Towards a sustainable Adriatic Transportation

Opening Conference of the GUTTA project

Hotel Risorgimento

Lecce (Italy), 6 March 2019

Foreword

In the morning of March 6, 2019 more than 40 people gathered in the meeting room of Hotel Risorgimento in Lecce.

They were either speakers or attendees of the international conference "Towards a sustainable Adriatic Transportation", meant to be the first public event of the Interreg V-A Italy-Croatia GUTTA project.

The conference was meant to provide a broader framework into which GUTTA project activities will be placed and to establish links with other European Projects.

The conference was chaired by Paola Agostini, scientific manager at CMCC. Institutional greetings were spoken by Stefano Minerva, President of the Province of Lecce. Concluding remarks were drawn by Giovanni Indiveri, Associate Professor at University of Salento.

Following his recommendation, we decided to offer some contents of this conference also to the wider public, with an open access policy.

The present extended agenda contains just the abstracts, while the presentations supporting the talks are provided along with this distribution on Zenodo.

Among the attendees, a group of 9 students from Gallipoli's Istituto Tecnico Trasporti e Logistica "Amerigo Vespucci" were there, exploiting holidays at school for coming to the conference.

To them, future sailors and citizens of a warmer world due to climate change, this publication is dedicated.

Gianandrea Mannarini

Lecce, 13/3/2019

9:10-9:40

Apulia, Dalmatia, and the Adriatic Sea as a shared History

Egidio Ivetic

Associate Professor of Early Modern History at the University of Padua, Padua, Italy

The Adriatic is, as far as its form is concerned, a homogeneous sea, and at the same time it is a complex sea when its cultural stratifications are considered. These stratifications are especially apparent along its Eastern littoral, a border zone between civilization models, between Western and Eastern Europe, Central Europe and the Mediterranean. The Adriatic as a region does not have a common historiography, there is not a single version of its past accepted by all the nations that make part of it. Recent cross-border policies impose a new political vision of the Adriatic, a regionalization of this sea. This tendency will have, sooner or later, a cultural implication, involving the way we look at the Adriatic past history.

9:40-10:10

Impacts of anthropogenic climate change in Europe

Enrico Scoccimarro

Senior Scientist at the "Climate Simulations and Prediction" Division of CMCC, Bologna, Italy

Extensive scientific evidence proves that the dominant cause of the rapid change in climate of the past half century is human-induced increases in the amount of atmospheric greenhouse gases, including carbon dioxide (CO2), chlorofluorocarbons, methane, and nitrous oxide.

In this talk we build on results from state of the art General Circulation Models and Regional Climate Models to quantify changes in extreme events under different radiative forcing projections, following different potential scenarios.

A special focus is put on extreme precipitation and perceived temperature over Europe.

In particular, recent findings confirm the increase of precipitation extremes over the whole Europe, despite the tendency to dryer average conditions over the southern part of the domain.

On the other hand, projections of extreme events of perceived temperature, considering not only temperature but also the relative humidity role, show a more pronounced increase over north-eastern Europe when compared to temperature-only projections.

In addition, projections of Tropical Cyclone and Medicane activity will be presented: a world with less but more intense storms is expected, mainly due to more stable atmospheric conditions and higher availability of energy in the ocean.

10:10-10:40

The Copernicus Marine Environment Monitoring Service

Giovanni Coppini

Director at the "Ocean Predictions and Applications" Division of CMCC, Lecce, Italy

Operational oceanography reaches nowadays thousands of users through services (e.g. European Copernicus Marine Monitoring Service - CMEMS) dealing with societal challenges such as maritime safety, coastal and marine environment management, climate change assessment and marine resources management. Freely available products from CMEMS allow the development of specific solutions such as Decision Support Systems and services for users and stakeholders.

The Mediterranean Monitoring and Forecasting Center (MED-MFC) is part of CMEMS and provides regular and systematic information on the time-evolving Mediterranean sea physical (including waves) and biogeochemical state. The systems consists of 3 components: 1) Med-Physics, a numerical ocean prediction systems, based on NEMO model, that operationally produces analyses, reanalysis and short term forecasts of the main physical parameters for the entire Mediterranean Sea 2) Med-Bio, a biogeochemical analysis and forecasting system based on the Biogeochemical model BFM which provides information on chlorophyll, phosphate, nitrate, primary productivity, oxygen, phytoplankton biomass, pH and pCO2; 3) Med-Waves based on WAM model and providing analysis, forecast and reanalysis products for waves in the Mediterranean Sea.

The validation of the modeling systems and the estimate of the accuracy of the numerical products are key issues to ensure reliable information to users and downstream services.

Oceanographic products from CMEMS are transformed and provided to users, private companies and stakeholders through adding-value chains (down-streaming) which consider advance visualization, usage of multi-channels technological platforms and specific models and algorithms.

11:10-11:40

Underwater noise and marine mammals in the Adriatic Sea: the SOUNDSCAPE project

Nikolina Rako

Science Director at the Blue World Institute, Veli Lošinj, Croatia

Sound is a very important component of marine environment. It travels fast in the sea and has great propagation capabilities, which makes it an excellent mean of rapid information acquisition and exchange for many marine organisms. However, the advantages of using sound in the sea has been jeopardized as the world seas got noisier. Humanly generated noise (including the shipping noise) has the potential to interfere with natural auditory signal processing and to cause harmful behavioral or physiological responses of sensitive marine species. The project SOUNDSCAPE: Soundscapes In The North Adriatic Sea And Their Impact On Marine Biological Resources, financed through the European Union CBC Programme Interreg Italy-Croatia (priority axis 3) aims to develop a cross-border scientific and institutional cooperation which will increase the current knowledge on the underwater noise and the human activities that significantly contribute to it in order to ensure efficient protection of the sensitive marine species and sustainable use of marine and coastal ecosystems. The project will contribute on identifying effective measures to be considered within maritime spatial plans and is in accordance with Descriptor 11 of Marine Strategy Framework Directive that points out to the need to monitor and manage underwater noise to achieve Good Environmental Status by 2020.

11:40-12:10

The European Maritime Safety Agency and the MRV Regulation (EU 757/2015)

Miguel Madeira

Senior Project Officer at EMSA, Lisbon, Portugal

With the arrival of 2019, the first CO2 emission reporting period established by the EU MRV Regulation 2015/757 is concluded. Now it is time for Companies to report CO2 emissions which have been monitored during 2018. Accredited Verifiers will play an important role in verifying data reported by Companies, before it will be made public in June 2019.

THETIS-MRV system developed by EMSA is the on-line plateau where Companies, Verifiers and Flag State are required to access to fulfil their legal obligations set out by the MRV legal framework.

Mr. Miguel Madeira, the designer of the system, will explain in his presentation actions expected to be carried out by these actors having special focus on:

1. Clarifying on mandatory and voluntary actions, noting that the system caters for far more functionalities than those strictly mandatory.

2. Sharing knowledge on how Companies and Verifiers are addressing several operational problems exploiting his knowledge from the system help desk support inquiries.

3. Highlighting particularities for Ro-Pax ships, regarding how Emission Reports are produced and what exemptions are foreseen.

4. Updating on the alignment (or misalignment!) between IMO DCS and EU MRV.

12:10-12:40

Sea Traffic Management as a tool for emissions savings

Ulf Svedberg

Master Mariner and Senior Advisor at the Swedish Maritime Administration, Stockholm, Sweden

Sea Traffic Management (STM) is a digitalized information sharing concept developed within the frame of the EU Motorways of the Seas.

With STM in operation, a wide range of digitalized services can be offered both shore-based as well as seaborne operators.

The presentation in Lecce will describe a selection of certain services that benefits the maritime traffic both from a safety, efficient and environmental perspective.

In the aftermath of Monalisa/STM projects the implementation of STM services have been launched and the Interreg Baltic project Efficient flow will be presented and how it could be adopted to other areas, like the Adriatic Sea.

12:40-13:10

VISIR and sustainable maritime transportation

Gianandrea Mannarini

Scientist at the "Ocean Predictions and Applications" Division of CMCC, Lecce, Italy and Coordinator of GUTTA project

Several European and International roadmaps aim to reduce Greenhouse Gases (GHG) emissions and the carbon footprint of transportation and shipping in particular. However, independent verification shows that most of these policies are failing in implementing reduction of GHG at the expected pace, compromising the chances to effectively mitigate Climate Change and its negative impacts on societies and natural ecosystems.

Thus, measures able to reduce emissions from both new and existing vessels are urged. A beneficial impact of meteo-oceanographic forecast and analysis fields on the carbon intensity of ship routes was demonstrated through the VISIR model during the H-2020 AtlantOS project and will be further developed within the GUTTA project.

A few case studies and some recent achievements of VISIR as a community model will be presented.