

***CHROMOPHORIC DISSOLVED ORGANIC MATTER (CDOM) DAN
KANDUNGAN KARBON ORGANIK SEDIMEN PADA EKOSISTEM
TERUMBU KARANG ALAMI DAN BUATAN DI PANTAI TIMUR
PULAU BALI***

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ABSTRAK

Dissolved Organic Matter (DOM) adalah salah satu sumber utama bahan organik yang terdapat di permukaan bumi. DOM berfungsi untuk menyerap sinar Ultraviolet (UV) yang berbahaya bagi kehidupan di daerah perairan. Fraksi berwarna dari DOM disebut *Chromophoric Dissolved Organic Matter (CDOM)*. Selain keberadaan CDOM, di perairan juga terdapat sedimen yang mengandung karbon organik. Penelitian ini bertujuan untuk mengetahui CDOM dan kandungan karbon organik pada ekosistem terumbu karang alami dan buatan di pantai timur pulau Bali. Konsentrasi CDOM diukur menggunakan Spektrofotometer UV-Visible dan kandungan karbon organik diukur dengan metode *Loss on Ignition (LOI)*. Hasil dari penelitian ini CDOM pada terumbu karang buatan memiliki berat molekul paling rendah dibanding terumbu karang alami, ukuran molekul CDOM terkecil terdapat pada ekosistem terumbu karang buatan dibandingkan pada ekosistem terumbu karang alami. Aromatisitas tertinggi terdapat pada ekosistem terumbu karang alami. Karbon organik sedimen tertinggi terdapat pada sampel yang diambil dari ekosistem terumbu karang alami.

Kata kunci: CDOM, terumbu karang alami, terumbu karang buatan, sedimen, karbon organik

***CHROMOPHORIC DISSOLVED ORGANIC MATTER (CDOM) AND
ORGANIC CARBON CONTENT OF SEDIMENTS IN CORAL AND
ARTIFICIAL REEF ECOSYSTEMS ON THE EAST BEACH BALI ISLAND***

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ABSTRACT

Dissolved Organic Matter (DOM) is one of the main sources of organic matter found on the earth's surface. DOM functions to absorb Ultraviolet (UV) rays that are harmful to life in aquatic areas. The colored fraction of DOM is called Chromophoric Dissolved Organic Matter (CDOM). In addition to the presence of CDOM, in the waters there are also sediments containing organic carbon. This study aims to determine CDOM and organic carbon content in coral and artificial reef ecosystems on the east coast of the island of Bali. The CDOM concentration was measured using a UV-Visible Spectrophotometer and the organic carbon content was measured using the Loss on Ignition (LOI) method. The results of this study that CDOM on artificial reefs has the lowest molecular weight compared to coral reefs, the smallest CDOM molecular size is found in artificial reef ecosystems compared to corall reef ecosystems. The highest aromaticity is found in corall reef ecosystems. The highest sediment organic carbon was found in samples taken from coral reef ecosystems.

Keywords: CDOM, coral reef, artificial reef, sediment, organic carbon