

Monday 2<sup>nd</sup> May 2016

## Workshop

08:30 Registration

### Interpretation of Marine Environments using Object Based Image Analysis (OBIA)

09:30 Introduction to the workshop

09:40 Markus Diesing Application of OBIA to marine datasets

10:00 Nils Erik Jørgensen eCognition software

10:15 Tim Le Bas RSOBIA toolbar

10:30 Tea and Coffee

11:00 Simeon Archer Mapping coral reef habitats in the British Virgin Islands (01)

11:15 Evangelos Alevizos Influence of threshold selection on classification results in rule-based seafloor sediment classification using OBIA (02)

11:30 Nicole J. Baeten Applying automated methods for sediment classification in regional scale seabed mapping programmes - a case study from MAREANO (03)

11:45 Craig Brown Developing Methods for Benthic Habitat Mapping of MPAs in Atlantic Canada: St Anns Bank MPA (04)

12:00 Nils Erik Jørgensen OBIA classification of colour and B/W images from the seabed (05)

12:15 Anna Downie Mapping extent and cover of seagrass from very high resolution optical data using OBIA and Random Forest (06)

12:30 Lunch

### Practical Demonstrations

13:30 Markus Diesing and Nils Erik Jørgensen eCognition workflow demonstration

16:00 Tea and Coffee

16:30 Tim Le Bas RSOBIA demonstration

### Panel Discussion

17:00 Panel discussion and questions from audience

17:45 Summary and wrap up

18:00 Close

18:30 – 21:00 Icebreaker – Winchester Great Hall

Tuesday 3<sup>rd</sup> May 2016

## Conference

08:00 Registration

08:45 Opening Ceremony

### Keynote

09:00 Larry Mayer Ruminations on the Future of Ocean Mapping (07)

### Technological Advances in Habitat Mapping

09:30 Jonathan Beaudoin Setting the Stage for Multi-Spectral Acoustic Backscatter Research (08)

09:45 Duncan Tamsett The Acoustic Colour of the Seabed and Sub-Seabed (09)

10:00 Terje Thorsnes Synthetic aperture sonar and AUV - important tools for studies of cold seep habitats (10)

10:15 Mark Borrelli Creating Benthic Habitat Maps in a U.S. National Park Using a Phase-Measuring Sidescan Sonar (11)

10:30 Tea and Coffee

11:00 Francisco Gutierrez Calibrated acoustic backscatter from a phase measuring bathymetric sonar (12)

11:15 Dimitrios Eleftherakis Multibeam backscatter calibration on reference patch areas using single-beam calibrated data (13)

11:30 Eli Leblanc Evaluation of a new multibeam backscatter processing algorithm in CARIS HIPS and SIPS (14)

11:45 Aleksandra Kruss Multibeam echosounder backscatter variability due to sediment resuspension and environmental dynamics in shallow waters (15)

12:00 Lukasz Janowski Application of the Object Based Image Analysis and Template Matching method for detecting, classifying and monitoring repeatable seabed objects, case study from the Lagoon of Venice. (16)

12:15 Geoffroy Lamarche High swath-overlap seafloor and water column backscatter survey over the Calypso hydrothermal vents, Bay of Plenty, New Zealand (17)

12:30 Lunch

13:30 Jin Li Predicting sponge species richness: a novel approach using random forest, generalised linear model and their hybrid methods with geostatistical techniques (18)

13:45 Massimo Di Stefano Exploring the use of accurately georeferenced stereo image mosaics to groundtruth acoustic seafloor characterization models (19)

14:00 Oscar Pizarro Predictive habitat mapping and iterative planning of image surveys given existing bathymetry and imagery - a machine learning perspective (20)

14:15 Lars Martin Sandvik Aas Underwater hyperspectral imaging assessment of drill cuttings coverage on benthic habitats using Spectral sediment analysis (21)

14:30 Helena Strömberg 3d Visualization of Subsea Structures and Marine Habitats (22)

### Coastal and Shallow Water Habitats

14:45 Don Ventura Passive and Active: Remote Survey Solutions for the Nearshore; an Integrated Approach (23)

15:00 Ben Radford Applications of spatial hierarchical sampling to optimism hydroacoustic based habitat mapping over large spatial extents of Kimberley, North West of Australia (24)

15:15 Gay Amabelle Go Mapping and Assessment of Mangroves in the Philippines using Landsat Imagery (25)

15:30 Tobias Dolch Complementary monitoring methods for large-area surveys of intertidal seagrass beds (26)

15:45 Tea and Coffee

### Poster Session

16:15-18:00 Poster introductions, viewing and reception

Wednesday 4<sup>th</sup> May 2016

### Coastal and Shallow Water Habitats

08:45 Stefano Fogarin Benthic morphologies and habitats in a shallow highly human impacted tidal inlet (27)

09:00 Fantina Madricardo Benthic habitat mapping in a very shallow tidal channel (28)

09:15 Francesco Mascioli Geoforms and substrate characterization of a tidal inlet in the Wadden Sea (Lower Saxony, Germany) (29)

09:30 Daria Ryabchuk Detailed scale habitat mapping at the eastern Gulf of Finland, the Baltic Sea (30)

09:45 Ben Misiuk Mapping Clam Habitat in the Eastern Arctic: Species Distribution Modelling in Support of Fishery Assessment in Qikiqtarjuaq, Nunavut, Canada (31)

10:00 Ana Castanheira First Sabellaria spinulosa reefs habitat mapping in the Iberian Atlantic Coast (32)

10:15 Patricia Eichler Biodiversity patterns of benthic foraminifera associated to Geo-Habitats as first insights in delimiting Reefal Marine Parks (33)

10:30 Tea and Coffee

### Shelf and Deep-sea Habitats

11:00 Alex Bastos Mapping Rhodolith Beds Along the Eastern Brazilian Shelf (34)

11:15 Peter Harris Life on the edge: global variations in shelf break depth and its influence on benthos (35)

11:30 Oliver Hogg Landscape mapping at sub-Antarctic South Georgia provides a protocol for underpinning large-scale marine protected areas (36)

11:45 Anu Kaskela Seabed geodiversity and benthic assemblages at the eastern Gulf of Finland, the Baltic Sea (37)

12:00 Jessica Tadhunter Habitat mapping of bathyal benthic habitats in the northern Dreki area, Iceland (38)

12:15 Brian Todd The Skipjack Island Fault Zone: A Geohazard and Benthic Habitat-Forming Structure Separating the San Juan Islands, Washington State, USA from British Columbia, Canada (39)

12:30 Lunch

13:30 Veerle Huvenne Mapping a submarine canyon in all its facets (40)

13:45 Agno Assis Benthic habitat for Primnoa deep-sea coral in the Fairweather Ground, Gulf of Alaska (41)

14:00 Genoveva Gonzalez-Mirelis Mapping the distribution of cold-water coral reefs using distribution modelling (42)

14:15 Romina Barbosa The effect of environmental data resolution in Habitat Suitability models: a case of study of Brazilian deep-water corals (43)

14:30 Vaughn Barrie Seeps and mud volcanoes - oxygen depletion along the Northwest Pacific coast of North America and implications for habitat (44)

14:45 H. Gary Greene Are Seafloor Seeps, Mud Volcanoes, and Chemosynthetic Communities Significant Marine Benthic Habitats? (45)

15:00 Heather Stewart First direct evidence of a deep-water cold-seep ecosystem within UK waters (46)  
 15:15 Andrea Fiorentino Relationships between geological events and submarine habitats (46)  
 15:30 Tea and Coffee  
**National Mapping Program Management and Data-sharing**  
 16:00 Drew Stephens Ecological Marine Units Project Overview and Preliminary Results (47)  
 16:15 Dayton Dove Seabed Geomorphology: a new generation of mapping (48)  
 16:30 Brendan Brooke Seabed mapping to support management of the Australian marine environment (49)  
 16:45 Andrew Colenutt Applications of high resolution coastal data for monitoring coastal instability, hazard risk management and substrate mapping (50)  
 17:00 Joey O'Connor Recent monitoring surveys of shelf benthic habitats in offshore Marine Protected Areas (MPAs); survey designs and habitat mapping data availability (51)  
 17:15 Graeme Duncan Habitat map collation and data standardisation from a UK and European Perspective - JNCC's work within the UK and with EMODnet (52)  
 17:30 Kerstin Kröger Using habitat maps to develop monitoring options for the deep-sea as part of the UK Marine Biodiversity Monitoring R&D Programme (53)  
 17:45 Peter Walker Making Natural England's marine evidence available to all. (54)  
 19:00-23:00 Conference Dinner – HMS Warrior, Portsmouth

Thursday 5<sup>th</sup> May 2016

**Anthropogenic and Natural Disturbance Effects on Marine Habitats**

08:45 Jens Greinert Rapid mapping for environmental monitoring and resource assessments in the deep sea (55)  
 09:00 Timm Schoening Rapid assessment of manganese nodule abundance (56)  
 09:15 Martina Pierdomenico Physical disturbance along the Gioia Canyon (Southern Tyrrhenian Sea): sedimentary processes and human activities (57)  
 09:30 Valéria Quaresma Potential Mining waste impacts on Coastal and shelf habitats: Mariana disaster – Brazil (58)  
 09:45 Julian Burgos Cold-water coral habitats on the southern Iceland shelf: mapping, prediction and anthropogenic impacts (59)  
 10:00 Alexandra Davis Regional analysis of the distribution of the invasive red lionfish (*Pterois volitans*) off the coast of Eleuthera, the Bahamas (60)  
 10:15 Darius Daunys Estimating benthic trawling effects using VMS dataset, macrofauna sampling, seabed acoustics and visual observations (61)  
 10:30 Tea and Coffee

11:00 Luke Hedge Hidden heterogeneity: Novel, spatially explicit, habitat quality assessment to better inform the development of boating infrastructure (62)  
 11:15 David Haverson Modelling the Impact of Tidal Energy on the Benthic Environment at Ramsey Sound, Pembrokeshire (63)  
**Role of Oceanography in Habitat Mapping**  
 11:30 Margaret Dolan Improving benthic biotope maps with oceanographic data (64)  
 11:45 Mary Young Interaction between habitat and oceanographic variables affecting the connectivity and productivity of abalone populations (65)  
 12:00 Lorenzo Angeletti Habitat mapping discloses oceanographic patterns underneath (66)  
 12:15 Nils Piechaud Can global broad scale data from public repository be as accurate as field surveys data for species distribution modelling? (67)  
 12:30 Lunch  
 13:30 Marie-Claire Fabri Predictive habitat modeling in Mediterranean Canyons including Hydrodynamic variables (68)  
**Development of Standards for Classification, Confidence and Assessment of Habitat Maps**  
 13:45 Vincent Lecours Too Many Cooks Spoil the Broth: Assessing Which Combinations of Terrain Attributes Best Serve Habitat Mapping (69)  
 14:00 Svenja Papenmeier Habitat classification: approximation or reality? (70)  
 14:15 Markus Dising Mapping of EUNIS seabed habitats based on ground-truth and multibeam acoustic data: What can realistically be achieved? (71)  
 14:30 Peter Mitchell Developing a tool for automated benthic habitat mapping and accuracy assessment using bootstrap aggregation (72)  
 14:45 Murray Lark Mapping seabed sediment texture classes from samples and acoustic bathymetry and backscatter: predictions and their uncertainty. (73)  
 15:00 H. Christian Hass Seafloor classification using RoxAnn: Two case studies to show the pros and cons (74)  
 15:15 Jaime Davies A cold-water coral biota classification scheme for ecosystem-based management of the deep sea (75)  
 15:30 Gustav Kågesten Automating Habitat Mapping in a complex world of corals and coastal waters (76)  
 15:45 Conference End  
 16:00 Tea and Coffee  
 16:30- 18:00 GeoHab Business Meeting

Friday 6<sup>th</sup> May 2016

**Fieldtrip**

08:15-18:00 Coach to Stonehenge, Lulworth Cove, the New Forest and return



Program

**Marine Environment Mapping and Interpretation – from the Coast to the Deep Ocean.**

Conference Sponsored by:



**Winchester 2016**