

Metocean Buoy Installation and Decommissioning

What are Metocean Buoys?

Metocean buoys collect meteorological and oceanographic data – metocean – that include wind speed and direction at multiple heights, water currents, sea surface temperatures, and wave heights. Metocean buoys are used to collect accurate site-specific data to characterize the marine environment in our lease area to inform design and engineering of the Golden State Wind project to the most stringent health, safety and environmental standards.

What type of Metocean Buoys is Golden State Wind using?

Golden State Wind will use one light detection and ranging (LiDAR) buoy to measure wind speed and direction at multiple heights up to 300 meters above sea level and one Wavescan buoy to measure waves and currents. The metocean buoys are solar powered state-of-the-art equipment that incorporate best available data collection technologies, robust engineering of mooring components and mooring designs to industry standards to ensure safe and reliable installation, operation, and full decommissioning, while minimizing environmental impacts.

Where and when will buoys be installed, maintained, and decommissioned?

Golden State Wind's metocean buoys will be installed in 2025 within our Bureau of Ocean Energy Management (BOEM) Lease Area (OCS-P 0564). The metocean buoys will be located approximately 30 miles from shore. The lease area is located approximately 22 miles offshore of California at the closest point, and 53 miles offshore of Morro Bay, California. (See map for locations.) The metocean buoys will collect data for a period of up to 24 months after placement. Upon completion of data collection, the metocean buoys will be decommissioned and all moorings, anchors and associated materials will be fully removed leaving no materials on the seabed.



Credit – Courtesy of Fugro

What steps is Golden State Wind taking to protect the environment during metocean buoy installation, maintenance, and decommissioning?



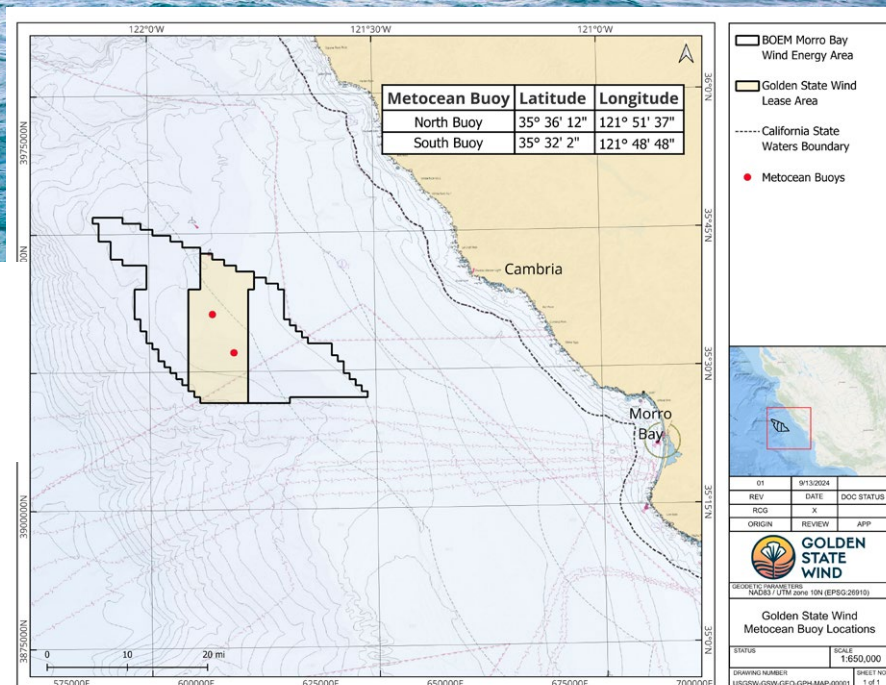
Design: Golden State Wind metocean buoys and anchors systems are designed to minimize seabed disturbance by utilizing mooring lines that are under vertical tension from the anchor on the seabed, so there is no chain sweep area on the seafloor. This design significantly reduces potential disturbance of seafloor habitats and benthic communities.



Siting: High-resolution geophysical survey data collected using low energy equipment mounted on an Autonomous Underwater Vehicle (AUV) was used to confirm the buoy anchor locations are clear of any archaeological resources, hard bottom habitat, or sensitive benthic resources.

What permits and approvals were needed for Golden State Wind's metocean buoys?

Activities associated with installation and decommissioning of metocean buoys were analyzed as part of BOEM's Final Environmental Assessment (EA) for the Morro Bay Wind Energy Area. BOEM included conditions under the Morro Bay leases relating to buoy installation and operation in response to comments by the California Coastal Commission. Additionally, the buoys are covered under United States Army Corp of Engineers (USACE) Nationwide Permit 5 for Scientific Measurement Devices (NWP Final Notice, 86 FR 73522) and all of the applicable conditions in that permit.



During installation: Golden State Wind will implement a series of measures to protect the seabed, marine environment, and marine resources as specified in BOEM's Final Environmental Assessment (EA), lease stipulations from the BOEM Lease OCS-P 0564, project design criteria and best management practices from BOEM's programmatic consultation with the National Oceanic and Atmospheric Administration National Marine Fisheries Service (NOAA NMFS) associated with the EA, conditions from the California Coastal Commission's conditional concurrence with BOEM's Consistency Determination (CD-0004-22) and Informal Review provided by the Department of Defense.

What steps is Golden State Wind taking to avoid or minimize any potential conflicts with ocean users?

Golden State Wind will engage with other ocean users, such as commercial and recreational fisheries, and implement measures to avoid and minimize potential conflict as detailed in the project's Fisheries Communications Plan which can be found on the project website. Our metocean buoys will be charted and marked as Private Aids to Navigation (PATON) through United States Coast Guard approval and will be equipped with navigational lights, radar reflectors, and retroreflective coatings. The LIDAR buoy is equipped with Automatic Identification System (AIS).



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