

Theme session A

Advances in habitat models to inform ecosystem-based management: From theory to practice

Conveners: Kevin Friedland (USA), Szymon Smoliński (Poland), Romain Frelat (Germany)

Wednesday 11 September 2019, 10:30-12:30, Room K

Thursday 12 September 2019, 13:00-15:00, Room K

Wednesday 11 September 2019

10:30	Introduction to Theme Session A
10:35	CM Code: A:551 Title: Predicting the distribution of deep-sea habitats: what can be gained from using detailed epibenthic data and high-resolution predictors? Authors: Genoveva Gonzalez-Mirelis, Rebecca E. Ross, Pål Buhl-Mortensen Keywords: sponges, modelling, resolution Presentation type: Oral
10:47	CM Code: A:22 Title: Using indices of ecosystem dynamics within spatio-temporal habitat models to estimate single-species shifts in distribution and abundance Authors: James Thorson Keywords: VAST; spatio-temporal model Presentation type: Oral
10:59	CM Code: A:237 Title: Prospects for environmental prediction of annual fishery range expansion and contraction: a case study in the Northwest Atlantic Authors: Kisei R. Tanaka, F.G. Taboada, C.A. Stock, J.L. Sarmiento Keywords: thermal-habitat model, species range expansion and contraction, marine ecological forecasting, multi-annual climate forecasts, Northeast US large marine ecosystem, spatiotemporal model Presentation type: Oral
11:11	CM Code: A:329 Title: Inter-annual variability in fish spatial distributions as revealed by survey data and their space-time modelling Authors: Pierre Petitgas, Didier Renard, Nicolas Desassis, Jean Baptiste Romagnan, Martin Huret, Mathieu Doray, Mathieu Woillez, Jacques Rivoirard Keywords: Space-time modelling, geostatistics, spawning habitats, Biscay Presentation type: Oral
11:23	CM Code: A:84 Title: Incorporating seascape connectivity graph-based metric into species distribution models for marine species Authors: Giorgia Cecino, John Morrongiello, Eric A. Trembl Keywords: habitat connectivity, predictive model, graph theory Presentation type: Oral
11:35	CM Code: A:585 Title: How major Baltic inflows (MBI) reduce the vertical overlap of predator (<i>Gadus morhua</i>) and prey (<i>Clupeidae</i>) in the Bornholm Basin (central Baltic Sea): a machine learning approach Authors: Robert Herrmann Keywords: machine learning, random forest, Baltic cod, clupeid fish, diel vertical migration, vertical distribution, predator-prey overlap Presentation type: Oral
11:47	CM Code: A:472 Title: Marine oil spill risk assessment in the Arctic: Combining species distribution models, oil spreading calculations and expert knowledge Authors: Inari Helle, Jussi Mäkinen, Maisa Nevalainen, Mawuli Afenyo, Jarno Vanhatalo Keywords: oil spills, uncertainty, arctic marine mammals, ecological risk assessment, species distribution modeling, Arctic, the Kara Sea Presentation type: Oral
11:59	CM Code: A:52 Title: Mapping benthic functional diversity on the Flemish Cap (northwest Atlantic) Authors: F. Javier Murillo, Benjamin Weigel, Marieve Bouchard Marmen, Ellen Kenchington Keywords: benthic invertebrates; environmental filtering; functional diversity; joint species distribution model; trait composition Presentation type: Oral
12:11	CM Code: A:241 Title: Climate induced habitat changes in commercial fishery stocks Authors: Brian Grieve, Richard Bell, Marta Ribera Keywords: fisheries, climate change, stock assessments, habitat, species distribution models Presentation type: Oral
12:23	CM Code: A:125 Title: Changes in higher trophic level productivity, diversity and niche space in a rapidly warming continental shelf ecosystem Authors: Kevin D. Friedland, Joseph A. Langan, Scott I. Large, Rebecca L. Selden, Jason S. Link, Reg A. Watson Keywords: species interactions, niche overlap, biodiversity, habitat, species distribution model Presentation type: Oral

Thursday 12 September 2019**13:00 Introduction to Theme Session A**

CM Code: A:308
Title: Seasonality in depth and habitat use of Western Baltic cod (*Gadus morhua*) revealed by fishers' ecological knowledge
Authors: Steffen Funk, Uwe Krumme, Axel Temming, Christian Möllmann
Keywords: Cod, spatio-temporal distribution, fishers' ecological knowledge, habitat modelling, Western Baltic Sea
Presentation type: Oral

CM Code: A:155
Title: Creating a species distribution model for swordfish: evaluations of the initial habitat variables
Authors: Michael Schirripa, Francesca Forrestal, C. Phillip Goodyear, F.J. Abascal, W.J. Buley, R. Coelho, A. Hanke
Keywords: swordfish, habitat, stock assessment, statistics, species distribution, data simulation, population modeling
Presentation type: Oral

CM Code: A:447
Title: Evaluating the pressure from bottom trawling to vulnerable marine ecosystems (VMEs) in the Nordic Seas
Authors: Julian M. Burgos, L. Buhl-Mortensen P. Buhl-Mortensen S.H. Ólafsdóttir P. Steingrund S.Á. Ragnarsson
Keywords: Vulnerable Marine Ecosystems, indicator species, species distribution models, bottom trawling, spatial risk assessment, uncertainty
Presentation type: Oral

CM Code: A:73
Title: How demersal fish might benefit from new marine protected areas in the North Sea
Authors: W. Nikolaus Probst, Vanessa Stelzenmüller, Henrike Rambo, Meadhbh Moriarty, Simon P.R. Greenstreet
Keywords: Core area; distribution; diversity; marine reserves; marine protected areas; Habitat Directive; Natura 2000
Presentation type: Oral

CM Code: A:232
Title: Fish habitat modelling to evaluate effects of eutrophication mitigation on recreational fisheries
Authors: Ulf Bergström, Tore Söderqvist, Lena Bergström, Göran Sundblad
Keywords: Essential fish habitats, species distribution modelling, scenario analysis, eutrophication, recreational fishing, *Perca fluviatilis*, *Sander lucioperca*, willingness to pay
Presentation type: Oral

CM Code: A:195
Title: How space-time use by fishermen can be optimized to reduce sperm whales depredation impact in the Patagonian toothfish longline fisheries
Authors: Suberg, Lavinia, Paul Tixier, Christophe Guinet, Nicolas Gasco, Clara Péron, Guy Duhamel, Vanessa Stelzenmüller, Maria Ching Villanueva
Keywords: habitat modelling, space-time use optimization, Marine mammal depredation, Southern Ocean
Presentation type: Oral

CM Code: A:467
Title: Using simulated catch data from blue marlin and swordfish habitat models to examine different methods of bycatch reduction
Authors: Francesca C. Forrestal, Michael J. Schirripa, C. Phillip Goodyear
Keywords: swordfish, blue marlin, bycatch, habitat modeling, catch per unit effort, data simulation, population modeling, circle hooks, time-area closure
Presentation type: Oral

CM Code: A:167
Title: Modeling fish distributions with predictors at multiple scales to inform sand dredging management
Authors: Bradley Pickens, J. Christopher Taylor, Mark Finkbeiner, Alexa Ramirez, Elizabeth Rogers, Lora Turner, Deena Hansen
Keywords: species distribution model, geomorphology, shoal, shark, demersal, juvenile, management
Presentation type: Oral

CM Code: A:83
Title: Statistical seafloor bioregions to inform marine spatial planning in the Indian Ocean.
Authors: Skipton Woolley, Scott Foster, Nicholas Bax, Donna Hayes, Piers Dunstan
Keywords: Statistical Bioregions, Multiple species models
Presentation type: Oral

CM Code: A:243
Title: Evaluating the impact of thermal habitat availability on recruitment dynamics: A case study with American lobster in the inshore Gulf of Maine
Authors: Mackenzie Mazur, Kisei Tanaka, Yong Chen
Keywords: recruitment, productivity, thermal habitat, climate change, stock-recruitment
Presentation type: Oral

15:05 End of session

Posters

CM Code: A:70
Title: Habitat association models and habitat growth models for juvenile fish of the inner Danish waters
Authors: Elliot John Brown, Alexandros Kokkalis Josianne G. Støttrup

Keywords: juvenile habitat, inner Danish waters, Baltic Sea, transitional waters, habitat suitability, growth modelling, habitat association modelling

Presentation type: Poster

CM Code: A:98

Title: MarPAMM: Developing benthic species distribution models for the INTERREG VA region

Authors: Dr Paul Mayo, Dr Lisa Kamphausen

Keywords: MPA, species, habitat, predictive models, regional, distribution

Presentation type: Poster

CM Code: A:152

Title: Incorporating thermal habitat to improve assessment and projections for temporal and spatial dynamics of American lobster (*Homarus americanus*) in a changing Gulf of Maine and southern New England

Authors: Cameron T. Hodgdon, Yong Chen

Keywords: *Homarus americanus*, lobster, Gulf of Maine, environmental drivers, stock assessment, projection model, bioclimate model

Presentation type: Poster

CM Code: A:305

Title: Impacts of climate change on North East Atlantic species distributions and community structure

Authors: Louise A. Rutterford, Martin J. Genner, Stephen D. Simpson, Simon Jennings

Keywords: fisheries, community, climate change, North East Atlantic, distribution

Presentation type: Poster

CM Code: A:396

Title: Evaluating habitat use of a deep-sea benthic fish species using towed camera footage from the south coast of South Africa

Authors: Laura Weston, Colin Attwood, Kerry Sink

Keywords: *Helicolenus dactylopterus*, cold-water corals, habitat association, South Africa, Agulhas ecoregion

Presentation type: Poster