

Sed
Net



*Sediment
as a dynamic
natural resource
from catchment
to open sea*

Programme

11th International SedNet Conference
Hotel Dubrovnik Palace, Dubrovnik, Croatia

co-organised by Ruđer Bošković Institute and University of Dubrovnik
with the participation of: IAEA



3-5 April 2019

Tuesday 2 April 2019

PRE-CONFERENCE PROGRAMME

09.00 - 17.30 Meeting SedNet Working Group Sediments in Circular Economy

Meeting SedNet Working Group Sediment Quantity

20.00 - 22.00 Icebreaker / Conference registration

Wednesday 3 April 2019

CONFERENCE DAY 1

08.30 - 09.00 Registration

09.00 - 10.20 **PLENARY OPENING SESSION**

Chairperson: Marc Eisma, chairman SedNet (Port of Rotterdam Authority, NL)

09.00 - 09.20 Welcome by chairman and by a representative of the University of Dubrovnik

09.20 - 09.50 Keynote presentation:
Indicators of methane hydrates occurrence in the deep Adriatic Sea
Jasmina Obhodas, Ruder Boškovic Institute, Croatia

09.50 - 10.20 Keynote presentation:
Acceleration of sedimentation rate in the Black Sea revealed in radiometrically dated by 210Pb sediment cores
Gennady Laptev, Ukrainian HydroMeteorological Institute, Ukraine

10.20 - 11.00 Coffee break

CONFERENCE ROOM MARE 1

11.00 - 15.20 **SESSION "SEDIMENT MANAGEMENT CONCEPT AND SEDIMENT POLICY"**

Chairpersons: Edward Van Keer (Flemish Government, Belgium) and Henrich Röper (Hamburg Port Authority, Germany)

11.00 - 11.30 Keynote presentation:
Sediment management in the Sava River Basin
Samo Grošelj, International Sava River Basin Commission (ISRBC)

11.30 - 11.50 DanubeSediment – an EU project aiming to the restoration of the sediment balance in the Danube River
Helmut Habersack, BOKU University of Natural Resources and Life Sciences, Austria

CONFERENCE ROOM MARE 3-4

SESSION "THE IMPACT AND TRANSPORT OF MICROPLASTICS"

Chairpersons: Katherine Cronin (Deltares, NL) and Georg Reifferscheid (Federal Institute of Hydrology, Germany)

(Micro)plastics in sediment and water samples of the rivers Elbe and Lahn, Germany
Georg Reifferscheid, Federal Institute of Hydrology, Germany

Microplastics in the sediments of the Norwegian continental shelf
Arne Pettersen, Norwegian Geotechnical Institute, Norway

CONFERENCE ROOM MARE 1	CONFERENCE ROOM MARE 3-4
<p>SESSION “SEDIMENT MANAGEMENT CONCEPT AND SEDIMENT POLICY” <i>continued</i></p>	<p>SESSION “THE IMPACT AND TRANSPORT OF MICROPLASTICS” <i>continued</i></p>
<p>11.50 - 12.10 Legislative reflection on sediment policy and management <i>Lidia Balan, Geological Institute of Romania, Romania</i></p>	<p>Preliminary research of microplastic from cave sediments, Croatia <i>Neven Cukrov, Ruđer Bošković Institute, Croatia</i></p>
<p>12.10 - 12.30 The role of contaminated sediment monitoring for dredging management in the Elbe estuary <i>Carmen Kleisinger, Federal Institute of Hydrology, Germany</i></p>	<p>Investigation into the migration of microplastics through soil <i>Linda Heerey, University College Dublin, Ireland</i></p>
<p>12.30 - 14.00 Lunch in Elafiti restaurant</p>	
<p>14.00 - 14.20 The unpleasant need of going to court - Legal options of a downstream state to bring upstream partners to action <i>Ilka Carls, Ministry of Environment and Energy, Germany</i></p>	<p>SPlasH! - Stop to plastic in H2O! An EU project to investigate the state of the port environment <i>Anna Reboa, University of Genoa, Italy</i></p>
<p>14.20 - 14.40 Overview of the assessment of contaminated marine sediments in the Nordic countries and their remediation <i>Alizée Lehoux, Uppsala University, Sweden</i></p>	<p>Methods for measuring plastic transport in large rivers and downstream of hydropower plants <i>Marcel Liedermann, BOKU University of Natural Resources and Life Sciences, Austria</i></p>
<p>14.40 - 15.00 Towards a Swedish agenda on management of contaminated sediments – an action for increased cooperation between relevant governmental agencies <i>Yvonne Ohlsson, Swedish Geotechnical Institute, Sweden</i></p>	<p>Numerical modelling of plastic transport and accumulation at the Austrian Danube River <i>Sebastian Pessenlehner, BOKU University of Natural Resources and Life Sciences, Austria</i></p>
<p>15.00 - 15.20 Contaminated sediments as hot-spots of wide-scale marine pollution: a need to rethink sediment management and policy <i>Stella Tamburrino, Institute for Coastal and Marine Environment (IAMC-CNR), Italy</i></p>	<p>Impact of micro-plastics on sediment settling properties <i>Arjan Wijdeveld, Deltares, NL</i></p>
<p>15.20 - 16.00 Coffee break</p>	

CONFERENCE ROOM MARE 1		CONFERENCE ROOM MARE 3-4	
16.00 - 17.00	SESSION “SEDIMENT MANAGEMENT CONCEPT AND SEDIMENT POLICY” <i>continued</i>	SESSION “BWM CONVENTION AND ANALYTICAL METHODS” <i>Chairperson: Jasmina Obhodas (Ruđer Bošković Institute, Croatia)</i>	
16.00 - 16.20	Investigating the infrastructure-induced legacy sediments on 3 bypassed areas along the Rhône River (France) <i>Sophia Vauclin, University of Lyon, France</i>	Sediment in the ship’s ballast water tank: A forgotten problem <i>Vladivoj Valković, SAGITTARIUS Consulting, Croatia</i>	
16.20 - 16.40	Introduction and first results within the project “Nautical Depth” in Hamburg <i>Nino Ohle, Hamburg Port Authority, Germany</i>	Dating of marine sediments for historical trends of the heavy metal concentrations in the Candarli Gulf of Turkey <i>Günseli Yaprak, Ege University, Turkey</i>	
16.40 - 17.00	Discussion	Discussion	
17.00 - 20.00 FLASH POSTER PRESENTATIONS, POSTER SESSION AND RECEPTION			
17.00 - 17.15	5 posters on Climate Change / Ecosystem Services <i>Abstracts 124, 125, 126, 127, 128*</i>	5 posters on Sediment Quality <i>Abstracts 100, 101, 102, 103, 104*</i>	
17.20 - 17.41	7 posters on Sediment Management <i>Abstracts 80, 81, 82, 83, 84, 85, 86*</i>	7 posters on Sediment Quality <i>Abstracts 105, 106, 107, 108, 109, 110, 111*</i>	
17.45 - 18.00	5 posters on Microplastics <i>Abstracts 87, 88, 89, 90, 91*</i>	5 posters on Sediment Quality <i>Abstracts 112, 113, 114, 115, 116*</i>	
<i>*The Abstract numbers refer to the pages in the Abstracts-book.</i>			
18.00 - 20.00	Reception and Poster Session: meet poster presenters at their poster		



CONFERENCE ROOM MARE 1		CONFERENCE ROOM MARE 3-4	
09.00 - 15.20	<p>SESSION “CIRCULAR ECONOMY – SEDIMENT AS A RESOURCE”</p> <p><i>Chairpersons: Bruno Lemière (BRGM, France) and Goedele Vanacker (OVAM, Belgium)</i></p>	<p>SESSION “SEDIMENT QUALITY GUIDANCE, SEDIMENT QUALITY ASSESSMENT”</p> <p><i>Chairpersons: Susanne Heise (Hamburg University of Applied Sciences, Germany) and Elena Romano (ISPRA, Italy)</i></p>	
09.00 - 09.30	<p><u>Keynote presentation:</u> System thinking: drawing causal loops for sediment <i>Dirk Halet, VLAKWA/VITO, Belgium</i></p>	<p><u>Keynote presentation:</u> Sediment quality assessment criteria: new approaches and views <i>Mario Sprovieri, Institute for Coastal and Marine Environment (IAMC-CNR), Italy</i></p>	
09.30 - 09.50	<p><u>Keynote presentation:</u> Sediment treatment in Hamburg as part of a circular economy <i>Henrich Röper and Heinz-Dieter Detzner, Hamburg Port Authority, Germany</i></p>	<p>Assessing sediment chemical status in Europe: frameworks, standards and approaches, now and into the future <i>Sabine Apitz, SEA Environmental Decisions Ltd., UK</i></p>	
09.50 - 10.10	<p>Mineral processing techniques dedicated to the recycling of river sediments to produced raw materials for the construction sector <i>Mathieu Henry, Centre Terre et Pierre, Belgium</i></p>	<p>A methodological proposal for the ecotoxicological characterization of continental and marine sediments for recovery <i>Tristan Lecomte, IMT Lille Douai, France</i></p>	
10.10 - 10.30	<p>Using Sediment As a Resource (USAR): Renovation of a controlled flood area in the Scheldt estuary using dredged material from the Durme River <i>Herman Brangers, Witteveen+Bos, Belgium</i></p>	<p>Application of weighted criteria and integrated approach to assess sediment quality in marine and freshwater ecosystems <i>Cristian Mugnai, ISPRA, Italy</i></p>	
10.30 - 11.00	Coffee break		
11.00 - 11.20	<p>Sediments feed and conserve soil <i>Jan Willem Berendsen, Royal HaskoningDHV, NL</i></p>	<p>Conflicting outcomes of integrated approach for sediment quality assessment in Sardinian coastal area subjected to mining activities <i>Elena Romano, ISPRA - National Institute for Environmental Protection and Research, Italy</i></p>	
11.20 - 11.40	<p>Sustainable sediment solutions: Stabilization of contaminated sediment <i>Tim Olean, O'Brien & Gere, USA</i></p>	<p>Development of marine sediment quality guidelines for evaluation of heavy metals contamination in Croatia <i>Josip Gregac, Association Lijepa Naša, Croatia</i></p>	

CONFERENCE ROOM MARE 1	CONFERENCE ROOM MARE 3-4
<p>SESSION “CIRCULAR ECONOMY – SEDIMENT AS A RESOURCE” <i>continued</i></p>	<p>SESSION “SEDIMENT QUALITY GUIDANCE, SEDIMENT QUALITY ASSESSMENT” <i>continued</i></p>
<p>11.40 - 12.00 Stabilization and beneficial use of contaminated sediments applying mobile pneumatic flow tube mixing for a circular economy <i>Eric Stern, Tipping Point Resources Group, LLC, USA</i></p>	<p>First steps towards a new approach for interpretation of ecotoxicological data for sediment and dredged material classification <i>Susanne Heise, Hamburg University of Applied Sciences, Germany</i></p>
<p>12.00 - 12.20 Baseline monitoring at a pilot site for sediment reuse <i>Bruno Lemière, BRGM, France</i></p>	<p>Interreg project Sullied Sediments: set-up of decision support system for remediation techniques for contaminated sediments <i>Anissa Smits, Witteveen+Bos, Belgium</i></p>
<p>12.20 - 12.40 Using Sediment As a Resource (USAR): Brightlingsea harbour dredging and restoration project <i>William Coulet, Exo Environmental Ltd, UK</i></p>	<p>Trace elements distribution and mobility in estuarine sediments of the Krka River (Croatia) <i>Nuša Cukrov, Ruđer Bošković Institute, Croatia</i></p>
<p>12.40 - 14.00 Lunch in Elafiti restaurant</p>	
<p>14.00 - 14.20 The valorization of marine sediments in a context of circular economy and sustainable management <i>Pascal Grégoire, Port de Dunkerque, France</i></p>	<p>Sweden’s industrial legacy of contaminated, fibrous sediments: Properties relevant to management <i>Ian Snowball, Uppsala University, Sweden</i></p>
<p>14.20 - 14.40 USAR Project: New optimization software for the formulation and the treatment of dredged sediments for valorization in civil engineering <i>Mahfoud Benzerzour, IMT Lille Douai, France</i></p>	<p>Quaternary phosphonium compounds: new toxic compounds present in sediments and suspended matter <i>Simon Brand, Federal Institute of Hydrology, Germany</i></p>
<p>14.40 - 15.00 Design of a remediation approach to heavy metals contaminated sediments in the Great Backa Canal (Serbia) <i>Jelena Tričković, University of Novi Sad, Serbia</i></p>	<p>Application of particle transport modeling and chemical forensic analysis in sediment contamination source evaluation <i>Philip Spadaro, TIG Environmental, USA</i> <i>Katherine Cronin, Deltares, NL</i></p>
<p>15.00 - 15.20 Environmental monitoring at a sediment source site to qualify for reuse <i>Claire Alary, IMT Lille Douai, France</i></p>	<p>Characterization and spatial distribution of organic contaminated sediment from historical industrial effluents to inform remediation decisions <i>Tony Walker, Dalhousie University, Canada</i></p>
<p>15.20 - 16.00 Coffee break</p>	

CONFERENCE ROOM MARE 1		CONFERENCE ROOM MARE 3-4
16.00 - 18.00 FLASH POSTER PRESENTATIONS AND POSTER SESSION		
16.00 - 16.18	6 posters on Circular Economy <i>Abstracts 92, 93, 96, 97, 98, 99*</i>	5 posters on Nuclear/Isotopic Analytical Techniques <i>Abstracts 129, 131, 132, 133, 134*</i>
16.25 - 16.40	4 posters on Sediment Quality <i>Abstracts 117, 118, 120, 121*</i>	4 posters on Sediment Quality/Quantity <i>Abstracts 122, 123, 135, 137*</i>

*The Abstract numbers refer to the pages in the Abstracts-book.

16.40 - 18.00	Meet poster presenters at their poster
18.45 - 19.30	Drinks on the Lenga terrace or, in case of cold weather, in the Sunset bar
19.30 - 21.30	Conference dinner in the Lenga restaurant + poster award ceremony

Friday 5 April 2019

CONFERENCE DAY 3

CONFERENCE ROOM MARE 1	CONFERENCE ROOM MARE 3-4
09.00 - 10.50 SESSION "CLIMATE CHANGE AND SEDIMENTS: DIRECT AND INDIRECT CONSEQUENCES" <i>Chairperson: Pieter de Boer (Ministry of Infrastructure and Water Mngt, NL)</i>	SESSION "HOW CAN SEDIMENT MANAGEMENT INFLUENCE ECOSYSTEM SERVICES PROVISION?" <i>Chairperson: Jos Brils (Deltares, NL)</i>
09.00 - 09.30 <u>Keynote presentation:</u> Sediments as the redox paleo-record <i>Elvira Bura Nakic, Ruđer Bošković Institute, Croatia</i>	<u>Keynote presentation:</u> SMARTSEDIMENT project: ready-to-use and tested spatially explicit GIS tool to estimate effects of sediment management on ecosystem services <i>Katrien Van der Biest, University of Antwerp, Belgium</i>
09.30 - 09.50 Mud transport in the Upper Sea Scheldt under climate change: from 2013 to 2050 <i>Qilong Bi, Flanders Hydraulics Research, Belgium</i>	Beneficial use of muddy dredged sediment to support sediment budgets, coastal resilience, and ecosystem restoration <i>Joseph Gailani, US Army Corps of Engineers, USA</i>
09.50 - 10.10 The Living Lab for Mud two years later: update on the ongoing pilots that integrate sediment management and building with nature <i>Luca Sittoni, Ecoshape, NL</i>	Restoration of the Lake St Lucia Estuarine mouth for more natural functioning of the system <i>Gerrit Basson, Stellenbosch University, South Africa</i>

CONFERENCE ROOM MARE 1		CONFERENCE ROOM MARE 3-4	
SESSION “CLIMATE CHANGE AND SEDIMENTS: DIRECT AND INDIRECT CONSEQUENCES” <i>continued</i>		SESSION “HOW CAN SEDIMENT MANAGEMENT INFLUENCE ECOSYSTEM SERVICES PROVISION?” <i>continued</i>	
10.10 - 10.30	Sediment quantity modelling in a climate change context <i>Ewa Szalinska, AGH University of Science and Technology, Poland</i>	Ecologically effective colmation by fine sediment input and its measurement <i>Thomas Zumbroich, Planning Office Zumbroich & University Bonn, Germany</i>	
10.30 - 10.50	Innovations in modeling & monitoring to optimize sediment management in Flanders, Belgium <i>Daan Renders, Fluves, Belgium</i>	Evaluating quantitative morphological changes of the Lower Rhine with regard to ecosystem services <i>Frauke Koenig, Federal Institute of Hydrology, Germany</i>	
10.50 - 11.20 Coffee break			
11.20 - 12.50		SESSION “NUCLEAR AND ISOTOPIC ANALYTICAL TECHNIQUES IN SEDIMENT ANALYSIS” <i>Chair: Jasmina Obhodas (Ruder Boškovic Institute, Croatia)</i>	
11.20 - 11.50	<u>Keynote presentation:</u> Enhancing coastal management in the Adriatic and the Black Sea by using nuclear analytical techniques <i>Sylvia Sander, IAEA</i>	<u>Keynote presentation:</u> Disturbed sediment continuum of the Mekong, its impacts and proposed mitigation measures <i>Matt Kondolf, University of California Berkeley, USA</i>	
11.50 - 12.10	High resolution investigation of the geochemical and mineralogical composition of 1 Ky old euxinic sediments of the Western Black Sea <i>Octavian Dului, Bucharest University, Romania</i>	Assessing success of gravel feeding and long term river management measures with respect to sediment budget and hydromorphology <i>Stefan Vollmer, Federal Institute of Hydrology, Germany</i>	
12.10 - 12.30	Development of electrochemical methods for field detection of trace metals in sediments <i>Marija Margus, Université Lille, France</i>	Soil erosion in East Africa: an interdisciplinary approach to realising land management change <i>Maarten Wynants, Plymouth University, UK</i>	
12.30 - 12.50	Nuclear analytical techniques used to study bottom sediments <i>Marina Frontasyeva, Joint Institute for Nuclear Research, Russian Federation</i>	Discussion	
12.50 - 14.00 Lunch in Elafiti restaurant			



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CONFERENCE ROOM MARE 1	CONFERENCE ROOM MARE 3-4
<p>14.00 - 15.30 SPECIAL SESSION “COOPERATION – A QUESTION OF COMMON SENSE. CAN LEGAL STEPS HELP TO ENFORCE?” <i>Chairpersons: Henrich Röper (Hamburg Port Authority, Germany) and Ilka Carls (Ministry of Environment and Energy, Germany)</i></p>	<p>SPECIAL SESSION “USING SEDIMENT AS A RESOURCE” <i>Chairperson: William Coulet (Exo Environmental Ltd, UK)</i></p>
<p>In many river basins, notwithstanding the WFD’s imperative of cause-effect consideration and cooperation at river basin scale, the planning of measures is often still dominated by sectoral political, administrative and economic interests and restrictions. Obtaining the required level of cooperation between the different responsible authorities, the Government and between the States remains difficult. As a consequence, management decisions are often taken out solely from a single State or particular point of view, sometimes with considerable problem shifts in the river basin.</p> <p>The preparation for the third management cycle is the reason to check what challenges and needs influence the implementation process for suitable sediment remediation measures, which possible solutions exist? and which legal options are available to enforce the requirements of the WFD?</p>	<p>Using Sediment As a Resource (USAR) is a project funded by the European Union’s Interreg 2seas Programme (2016-2020). Partners from the Netherlands, Belgium, France and the United Kingdom are working together to promote a resource-efficient approach based on the potential for re-use of dredged sediments. This session will summarise the learning outcomes of the project and present the tools developed for water management authorities to adopt this circular approach.</p>
<p>15.30 - 16.00 PLENARY CLOSING SESSION</p>	

16.00 - 16.30 Goodbye drink



Saturday 6 April 2019

09.00 - 15.00 EXCURSION TO STON AND MALI STON

Located in the Dubrovnik-Neretva county, the bay of Mali Ston has been famous for seashell cultivation since the days of the Roman Empire as it hosts the largest oyster cultivation facilities in the Adriatic.

During the visit to the bay, researchers from Dubrovnik University will explain about the water conditions for cultivating oysters, and you will get the chance to taste oysters (and some local wine).

There is also the possibility to visit the Walls of Ston, a series of defensive stone walls, originally more than 7 kilometres long, that surrounded and protected the city of Ston, in Dalmatia, part of the Republic of Ragusa, in what is now southern Croatia. Their construction was begun in 1358. Today, it is the second-longest preserved fortification system in the world. The Walls of Ston were known as the "European wall of China"

Further, you can visit the salt yards - Solana Ston.

Salt has been harvested in Ston since Roman times and these particular salt pans have operated in much the same way for over 700 years. An introductory video explains the process, after which you can take a walk around the evaporation pans and the factory building. Salt is gathered between late July and September.

And if you like to have some coffee or lunch, there are several cafes and restaurants in Mali Ston where you can go to.

Included in the tour are: bus transport to/from Mali Ston, boattour in the bay, oyster tasting and a glass of wine (on board). Other costs (museum visit, coffee, lunch) are at your own expense.

09.00 - 09.15 Departure by bus from hotel Dubrovnik Palace

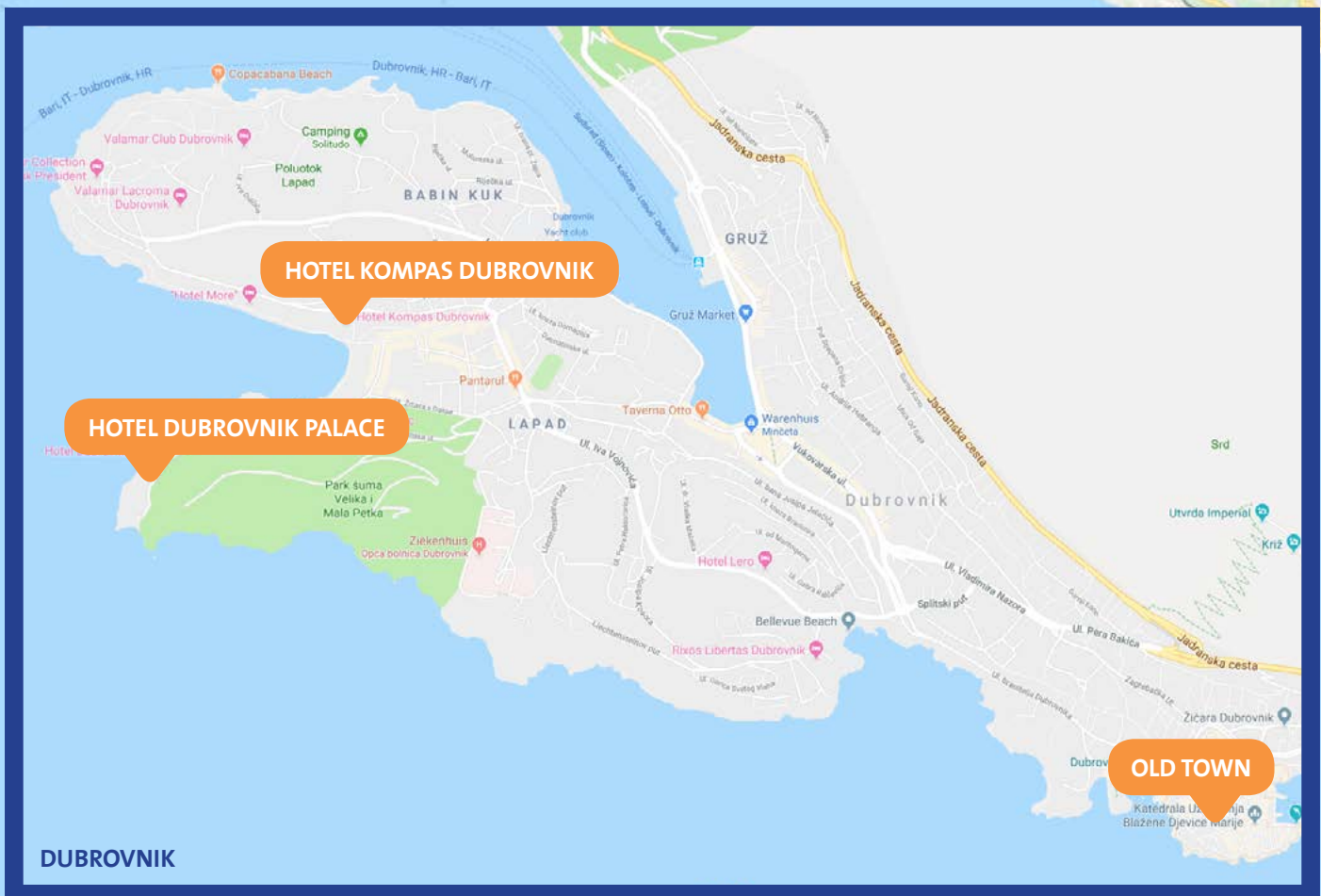
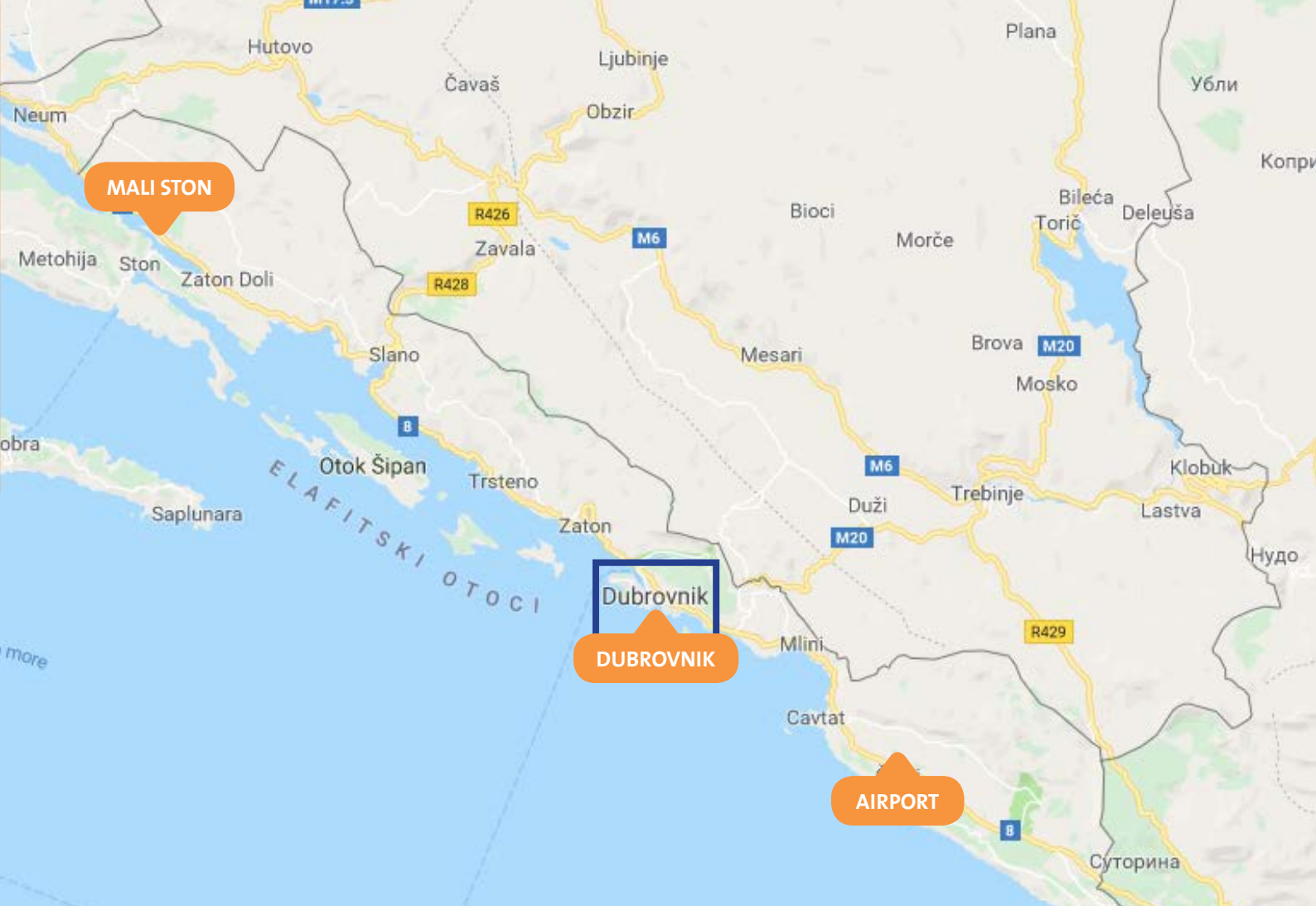
09.20 - 09.30 Stop at hotel Kompas to pick-up people

10.30 Arrival at Mali Ston

13.30 Back to Dubrovnik or to the airport.

- One bus goes to the hotels Kompas/Palace, arrival approx 14.45

- Another bus goes directly to the airport, arrival approx 15.15





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Sed Net



SedNet is the European network which aims to incorporate sediment issues and knowledge into European strategies to support the achievement of good environmental status or potential and to develop new tools for sediment management. Its focus is on all sediment quality and quantity issues at the river-sea system scale, ranging from freshwater to estuarine and marine sediments. SedNet brings together sediment professionals from science, administration, industry and consultancy. It interacts with the various networks in Europe that operate at national or international level or that focus on specific fields (such as science, policy making, sediment management, industry, education). Special attention was devoted in recent years to the integration of sediment management in the Water Framework Directive implementation process, and particularly in the River Basin Management Plans.

For further information about SedNet see
www.sednet.org