

# David M. Kaplan

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## AREAS OF SPECIALIZATION

Marine protected areas (MPAs); Marine spatial planning (MSP); Population dynamics of marine species; Meta-population modeling; Larval dispersal and connectivity; Marine conservation; Fisheries management; Tuna fisheries; Coastal oceanography; Species distribution modeling; Dynamics of upwelling systems

## EDUCATION

- 2013**      **Habilité de diriger recherche (HDR), U. Montpellier II, France**
- 1993-1997**   **Doctor of Philosophy (PhD)**, Department of Physics, Univ. of California at Santa Barbara. Dissertation: Some new developments in the study of black holes and solitons in string theory. Adviser: Prof. A. Strominger.
- 1993-1996**   **Master of Arts**, Department of Physics, University of California at Santa Barbara. Adviser: Prof. A. Strominger.
- 1989-1993**   **Honors Bachelor of Sciences (*Magna Cum Laude*)** in Math/Physics, Brown University, Providence, RI. Sr. thesis adviser: Prof. R. Brandenberger.
- 1989**        **High School**, Northern Highlands Regional, Allendale, NJ (with honors).

## RESEARCH APPOINTMENTS

- 2020-**        **Directeur de Recherche 2**, IRD, UMR MARBEC, Sète, France
- 2017-2020**   **Chargé de Recherche**, IRD, UMR MARBEC, Sète, France
- 2017**        **Associate Professor**, Virginia Institute of Marine Science (VIMS), College of William & Mary, Virginia, USA
- 2014-2017**   **Assistant Professor**, Virginia Institute of Marine Science (VIMS), College of William & Mary, Virginia, USA
- 2007-2014**   **Chargé de Recherche, 1<sup>ère</sup> Classe**, IRD, Sète, France
- 2006-2007**   **Assistant Researcher**, Univ. California, Santa Cruz, USA
- 2001-2006**   **Postdoctoral Researcher**, Univ. California, Davis, USA
- 1998-2001**   **Postdoctoral Researcher**, P. Univ. Católica de Chile
- 1993-1997**   **Graduate Student**, Univ. California, Santa Barbara, USA

## RECENT TEACHING EXPERIENCE

- Jun., 2023**    **R-GIS**, Centro Universitario Regional del Este, Universidad de la República, Rocha, Uruguay (6 hours; 20 participants)
- Feb., 2023**    **R-GIS**, Online for COST Action SEA-UNICORN & in person at UMR MARBEC, Sète, France (4 hours; 85 total participants)

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- Summer 2022 R-Intro/R-GIS**, Nelson Mandela U., Gqeberha, South Africa (8 hours; 20 participants)
- Summer 2022 R-Intro/R-GIS**, Rhodes U., Makhanda, South Africa (8 hours; 20 participants)
- Feb., 2022 R-GIS**, UMR MARBEC, Sète, France (4 hours)
- Spring 2021 Rmarkdown**, Montpellier Bio-Stats, U. Montpellier, France (3 hours)
- Fall 2020 Rmarkdown/R-GIS**, Montpellier Bio-Stat, U. Montpellier, France (6 hours)
- Spring 2020 Short course on R scripting, RStudio, RMarkdown, and GIS in R**, MARBEC, Sète, France (15 hours)
- Summer 2019 Short course on R, RStudio, RMarkdown, and GIS in R**, Nelson Mandela University, Port Elizabeth, South Africa (18 hours)
- Spring 2018 Spatialized Structured Databases for Marine, Ecological & Fisheries Sciences**, MARBEC, Sète, France (25 hours)
- Spring 2016, 2017 Statistical Methods & Data Analysis**, VIMS, USA (50 hours)
- Summer 2015 Structured Databases for Marine Science**, VIMS, USA (25 hours)
- Fall 2014, 2016 GIS in Marine Science**, VIMS, USA (co-taught with Christine N. Meynard, VIMS; 50 hours)
- 2012 Introduction to numerical ecology**, U. San Marcos, Lima, Peru / Rhodes U., Grahamstown, South Africa / CEAZA, Coquimbo, Chile (30 hours)  
One-week course on numerical methods in ecology, population modeling, and scientific programming repeated in 3 different locations.
- 06/2012 UCT Winter Course “Modeling the marine ecosystem from the ocean to the fish”**, UCT, South Africa (9 hours)  
Lectures on marine ecosystem modeling and MPAs.
- 03/2011 Education au développement durable, IUFM, Univ. Montpellier II** (3 hours)  
Lectures on marine biodiversity and conservation for continuing education high-school teachers.
- 2008-2014 AERME, UMR 212 EME / Univ. Montpellier II, Sète, France** (6 hours)  
Participation in a Masters 2 module on the Ecosystem Approach to Fisheries (EAF).
- 2001 & 2006 Matlab mini-course, Univ. California, Davis, USA**  
Series of lectures on basic programming in Matlab for ecologists.

### GRADUATE STUDENTS

- 2024- Clara Lerebourg**, PhD (Co-director): Modélisation multi-espèces des prises accessoires et planification spatiale marine, pour les pêcheries de thon tropicales de l'Union européenne dans l'océan Atlantique
- 2024- Esther Mollier**, PhD (Co-director): Impacts des DCP dérivants sur l'environnement pour la pêche à la senne aux thons tropicaux dans l'océan Atlantique
- 2023- Nonhle Mlotshwa**, PhD (Co-director): Combining ecophysiology and species distribution models for predicting the response of an important coastal fishery

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- species *Pachymetopon grande* to climate change
- 2021-** **Luis Wencheng Lau Medrano**, PhD (Co-director): Artificial intelligence for a better understanding of stock size and fishery dynamics in the Indian Ocean purse seine tropical tuna fishery
- 2021-2022** **Agathe Dumont**, Master 1 & Master 2 (Co-director): Modeling the capture of bycatch species in tropical tuna purse seine fisheries
- 2021-2022** **Cuen Muller**, Postdoc (Co-director): Coastal connectivity of an abundant inshore fish species: model-data comparison along the southern coast of South Africa
- 2020-2021** **Isla MacMillan**, Masters of Science, University of Plymouth (Co-director): Spatio-temporal variability in drifting Fish Aggregating Device (dFAD) beaching events in the Seychelles Archipelago
- 2020** **Hugo Denis**, Masters 1 (Co-director): Understanding larval dispersal of marine resources in the coastal region of South Africa using numerical ocean models
- 2018-2021** **Taha Imzilen**, PhD (Co-director): Modeling and analysis of the drift trajectories of fish aggregating devices (FADs) and estimation of their potential impacts in the Indian and Atlantic Oceans
- 2019** **Camille Deslias**, Masters 2 (Co-director): Improving abundance estimation of tropical tunas for the management and conservation of pelagic ecosystems by integrating tuna absences into purse seine CPUE standardization models
- 2018** **Athénaïs Groizard**. Masters 1 (Director): Analyse de la microchimie d'otolithe de deux espèces de merlus : *Merluccius capensis* et *Merluccius paradoxus*, pour la recherche d'indices de migration le long de la côte sud-africaine
- 2015** **Keiko Nomura**. Research Experience for Undergraduates (REU, Co-director): Comparing Conservation Use of Marine Protected Areas (MPAs) and Territorial Use Rights in Fisheries (TURFs) in Japan
- 2015-2016** **Julia Snouck-Hurgronje**. Masters of Marine Science (Director): The Effects of Drifting Fish Aggregating Devices (dFADs) on Bycatch in the Tropical Tuna Purse Seine Fisheries in the Atlantic and Indian Oceans.
- 2014-2017** **Bianco Santos**. Masters of Marine Science (Director): Oceanographic modeling of sea turtle carcass drift patterns to predict locations of at-sea mortality.
- 2013-2019** **Jennifer Beckensteiner**. Masters 2 (Director): Conservation and potential for spatial management of marine fish assemblages in southern Angola. PhD (Co-director): Efficacy and Unintended Outcomes of Spatial Property Rights for Fisheries and Aquaculture Management in Chile and in Virginia, U.S.A.
- 2012-2016** **Alexandra Maufroy**. Masters 2 & PhD (Director): Drifting Fish Aggregating Devices of the Atlantic and Indian Oceans: modalities of use, fishing efficiency and potential management.
- 2011-2014** **Marion Cuif**. Masters 2 & PhD (Co-director): Empirical and modeling estimates of connectivity in damselfish (*Dascyllus aruanus*) of New Caledonia.
- 2011** **Sophie Marinesque**. Masters 2 (Director): Global implementation of marine protected areas: Is the developing world being left behind?
- 2010** **Misael Morales**. Masters 2 (Director): The effect of Somali piracy on tropical tuna

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fisheries of the Indian Ocean.

**2010-2013 Lysel Garavelli.** Masters 2 (Co-director): Modeling dispersal of Cape hake ichthyoplankton. PhD (Thesis committee): Dispersal and population dynamics of loco (*Concholepas concholepas*) in north-central Chile.

**2009-2012 Arnaud Gruss.** PhD (Director): Evaluation of marine protected areas as a management tool for highly-mobile exploited marine species.

**PhD Thesis Committees (9):** Juan Faundez (P. Universidad Católica de Chile); Romain Chaput (RSMAS, U. Miami, USA); Nadya R. Mamoozadeh (VIMS, USA); Lisa Ailloud (VIMS, USA); Lysel Garavelli (IRD, France); Jeanne Fortilus (IRD, France); Julio Palleiro (CICESE, Ensenada, Mexico); Sandra Ougier (Institut Agro, France); Marine di Stefano (Aix-Marseille University)

### RECENT FUNDING SOURCES

- 2024- South African Master in Ocean Sciences (SAMOS), 799,998€ (IRD budget 48,611€), EU Erasmus+ CBHE, **Responsible for IRD partner**
- 2024- Reducing Bycatch of Threatened Megafauna in the East Central Atlantic (REDUCE), 8,156,593€ (IRD budget 702,316€), EU HORIZON-CL6-2023-BIODIV-01-5, **Responsible for IRD partner**
- 2019-2023 Managing FADs (ManFAD), France Filière Pêche
- 2018-2020 Catch, Effort, and eCOsystem impacts of FAD-fishing 2 (CECOFAD2), DG MARE, EU
- 2016-2017 Building the statistical and experimental framework for parentage-based abundance estimation of Western Atlantic bluefin tuna, \$62,408, NMFS Bluefin Tuna Research Program, **Project director**
- 2016-2018 Incorporating climate into distribution and abundance indices for stock assessment: looking into the past and planning for the future, \$168,863, NMFS Fisheries And The Environment (FATE) call
- 2016-2018 Spatio-temporal trends in private oyster lease use in the lower Chesapeake Bay, \$80,000, Virginia Sea Grant Graduate Student Fellowship awarded to Jennifer Beckensteiner
- 2016-2017 Sea turtle nesting site selection and egg survival in the anthropogenized and climate-impacted environment of southern Virginia, \$30,000, Dominion Foundation, **Project director**
- 2016-2017 Identifying locations of and mechanisms for sea turtle mortality from stranding data using ocean drift models, \$5,000, Virginia Sea Grant project initiation award with student Bianca Santos
- 2014-2015 Catch, Effort, and eCOsystem impacts of FAD-fishing (CECOFAD), 300k€, DG MARE, EU
- 2012-2015 Tropical tuna fisheries and the use of Fish Aggregating Devices (FADs), 100k€, France Filière Pêche, France
- 2012-2014 Prioritizing EcoLogically significant And Globally Important areas for marine

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- mammal Conservation (PELAGIC), 200k€, CESAB/FRB & Fondation Total, France, **Project director**
- 2011-2015 Management of Ocean Resources under Shifting Expectations: Bringing the historical perspective into marine mammal conservation (MORSE), 394k€, ANR, France
- 2011-2012 Spatial management of pelagic ecosystems with marine protected areas: Visions for the future, 20k€, EUR-OCEANS, France, **Project director**
- 2011-2013 Modélisation de la dynamique de populations de “loco” (*Concholepas concholepas*) au Chili (MOLOCO), 20k€, ECOS-Sud, France-Chile
- 2010-2014 Connectivity of Marine Populations: Application to the South Lagoon of New Caledonia (COMPO; <http://www.compo.ird.fr/>), 200k€, ANR, France
- 2009-2013 Marine protected areas for highly mobile species (AMPED; <http://www.amped.ird.fr/>), 1,000k€, ANR, France, **Project director**
- 2006-2007 California Ocean Decision System for the Marine Life Protection Act, Resource Legacy Funding Foundation, USA
- 2006-2007 Coastal Ocean Currents Monitoring Program (COCMP), Coastal Conservancy, USA

## PUBLICATIONS

Google scholar citation indices: 4500 citations, h-index=38, i10-index=68

### Peer-reviewed Journal Publications (82):

- Dumont A, Duparc A, Sabarros PS, Kaplan DM (2024) Modeling bycatch abundance in tropical tuna purse seine fisheries on floating objects using the  $\Delta$  method. *ICES Journal of Marine Science* **81**:887–908. doi:[10.1093/icesjms/fsae043](https://doi.org/10.1093/icesjms/fsae043)
- Lett C, Malauene BS, Hoareau TB, Kaplan DM, Porri F (2024) Corridors and barriers to marine connectivity around southern Africa. *Mar Ecol Prog Ser* **731**:105–127. doi:[10.3354/meps14312](https://doi.org/10.3354/meps14312)
- Dupaix A, Ménard F, Filmalter JD, Baidai Y, Bodin N, Capello M, Chassot E, Demarcq H, Deneubourg J-L, Fonteneau A, Forget F, Forrestal F, Gaertner D, Hall M, Holland KN, Itano D, Kaplan DM, Lopez J, Marsac F, Maufroy A, Moreno G, Muir JA, Murua H, Roa-Pascuali L, Pérez G, Restrepo V, Robert M, Schaefer KM, Sempo G, Soria M, Dagorn L (2024) The challenge of assessing the effects of drifting fish aggregating devices on the behaviour and biology of tropical tuna. *Fish and Fisheries*. doi:[10.1111/faf.12813](https://doi.org/10.1111/faf.12813)
- Meynard CN, Piou C, Kaplan DM (2023) A theoretical framework for upscaling species distribution models. *Methods in Ecology and Evolution* **14**:2888–2899. doi:[10.1111/2041-210X.14207](https://doi.org/10.1111/2041-210X.14207)
- Pons M, Kaplan DM, Moreno G, Escalle L, Abascal F, Hall M, Restrepo V, Hilborn R (2023) Benefits, concerns, and solutions of fishing for tunas with drifting fish aggregation devices. *Fish and Fisheries* **24**:979–1002. doi:[10.1111/faf.12780](https://doi.org/10.1111/faf.12780)
- Imzilen T, Kaplan DM, Barrier N, Lett C (2023) Simulations of drifting fish aggregating device (dFAD) trajectories in the Atlantic and Indian Oceans. *Fisheries Research* **264**:106711. doi:[10.1016/j.fishres.2023.106711](https://doi.org/10.1016/j.fishres.2023.106711)
- Kaplan DM (2023) knitrdata: A Tool for Creating Standalone Rmarkdown Source Documents.

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- The R Journal* **14**:6–17. doi:[10.32614/RJ-2023-001](https://doi.org/10.32614/RJ-2023-001)
- Muller C, Lett C, Porri F, Patrick P, Bailey D, Denis H, Barrier N, Potts W, [Kaplan DM](#) (2023) Coastal connectivity of an abundant inshore fish species: model-data comparison along the southern coast of South Africa. *Mar Ecol Prog Ser MFC:MFCav4*. doi:[10.3354/meps14272](https://doi.org/10.3354/meps14272)
- Vogt-Vincent NS, Burt AJ, [Kaplan DM](#), Mitarai S, Turnbull LA, Johnson HL (2023) Sources of marine debris for Seychelles and other remote islands in the western Indian Ocean. *Marine Pollution Bulletin* **187**:114497. doi:[10.1016/j.marpolbul.2022.114497](https://doi.org/10.1016/j.marpolbul.2022.114497)
- Sougueh MA, Labonne M, Daher A, Ali A, [Kaplan DM](#) (2023) Spatiotemporal structure of narrow-barred Spanish mackerel (*Scomberomorus commerson*) from the Red Sea and western Indian Ocean based on otolith micro-chemistry. *Aquat Living Resour* **36**:20. doi:[10.1051/alr/2023015](https://doi.org/10.1051/alr/2023015)
- Imzilen T, Lett C, Chassot E, Maufroy A, Goujon M, [Kaplan DM](#) (2022) Recovery at sea of abandoned, lost or discarded drifting fish aggregating devices. *Nat Sustain* **5**:593–602. doi:[10.1038/s41893-022-00883-y](https://doi.org/10.1038/s41893-022-00883-y)
- MacMillan I, Attrill MJ, Imzilen T, Lett C, Walmsley S, Chu C, [Kaplan DM](#) (2022) Spatio-temporal variability in drifting Fish Aggregating Device (dFAD) beaching events in the Seychelles Archipelago. *ICES Journal of Marine Science* **79**:1687–1700. doi:[10.1093/icesjms/fsac091](https://doi.org/10.1093/icesjms/fsac091)
- Pons M, Watson JT, Ovando D, Andraka S, Brodie S, Domingo A, Fitchett M, Forselledo R, Hall M, Hazen EL, Jannot JE, Herrera M, Jiménez S, [Kaplan DM](#), Kerwath S, Lopez J, McVeigh J, Pacheco L, Rendon L, Richerson K, Sant'Ana R, Sharma R, Smith JA, Somers K, Hilborn R (2022) Trade-offs between bycatch and target catches in static versus dynamic fishery closures. *PNAS* **119**:e2114508119. doi:[10.1073/pnas.2114508119](https://doi.org/10.1073/pnas.2114508119)
- Imzilen T, Lett C, Chassot E, [Kaplan DM](#) (2021) Spatial management can significantly reduce dFAD beachings in Indian and Atlantic Ocean tropical tuna purse seine fisheries. *Biological Conservation* **254**:108939. doi:[10.1016/j.biocon.2020.108939](https://doi.org/10.1016/j.biocon.2020.108939)
- Beckensteiner J, Scheld AM, St-Laurent P, Friedrichs MAM, [Kaplan DM](#) (2021) Environmentally-determined production frontiers and lease utilization in Virginia's eastern oyster aquaculture industry. *Aquaculture* **542**:736883. doi:[10.1016/j.aquaculture.2021.736883](https://doi.org/10.1016/j.aquaculture.2021.736883)
- Brochier T, Brehmer P, Mbaye A, Diop M, Watanuki N, Terashima H, [Kaplan DM](#), Auger P (2021) Successful artificial reefs depend on getting the context right due to complex socio-bio-economic interactions. *Scientific Reports* **11**:16698. doi:[10.1038/s41598-021-95454-0](https://doi.org/10.1038/s41598-021-95454-0)
- Wain G, Guéry L, [Kaplan DM](#), Gaertner D (2021) Quantifying the increase in fishing efficiency due to the use of drifting FADs equipped with echosounders in tropical tuna purse seine fisheries. *ICES Journal of Marine Science* **78**:235–245. doi:[10.1093/icesjms/fsaa216](https://doi.org/10.1093/icesjms/fsaa216)
- Mannocci L, Forget F, Tolotti MT, Bach P, Bez N, Demarcq H, [Kaplan DM](#), Sabarros P, Simier M, Capello M, Dagorn L (2020) Predicting bycatch hotspots in tropical tuna purse seine fisheries at the basin scale. *Global Ecology and Conservation* **24**:e01393. doi:[10.1016/j.gecco.2020.e01393](https://doi.org/10.1016/j.gecco.2020.e01393)
- Beckensteiner J, [Kaplan DM](#), Scheld AM (2020) Barriers to eastern oyster aquaculture expansion in Virginia. *Front Mar Sci* **7**:53. doi:[10.3389/fmars.2020.00053](https://doi.org/10.3389/fmars.2020.00053)
- Beckensteiner J, Scheld AM, Fernández M, [Kaplan DM](#) (2020) Drivers and trends in catch of benthic resources in Chilean TURFs and surrounding open access areas. *Ocean & Coastal Management* **183**:104961. doi:[10.1016/j.ocecoaman.2019.104961](https://doi.org/10.1016/j.ocecoaman.2019.104961)
- Meynard CN, [Kaplan DM](#), Leroy B (2019) Detecting outliers in species distribution data: Some caveats and clarifications on a virtual species study. *Journal of Biogeography* **46**:2141–2144.

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doi:[10.1111/jbi.13626](https://doi.org/10.1111/jbi.13626)

- Meynard CN, Leroy B, [Kaplan DM](#) (2019) Testing methods in species distribution modelling using virtual species: what have we learnt and what are we missing? *Ecography* **42**:2021–2036. doi:[10.1111/ecog.04385](https://doi.org/10.1111/ecog.04385)
- Snouck-Hurgronje JE, [Kaplan DM](#), Chassot E, Maufroy A, Gaertner D (2018) Fishing on floating objects (FOBs): how French tropical tuna purse seiners split fishing effort between GPS-monitored and unmonitored FOBs. *Can J Fish Aquat Sci* **75**:1849–1858. doi:[10.1139/cjfas-2017-0152](https://doi.org/10.1139/cjfas-2017-0152)
- Santos BS, Friedrichs MAM, Rose SA, Barco SG, [Kaplan DM](#) (2018) Likely locations of sea turtle stranding mortality using experimentally-calibrated, time and space-specific drift models. *Biological Conservation* **226**:127–143. doi:[10.1016/j.biocon.2018.06.029](https://doi.org/10.1016/j.biocon.2018.06.029)
- Santos BS, [Kaplan DM](#), Friedrichs MAM, Barco SG, Mansfield KL, Manning JP (2018) Consequences of drift and carcass decomposition for estimating sea turtle mortality hotspots. *Ecological Indicators* **84**:319–336. doi:[10.1016/j.ecolind.2017.08.064](https://doi.org/10.1016/j.ecolind.2017.08.064)
- Pendleton LH, Ahmadi GN, Browman HI, Thurstan RH, [Kaplan DM](#), Bartolino V (2018) Debating the effectiveness of marine protected areas. *ICES J Mar Sci* **75**:1156–1159. doi:[10.1093/icesjms/fsx154](https://doi.org/10.1093/icesjms/fsx154)
- Hidalgo M, [Kaplan DM](#), Kerr LA, Watson JR, Paris CB, Browman HI (2017) Advancing the link between ocean connectivity, ecological function and management challenges. *ICES J Mar Sci* **74**:1702–1707. doi:[10.1093/icesjms/fsx112](https://doi.org/10.1093/icesjms/fsx112)
- [Kaplan DM](#), Cuif M, Fauvelot C, Vigliola L, Nguyen-Huu T, Tiavouane J, Lett C (2017) Uncertainty in empirical estimates of marine larval connectivity. *ICES J Mar Sci* **74**:1723–1734. doi:[10.1093/icesjms/fsw182](https://doi.org/10.1093/icesjms/fsw182)
- Mullon C, Guillotreau P, Galbraith ED, Fortilus J, Chaboud C, Bopp L, Aumont O, [Kaplan DM](#) (2017) Exploring future scenarios for the global supply chain of tuna. *Deep Sea Research Part II: Topical Studies in Oceanography* **140**:251–267. doi:[10.1016/j.dsr2.2016.08.004](https://doi.org/10.1016/j.dsr2.2016.08.004)
- Nomura KJ, [Kaplan DM](#), Beckensteiner J, Scheld AM (2017) Comparative analysis of factors influencing spatial distributions of marine protected areas and territorial use rights for fisheries in Japan. *Marine Policy* **82**:59–67. doi:[10.1016/j.marpol.2017.05.005](https://doi.org/10.1016/j.marpol.2017.05.005)
- Maufroy A, [Kaplan DM](#), Bez N, Molina ADD, Murua H, Floch L, Chassot E (2017) Massive increase in the use of drifting Fish Aggregating Devices (dFADs) by tropical tuna purse seine fisheries in the Atlantic and Indian oceans. *ICES J Mar Sci* **74**(1):215–225. doi:[10.1093/icesjms/fsw175](https://doi.org/10.1093/icesjms/fsw175)
- Monsarrat S, Pennino MG, Smith TD, Reeves RR, Meynard CN, [Kaplan DM](#), Rodrigues ASL (2016) A spatially explicit estimate of the prewhaling abundance of the endangered North Atlantic right whale. *Conservation Biology* **30**:783–791. doi:[10.1111/cobi.12664](https://doi.org/10.1111/cobi.12664)
- Beckensteiner J, [Kaplan DM](#), Potts WM, Santos CV, O’Farrell MR (2016) Data-limited population-status evaluation of two coastal fishes in southern Angola using recreational catch length-frequency data. *PLOS ONE* **11**:e0147834. doi:[10.1371/journal.pone.0147834](https://doi.org/10.1371/journal.pone.0147834)
- Garavelli L, Colas F, Verley P, [Kaplan DM](#), Yannicelli B, Lett C (2016) Influence of Biological Factors on Connectivity Patterns for *Concholepas concholepas* (loco) in Chile. *PLoS ONE* **11**:e0146418. doi:[10.1371/journal.pone.0146418](https://doi.org/10.1371/journal.pone.0146418)
- Cuif M, [Kaplan DM](#), Fauvelot C, Lett C, Vigliola L (2015) Monthly variability of self-recruitment for a coral reef damselfish. *Coral Reefs* **34**:759–770. doi:[10.1007/s00338-015-1300-4](https://doi.org/10.1007/s00338-015-1300-4)
- Lett C, Nguyen-Huu T, Cuif M, Saenz-Agudelo P, [Kaplan DM](#) (2015) Linking local retention,

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- self-recruitment, and persistence in marine metapopulations. *Ecology* **96**:2236–2244. [doi:10.1890/14-1305.1](https://doi.org/10.1890/14-1305.1)
- Maufroy A, Chassot E, Joo R, Kaplan DM (2015) Large-Scale Examination of Spatio-Temporal Patterns of Drifting Fish Aggregating Devices (dFADs) from Tropical Tuna Fisheries of the Indian and Atlantic Oceans. *PLoS ONE* **10**:e0128023. [doi:10.1371/journal.pone.0128023](https://doi.org/10.1371/journal.pone.0128023)
- Monsarrat S, Pennino MG, Smith TD, Reeves RR, Meynard CN, Kaplan DM, Rodrigues ASL (2015) Historical summer distribution of the endangered North Atlantic right whale (*Eubalaena glacialis*): a hypothesis based on environmental preferences of a congeneric species. *Diversity & Distributions* **21**:925–937. [doi:10.1111/ddi.12314](https://doi.org/10.1111/ddi.12314)
- Cuif M, Keller F, Chateau O, Kaplan DM, Labonne M, Lett C, Vigliola L (2014) Evaluation of transgenerational isotope labeling of embryonic otoliths in a coral reef damselfish with single and repeated injections of enriched <sup>137</sup>Barium. *Journal of Experimental Marine Biology* **459**:151–159. [doi:10.1016/j.jembe.2014.05.019](https://doi.org/10.1016/j.jembe.2014.05.019)
- Bonhommeau S, Nieblas A-E, Chassot E, Kaplan DM, Dubroca L, Manacorda C, Barde J, Pape OL (2014) Reply to Feeley and Machovina: Trophic ecology complements estimates of land use change due to food production. *PNAS* **111**:E795–E795. [doi:10.1073/pnas.1324144111](https://doi.org/10.1073/pnas.1324144111)
- Nieblas A-E, Bonhommeau S, Pape OL, Chassot E, Dubroca L, Barde J, Kaplan DM (2014) Reply to Roopnarine: What is an apex predator? *PNAS* **111**:E797–E797. [doi:10.1073/pnas.1324146111](https://doi.org/10.1073/pnas.1324146111)
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## PRESENTATIONS AND POSTERS

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- Imzilen T, Lett C, Kaplan DM (2021) Spatial management can significantly reduce dFAD beachings in Indian and Atlantic Ocean tropical tuna purse seine fisheries. *Indian Ocean Tuna Commission (IOTC) 2nd Ad Hoc Working Group on FADs (WGFAD02)*. Online/Virtual. October 5. Available from: <https://iotc.org/documents/spatial-management-can-significantly-reduce-dfad-beachings-indian-and-atlantic-ocean> [Last accessed 04 October 2021]
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- Kaplan DM (2019) Likely locations of sea turtle stranding mortality using experimentally-calibrated, time and space-specific drift models. *iMarco 2019*. Aveiro, Portugal. September 23-26. **Flash talk**
- Kaplan DM (2018) Squaring data and models in larval connectivity studies: Conceptual differences, uncertainties and future challenges. *GDR iMarco*. Heraklion, Greece. October 9.
- Invited speaker**
- Kaplan DM, Snouck-Hurgronje JE, Chassot E, Maufroy A, Gaertner D (2017) How French tropical tuna purse seiners split fishing effort between GPS-monitored and unmonitored FOBs and what it says about effort standardization. *13th Working Party on Data Collection & Statistics*. Victoria, Seychelles. November 26.
- Kaplan DM, Snouck-Hurgronje JE, Chassot E, Maufroy A, Gaertner D (2017) The Effects of Drifting Fish Aggregating Devices on Bycatch in the Tropical Tuna Purse Seine Fisheries in the Atlantic and Indian Oceans. *3rd Meeting of the ad hoc Working Group on FADs*. Madrid, Spain. September 11-12.
- Kaplan DM, Santos B, Friedrichs MAM, Rose S, Barco SG (2017) Drift Trajectories of Sea Turtle Carcasses from Mortality Locations to Stranding Locations based on an Empirically Calibrated Ocean Drift Model. *37th Annual Symposium on Sea Turtle Biology and*

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*Conservation*. Las Vegas, Nevada, USA. April 18. **Poster**

Kaplan DM, Lett C, Cuif M, Nguyen-Huu T, Vigliola L, Fauvelot C, Tiavouane J, Saenz-Agudelo P (2015) Linking local retention, self-recruitment, and persistence in marine metapopulations. *ICES Annual Science Conference*. Copenhagen, Denmark. September 22.

Kaplan DM, Beckensteiner J, Potts WM, O'Farrell MR, Santos CV (2014) Data-limited population-status evaluation of two coastal fishes in southern Angola using recreational catch length-frequency data. *2<sup>nd</sup> World Small-Scale Fisheries Congress*. Merida, Mexico. September 21-26.

Kaplan DM (2014) Quantitative assessment methods adapted to data-limited, small-scale fisheries. *2<sup>nd</sup> World Small-Scale Fisheries Congress*. Merida, Mexico. September 21-26.

**Session organizer.**

Kaplan DM (2013) Mobile MPAs for mobile species: Building a conceptual framework for understanding and predicting the impacts of MPAs on mobile pelagic and demersal species. *IMPAC3*, October 21-25. Marseille, France.

Kaplan DM, Lett Christophe, Nguyen T, Cuif M, Vigliola L, Dumas P, Fauvelot C, Tiavouane J (2013) The COMPO Project and its relevance for MPA design. *GDR MarCo*. Marseille, France. June 3-6.

Kaplan DM, Lett Christophe, Nguyen T, Cuif M (2013) Measures of connectivity and what they tell us about population dynamics. *GDR MarCo*. Marseille, France. June 3-6.

Gruss A, Kaplan DM, Robinson J (2011) Évaluation de l'efficacité des aires marines protégées ciblant les agrégations de ponte transitoires en situations de données limitées. *Colloque Scientifique de l'Agence d'AMP*. Paris, France. November 22-24.

Lett C, Kaplan DM, et al. (2011) Présentation du projet COMPO d'étude de la connectivité larvaire dans l'écosystème corallien de Nouvelle-Calédonie. *Colloque Scientifique de l'Agence d'AMP*. Paris, France. November 22-24.

Kaplan DM, Chassot E, Amandé J, Dueri S, Demarcq H, Dagorn L, Fonteneau A (2011) Pelagic MPAs: General principles and examples from the Indian Ocean. *Colloque de l'Agence d'Aires Marines Protégées*, November 22-24. Paris, France.

Kaplan DM (2011) Science and policy lessons learned from the implementation of the California MPA network. *Colloque Scientifique de l'Agence d'AMP*. Paris, France. November 22-24.

**Poster.**

Kaplan DM, Chassot E, Torres E, Gaertner D, Morales M, Delgado A, Ariz J (2011) Effects of high seas MPAs on commercial fisheries: Examples from the Atlantic and Indian Oceans' tuna fleets. *2<sup>nd</sup> International Marine Conservation Congress*. Victoria, BC, Canada. May 14-19.

**Poster.**

Kaplan DM (2011) Marine protected areas for fisheries management: A review of the theoretical evidence. *WIOMSA/RECOMAP Symposium on MPA and Fisheries*. Mombasa, Kenya. March 14-17. **Invited speaker.**

Kaplan DM, Chassot E, Torres E, Gaertner D, Morales M, Delgado A, Ariz J (2011) Effects of high seas MPAs on commercial fisheries: Examples from the Atlantic and Indian Oceans' tuna fleets. *Marine Protected Areas on the high seas – symposium*. London, UK. February 3-4.

**Invited speaker.**

Kaplan DM (2010) Modélisation de réseaux d'AMP appliquée au processus d'implémentation d'AMP en Californie, USA. *Ecologie 2010*. Montpellier, France. **Invited speaker.**

Kaplan DM (2009) Spatial marine management and new approaches to marine ecology: a way out of the black box? *Diversitas OSC2*. Cape Town, South Africa. October 13-16. **Session**

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### **organizer.**

- Kaplan DM, Fonteneau A, Tew-Kai E, Chassot E, Demarcq H, Currie J, Nieto K, Maury O, Gruss A, Barde J, Trolet J (2008) Connecting cartography to ecosystems: Examples from the Indian Ocean. *2012 Marine Targets: European Marine Strategy and Issues in High Seas*. Brest, France. December 9-11.
- Kaplan DM, Largier J, Halle C, Paduan J (2008) Coastal mesoscale circulation along central California: Consequences for larval transport and management. *Eastern Boundary Upwelling Ecosystems*. Gran Canarias, Spain. June 2-6.
- Kaplan DM, Paduan J (2008) HF Radar 201: Moving beyond the status quo for HF radar data manipulation, processing and management. *Ocean Sciences*. Orlando, Florida. March 2-7.
- Kaplan DM, Paduan J, Halle C, Largier C (2007) Circulation in the California Current System from a large array of HF radars. *54<sup>th</sup> Annual Eastern Pacific Ocean Conference*. Washington. September 15-18. **Poster.**
- Kaplan DM, O'Farrell MR, Botsford LW (2007) Can Maximum Sustainable Yield (MSY) increase with marine reserves? *American Fisheries Society Annual Meeting*. San Francisco. August 7-9. **Poster.**
- Kaplan DM, Paduan J, Cook M (2007) Status of the Northern California HF Radar network and some new developments in HF Radar processing technology. *Radio Oceanography Workshop 7*. Cancún, Mexico. May 28-31.
- Kaplan DM, Paduan J, Cook M, Lekien F (2006) Integrating HF radar, modal current decomposition and trajectory forecasting for robust ocean observing. *53<sup>rd</sup> Annual Eastern Pacific Ocean Conference*. Timberline Lodge, Oregon. September 27-30.
- Kaplan DM, Botsford LW, Jorgensen S (2006) Methods for assessment of sustainability in spatial management: evaluating marine reserve configurations. *91<sup>st</sup> Ecological Society of America Annual Meeting*. Memphis, TN. August 6-11.
- Kaplan DM (2006) Circulation and transport near Bodega Bay, California derived from modal decomposition of HF-radar currents. *Radio Oceanography Workshop 6*. Hamburg, Germany. May 15-18.
- Kaplan DM, Botsford LW (2006) Methods for assessments of sustainability in spatial management: Evaluating reserve designs. *NOAA National Stock Assessment Workshop 9*. San Francisco, California. April 18-20.
- Kaplan DM, Largier JL, Lekien F (2006) Application of Modal Current Decomposition techniques to the study of coastal circulation and transport near Bodega Bay, California. *Ocean Sciences Meeting*. Honolulu, Hawaii. February 20-24. **Poster.**
- Kaplan DM, Largier JL, Botsford LW (2005) The role of HF radar data in the WEST project. *52<sup>nd</sup> Annual Eastern Pacific Ocean Conference*. Fallen Leaf Lake, California. September 27-30.
- Kaplan DM (2005) The California MPA process from a scientist's point of view: pitfalls and progress. *British Ecological Society Annual Meeting*. Hertfordshire, England. September 5-7.
- Kaplan DM, Largier JL, Botsford LW (2005) Coastal connectivity and its relationship to biological processes from HF-radar derived Lagrangian trajectories. *Radio Oceanography Workshop 5*. Santa Cruz, California. May 3-6.
- Kaplan DM (2004) Spacing and configuration of marine reserve networks. *ICES Annual Science Conference*. Vigo, Spain. September 22-25.
- Kaplan DM, Botsford LW, Micheli F, Halpern B, Warner RR (2004) Temporal dynamics of fish populations after introduction of marine reserves. *89<sup>th</sup> Ecological Society of America Annual*



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*Meeting*. Portland, OR. August 1-6. **Poster**.

Kaplan DM, Largier JL, Botsford LW (2004) Surface currents along the coast of northern California derived from high-frequency radar data. *12<sup>th</sup> Ocean Sciences Meeting*. Portland, OR. January 26-30.

Kaplan DM, Largier JL, Botsford LW (2002) Preliminary analysis of high-frequency radar data from Bodega Bay, California. *11<sup>th</sup> Ocean Sciences Meeting*. Honolulu, Hawaii. February 11-15.

Sotomayor A, Wieters E, Kaplan DM, Navarrete S, Nielsen K (2000) Spatial and Temporal Variation in Chlorophyll-a on the Central Coast of Chile. *PISCO/Mellon Symposium*. Portland, OR. December 14-19.

Venegas R, Neill P, Kaplan DM (2000) Daily Settlement Patterns in Relation to Physical Parameters. *PISCO/Mellon Symposium*. Portland, OR. December 14-19.

Kaplan DM (2000) Ecological Consequences of Daily Warming of Coastal Sea Surfaces. *PISCO/Mellon Symposium*. Portland, OR. December 14-19.

Kaplan DM, Navarrete S, Guíñez R, Castilla JC (2000) Daily warming of coastal waters and its possible causes. *International Symposium on Linkages and Dynamics of Coastal systems: Open Coasts and Embayments*. Santiago, Chile. October.

Kaplan DM, Navarrete SA, Velasco-Hernandez JX (2000) Omnivory in open systems: the effects of life history on local population dynamics. *9<sup>th</sup> Annual Meeting of the Sociedad de Ecología de Chile*. Concepción, Chile. July 28-29.

Kaplan DM (1997) Microscopic Entropy of N=2 Supersymmetric Black Holes. *Black Holes: Theory and mathematical aspects*. Banff, Canada. May 31 - June 4.

### **Laboratory and University Presentations (33):**

Kaplan DM (2024) Cómo reducir el impacto ambiental y los desechos plásticos de las pesquerías con cerco de atunes tropicales. Estación Costera de Investigaciones Marinas (ECIM), Pontificiado Universidad Católica de Chile, Las Cruces Chile. May 8.

Kaplan DM (2023) Cómo reducir el impacto ambiental y los desechos plásticos del uso de dispositivos de concentración de peces (DCP) en las pesquerías con cerco de atunes tropicales. Centro Universitario del Regional del Este (CURE), Universidad de la República, Rocha, Uruguay. June 9.

Kaplan DM (2022) Reducing plastic waste and other negative environmental impacts from drifting fish aggregating devices (dFADs) used by tropical tuna purse seine fisheries. Nelson Mandela University, Gqeberha, South Africa. August 18.

Kaplan DM (2022) Reducing plastic waste and other negative environmental impacts from drifting fish aggregating devices (dFADs) used by tropical tuna purse seine fisheries. Rhodes University, Makhanda, South Africa. August 3.

Kaplan DM, Santos BS (2017) Probable locations of sea turtle mortality from strandings data. MARBEC. Sète, France. October 5

Kaplan DM, Santos B (2017) Loggerhead Sea Turtles: Unfolding a mystery. *VIMS After Hours Lecture Series*. Virginia, USA. January 26. **Invited speaker**.

Kaplan DM (2016) Measures of marine larval connectivity and what these measures tell us about population dynamics. Departamento de Ecología, Pontificia Universidad de Chile. Santiago, Chile. July 6.

Kaplan DM (2016) Estimación empírica de conectividad larval en sistemas marinos y que nos dice de la dinámica de poblaciones. Departamento de Biología, Universidad Austral. Valdivia,

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Chile. July 13.

Kaplan DM (2015) Measures of marine larval connectivity and what these measures tell us about population dynamics. *Biomath Reading Group*. College of William & Mary, Williamsburg, VA. December 4.

Kaplan DM (2014) Measures of larval connectivity and what these measures tell us about population dynamics. Fisheries Department, Virginia Institute of Marine Science. Virginia, USA. October 8.

Kaplan DM (2012) Pelagic MPAs: General principles and examples from tropical tuna fisheries. CESAB, Aix-en-Provence, France. December 4. **Invited speaker.**

Kaplan DM (2012) Pelagic MPAs: General principles and examples from tropical tuna fisheries. Rhodes University, Grahamstown, South Africa. August 8.

Kaplan DM (2012) Aires Marines Protégées pélagiques: Enjeux et controverses. CEFE, Montpellier, France. May 29.

Kaplan DM (2010) Applied MPA modeling in California and South Africa. South African Institute of Aquatic Biodiversity. SAIAB, Grahamstown, South Africa. October.

Kaplan DM (2010) Persistencia et progrès: La science des aires marines protégées dans un contexte scientifique et politique complexe. ECOLAG, Univ. Montpellier II, France. April 27.

Kaplan DM (2008) The California Ocean Current Monitoring Program: Advancements in the science and methodology of HF radar oceanography. Université de Toulon, France. April 24.

Kaplan DM (2008) The California MPA implementation process. Centre de Recherche Halieutique, Sète, France. February 7.

Kaplan DM (2007) Circulación sobre la plataforma continental en la California central y sus consecuencias para la productividad y la dispersión larval. Depto. de Geofísica, U. de Concepción, Chile. January 5.

Kaplan DM (2006) Circulación sobre la plataforma continental en el California central y sus consecuencias para la productividad y la dispersión larval. Instituto de Biología Marina, U. Austral, Chile. December 19.

Kaplan DM (2006) Assessing sustainability and yield in networks of marine protected areas. Dept. of Ecology & Evolutionary Biology, UC Santa Cruz, California. November 1.

Kaplan DM (2006) Marine protected areas: Pain and progress. Ken Norris Symposium on Quantitative Biology. Cambria, California. September 17-19.

Kaplan DM (2006) HF-Radar observations of surface circulation in an upwelling system. Dept. of Ocean Sciences, UC Santa Cruz, California. May 31.

Kaplan DM (2005) Le processus de création de réserves marines en Californie: science, politique, progrès et pièges. Centre d'Océanologie de Marseille, France. September 16.

Kaplan DM (2005) Le processus de création de réserves marines en Californie: science, politique, progrès et pièges. IFREMER, Nantes, France. September 12.

Kaplan DM (2004) Modeling Marine Reserves: Inside and Out. IUEM, Brest, France. October 19.

Kaplan DM (2004) HF-Radar Observations of Surface Circulation in an Upwelling System. IRD Brest, France. October 18.

Kaplan DM (2004) Modeling Marine Reserves: Inside and Out. Centre de Recherche Halieutique Méditerranéenne et Tropicale, IRD Sète, France. October 12.

Kaplan DM (2004) Modeling Marine Reserves: Inside and Out. Université de Perpignan, France. October 9.

Kaplan DM (2004) Modelación de reservas marinas: la dinámica transitoria dentro de reservas y

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los efectos de la configuración espacial de áreas protegidas. CEAB, Blanes, Spain. October 7.

Kaplan DM (2004) Observaciones de la circulación superficial con HF-radar en un sistema de surgencia. Instituto de Ciencias Marinas, CSIC, Barcelona, Spain. October 4.

Kaplan DM (2004) Modelación de reservas marinas: la dinámica transitoria dentro de reservas y los efectos de la configuración espacial de áreas protegidas. Universidad de Vigo, Spain. September 30.

Kaplan DM (2004) Observaciones de la circulación superficial con HF-radar en un sistema de surgencia. Instituto de Investigaciones Marinas, CSIC, Vigo, Spain. September 29.

Kaplan DM (2004) Modelación de reservas marinas: la dinámica transitoria dentro de reservas y los efectos de la configuración espacial de áreas protegidas. Instituto Español de Oceanografía, Vigo, Spain. September 27.

### REVIEW WORK FOR INTERNATIONAL JOURNALS

**Associate editor** since 2015 for the *ICES Journal of Marine Science*.

**Associate editor** since 2016 for *Aquatic Living Resources*.

Reviewer for numerous journals, including Ecology Letters, Conservation Biology, Biological Conservation, Conservation Letters, Fish & Fisheries, Marine Ecology-Progress Series, PLoS ONE, Progress in Oceanography, Deep-sea Research, Journal of Physical Oceanography, Oikos, Oecologia, ICES Journal of Marine Science, Aquatic Biology, Canadian Journal of Fisheries & Aquatic Science, and Ecological Modeling.

### LANGUAGE SKILLS

English (mother tongue), Spanish (fluent), French (fluent)

### COMPUTER LANGUAGES

R, SQL, Matlab, Python, C, Markdown, HTML, awk