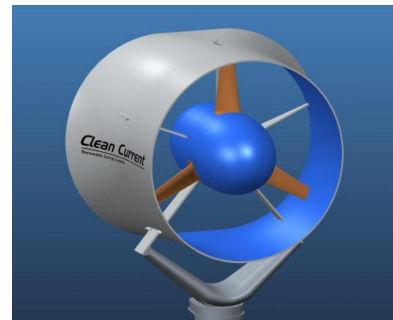
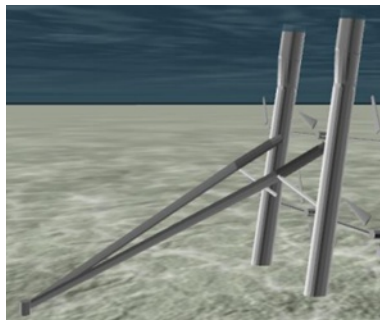
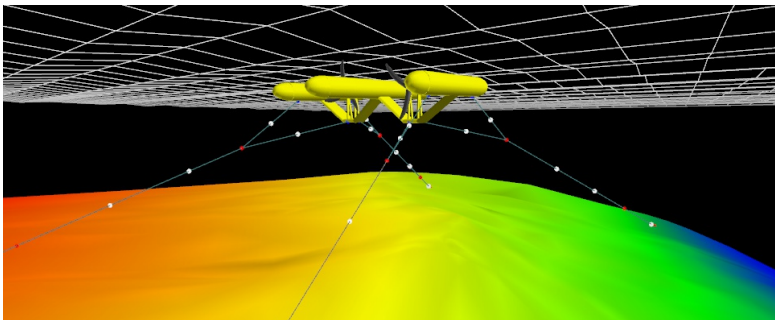
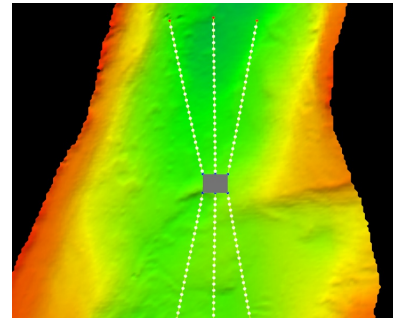
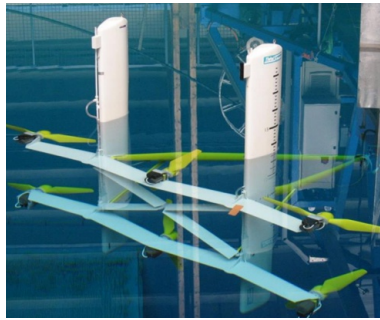
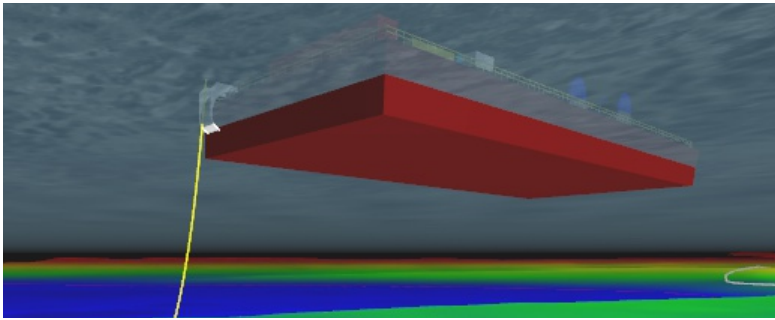


Tidal Energy Software and Services

Dynamic analysis capabilities for the tidal energy industry: floating or submerged turbine platform analysis, mooring analysis, cable lay, installation analysis, anchor selection...



About DSA

DSA specializes in dynamic analysis of ocean technologies such as floating tidal energy platforms. Dynamic analysis is the prediction of motions and loads in a marine environment; these problems typically contain nonlinearities which can be examined using time-domain simulation. Dynamic analysis is a key means of reducing risk for marine or offshore projects, and is crucial for increasing confidence for design, financing, insurance and classification.

ProteusDS software

ProteusDS is used by naval architects, marine and mechanical engineers, offshore specialists, oceanographers and research groups to develop numerical models of ocean technologies, including tidal energy platforms and moorings. ProteusDS has been developed by DSA in conjunction with the University of Victoria and is rigorously validated against empirical and theoretical data.

Software features for tidal energy

- Finite-element mooring line model
- Spatially varying current effects
- Custom bathymetry with mooring interaction
- 3D pre and post processing visualization
- Configurable turbine model with gyroscopic effects
- Turbine control modes: TSR, power output, speed
- Wind, wave and current loading
- Hydrofoil / foil feature for lift effects
- Forward speed wave radiation and diffraction
- Optional nonlinear buoyancy and Froude Krylov effects

Dynamic analysis services for tidal energy

- Floating or submerged moored platform analysis
- Mooring analysis and design
- Installation / launch and recovery analysis
- Cable lay analysis
- Gravity foundation stability
- Anchoring analysis
- Site selection
- Slope assessment
- Power and umbilical loading

Mooring analysis

ProteusDS is a validated time-domain mooring analysis tool and DSA has experience in designing moorings specifically for tidal energy applications. Common problems such as assessing mooring line loads, anchor requirements, power umbilical bend radius, and mooring watch circle can be completed with ProteusDS.

Services

DSA works tidal energy project developers, test centers, turbine developers to accelerate tidal energy development. DSA provides confidential analysis services and responds rapidly to its clients requests.

Software customization

DSA has structured the ProteusDS software to be rapidly customizable. This allows DSA to add custom features that may be required to model novel platform designs.