BAPTISTE ALGLAVE

(+33) 6 52 92 33 00 ⋄ 8, rue Montaigne BP 561, 56017 Vannes

baptiste.alglave@univ-ubs.fr ⋄ baptiste.alglave@orange.fr

https://balglave.github.io/b_alglave/

RESEARCH INTEREST

I am an applied statistician with a specific interest in spatio-temporal modeling for environmental and ecological applications. I am currently an assistant professor at Université Bretagne Sud and Lab-STICC (UMR 6285 - DECIDE team). As part of the GIS-focused group, I am working on the interaction between urban landscapes and climate. Our goal is to develop operational tools to assist managers in planning urban areas in the context of land pressure, threats to ecosystems, and climate change.

During my PhD and postdoc, I developed hierarchical models to investigate the spatio-temporal dynamics of fish in order to identify essential fish habitats and assess the impact of climate change on marine populations.

In both fields of application, I aim to develop methods (1) to combine heterogeneous and massive data sources with non-homogeneous sampling (preferential sampling), (2) to integrate differences in spatial resolution between these distinct data sources (change of scale), and (3) to synthesize the spatial and temporal information available from these data sources.

CURSUS

Associate professor   Since Septecmber 2023
Research laboratory in information and communication science
and technology (Lab-STICC, CNRS UMR 6285), team DECIDE.
Université Bretagne Sud (UBS), IUT Vannes, cursus of Data Science.

Postdoc   January - June 2023
University of Washington / NOAA
Subjects:
    1/ Dimension reduction methods for spatio-temporal data.
    2/ Spatio-temporal population dynamics models.
Supervisors: Jim Thorson, André Punt, Cody Szuwalski.

PhD: Ifremer Nantes and Institut Agro (Rennes) - UMR DECOD   2019 - 2022
Subject: Inferring fish spatio-temporal distribution and identifying essential habitats:
tackling the challenge of preferential sampling and change of support to integrate
heterogeneous data sources. link
Supervisors: Youen Vermard, Marie-Pierre Etienne, Mathieu Woillez, Etienne Rivot.

MSc Institut Agro (Rennes)   2018 - 2019

CPGE Janson de Sailly (Paris)   2014 - 2016

SCIENTIFIC PUBLICATIONS

Peer-reviewed

Rovellini A., Punt A.E., Bryan M.D., Kaplan I.C., Dorn M.W., Aydin K., Fulton E.A., Alglave B., Baker M.R., Carroll G., Ferriss B.E., Haltuch M.A., Hayes A.L., Hermann A.J., Hernvann P.Y., Holsman K.K., Liu O.R., McHuron E., Morzaria-Luna H.N., Moss J., Surma S., Weise M.T., 2024. **Linking climate stressors to ecological processes in ecosystem models, with a case study from the Gulf of Alaska**. ICES Journal of Marine Science. `https://doi.org/10.1093/icesjms/fsae002`

Olmos M., Cao J., Thorson J.T., Punt A.E., Monnahan C.C., Alglave B., Szuwalski C. (2023). **A step towards the integration of spatial dynamics in population dynamics models: Eastern Bering Sea snow crab as a case study.** Ecological Modeling. `https://doi.org/10.1016/j.ecolmodel.2023.110484`

Alglave B., Vermard Y., Rivot E., Etienne M.P., Woillez M. (2023). **Identifying mature fish aggregation areas during spawning season by combining catch declarations and scientific survey data.** Canadian Journal of Fisheries and Aquatic Sciences. http://dx.doi.org/10.1139/cjfas-2022-0110

Alglave B., Rivot E., Etienne M.P., Woillez M., Thorson J.T., Vermard Y. (2022). **Combining scientific survey and commercial catch data to map fish distribution.** ICES Journal of Marine Science. https://doi.org/10.1093/icesjms/fsac032

Under review
Alglave B., Mourguiart B., Vermard Y., Rivot E., Woillez M., Kristensen K., Etienne M.P. (*under review*). **Inferring fine scale wild species distribution from spatially aggregated data.** link

Alglave Baptiste, Olmos et al. (*under review*). **Investigating fish adult phenology through Empirical Orthogonal Functions**.

In prep
Alglave Baptiste and Thorson James T. (*in prep*). **Empirical Orthogonal functions for ecology** .

Szuwalski Cody, Alglave Baptiste, Olmos Maxime, Punt Andre, Veron Matthieu (*in prep*). **Integrating climate effects in multiple population processes for fisheries projections**.

CONFERENCE PRESENTATIONS

International conferences
Erwan Bocher, Matthieu Gousseff, Bernard Jérémy, Elisabeth Le Saux Wiederhold, Baptiste Alglave, and Emmanuelle Kerjouan. **Comparison of different methods to produce local climate zone maps using the LczExplore tool.** EGU General Assembly 2024, Vienna, Austria, 14–19 Apr 2024, EGU24-15984. link

Szuwalski Cody, Alglave Baptiste, Olmos Maxime, Punt Andre, Veron Matthieu. **Population feedback can modulate climate change impacts.** PICES-2023 Annual Meeting. November 2023, Seattle, USA.

Alglave Baptiste, Punt André, Rivot Etienne, Szuwalski Cody, Etienne Marie-Pierre. **Integrating massive and heterogeneous spatiotemporal data to infer spatial processes. Marine ecology as a field of application.** French Society of Statistics. July 2023, Brussel, Belgium.

Alglave Baptiste, Vermard Youen, Etienne Marie-Pierre, Woillez Mathieu, Rivot Etienne (2022). **Can we use catch declarations data to map fish spatial distribution?** International Statistical Ecology Conference (ISEC). June 2022, Cape Town, South Africa. link

Alglave Baptiste, Vermard Youen, Etienne Marie-Pierre, Woillez Mathieu, Rivot Etienne (2021). **Can we trust commercial landings data to identify essential habitats of harvested fish? Application to several demersal species in the Bay of Biscay.** ISOBAY 17 - XVII International Symposium on Oceanography of the Bay of Biscay. June 2021, virtual event. link

National conferences
Alglave Baptiste, Thorson James T., Obakrim Said, Dufée Benjammin (2024). **How to best represent spatio-temporal data?** Annual meeting of the GdR 'Ecology and statistics'. April 2024, Montpellier, France. link

Alglave Baptiste, Vermard Youen, Bez Nicolas, Etienne Marie-Pierre, Kristensen Kasper, Thorson James T., Woillez Mathieu, Rivot Etienne (2022). **Can we trust commercial catch declarations data to map fish spatio-temporal distribution and identify fish essential habitats?** 15th conference of the AFH 'Fisheries research and sustainable development'. June 2022, Brest, France. link

Florian Quemper, Baptiste Alglave, Marie-Pierre Etienne, Etienne Rivot, Mathieu Woillez, Youen Vermard, Mathieu Doray et Guillermo Boyra (2022). **Etude de la distribution spatio-temporelle de la sardine (S. pilchardus) dans le Golfe de Gascogne.** 15th conference of the AFH 'Fisheries research and sustainable development'. June 2022, Brest, France. link

Alglave Baptiste, Kristensen Kasper, Vermard Youen, Rivot Etienne, Woillez Mathieu, Etienne Marie-Pierre (2022). **Downscaling coarse observations to predict continuous species spatio-temporal distribution.** Meeting of the RESSTE network 'Spatio-temporal statistics for remote sensing data'. May 2022, Paris, France. link

Alglave Baptiste, Kristensen Kasper, Vermard Youen, Rivot Etienne, Woillez Mathieu, Etienne Marie-Pierre (2022). **Going from coarse landings data to fine scale species distribution.** Annual meeting of the GdR 'Ecology and statistics'. April 2022, Montpellier, France. link

Alglave Baptiste, Vermard Youen, Etienne Marie-Pierre, Woillez Mathieu, Rivot Etienne (2021). **Can we identify fish essential habitats with landings data? Application to the common sole of the Bay of Biscay.** Ecostat 2021: annual meeting of the GdR 'Ecology and statistics'. April 2021, virtual event. link

Alglave Baptiste, Etienne Marie-Pierre, Vermard Youen, Woillez Mathieu, Rivot Etienne (2020). **Spatio-temporal modeling of fishery functional zones by combining catch declarations data and scientific survey data.** Annual meeting of the GdR 'Ecology and statistics'. March 2020, Rennes, France. link

Alglave Baptiste, Lehuta Sigrid, Leforestier Sophie, Vermard Youen (2019). **Management Strategy Evaluation of the Eastern English Channel common sole: management approach under uncertainty.** 14th conference of the AFH 'Fisheries research and sustainable development'. June 2019 , University of Caen Normandie, France. link

Seminars

Alglave Baptiste. **EOF and derived methods.** Séminaire Statistiques au sommet de Rochebrune 2024. link

Alglave Baptiste. **Statistics, fisheries management and spatial modelling: towards spatio-temporal stock assessment methods.** 8th meeting of statistics. Data science for sea and coastal systems (website). Université Bretagne Sud. November 2023. link

Tardivy Juliette, Alglave Baptiste. **Cartographie des frayères des espèces halieutiques basée sur le croisement des données 'VMS x logbooks' et des données de campagnes scientifiques.** Seminar on fisheries functional zones (website). Ifremer Nantes. November 2023. link

Alglave Baptiste. **Integrating heterogeneous and massive spatio-temporal data to infer spatial processes. Fisheries science as field of application.** Quantitative seminars, School of Fisheries and Aquatic Science, University of Washington, Seattle. March 2023.

Alglave Baptiste. **Integrating heterogeneous and massive spatio-temporal data to infer spatial processes. Fisheries science as field of application.** MIA, AgroParisTech, Paris Saclay. April, 2023.

Alglave Baptiste. **Inferring fish spatio-temporal distribution and identifying essential habitats: tackling the challenge of preferential sampling and change of support to integrate heterogeneous data sources.** Ecodep seminars, Cergy University. January 2023.

Alglave Baptiste. **Can we identify essential habitats with landings data?** ESEminaire, Institut Agro, Rennes. March, 2021.

Alglave Baptiste. **How to combine commercial and scientific data to infer fish spatial distribution?** Doctoral students' day. Ifremer, Visio. January 2021.

Alglave Baptiste. **How to combine commercial and scientific data to infer fish spatial distribution?** Causerie, EMH research unit, Ifremer Nantes. November, 2020.

TECHNICAL REPORTS

Alglave Baptiste, Vermard Youen (2022). Ad-hoc contract for the preparation of STECF EWG 22-01 concerning closure areas to protect juveniles and spawners of all demersal stocks in western Mediterranean Sea.

PROJECTS AND WORKING GROUPS

ACLIM: The Alaska Climate Integrated Modeling Project   January - June 2023
The Alaska Climate Integrated Modeling project (ACLIM) is an interdisciplinary
collaboration to project and evaluate climate impacts on marine fisheries in the
Bering Sea, Alaska. link
Head of the project: Kirstin Holsman (NOAA).

MACCO project 2019 - 2024
Identification of the target species and by-catch of the Bay of Biscay mixed fishery
and evaluation of alternative management strategies. link
Head of the project: Stéphanie Mahévas (Ifremer Nantes).

EWG 22-01 - West Med closure areas 2022
Working group aiming at identifying and evaluating the potential closure areas for the
demersal species of the Western Mediterranean Sea.

Ifremer working group 'Science with and for society' 2021 - 2022
Working group aiming at evaluating the interactions between science and society
within Ifremer. It led to several surveys among researchers, post-doctoral and
doctoral students and to internal reports for the Ifremer scientific direction.

SMAC project - Sole of the Eastern English Channel 2019
Project aiming at investigating stock structure of the Eastern English Channel and
adapting management to the available knowledge on stock structure.
Head of the project: Marie Savina-Rolland (Ifremer Lorient).

SUPERVISORY EXPERIENCE

Master student May - November 2024
Subject: Mapping and profiling French cities based on local climate zones. link
Student: Pauline Besnard.
Co-supervision with: Erwan Bocher.

CDD Ifremer January 2023 - June 2024
Subject: Packaging and applying spatio-temporal models
to identify fish essential habitats for all French facades.
CDD employee: Juliette Casemajor.
Co-supervision with: Mathieu Woillez.

Master student May - July 2022
Subject: Contributions of the lognormal Poisson model for multivariate analysis
of ecological communities. link
Student: Théo Fabien.
Co-supervision with: Marie-Pierre Etienne, Thomas Outrequin and Jean-Louis Marchand.

Master student February - August 2021
Subject: Combining commercial and scientific data to infer the space-time
distribution of sardine in the Bay of Biscay. link
Student: Florian Quemper.
Co-supervision with: Etienne Rivot and Marie-Pierre Etienne.

TECHNICAL SKILLS AND PACKAGES

Inference methods	Maximum likelihood inference, Bayesian inference
Languages	R, C++, Java, Python, SQL
Tools	Git, LaTeX, TMB, R-INLA, JAGS, Nimble, PostgreSQL
Packages	FishMap

SCIENTIFIC ANIMATION

Workshop on spatio-temporal modelling for ecology 2023 - ⋯
With Maxime Olmos (Ifremer). Biannual meeting bringing together ecologists and
statisticians to discuss spatio-temporal modeling and its application to
ecological case studies.

Space-time seminars January - June 2023
Organization of bimensual seminars with a focus on spatial and spatio-temporal statistics.

Amédée seminars 2020-2021
Organization of semestrial seminars with a focus on methodological development in
fisheries science and marine ecology. link

WORKSHOP, COURSEWORK AND OTHERS

Annual meeting of the Mexico network, Irstea, Bordeaux	2022

Finist'R workshop 2020,2022
Bootcamp of State Of the R, organized by the MIA. Biological station of Paimpont. link

Stats aux sommets, MIA Paris, visio	2021, 2024

Member of the SFDS.

GRANT

Grant for the international mobility of doctoral students 2021
Grant obtained from Ifremer for the mobility at DTU Aqua (Danemark).

TEACHING

Maximum likelihood estimation (BSc)	2023
Descriptive statistics (BSc)	2023

Introduction to spatio-temporal modeling for ecology (MSc) 2022
slides and codes

Student project in data science (MSc) 2020 - 2021
Institut Agro (Rennes).

Practical work in statistics for marine ecology (MSc)	2020
Practical work in basics of probability theory (BSc)	2019 - 2020