

All American Marine unveils offshore wind survey vessel for NV5 Geodynamics



All American Marine (AAM), together with Geodynamics, an NV5 company, has announced the delivery of an advanced research and hydrographic survey vessel intended for servicing the growing offshore wind market and undertaking various scientific survey missions. The RV *Shackleford* is a semi-displacement aluminium catamaran measuring 22.2 by 8.1 metres. It was developed by Nic de

Waal of Teknikraft Design in Auckland, New Zealand.

The vessel has been customized to cater specifically to the burgeoning offshore wind sector on the US Eastern Seaboard and will play a crucial role in NV5 Geodynamics' mission of providing turnkey offshore surveys. The RV *Shackleford* draws on the successful design elements of the Duke University Marine Lab's RV *Shearwater* and Blue Tide Puerto Rico's RV *Blue Manta*, both of which were built by AAM and have proven highly effective in their near-coastal research environments. Prior to shipping via cargo ship to its homeport in Beaufort, NC, the vessel underwent sea trials in Bellingham Bay.

Hydrographic survey equipment

Named after Shackleford Banks, the southernmost barrier island in the Cape Lookout National Seashore chain, the RV *Shackleford* was constructed to comply with USCG Subchapter T standards. The twin-engine hull design provides the necessary speed and unique stability required for Geodynamics' specialized nearshore/mid-shelf hydrographic and geophysical survey operations. To minimize survey mobilization costs, the RV *Shackleford* is equipped with fully dedicated and redundant survey systems, including the Kongsberg [EM 2040 MKII Multibeam Echosounder](#) deployed through the vessel's moonpool using a retractable strut. The vessel's primary IMU/multibeam reference systems are oriented through Dimensional Control (DimCon) surveys employing applied metrology techniques. A network of discrete benchmarks set within the vessel's reference frame allows accurate and repeatable lever arm calculations for all survey sensors. Coordinate Uncertainty Analysis of the final DimCon survey ensures an overall RMS of 0.0001 metres between all established points within the network.

Chris Freeman, senior vice president at [NV5 Geodynamics](#), stated: "To achieve the highest level of data accuracy day in and day out, our model over the last two decades is simple: we consider the boat as a precision survey instrument, purpose-built for the specific survey environment and then wrapped around the ideal sensors for a specific set of missions." He emphasized the holistic approach to vessel builds and the need for an uncompromised data-centric build: "All American Marine was chosen based on its experience and skillset in constructing highly customized research vessels that are in service throughout North America. The RV *Shackleford*, as a new best-in-class vessel, will offer an unmatched platform for Geodynamics' focus on meeting the most stringent offshore survey specifications globally, be it for nautical charting or supporting offshore wind development through subsea exploration."

Hydrographic and marine geophysical instrumentation

The RV *Shackleford* features Teknikraft Design's signature combined hull shape, bow wave piercer and patented hydrofoil-assisted design. This advanced hull design reduces drag, enhances passenger comfort and ensures excellent fuel economy. With a fuel capacity of 5,678 litres, it accommodates up to 16 day passengers and ten onboard passengers. The propulsion system includes twin EPA Tier 3 diesel engines powering two fixed pitch propellers.

Onboard the vessel, passengers and crew enjoy comfortable quarters, spacious state-of-the-art lab spaces and a comprehensive range of hydrographic and marine geophysical instrumentation for conducting various survey missions.

Ron Wille, [All American Marine](#) president & COO, emphasized the company's commitment to remaining at the forefront of manufacturing techniques and as an innovator in integrating cutting-edge technology into functional and proven vessels. He expressed delight in delivering the vessel on time and on budget, as part of Geodynamics' expanding fleet. Wille highlighted that the vessel will enable Geodynamics to elevate its business, offer unparalleled services and significantly expand its scientific activities along the East Coast. Furthermore, the vessel will contribute to the advancement of the rapidly growing wind farm industry in the region and beyond.



The RV Shackleford is equipped with fully dedicated and redundant survey systems. (Image courtesy: All American Marine)

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