



conferenceseries.com



conferenceseries.com 490th Conference

International Conference on

Coastal Zones

May 16-18, 2016 Osaka, Japan

Posters

Coastal Zones 2016

International Conference on

Coastal Zones

May 16-18, 2016 Osaka, Japan

Mass magnetic susceptibility contaminated surface layer of sediments in the area of defaulting wrecks as a parameter to assess the state of the marine environment, at the example of ORP Wicher

Tomasz Figiel, Żaneta Kłostowska, Paweł Wysocki, Grzegorz Kusza, Leszek Łęczyński, Iwona Pomian, Tadeusz Ossowski, Dorota Zarzeczńska, Mateusz Figurski and Marcei Makaruk

University of Gdansk, Institute of Oceanography, Poland

In the last century, in the Baltic Sea region located many wrecks defaulting at the bottom of the basin - remnants of World War II. Sunk with a cargo of both warfare agents, ammunition or fuel, represent a real threat to the marine ecosystem. Systematically releasing substances from defaulting construction, are significant point sources of pollution in the Baltic Sea region. In 2015 and 2016, samples of bottom sediments were taken in the area of the wreck ORP Wicher. They were subjected to grain size analysis, content of organic matter, as well as examined the content of petroleum substances and the massive magnetic susceptibility. The samples were preserved by freezing, until analysis. All tests were performed in accordance with the standards for marine sediments (US EPA), and with at least 3 repetitions. To fluctuations in studied parameters primarily affects the location of the wreck – area of strong currents activity and the depth of 5-17m. The value of measured parameters in the samples primarily depended on the deposits grain sorting. Analysis of magnetic susceptibility showed that higher values were recorded with an increase in the share of the fine fraction <0,063mm [%] and organic matter LOI [%]. In the samples was measured the content of petroleum substances. Based on the results of concentrations of the test substances, the magnetic susceptibility and the coefficient f_d [%], it can be estimated that the wreck is a point source of pollution in the Gulf of Puck, which with time can be transported for longer distances.

Biography

Tomasz Figiel has completed his BSc at the age of 22 years from University of Gdansk and currently he is doing his MSc degree at University of Gdansk. His research areas are oceanography, marine geology, geochemistry, marine pollution and the transformation of the marine environment. He is co-author of several scientific publications, presented at international conferences.

s213339@stud.ug.edu.pl

Notes:

International Conference on

Coastal Zones

May 16-18, 2016 Osaka, Japan

Distribution of magnetic susceptibility in the vertical profile of sediments and the presence of particular groups of organisms in spread of the second-tributary of the Baltic Sea - Vistula River

Żaneta Kłostowska, Halina Kendzierska, Anna Borecka, Grzegorz Kusza and Leszek Łęczyński
University of Gdansk, Institute of Oceanography, Poland

Vistula is the biggest, in terms of size, Polish river, annually brings to the Baltic Sea from 0.6 million m³ to 1.5 million m³ of sediment. Anthropogenic pollutions brought together with the waters of the rivers to reservoirs are a significant threat to the ecosystem. In particular, brought loads of pollutants containing heavy metals, petroleum substances, inorganic complexes or biogenic substances. Prevailing hydrodynamic conditions in the area have also a significant influence on the composition of the bottom sediments. Magnetic susceptibility is defined as a geophysical quantity which describes the ability of a substance to change the magnetization under the influence of an external magnetic field. Especially important is the frequency dependence of magnetic susceptibility f_d [%], which value indicates the type of pollution, when $f_d = 0-5\%$ anthropogenic pollution, $f_d = 5-15\%$ enrichment of natural character. The studies are a pilot for the bottom sediments of the Gulf of Gdansk area. The aim of the study was to determine the relation between the magnetic susceptibility in sediments and the occurrence of particular groups of organisms in the vertical profiles of sediments. Samples were collected at three sites in the Gulf of Gdańsk (southern Baltic Sea, Europe) in July 2014 during BONUS COCOA project cruise. Stations were situated within increasing distance from Vistula River mouth at the depth of 16, 24 and 48 m. At all stations sediments we analyzed bottom water conditions, sediment characteristics (organic matter content, water content, magnetic susceptibility, grains size) and structure and burial depth of benthic macrofauna communities. Measurements of the magnetic susceptibility were performed using magnetic susceptibility meter MS2 and MS2 B Bartington sensor (magnetic susceptibility was made as part of NCN (No. DEC-2012/07/B/ ST10/ 04080). At two shallower stations we observed fine sands and at the deepest station sandy muds. Also benthic fauna differ between depth zones. At shallower stations abundance of epifauna was significant in community structure and although organisms were buried into sediment up to 10 cm, most of them were living in top centimeters. At deepest stations the vast majority of organisms belonged to infauna, buried up to 15 cm into sediments. Based on these results it can be concluded that there is a significant correlation between the examined parameters and the value of magnetic susceptibility. The value of the f_d [%] in the vertical profiles of sediments testifies to the re-deposition of pollutants from the deeper parts of the surface layer, which may be caused by the activities of individual groups of organisms.

Biography

Żaneta Kłostowska graduated MSC degree in 2014, at the Department of Oceanography at the University of Gdansk. She's master thesis was related to seasonal variation of metal concentrations in the sediments of the Gdańsk Basin area. She is currently a student of the 2nd year of PhD study. Research topic relates to marine sediment - in particular - chemistry, magnetic susceptibility, and the dynamics of change in areas subjected to anthropopression.

zaneta.klostowska@phdstud.ug.edu.pl

Notes:

International Conference on

Coastal Zones

May 16-18, 2016 Osaka, Japan

Advancing Marine Spatial Planning across the Sydney Harbour, NSW, Australia

Elianny Licelotte Dominguez Tejo

University of New South Wales, Australia

Planning a sustainable future for sea-bounded megacities will require rigorous evaluation of coastal management frameworks and how they integrate human activities. The Marine Spatial Planning framework has been supporting integrated management of marine resources; however, prior research shows implementation challenges in accounting for adjoining land-use and catchment plans, and the need to deliver multidisciplinary planning approaches. The Sydney Harbour in New South Wales, Australia, currently lacks an integrated approach environmental resource planning. This affects management of estuarine and coastal resources, as enhanced understanding is needed on how environmental impacts affect social systems. Hence, research into a prototype decision support system is underway to assist coastal councils analysing management alternatives. The prototype builds on an existing support system to include a Bayesian Belief Network to model relationships between planned management scenarios and key social, economic and environmental community values. Initial work included a comprehensive review of six existing coastal management plans and 275 community surveys to gather information on community demographics, environmental and socio-economic values, and perceptions of coastal threats. In-depth interviews with government managers are planned to jointly develop management goals and operational objectives, design management scenarios and to validate an initial model. Community-based validation will take place through local workshops. Research outcomes are expected to support the comparison of alternative coastal management scenarios by assessing their influence on community values. Such multi-criteria approach can anticipate outcomes of marine spatial planning process and provide valuable insights into potential impacts from stakeholder trade-offs and environmental policies.

Biography

Ms Dominguez Tejo is an AUSAID awardee currently completing her PhD at the University of New South Wales, Australia. She obtained her Master of Science degree with Distinction from Heriot-Watt University (United Kingdom) as a recipient of the Cheevering Scholarship Award. She also holds the degree of Master of Business Administration from PUCAMA/IMA University (Dominican Republic). She worked 8 years as Marine Program Manager for The Nature Conservancy, an international non-governmental organization. She has published several publications on marine conservation issues and two books related to the conservation of Humpback Whales and a proposed Marine Zoning Plan for Samana Bay, Dominican Republic.

e.dominguez@student.unsw.edu.au

Notes:

International Conference on

Coastal Zones

May 16-18, 2016 Osaka, Japan

Pollution Tolls in Cameroon Estuarine System: The Quest for an Integrated Approach

Yvette Baninla and Ngoran

Research Center for Eco-Environmental Sciences, CAS

The Cameroon estuarine ecosystem is of immense socioeconomic and biogeographic importance. This ecosystem harbors more than 2 million inhabitants and the countries' industries are disproportionately located in this zone. The Wouri estuary in Douala alone is the main gateway in and out of Cameroon. The latter handles more than 95 percent of Cameroon's maritime trade. Moreover, the estuarine zone is the seat of the rich and diverse mangrove ecosystem. The mangrove serves as a spawning milieu for marine organisms; the reason many people from all over central Africa converge here to earn a living through fishing. Despite being of environmental and economic significance, non-point and point source pollution is gradually gaining momentum. Surging population coupled with pollution from industrial and domestic wastes, pollution from shipping and oil terminals, sea level rise, overfishing, deforestation and sprawl, will further exacerbate deleterious effects on the estuarine milieu. This paper makes an attempt in identifying the various sources of marine pollution in the Wouri estuary as well as the causes. The negative effects of polluted substances were identified by collecting and studying the relevant literature. Pollution at the coast is increasing at an alarming rate and addressing this problem has been a difficult task. The review looks at the definition of coastal pollution, discusses the causes, impacts and preventive measures. Finally it makes an appraisal of Cameroon's estuarine ecosystem, pinpoints the lacunas in current management approach. Though efforts have been made to address compelling pollution challenges, they have been government-dominant and largely enshrined in the sectorial approach. The integrated estuarine approach (IEA) built on integrated coastal management (ICM) is recommended as a management strategy to curtail estuarine pollution. The IEA though a prototype, is also expected to shape management within the academic arena.

Biography

Yvette Baninla has completed his Masters from Xiamen University and is now doing her PhD in Research Center for Eco-Environmental Sciences, CAS.

baninla2005@yahoo.com

Notes:



conferenceseries.com



conferenceseries.com 490th Conference

International Conference on

Coastal Zones

May 16-18, 2016 Osaka, Japan

e-Posters

Coastal Zones 2016

International Conference on

Coastal Zones

May 16-18, 2016 Osaka, Japan

Current Measures to Protect the Romanian Coastline of the Black Sea

Danut Diaconeasa and Silica Petrisoia

National Institute of Marine Research and Development "Grigore Antipa" (NIMRD)

In Romania to mitigate coastal erosion in order to increase the value of coastal zone and create new areas of beach tourism in the period 2005 - 2013 were elaborated scientific and technical documentation to develop the Master Plan of the Romanian Black Sea coast, through two major projects: - "Study on the Protection and Rehabilitation of the Southern Romanian Black Sea Shore" (2005 - 2007) and - "Technical Assistance for the Preparation of Projects under Priority Axis 5. Implementation of Adequate Infrastructure of Natural Risk Prevention in the Most Vulnerable Areas. Major Intervention Domain 2 - Reduction of Coastal Erosion" (2010 - 2013). In these projects was drawn up a Strategic Plan for Coastal Protection, which will run for more than 30 years, with coastal protection measures planned in the short, medium and long term. These works include measures to reduce wave energy by building new dams, beach fill (nourishment) with dikes of stability sand (spurs) and measures for retaining the sand on the beach by building new dams, repair the old detached breakwater and existing groins. Short-term measures were planned for five priority projects in the southern Romanian coast, in order to reduce the risk of coastal erosion and rehabilitate the area for 7.1 kilometers of shore in places, South Mamaia, Constanta (Tomis Nord Tomis Center, Tomis South) and North Eforie. The beach area was expected to be created about 33.7 ha and which were put into operation at the end of 2015 year. NIMRD monitors the Romanian coastline, since 1980 and has designed and realized landmarks for coastal short-term protection measures, in 2014 for the initiation of monitoring of shoreline with coastal protection measures. Based on geomorphological profile of the backshore and wash zone carried out before, during and after realized coastal protections (2014 - 2015) it was done an assessment of coastal processes (erosion-accretion).

dan@alpha.rmri.ro, ddiaconeasa@alpha.rmri.ro

Notes:

International Conference on

Coastal Zones

May 16-18, 2016 Osaka, Japan

Characterization And Evaluation Of Noise Pollution In A Tourist Coastal Town

J C Fortes, R Sánchez and J P Bolivar
University of Huelva, Spain

There are also many studies on noise pollution in road traffic of big cities conducted in the last thirty years demonstrating that traffic is the main source of noise in the urban environments. Thus, the ambient noise levels have increased since the 1980s mainly due to increased traffic. Thus more than 50 percent of the European population is exposed to noise levels (Leq) over 55 dBA due to road transport. The impact that noise has on the health of people is widely known from the large number of studies that have been conducted in different fields of medicine. But the specific case of coastal tourist towns has been very little studied. They have significant increases in the volume of traffic during the summer compared to the winter (one order of magnitude in many cases), which results in a dramatic increase in noise. This increased noise will produce a degradation of the acoustic environment during the summer season, which is the opposite of what people are looking for during their holidays. The A-5052 road is the main source of noise pollution in El Portil, generating during a summer 24 h period a continuous equivalent level about 4–5 dBA higher than in winter. 2) The background levels existing during the night periods reach 37 dBA, corresponding to a period of 5 hours (1:00 to 6:00 h), while in summer they reach 40 dBA for a duration of only 1 hour (3:30 to 4:30 h). 3) While on winter nights (1:00 to 6:00 h) there is only one source of noise, corresponding to the background noise, on summer nights three sources of noise were identified: background noise, the recreational activities of the tourists, and traffic noise from the road. 4) In both winter and summer, noisy activities begin at 5:00 h and last until 8:00 am, dominated by traffic for the beginning of the working day.

jcfortes@uhu.es

Notes:

International Conference on

Coastal Zones

May 16-18, 2016 Osaka, Japan

Detection of shoreline changes in Buenaventura, Colombian Pacific using digital shoreline analysis system

Maria Alejandra Cifuentes Ossa¹, Leidy Viviana Rosero Henao² and John Josephraj Selvaraj³

Universidad Nacional de Colombia, Colombia, South America

The study focused on identification of shoreline changes in the District of Buenaventura and the surrounding areas in the Colombian Pacific, a coast where the geomorphology includes beaches, cliffs, estuaries, deltas and marshes. Taking into account the importance of coastal management strategies in this region we studied the magnitude and tendency of changes in the shoreline. Multidate satellite Landsat imagery (1986, 2001 and 2015) were used to extract the shorelines. Shoreline changes were estimated by statistical methods like Net Shoreline Movement (SNM), End Point Rate (EPR), Linear Regression Rate (LRR), among others using DSAS (Digital Shoreline analysis System) developed by USGS. The 409km study area was divided into 5 zones, covering Landsat Path/Row 10/57 and 10/58. Preliminary results indicate that areas with more advanced processes of accretion correspond to zones near Pichima in the Department of Chocó in the northern part and areas with most advanced processes of erosion are around the mouth of Charambirá. In areas of Juanchaco, Buenaventura and Bahía Málaga bays, accretion or gain of land processes were identified. The analysis showed along the shoreline highest EPR of 47.68 m indicating accretion and a lowest EPR (-) 26.88 m indicating coastal erosion while some parts of the shoreline remain unchanged. This study was presented as an alternative analysis that aimed towards having coastal management strategies in this region.

macifuentes@unal.edu.co

Notes:



conferenceseries.com



conferenceseries.com 490th Conference

International Conference on

Coastal Zones

May 16-18, 2016 Osaka, Japan

Accepted Abstracts

Coastal Zones 2016

International Conference on

Coastal Zones

May 16-18, 2016 Osaka, Japan

Conservation steps through confined breeding, sea ranching and evaluations of growth in natural habitats of chosen sea horses and sacred conches along the South Eastern Indian coast

A P Lipton, M Thangaraj and M Selvakku
Manonmaniam Sundaranar University, India

Sea horse, *Hippocampus trimaculatus* obtained as by-catch from the shallow coastal habitats in the Gulf of Mannar and Palk Bay coast of India and maintained in laboratory were observed for courtship and egg transfer. Spherical eggs measured 2.12 ± 0.019 mm in length and 1.97 ± 0.045 mm in width weighing 2.94 ± 0.3 mg. After egg transfer, male's pouch became water-tight and pregnancy lasted for 12 to 14 days. The mean brood size of *H. trimaculatus* was 389 ± 56.11 . Newborn seahorses were 7.0 ± 0.05 mm in length and 0.97 ± 0.08 mg in weight. Feeding regimens were standardized. Juvenile sea horses captive-bred and were collar tagged, released in the natural habitat and wide publicity was given to return the tagged seahorses. Data revealed an average growth of 4.15 mm/month in the natural habitat. Sacred conch, *Turbinella (=Xancus) pyrum* collected from sea bed up to 20 meters depth in the Gulf of Mannar, India and maintained in rectangular tanks containing sand substratum with adequate sea water flow through were used for breeding trials. Brooders were fed *ad libitum* with live clams *Donax cuneatus* and *Donax faba*. The release of egg capsules and the number of baby conches were recorded. Baby conches started growing from an initial 9.09 mm length to 62.23 mm in length with an increase in shell diameter of 31.47 mm from 4.07 mm in 360 days. After tagging, the baby conches were sea-ranching in Gulf of Mannar with wide publicity for returning the recaptured tagged conches. The recovery was 14.6% and the average breadth-wise growth was 8.0 mm/year in nature.

liptova@yahoo.com

Effect of water-accommodated fraction on the early life stage of *Favites colemani* (Veron, 2000)

El John S Engaño¹, Genevive B Bocalig¹, Ronald D Villanueva², Stephanie Faith Ravelo^{1,2}, Nikki Dyanne C Realubit¹, Ramon P Luber¹

¹Adamson University, Philippines

²University of the Philippines, Philippines

Oil is one of the major pollutants in the marine ecosystem which has short and long-term effects upon its contact with marine organisms especially corals. Coral organisms are sensitive to environmental changes which can affect their breeding and growth, thus, making them bioindicators. For instance, the effect of this pollutant is manifested by the dramatic deterioration of coral reefs in the coastal municipality of Bolinao in Northwestern Philippines. This study aimed to provide benchmark information on the juvenile stage of *Favites colemani*, one of the coral species in Bolinao. In this study, a controlled amount of two-day old *Favites colemani* larvae were subjected to different concentrations of water accommodated-fraction (WAF) of diesel fuel oil condensate for 48-hours while surviving larvae were exposed to Crustose Coralline Algae (CCA) for 24 hours to test their competency. Results showed that there is a significant difference between the survival of the two-day old *Favites colemani* larvae within 24 and 48 hours of exposure in diesel fuel oil condensate WAF; while there is no significant difference on the settlement rate of larvae exposed to CCA. These results showed that time serves as an important determinant of the survivability of corals since the possible response of the early life stage of corals is dependent on how long these are exposed to oil contamination. Therefore, looking into the response of said corals gives an insight on what to expect when oil spill occurs and what possible courses of actions are needed to prevent further degradation of coral organisms.

wizards_ej@yahoo.com

International Conference on

Coastal Zones

May 16-18, 2016 Osaka, Japan

Coastal management in Malaysia: Appreciation to geographic information system problem solutions

Mohd Zulkifli Mohd Yunus
Universiti Teknologi Malaysia, Malaysia

Research on coastal management has been quite intensive over the last decades in Malaysia. Determining the coastal vulnerability index is one of the most complex analyses due to different effects of various parameters. The objective of this article is to promote the use of Geographic Information System (GIS) as a tool for coastal management problem solving. Hence, in this study, GIS is proposed to determine the coastal management with special focus on the Malaysia coastal and tsunami vulnerability assessment, and coastal erosion problems. This methodology has been implemented on a case study region in north, center and south of Peninsular Malaysia, and therefore the parameters criteria have been obtained for the case study conditions. The assessment was conducted in three phases which extended diagonally from a macro-scale to several local scale, and finally a micro-scale assessment. The outcomes of the assessment in the form of GIS-based maps are able to discriminate between the numerous levels of vulnerability, the several levels of impact severity towards existing structures, property and land use within the study area. Most essentially, the maps could help planners to establish a zoning pattern for potential coastline development. The final result of the study indicates that the GIS is the brilliantly best solution for coastal management in Malaysia with the proposed methodology can concurrently satisfy all relative parameters in vulnerability and erosion based on their impact. Thus, a system that can manage these problems has been developed.

mzul@utm.my

Analytical study on coastal zone management in India: A case study of Odisha

Ashutosh Mohanty
Mongolia International University, Mongolia

Presently in India, the coastal policy and program already proposed to having well defined zones and coherent management units (planning and regulation zone), which subsequently become the dominant part of the coastal management processes. Most CZM projects around the world use arbitrary land-ward and sea-ward boundaries from physical reference as unit of management. Others also use administrative boundary for delineation of coastal zone thinking that impact coming from outside the area. In case of India, coastal zone are defined as coastal stretch of 500 m from high tide line (HTL) for land-ward boundary and low tide line (LTL) as the sea-ward boundary. The super cyclone 1999 was the grim reminder, how the coastal population (around 10,000 died) of Orissa ultimately pay the price for unscientific arbitrary way of demarcating coastal zone by policy makers. Hence the correct way to delineate coastal zone management unit should be based on development of robust criteria which are the representative of coastal natural system. In this paper, approaches, methodologies, criteria derived from coastal natural system, their justifications and analyses supporting their delineation are described. The criteria considered for land-ward delimitation of coastal zone of Orissa are 20 m contour line above mean sea level, areas of unconsolidated sediments, geomorphic division, tidal effects, block boundary (Administrative boundary) and for sea ward delimitation 100 meters bathymetry are used. Further coherent management units for land-ward are delineated bases on geomorphic units. The sea-ward delineation should be notified by official Gazettee of India for various management purposes. The resulting coherent management unit can be a support infrastructure of data base framework to monitor coastal ecosystem.

drashutoship@gmail.com

International Conference on

Coastal Zones

May 16-18, 2016 Osaka, Japan

Informed.City: Big Data Analytics for Climate Change Adaptation Planning – A Governance Approach

Donovan Burton
Climate Planning Australia

Planning for the impacts of climate change is a complex and challenging issue. Solutions can only be driven through informed decision-making and to date there is little evidence to suggest that this is occurring in any meaningful way in most of the cities around the world. For local and city governments managing climate change is complex and fraught with challenges associated with resource constraints, community buy-in, legal risks and political positioning. At the moment it seems that there is an over-emphasis on the risk assessment approach to climate change adaptation – which more often than not results in stagnant reports that lead to responses that are cherry-picked and tend to align with available resources or political allocations of the day.

Focusing on climate change adaptation governance is about the core system that supports climate change adaptation actions. It includes institutional arrangements, resource allocation, executive and interdepartmental support, inclusion in strategic planning, financial planning and any other activity that will enable climate change adaptation to be mainstreamed into a city council's activities.

Donovan Burton has created a suite of indicators to help cities step away from the risk-assessment first approach. The Informed.City™ process allows decision makers at the municipal level to take stock of where they are at in regards to climate change adaptation. Think of the process similar to climate change adaptation genomics. Like genomics in the sciences the Informed.City™ process allows the organisation to identify areas that may experience future shocks, identify markers that require modification and help local and city governments transition towards mainstreaming adaptation. This presentation highlights the results from over 50 Cities.

donovan@climateplanning.com.au

Comprehension and perception of international and domestic tourists and Far North Queensland residents in the presence of Irukandji Jellyfish warning signs

Lynda Crowley-Cyr
University of Southern Queensland, Australia

The Irukandji jellyfish sting can cause a range of symptoms from cramping and nausea to death. Aside from the health implications, marine based industries such as fishing and tourism can be negatively impacted. The aim of the current study was to assess comprehension of a sign used to warn the Irukandji danger. One hundred and nine local residents and tourists who visit Palm Cove beach, on Australia's Great Barrier Reef coastline, and Irukandji hot-spot, were interviewed during the main Irukandji season to assess their understanding of the warning sign and their perceptions of swimming safety. Over 70% of participants saw the sign, but many still thought it was safe to swim inside purpose-built marine stinger nets. Those that knew it was unsafe to swim in the nets were unsure why. The message on the sign was found to be unclear as to what the actual danger was and the potential risk posed by an Irukandji sting. Some words and colours were inconsistent with beachgoers expectations of a danger sign. With regards to Irukandji risk, signs should include a brief overview of the Irukandji, consequences of being stung, how to avoid being stung and what to do if a sting occur. In addition, fifty seven various signs were counted in the immediate area perhaps resulting in signage overload. Other strategies could be employed in the local area to keep people safe, including comprehension reviews *in situ* to improve warning signs, escalating warnings during peak Irukandji times and distributing additional educational materials to visitors.

Lynda.Crowley-Cyr@usq.edu.au

International Conference on

Coastal Zones

May 16-18, 2016 Osaka, Japan

Physico-chemical and microbiological parameters monitoring of industrialization and urbanization behavior on richest marine biodiversity of Gulf of Mannar regions, Tuticorin

Rajendhiran Viji

Bharathidasan University, India

The rapid human populations and industrialization activities discharging wastewaters is major threatening factors of the marine biodiversity and human health. The aim of this study focuses on anthropogenic activities of shoreline urbanization and industrialization pollution issues areas seawater qualities analyzed in Gulf of Mannar regions, Tuticorin. The seawater samples were collected at five different points of the shoreline locations in Tuticorin coast pre-monsoon seasons of 2014, and water quality parameters were analyzed on the standard methods. Physico-chemical parameters; pH, temperature, Electrical conductivity, salinity and dissolved oxygen and microbiological indicators; total heterotrophic bacteria (THB), total *coliform* bacteria (TCB), fecal *coliform* bacteria (FCB), total *Enterococcus* bacteria (TEB) and *E.coli*. Results were denoted that microbiological indicators highly exceeded in Indian primary seawater quality standards limits and physico-chemical parameters fluctuation was neglected. The average level of microbiological indicators population densities (THB 79 cfu/ml⁻², TCB 27 cfu/ml⁻¹, FCB 14 cfu/ml⁻¹, TEB 3 cfu/ml⁻¹, *E.coli* 8 cfu/ml⁻¹) recorded in seawater. This kind of study has immensely supporting to control of the seawater quality declining sources, protection of marine biodiversity and preventing action of marine borne diseases coastal organisms and human health. To frequent effective seawater quality monitoring work is required for the possible anthropogenic activities pollution sources in coastline industries and urban areas and ecological richest marine biodiversity sensitive zones.

biovijitech@gmail.com

Estuarine Management as part of Integrated Coastal Zone Management in north-western Germany – Achievements and Challenges

Frank Ahlhorn

Kueste und Raum, Germany

Three German estuaries are located in the southern North Sea. Each of them host an important seaport within a distance of 60 to 120 km from the river mouth. Increasing oversea trade and demanding logistics are asking for appropriate vessel sizes and, thus, fairway dimensions. This process of mutual adaptation enables economic development, but causes multifaceted challenges and problems in the respective estuaries. Deeper and straightened fairways led to a changed current velocity and, thus, to inappropriate erosion and sedimentation process. Furthermore, salt water intrusion emerges as problem for both freshwater abstraction and ground water bodies adjacent to the rivers. Alteration of flow velocity and direction affected the accessibility of smaller harbours in the river mouth and the natural environment (e.g. migration of fishes, wetlands) of the river is deteriorating. Integrated policies such as the European Water Framework Directive aims at improving the ecological and chemical status of water bodies. Recently approved legislation tackling the water quantity (e.g. flood risk management) issues or the marine environment poses further challenges on the management of estuaries as transition zone between land and sea. This presentation provides an overview of the development in estuarine management in the Weser estuary. Referring to the pending planning approval for the recent fairway adaptation in the Weser further stresses are expected on the natural as well as the human environment. The presentation will compile the existing investigation results of several (sectoral) research projects and propose a framework for an integrated participatory management approach.

frank.ahlhorn@kueste-und-raum.de

International Conference on

Coastal Zones

May 16-18, 2016 Osaka, Japan

Numerical modeling of water dynamics of Russian zone of the Black Sea within the framework of operational oceanography tasks

Alexander Grigoriev

N.N.Zubov's State Oceanographic Institute, Russia

Modeling of the Black Sea waters dynamics (Russian zone) was conducted within the framework of the European ARENA and ECOOP projects and Russian project JISWO on the basis of Princeton Ocean Model (POM). Nowcasting and three days forecasting of the Black Sea dynamics was carried out in a daily mode with horizontal resolution of ~1 km along the Russian coast of the basin. Examples of calculations are presented and their comparison with space remote sensing and in situ (hydrological measurements) data is fulfilled, results of model validation are discussed. Model data reproduce observed real dynamic structures. Increasing a spatial resolution of processes allows reproduce in calculations the details of hydrological structure, which do not principally find displaying in large-scale models (vortexes with horizontal spatial sizes ~10 km). The conclusion that the proposed modeling technology can adequately monitor the variability of the waters of the region with the spatial and temporal resolution, unattainable using only field data, can prove important for operational oceanography.

ag-privat@mail.ru

Investment opportunity in coastal areas

Enayet Karim

President, Global Economist Forum, Bangladesh

Investment in coastal area poses high risk but having huge business potentiality in the global changing atmosphere. It could generate huge employment opportunity as well. Hunting of Coastal resources could be added at least 1% growth in the global GDP. Coastal towns throughout the world are flooded with tourists who are keen to soak up the sun and unwind in relaxing surroundings. With the warmer climates of summer approaching, it's only natural for investors to begin looking at coastal property markets for potential investment opportunities. For the past 10 years, house prices in coastal markets have typically seen strong levels of growth. In the majority of coastal locations, house prices have recorded annual growth of 10% over the last one decade. Environment and Natural Resources experts identified five projects intended to accelerate the development of the coastal and marine sector as priority areas for investment during the Coral Triangle Initiative (CTI) High-Level Financial Round Table meeting at the Philippine International Convention Center in Manila, in conjunction with the annual meeting of the Asian Development Bank. These include the establishment of an endowment fund as a sustainable financing mechanism for projects; design of a payment scheme for ecological services to promote private sector involvement; rehabilitation of mangroves as climate change adaptation strategy; establishment of an integrated information management system; and development of national integrated coastal and management program to uplift lives in coastal communities in Asia. Maine Coastal Program, promote sound waterfront planning and harbor management, balanced development of shore and harbor areas, advance planning for waterfront infrastructure improvements and access to the shore.

info@globaleconomistforum.org

International Conference on

Coastal Zones

May 16-18, 2016 Osaka, Japan

From Coast to Coast – Keeping the Ocean Integrity through Articulated Governance Regimes

Yves Henocque

IFREMER (JAMSTEC; OPRI), France

Ocean is one but governance regimes are legions and uncoordinated. Any coastal zone management initiative needs to be put into context at the next larger scale and so on as a contribution to the regional seas and global ocean integrity. The other way around, any global vision needs to be rooted into regional, national and local implementation. More than 20 years ago, the first Rio conference on environment and development (1992), then comforted in Johannesburg (2002) and again in Rio (2012), gave us the framework and principles of action towards the construction of new forms of governance including catchment and coastal areas integrated management, together with the ecosystem approach principles of the Convention of Biological Diversity and, a bit later, the Reykjavik Declaration on Responsible Fisheries (2001). Since then, many initiatives, policies or programmes have been launched and carried out all around the world but it seems like these new forms of governance are better achieved at small scale and the closer one gets to shore. There are still few practical examples in offshore systems and even fewer in wider systems that couple nearshore and pelagic areas. These experiences will be reviewed and lessons drawn regarding best practices in scaling up management to scales appropriate to vast, interconnected systems through actual holistic, cross-sectoral, and truly integrated management.

yves.henocque@ifremer.fr

Causes, Consequences and Mitigation of Hypoxia in Coastal Habitats

Gilbert T Rowe

TAMUG, USA

The generally accepted causes of hypoxia (oxygen concentrations < 2 mg/Liter) in the coastal zone are 1. eutrophication resulting from nutrient loading, 2. water column stratification created by a freshwater plume and 3. excess terrestrial organic matter, but the relative importance among these varies between ecosystems and likewise has been the subject of intense debate. The consequences of hypoxia are 1. preservation of organic matter in the sediments, 2. elimination of both sessile and motile megafauna, and 3. a decrease in mean animal size and diversity among sediment dwelling invertebrates. Enhanced production of trace gases from anaerobic metabolism and diminished fisheries production may also be significant but remain open to question. Blooms of sediment-dwelling sulfide-oxidizing bacteria may prevent toxic sulfide from diffusing into the water column. Mitigation strategies include reducing nutrient loading, reducing freshwater flow and altering freshwater flow into wetlands, but there is wide-spread disagreement on which of these is most effective or even tractable. Climate change and human impacts in the coastal zone may increase the frequency and extent of hypoxia by increasing nutrient loading. Sea level rise may exacerbate loss of wetlands. Diminished supplies of freshwater to estuaries may increase salinities in estuaries and shrink the length of the fresh to salt water gradient in estuaries and near-shore, while flooding and sea level rise may extend the fresh-to-salt zonation pattern and increase stratification, thus enlarging areas of hypoxia. Increases in temperature will enhance vertical stratification and metabolic rates, both of which would add to the geographic areal extent of hypoxia and biological stresses. 'Ecosystem services' must be considered when remedial actions are to be considered, but these will differ depending of the ecosystem in question.

roweg@tamug.edu

International Conference on

Coastal Zones

May 16-18, 2016 Osaka, Japan

Coastal settlement and protected areas: a management challenge for Italian Peninsula

Romano B , Zullo F and Marucci
University of L'Aquila, , Italy

Italian peninsular coastal protected areas including in them both parks and nature reserves that Natura 2000 sites, are very numerous (over 100 parks and reserves, and more than 200 sites N2000 for a total envelope of over 500,000 ha) and interest, albeit with different texture, all coastal regions. Urban development registered over the past half century has caused direct and indirect consequences on ecosystems in this important and extensive ecotone on which express multiple transformative actions. It is actually a geographical area highly attractive for tourism, but also for permanent residence, thanks to the good conditions of mobility and transport. Many proposals for interventions industrial, energy and manufacturing in general still have the land as preferential localization and, in many cases, the presence of natural values, though still significant, is neglected. A goal of this work is to highlight the conditions of presence of high pressures and high transformative environmental values. It will be particularly used geostatistical tools comparing indicators to highlight conflicts between the phenomena of urbanization and protection, obtaining a classification of models and layout problems for the settlement and protected areas. A second objective of the paper is to provide an indication about the possible lines of territorial government designed to recover/reverse the situation at a high level of contrast.

bernardino.romano@univaq.it

The Coastal Zone Of The Sea Of Azov Of Ukraine As An Object Of Managing

Volodymyr Vorovka
Taras Shevchenko national university of Kyiv, Ukraine

Ukraine is a sea state with the length of the sea border of 1355 km (the Black Sea is 1105.5 km, the Sea of Azov is 249.5 km). The coastal zone of Ukraine is distinguished by high diversity. Within it, there are lagoons, bays, mouth of large and small rivers, spits, earthen banks, sand bars and sea shallow waters. The natural peculiarities of the Sea of Azov caused its highest potential biological productivity among other seas. The low salinity (on the average 10,5‰), shallowness and intensive water exchange are main ecotones and birds disposition in the area of the largest migrational way assist high indices of the coastal zone biodiversity.

The coastal zone of the Sea of Azov constantly changes due to natural processes and man's influence. As a matter of fact, the coastal zone of the land and the sea is now a natural and economic complex, formed by the variety of environments, conditions and resources. Understanding the unity and interaction between natural components and anthropogenic activities has to be a principal methodological basis of researching the coastal zone in the interests of the stable development.

The intensive anthropogenic activities in the coastal zone of the Sea of Azov have become uncontrollable during the last several decades – most objects are created in the coastal zone without any scientific grounding, clear planning and controlling. The main reasons are lack of a scientifically proved strategy of managing the coastal zone, imperfection of the legislative base in this country and deficiency of a distinct vision of strategic aims in the development of coastal areas among local communities.

Now in Ukraine, local communities are given, on the legislative level, a considerable power in managing the areas, including coastal ones. But lack of a clear strategy and insufficient experience in the development and management of them. For this purpose, it should be reasonable and necessary to work out projects in complex managing the coastal zones, which have already been realized partially or completely in the Netherlands, Pakistan, Ecuador, China, in the countries of East Africa, some islands, ect.

geofak_mgpu@ukr.net