Trichodesmium

1 µm phytoplankton

4 µm phytoplankton

Benthic microalgae
(each with N, P, energy and Chl reserves)

Meteorology
Spectrally resolved downwelling irradiance

Carbon chemistry

Gas (O₂, CO₂) exchange

Hydrodynamic and wave models

River nutrients, particulates and flows

Sediment model
Suspended particles (silt + mud)* and settled gravel*, silt*, mud*, sand* surfaces.

Microzooplankton

Macrozooplankton

Labile detritus**
(benthic and pelagic)

Refractory detritus*
(POC, PON, POP)

Coral**
Host / symbiont
(calcification and dissolution)

Seagrass**
Leaves and roots
(Halophila / Zostera)

Macroalgae*

Biogeochemical model (water column / porewater)

Biogeochemical model (macrophytes)

DIC DINO DIN DIP

DOC DON DOP

Spectrally resolved downwelling irradiance

Biogeochemical model (water column / porewater)