be key in using these systems and maintaining U.S. overmatch against adversaries, he said.

“We’re not going to be a leader in AI, industry is, [and] we need to go ahead to be able to leverage that with academia,” he said.