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Abstract: The outer South-East Asia Seas (OSEAS) spread between the Indochina Peninsula and Australia, where numerous islands form the world's largest archipelago. The OSEAS are divided into many inter-connected water bodies with extremely varied morphology, ranging from shallow shelves and coral reefs to deep basins and enclosed bays. The climate in this area is primarily driven by the East Asian monsoons. From November to March the northeast monsoon blows over the South China Sea and turns into the northwest monsoon south of the Equator. From June to September the southeast monsoon blows over the Indonesian Seas and turns into the southwest monsoon north of the Equator. Climatic variations of the atmosphere and upper ocean follow closely the variation in the Equatorial Central Pacific. Monsoons control circulation and affect the Indonesian Throughflow, which is restricted by the topography. Monsoon induced upwelling controls biogeochemistry and the productivity. Both NE & SW monsoons drive upwelling in the SCS, but only SE monsoon drives upwelling in the Banda Sea. The primary production in the OSEAS is not only controlled by upwelling strengths but may be strongly affected by zooplankton grazing. Primary productions, freshwater input, sediment discharges and nutrient influxes will be estimated. Paleoclimatology may be stored in sedimentary records, which may reflect the water column biogeochemistry that in turn was controlled by monsoons. The OSEAS, where the ecosystem is under sever human stresses, may function as a choke point in more ways than just in controlling the throughflow in the global ocean.

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