

Example of SDP2- Estimated Potential Fishing Zone for October, 2018

MAPPING ENVIRONMENTAL INDICATORS FOR POTENTIAL FISHING ZONES USING EARTH OBSERVATION SATELLITES

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Sea and ocean significantly contribute to the fish stock worldwide. Sustainable use of marine resources requires effective monitoring and management of the world's fish stocks. Mediterranean Sea is one of the marine sources of fish to norther African countries. Naturally, fish tend to aggregate in ocean areas that exhibit conditions favored by specific fish species. Sea color varies according to concentration of chlorophyll and other aquatic pigments. Remote sensing techniques are now used to help managing marine fisheries at sustainable levels. It also gives guiding to locate fish schools more efficiently. This need to monitor and assess some relevant oceanographic conditions including sea surface temperature, ocean color and oceanic fronts, which strongly influence natural fluctuations of fish stocks. These conditions can be observed and measured by remote sensors on satellites, aircraft and ships. Satellite sensors could capture images that able to observe the color of the light reflected from the shallow depths of the water as well as estimate the amount of phytoplankton is growing in marine water mass. High levels of chlorophyll should indicate of color, nutrient rich water, at the other side lower levels of chlorophyll should indicate cleaner water, and the very low

levels will indicate clean blue water. Satellite thermal sensors are also capable to estimate the sea surface temperatures that influence the availability of phytoplankton. These kinds of sensors estimate the temperature of the top millimeter layer of the sea water surface. When surface waters are cold, it is easier for deeper water to vertically rise to the surface, bringing nutrients to sunlit areas where phytoplankton can use and flourish. When surface water is warm, cooler nutrient-rich water is trapped below. So, the best combination for offshore fishing would be to find where the clean blue water (assuming the temp is good) meets an area with a higher level of plankton. This study explored the potential of developing robust routine service from satellite data to estimate the sea surface temperature and its effect on chlorophyll concentration as an indicator for phytoplankton Productivity to be a guide for potential fishing zones. This research shows how the remotely sensed data are helpful providing near-real time data and information to help fishermen save fuel and ship time during their search for fish, to modelers who produce fisheries forecasts, and to scientists who help develop strategies for sustainable fisheries management.

KEY WORDS: Satellite data, sea surface temperature, chlorophyll a, fishing, Mediterranean Sea, potential fishing zone, fish aggregation



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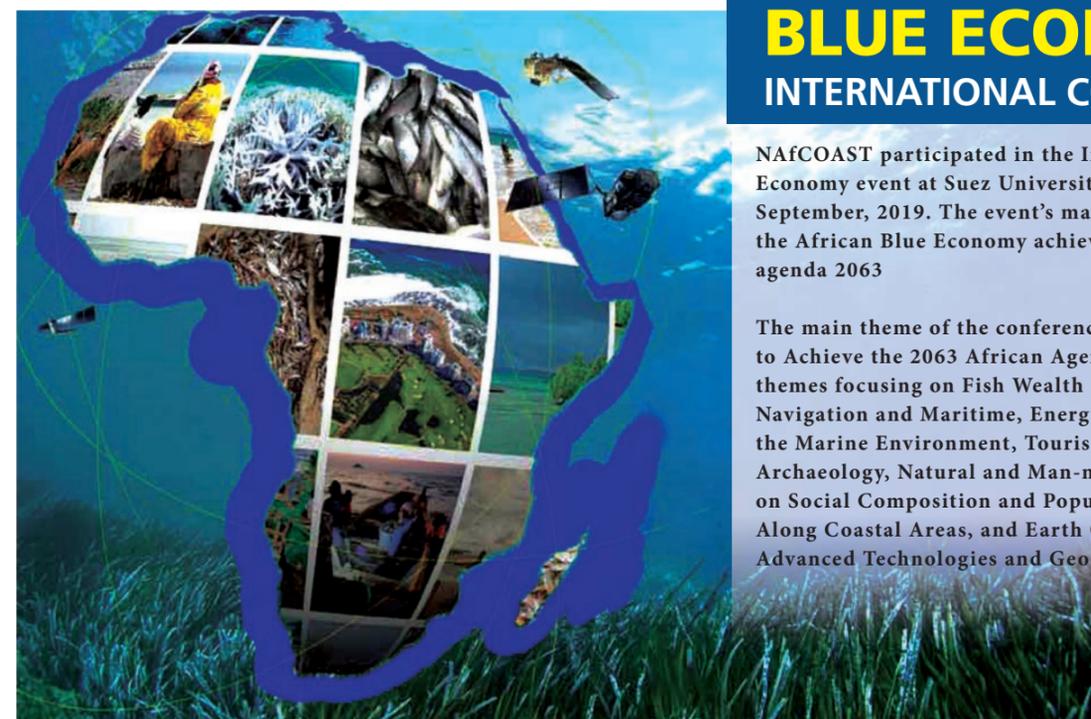
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NAFCOAST PARTICIPATION IN BLUE ECONOMY INTERNATIONAL CONFERENCE

NafCOAST participated in the International Blue Economy event at Suez University 10th - 13th September, 2019. The event's main goal is to sustain the African Blue Economy achieving the African agenda 2063

The main theme of the conference is "Blue Economy to Achieve the 2063 African Agenda," with sub-themes focusing on Fish Wealth & Resources, Navigation and Maritime, Energy Extracted from the Marine Environment, Tourism and Marine Archaeology, Natural and Man-made risks, Impacts on Social Composition and Population Demography Along Coastal Areas, and Earth Observation Advanced Technologies and Geo-informatics Systems.



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PROJECT NEWS

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NAFCOAST organized a training workshop on "EO Operational Ocean Data Products and Services for Sustainable Blue Economy"

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The project's publications were disseminated to a wide community of researchers, beneficiaries, stakeholders as well as decision makers.

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The NAFCOAST project was honored by the governor of Suez and the President of Suez University.

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NAFCOAST is preparing for active participation in the GEO-WEEK in Canberra, Australia 4th - 9th Nov, 2019



OFFICIAL SIDE EVENTS

#1



During the conference, there was an opportunity to introduce the NAFCOAST project objectives and vision

#2



Training workshop on “EO Operational Ocean Data Products and Services for Sustainable Blue Economy” was held in the second day of the conference

#3



The scientific papers were delivered by the NAFCOAST members during the conference

THE OPENING SESSION OF THE CONFERENCE

NAFCOAST was one of the sponsors of the first blue economy conference which held in Suez -10 Sep. 2019, Under the Minister of Higher Education and Scientific Research Dr. Khaled Abdel-Ghffar auspices.

During the opening session, NAF-COAST project were honored by the Governor of Suez and the President of the University of Suez for its play in achieving African Union Agenda 2036.

The conference called for care about and develop coastal and marine in Africa for a blue growth and better future within the framework of the ambitious African Agenda 2036.

#4



In the conference exhibit, NAFCOAST visibility materials were disseminated and communicated to a wide community of researchers, beneficiaries, stakeholders as well as decision makers.

