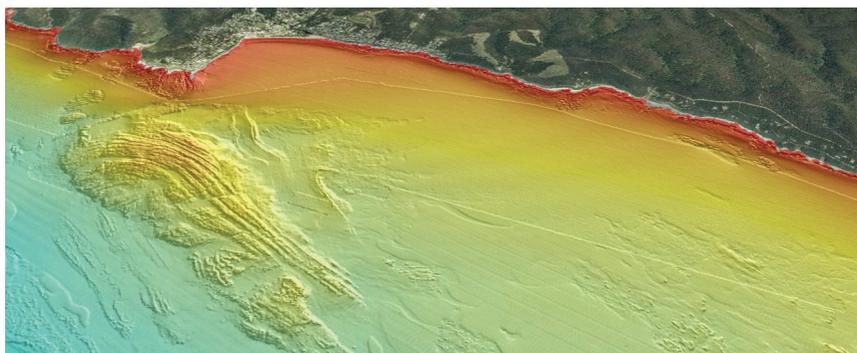


# GEOHAB 2014

LORNE, AUSTRALIA 5-9 MAY 2014



P R O G R A M



# General Information

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Registration will be open daily from 8:30-17:00 at the Cumberland Lorne Resort from the 5th May.

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Icebreaker Event Lorne Surf Club from 18:00 on the 5th May.

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The workshop and scientific sessions will be held in the Cumberland Lorne Resort in the Auditorium room located at 150 Mountjoy Parade, Lorne.

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Field Trip Departure 08:00 out front of Cumberland Lorne Resort 150 Mountjoy Parade, Lorne.

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## Ground-validation for marine habitat mapping and species distribution modelling

8:30-17:00 Conference registration opens

9:00-9:20 Welcome and workshop introduction – ALAN JORDAN

### SESSION 1: Issues with ground-validation and applications

9:20-9:50 *Marine habitat mapping: historical perspectives and present status*  
CRAIG BROWN

9:50-10:20 *Developments in sampling tools and techniques*  
OSCAR PIZARRO & STEFAN WILLIAMS

10:20-10:50 *Developments in marine image processing – standards, automated, data management*  
ARIELL FRIEDMAN

10:50-11:20 **Morning tea**

11:20-11:40 *Spatial patterns of epibenthic megafauna and implications for the design of biodiversity surveys based on MAREANO video data*  
GENOVEVA GONZALEZ-MIRELIS, PÅL BUHL-MORTENSEN, LENE BUHL-MORTENSEN, MARGARET DOLAN & BØRGE HOLTE

11:40-12:00 *Ignoring important assumptions in species distribution models: how is it likely to influence the predictions?*  
JACQUOMO MONK

12:00-12:30 *Session 1 discussion*  
CRAIG BROWN & ALAN JORDAN

12:30 13:30 **Lunch**

### SESSION 2: Ground-validation influence on species distribution modelling and habitat mapping approaches

13:30-13:40 *Session introduction*  
CORDELIA MOORE

13:40-14:00 *Sensitivity of fine-scale species distribution models to spatial errors in species occurrence data*  
PETER MITCHELL, JACQUOMO MONK & LAURIE LAURENSEN

14:00-14:20 *Methods for determining lagoonal macroalgae extent using WorldView-2*  
KATHY MURRAY, BEN T. RADFORD, MARTIAL R. DEPCZYNSKI, CHRISTOPHER FULTON, THOMAS WERNBERG & SHAUN K. WILSON

14:20-14:40 *Optimising habitat-based assessment of mesophotic reef environments using hydroacoustic data*  
BEN RADFORD, CORDELIA MOORE & ANDREW HEYWARD

14:40-15:00 *Statistical modeling approaches to determine the effect of spatial autocorrelation on predictions*  
MARY YOUNG

15:00-15:20 *Maximising outputs and minimising costs: multibeam versus single beam derived variables for predicting fish species distributions*  
CORDELIA MOORE, BEN RADFORD, MARY YOUNG, ANDREW HEYWARD & EUAN HARVEY

15:20-15:40 *Session 2 discussion*

15:40-16:10 **Afternoon tea**

16:10-16:50 *General discussion*

16:50-17:00 *Workshop synthesis and Close*

18:00-21:00 **Icebreaker Event- Aussie BBQ Lorne Surf Club**



## Conference opening

8:30-8:40	GeoHab2014 Welcome DANIEL IERODIACONOU (Deakin University)
8:40-8:45	Welcome to Country JOEY CHATFIELD (Kuuyang Maar Aboriginal Corporation)
8:45-9:00	Mapping Victoria's MPAs - management applications and outreach opportunities BILL JACKSON (Parks Victoria)
9:00-9:15	Seabed Mapping in Australia: A National Perspective SCOTT NICHOL (Geoscience Australia)
9:15-9:30	<i>Advocacy and Science – Either, Or, or Both, And The GeoHab Influence</i> H. GARY GREENE
<b>SESSION 1: Linking pattern and process in marine systems</b> <b>Sponsored by Geoscience Australia</b> CHAIR: DANIEL IERODIACONOU	
9:30-9:45	<i>Finding the hot-spots within a biodiversity hotspot: Fine-scale biological predictions within a submarine canyon</i> KATLEEN ROBERT (RON MCDOWELL STUDENT AWARDEE), DANIEL O.B. JONES, DAVID VAN ROOIJ & VEERLE A.I. HUVENNE
9:45-10:00	<i>Modelling 3-dimensional connectivity at the continental scale: examples from shelf and canyon systems on the northwest margin of Australia</i> JOHNATHAN T. KOOL & SCOTT NICHOL
10:00-10:15	<i>Multidisciplinary study of the upper reach of a shelf-indenting canyon (Gioia Canyon, Tyrrhenian Sea). Depositional processes and human activity</i> MARTINA PIERDOMENICO (RON MCDOWELL STUDENT AWARDEE), ELEONORA MARTORELLI, FEDERICO FALCINI, DANIELA PICA, GIANNETTA FUSCO, GIORGIO BUDILLON, PIERPAOLO FALCO & FRANCESCO L. CHIOCCI
10:15-10:30	<i>26 years later - revisiting the DISCOL area in the southeastern Pacific, off Peru, for a 'real' long-term environmental impact assessment</i> V. HÜHNERBACH, J. GREINERT, G. SCHRIEVER, M. HAECKEL, E. ALEVIZOS, K. KÖSER & THE RV SONNE/JPIO-CONSORTIUM
10:30-11:00	<b>Coffee Break</b> CHAIR: JAMES DANIELL
11:00-11:15	<i>A Regional analysis of the distribution and abundance of rippled scour depressions along the California coast</i> ALEXANDRA DAVIS (RON MCDOWELL STUDENT AWARDEE), RIKK KVITEK & CRAIG MUELLER
11:15-11:30	<i>Using an integrated sampling approach to understand benthic biotopes in an Antarctic coastal marine environment</i> JODIE SMITH, PHILIP E. O'BRIEN, JONATHAN S. STARK, GLENN J. JOHNSTONE, JUSTY SIWABESSY, IAIN PARNUM & MARTIN J. RIDDLE
11:30-11:45	<i>Wave-driven exposure as a surrogate for benthic habitat distribution</i> ALEX RATTRAY, DANIEL IERODIACONOU, JACQUOMO MONK, ROZAIMI CHE HASAN & TIM WOMERSLEY
11:45-12:00	<i>Linking patterns and processes on a tropical sediment-starved shelf: Insights from cluster analysis on physical and geochemical variables</i> LYNDA RADKE, JIN LI, GRANT DOUGLAS, RACHEL PRZESLAWSKI, SCOTT NICHOL, JUSTY SIWABESSY, JANICE TRAFFORD & TANYA WHITEWAY
12:00-12:15	<i>Marine Metapopulation Persistence: Connectivity Modelling Reveals Key Biological and Physical Drivers</i> ERIC A. TREML, JOHN R. FORD, KERRY P. BLACK & STEPHEN E. SWEARER
12:15-13:20	<b>Lunch</b>

## SESSION 2: Linking pattern and process in marine systems

Sponsored by Deakin University CHAIR: GUY COCHRANE

- 13:20-13:35 *Habitat mapping for establishing Coast to Coast Network of marine protected areas in the framework of COCONET Project: from coastal area to deep sea in the South Adriatic (Italy)*  
FEDERICA FOGLINI, LORENZO ANGELETTI, ELISABETTA CAMPIANI, SIMONEPIETRO CANESE, SIMONETTA FRASCHETTI, VALENTINA GRANDE, ELISA LEIDI, FABIO MARCHESE, ALESSANDRA MERCORELLA, MARIACRISTINA PRAMPOLINI, ALESSANDRA SAVINI, MARCO TAVIANI AND CHIARA TESSAROLO
- 13:35-13:50 *Using multibeam-derived variables to characterise regional patterns in tropical sponge assemblages in northern Australia*  
RACHEL PRZESLAWSKI, BELINDA ALVAREZ & SCOTT NICHOL
- 13:50-14:05 *Fish habitat relationships in the Santa Barbara Channel, California USA*  
JENNIFER E. CASELLE, MARY YOUNG, GUY COCHRANE, KATIE DAVIS & DONNA SCHROEDER
- 14:05-14:20 *Habitat distribution in sediment-starved and sediment-dominated coastal environments: examples from southern-eastern Tyrrhenian margin, Italy*  
CRESCENZO VIOLANTE & MARINELLA DE LAURO

## SESSION 3: Acoustic Backscatter processing, classification tools and applications

Sponsored by Kongsberg CHAIR: KIM PICARD

- 14:20-14:25 **Kongsberg Gold Sponsor Welcome**
- 14:25-14:40 *One year into the GeoHab Backscatter Working Group: What outcomes?*  
XAVIER LURTON & GEOFFROY LAMARCHE
- 14:40-14:55 *Multibeam water-column data: show me those plants!*  
ALEXANDRE C. G. SCHIMEL & DANIEL IERODIACONOU
- 14:55-15:30 **Coffee Break**
- 15:30-15:45 *GLCM or OBIA? Combining the best of both methods to map cold water coral stands in the Rockall area (NE Atlantic)*  
VEERLE A.I. HUVENNE, TIM P. LE BAS, KHAIRA ISMAIL & KATLEEN ROBERT
- 15:45-16:00 *Observed Variability in Seafloor Acoustic Backscatter During Repeat Surveys in Portsmouth Harbor, NH, USA*  
GLEN RICE, THOMAS C. WEBER, LARRY G. WARD, JOHN HEATON, CARLO LANZONI & ERIC BAJOR
- 16:00-16:15 *Multi-scale image segmentation of multibeam backscatter data for benthic monitoring*  
VANESSA LUCIEER, JUSTY W. SIWABESSY, ZHI HUANG & KEITH HAYES
- 16:15-16:30 *Benthic habitat mapping using backscatter angular response, mosaic and bathymetry from multibeam echosounder*  
ROZAIMI CHE HASAN, DANIEL IERODIACONOU, ALEXANDRE C.G. SCHIMEL & LAURIE LAURENSEN
- 16:30-16:45 *Capability of multibeam backscatter data to discriminate between temperate water habitats and substrates*  
SIRA TECCHIATO, IAIN PARNUM & LINDSAY COLLINS
- 16:45-17:00 *The automation of multibeam processing and interpretation for habitat mapping*  
TIM P. LE BAS, KHAIRA ISMAIL & VEERLE A.I. HUVENNE
- 17:00-18:00 **Poster Session**
- 18:00-19:30 **Backscatter Working Group Meeting**



## SESSION 1: Habitat mapping for conservation and management purposes

Sponsored by ESRI CHAIR: ANTHONY GREHAN & CRAIG BROWN

- 8:30-8:35** **ESRI Gold Sponsor Welcome**
- 8:35-8:50** *Seabed Environmental Baselines: Multiple Applications for Marine Zone Management*  
BRENDAN BROOKE & SCOTT NICHOL
- 8:50-9:05** *SeaSketch: Software as a Service for Marine Spatial Planning*  
WILL MCCLINTOCK
- 9:05-9:20** *Challenges for optimising and integrating systematic conservation planning*  
CORDELIA MOORE, BEN RADFORD, HUGH POSSINGHAM, ANDREW HEYWARD, MATTHEW WATTS, ROMOLA STEWART, STEPHEN NEWMAN, EUAN HARVEY, MIKE CAPPO, SHAUN WILSON, SARAH BIGNELL, JIM PRESCOTT, CLAY BRYCE, REBECCA FISHER, THOR SAUNDERS, RYAN LOWE, ALEXIS ESPINOSA, GREG OLIVER, LINDA ABDO, ROSS JONES, OLIVER BERRY, DAMIAN THOMSON & LUKE SMITH
- 9:20-9:35** *Linking habitat and biotic patterns improves spatial management in a marine park*  
HAMISH A. MALCOLM, ALAN JORDAN, ARTHUR L. SCHULZ, STEPHEN D.A. SMITH, PETER DAVIES, TIM INGLETON, EDWINA FOULSHAM, MICHELLE LINKLATER, RENATA FERRARI, NICOLE HILL & VANESSA LUCIEER
- 9:35-9:50** *Abiotic surrogates for temperate rocky reef biodiversity: implications for Marine Protected Areas*  
MATTHEW J. REES, ALAN JORDAN, OWEN F. PRICE, MELINDA A. COLEMAN & ANDREW R. DAVIS
- 9:50-10:05** *Assessment of protection of coral reef ecosystems in Brazil*  
ROBERT L. PRESSEY, MORENA MILLS & RAFAEL A. MAGRIS
- 10:05-10:20** *An assessment of proposed Marine Protected Areas in East Antarctica: A Geoscience perspective*  
ALIX POST, OLIVIA WILSON & PHIL O'BRIEN
- 10:20-10:35** *Utilization of multi-beam and video data to classify habitat structure inside and outside a marine reserve to quantify biological response to protection*  
ALIX LAFERRIERE, GEOFFROY LAMARCHE & JONATHAN GARDNER
- 10:35-11:05** **Coffee Break**
- 11:05-11:20** *Habitat Mapping for Monitoring Seismicity at a Nuclear Power Plant*  
H. GARY GREENE, STEWART NISHENKO & MARCIA MCLAREN
- 11:20-11:35** *Why do the marine hydrocarbon and mining sector need habitat mapping?*  
GEOFFROY LAMARCHE
- 11:35-11:50** *Opportunistic discovery of gas seep features by industry survey: challenges in multidisciplinary identification, and applications for marine spatial planning*  
TAMSYN NOBLE, PAUL COLLINS, ANDREW GRIFFITH, YESSICA GRIFFITHS, GERAINT HARRIS-BRYANT & SARAH O'FLYNN
- 11:50-12:05** *Kermadec Arc seamount communities and the benthic environment: implications for SMS mining*  
RACHEL E. BOSCHEN (RON MCDOWELL STUDENT AWARD), ASHLEY A. ROWDEN, SOPHIE J. BARTON, ARNE PALLENTIN, MALCOLM R. CLARK & JONATHAN P. A. GARDNER
- 12:05-13:10** **Lunch CHAIR: SCOTT NICHOL**
- 13:10-13:25** *MAREANO - past, present and future*  
LILJA R. BJARNADÓTTIR, TERJE THORSNES, HANNE HODNESDAL, BØRGE HOLTE, MARGARET DOLAN, VALÉRIE BELLEC, SIGRID ELVENES, HENNING JENSEN, LEIF RISE, LIV PLASSEN, NICOLE BAETEN, REIDULV BØE & AAVE LEPLAND

- 13:25-13:40** *The map of marine landscapes of the Cilento, Vallo di Diano and Alburni Geopark*  
SILVANA D'ANGELO, FLORIANA DI STEFANO, ANDREA FIORENTINO, MARIA TERESA LETTIERI,  
GIOVANNI FULVIO RUSSO & CRESCENZO VIOLANTE
- 13:40-13:55** *Challenges in sediment interpretation without multibeam backscatter data - experiences from the MAREANO programme, Norway*  
VALÉRIE K. BELLEC, REIDLUV BØE, LEIF RISE, LILJA RÚN BJARNADÓTTIR, MARGARET DOLAN,  
TERJE THORSNES & SIGRID ELVENES
- 13:55-14:10** *Use of Wave Glider monitoring for assessing changes in habitat integrity*  
VERA VAN LANCKER, MATTHIAS BAEYE, DIMITRIS EVANGELINOS, DRIES VAN DEN EYNDE,  
ILSE DE MESEL & FRANCIS KERCKHOF
- 14:10-14:25** *Home is Where the Habitat is: Using Habitat Suitability to Inform Fish Survival*  
S. KALEI SHOTWELL, JODI L. PIRTLE, MARK ZIMMERMANN, JANE A. REID & NADINE GOLDEN
- 14:25-14:40** *A multidisciplinary approach to shallow benthic fisheries management integrating bathymetric LiDAR*  
M. ALI JALALI, DANIEL IERODIACONOU, ADAM MILLER, JACQUOMO MONK & ALEX RATTRAY
- 14:40-15:10** **Coffee Break**

## SESSION 2: Open shelf and reef habitats

Sponsored by AIMS CHAIR: MARGARET DOLAN

- 15:10-15:15** **AIMS Sponsor Welcome**
- 15:15-15:30** *Predicting reef fish species richness and abundance for Ningaloo Reef, Western Australia*  
ANA M. M. SEQUEIRA, CAMILLE MELLIN, HECTOR LOZANO-MONTES, MATTHEW VANDERKLIFT,  
RUSS BABCOCK, JESSICA MEEUWIG & M. JULIAN CALEY
- 15:30-15:45** *ROV transect reveals the mesopelagic Osprey Reef, Coral Sea, Australia*  
ROBIN J. BEAMAN, CASTEN LÜTER, JOACHIM REITNER & GERT WÖRHEIDE
- 15:45-16:00** *Mesophotic coral ecosystem geoaoustically derived diversity estimation*  
ALEXANDER FORREST, ART TREMBANIS, BRIAN KELLER & MARK PATTERSON
- 16:00-16:15** *Spatio-temporal Patterns and Controls on Cold Water Coral Reef development: The Moira Mounds, Porcupine Seabight, Offshore Ireland*  
AARON LIM, ANDY WHEELER, AGOSTINA VERTINO, BORIS DORSCHER, AURELIEN ARNAUBEC  
AND SILVIA SPEZZAFERRI
- 16:15-16:30** *Acoustic seafloor mapping and geomorphological characterization of Coralligenous habitat in the northern Ionian and southern Adriatic Seas (western Mediterranean)*  
ALESSANDRA SAVINI, VALENTINA ALICE BRACCHI, DANIELA BASSO, FABIO MARCHESE,  
SERENA PALAMARA, LORENZO ANGELETTI, ELISABETTA CAMPANI, GIOVANNI CHIMIENTI,  
FEDERICA FOGLINI, SIMONETTA FRASCHETTI, FRANCESCO MASTROTOTARO, MARCO  
TAVIANI, FABIO TRINCARDI, ANGELO TURSI & CESARE CORSELLI
- 16:30-16:45** *Spatial and temporal persistence of giant kelp (*Macrocystis pyrifera*) along the Central Coast of California, USA*  
MARY A. YOUNG, KYLE CAVANAUGH, LI ERIKSON & CURT STORLAZZI
- 16:45-17:00** *How useful are abiotic surrogates for mesophotic reef biodiversity?*  
TIM STEVENS, SARAH RICHMOND & RYAN PEARSON
- 17:00-18:00** **Poster Session**
- 18:00-LATE** **Conference Dinner**



## SESSION 1: Methods, innovations and approaches to mapping marine habitats

Sponsored by QPS CHAIR: DAVID KENNEDY

- 8:30-8:45** *Benthic Terrain Modeler: Interpreting the Bathymetric Environment*  
SHAUN WALBRIDGE, DAWN J. WRIGHT, MATT PENDLETON, JENNIFER BOULWARE, BOB GERLT & DAVE ESSLINGER
- 8:45-9:00** *Measuring uncertainty in multibeam bathymetry data: An analysis of spatial randomness*  
ZHI HUANG, P. JUSTY W. SIWABESSY & VANESSA LUCIEER
- 9:00-9:15** *Mapping habitats with satellites: state of the technology and worldwide examples*  
MAGNUS WETTLE, KNUT HARTMANN, MARCUS BINDEL, ANDREAS MULLER & THOMAS HEEGE
- 9:15-9:30** *Modelling the past, present, and future distribution of macrofauna species in the Jade Bay (North Sea, Germany)*  
ANJA SINGER, ULRIKE SCHÜCKEL, MELANIE BECK, HEIKO WESTPHAL, ANDREAS WURPTS & INGRID KRÖNCKE
- 9:30-9:45** *Innovative monitoring tools to define Good Environmental Status of Coralligenous habitats*  
PAULA A. ZAPATA-RAMIREZ (RON MCDOWELL STUDENT AWARDEE), CARLA HUETE-STAUFFER, DAVID SCARADOZZI, MICHELE MARCONI & CARLO CERRANO
- 9:45-10:00** *Autonomous, large-scale urchin barren mapping with interferometric sonar*  
ROWAN FROST, CAITLIN HOEY, MICHAEL BELL, ALEXANDER FORREST & VANESSA LUCIEER
- 10:00-11:05** **Poster Session and Coffee Break**

## SESSION 2: Methods, innovations and approaches to mapping marine habitats

Sponsored by R2Sonic CHAIR: VANESSA LUCIEER

- 11:05-11:20** *Predictive Ensemble Maps for cold-water coral distributions in the Cap de Creus Canyon (NW Mediterranean). Advantages and limitations*  
CLAUDIO LO IACONO, KATLEEN ROBERT, RITA GONZALEZ-VILLANUEVA, ANDREA GORI, COVADONGA OREJAS & JOSEP MARIA GILI
- 11:20-11:35** *Are classifier ensembles improving prediction accuracy?*  
MARKUS DIESING & DAVID STEPHENS
- 11:35-11:50** *Application of Novel Hybrid Spatial Modelling Methods to Spatial Prediction of Seabed Sediments*  
JIN LI
- 11:50-12:05** *Use of seafloor stereo-images to validate automatic classification of benthic habitats*  
MASSIMO DI STEFANO (RON MCDOWELL STUDENT AWARDEE) & LARRY MAYER
- 12:05-12:20** *Automated estimation of benthic coverage - a superpixel based approach*  
ARIELL FRIEDMAN, STEFAN WILLIAMS & OSCAR PIZARRO
- 12:20-12:35** *Arctic Nearshore Sediment Dynamics from High-Resolution Phase Measuring Bathymetric Sonar Data: bathymetry, backscatter imagery, and seabed classification*  
B. RADOSAVLJEVIC, F.J. GUTIÉRREZ, H. LANTUIT & M. GUTOWSKI.

- 12:35-12:50** *On the Cusp of Big Data Mapping: A Critical Stage for Systematic Image Scoring and Automated Classification*  
MATT EDMUNDS
- 12:50-13:50** **Lunch**
- SESSION 3: Methods, innovations and approaches to mapping marine habitats**  
**Sponsored by Teledyne RESON** CHAIR: GEOFFROY LAMARCHE
- 13:50-14:05** *Automated classification and OBIA of sidescan sonar imagery and multibeam bathymetry to map submarine canyons*  
KHAIRA ISMAIL, VEERLE A.I. HUVENNE, TIM P. LE BAS & KATLEEN ROBERT
- 14:05-14:20** *Quantifying the Discriminatory Power of Benthic Habitat Mapping Technologies*  
SIMON COLLINGS, NORM CAMPBELL, GORDON KEITH, DREW DEVEREUX & BOO DAVIE
- 14:20-14:35** *New Techniques for Fine-scale Mapping of Intertidal Environments using Kite Aerial Photography*  
MITCH BRYSON, RICHARD MURPHY & MATTHEW JOHNSON-ROBERSON
- 14:35-14:50** *Modelling fine-scale HELCOM HUB underwater biotopes in a shallow Baltic Sea archipelago*  
MATTI SAHLA & ANNICA LÅNGNABBA
- 14:50-15:05** *A Biologically Driven Habitat Map for the Southern North Sea - Where to Draw the Lines?*  
ANNA-LEENA DOWNIE, ALEX CALLAWAY, PAUL MCILWAINE & KOEN VANSTAEN
- 15:05-15:20** *From the rocky subtidal to the deep sea: Distinguishing habitats using variability in fine-scale benthic features*  
MYRIAM LACHARITÉ, ANNA METAXAS, PETER LAWTON & ROBERT E. SCHEIBLING
- 15:20-15:35** *Calculating the Tidal Prism Using Combined Robotic and Remote Sensed Methods*  
SIMON ALLEN, SIMON COLLINGS, HANNALIE BOTHA & BOO DAVIE
- 15:35-15:50** *Integrated approach for Habitat Mapping in Wadden Sea and North Sea (Lower Saxony, Germany)*  
FRANCESCO MASCIOLI, FRANCISCO J. GUTIÉRREZ, HOLGER DIRKS, MARTIN GUTOWSKI & ANDREAS WURPTS
- 15:50-16:30** **Coffee Break**
- 16:30-18:00** **GeoHab Annual General Meeting**



# Friday 9th May | Field Trip Explore the Otway Coast

**ITINERARY:** LORNE-APOLLO BAY-CAPE OTWAY-12 APOSTLES-LORNE

**DEPARTURE:** 08:00 out front of Cumberland Lorne Resort 150 Mountjoy Parade, Lorne

**DURATION:** 08:00-19:00 return to Lorne

The field trip will explore the Otway Coast via the Great Ocean Road, one of the world's most scenic coastal drives. Our journey will take us via sandy beaches, ancient rainforests, rocky platforms and heathlands fringed by a rugged coast

**8:00-9:30 Lorne - Apollo Bay**

Venture to the seaside town of Apollo bay, at the foothills of the Otway Ranges, and explore the geology, ecology and history of the region. This will include a visit to the Marengo Marine Sanctuary where we will highlight the regions unique marine flora and fauna. We will visit an example of the regions rocky shore platforms and discuss micro erosion work and implications for rocky coast evolution.

**9:30-13:00 Apollo Bay - Cape Otway**

Visit Cape Otway where the Southern Ocean meets with Bass Strait. These often hostile seas supports prized Southern Rock lobster and Abalone fisheries and have claimed more shipwrecks than any other stretch of Australian Coast. We will visit the Cape Otway Lightstation, which is the oldest, surviving lighthouse in mainland Australia. On the way, we will venture through manna gum forests where we will cross paths with some of Australia's iconic native fauna including koalas, kangaroos and wallabies.

**13:00-17:00 Cape Otway - 12 Apostles**

The Twelve Apostles are an iconic collection of limestone stacks towering up to 45m high above the Southern Ocean within a Marine National Park. We will discuss with Parks Victoria the role of habitat mapping and importance for understanding and communicating natural values within Marine National Parks and Sanctuaries. Palaeo connectivity across a now shallow sea (Bass Strait) will be discussed including mapping initiatives showing connectivity onto the shelf and drowned shorelines and river channels now submerged.

**17:00-19:00 12 Apostles - Lorne**

We will take the inland route back to Lorne through dense rainforests onto plains with evidence of a rich volcanic history with scattered remnant cones and craters that have shaped the region.

- 1 TEREZA ARAÚJO, DANIELE MALLMANN & KATIA C. NUNES  
Environmental sensitivity index to oil spills for submerged habitats: an application to the marine area of the state of Pernambuco, northeast Brazil

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- 2 TEREZA ARAÚJO, ANTONIO V. FERREIRA JR. & MIRELLA B.S.F. COSTA  
Geohabitat mapping in the inner continental shelf of Recife, Pernambuco, Brazil

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- 3 NICOLE J. BAETEN, MARGARET F.J. DOLAN, LIV PLASSEN, PÅL BUHL-MORTENSEN, LILJA R. BJARNADÓTTIR, LEIF RISE & VALÉRIE K. BELLEC  
Living in a landslide

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- 4 SOPHIE BARTON, RICHARD WYSOCZANSKI, GEOFFROY LAMARCHE & ARNE PALLENTIN  
Predictive substrate mapping in the active volcanic environment of the Kermadec arc

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- 5 ANGÉLICA BATISTA-MORALES, HAROLD MAURICIO BEJARANO & KATHERINE BERNAL-SOTELO  
Change of benthic marine communities cover during a small time scale at Old Providence Island, Colombian Caribbean.

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- 6 VALÉRIE BELLEC, TERJE THORSNES, REIDULV BØE & LILJA RÚN BJARNADÓTTIR  
Mapping of bioclastic sediments at cold-water coral reef areas

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- 7 ANDREW N. BICKERS  
Use of Observation Class ROVs to Perform Shallow Water Marine Monitoring

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- 8 J. BEAUDOIN, T. REIS & M. DOUCET  
Recent Improvements to Seafloor Imagery Acquisition and Processing Procedures for R2Sonic Multibeam Echosounders

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- 9 GUY R. COCHRANE, MEGAN N. DETHIER & TIMOTHY O. HODSON  
CMECS Biotope Maps for the Southern Salish Sea

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- 10 JAMES J. DANIELL, JUSTY SIWABESSY & SCOTT NICHOL  
Seabed characterisation using multibeam sonar angular response curves and a two-stage unsupervised classification technique

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- 11 ANDREW DAVIE  
Autonomous Habit Classification using Robots

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- 12 MARGARET F.J. DOLAN, PÅL BUHL-MORTENSEN, SIGRID ELVENES, VALÉRIE K. BELLEC, JOFRID SKARÐHAMAR, THIJS VAN SON, GENOVEVA GONZALEZ-MIRELIS & LILJA R. BJARNADÓTTIR  
Towards a seamless national offshore biotope map - progress and challenges in biotope modelling from the MAREANO programme, Norway

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- 13 JENNIFER M. DURDEN, BRIAN J. BETT, & HENRY RUHL  
Spatial heterogeneity in the activity of abyssal megafauna

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