

Preliminary results MBON_P2P SOURCE

Gonzalo Bravo

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Objetives

- Test unsupervised configuration of the CoralNet software to identify CATAMI categories on intertidal photoquadrats from sampling sites of MBON.
- Provide a fast method to detect changes on intertidal habitats, using photoquadrats analysed by artificial intelligence (AI).

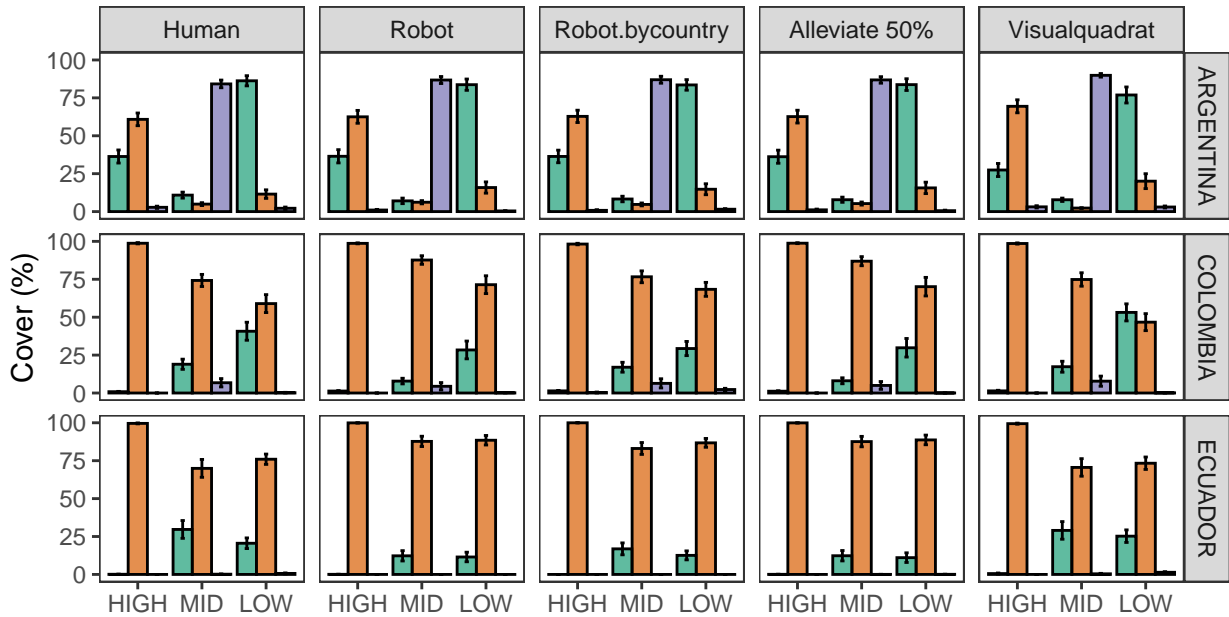
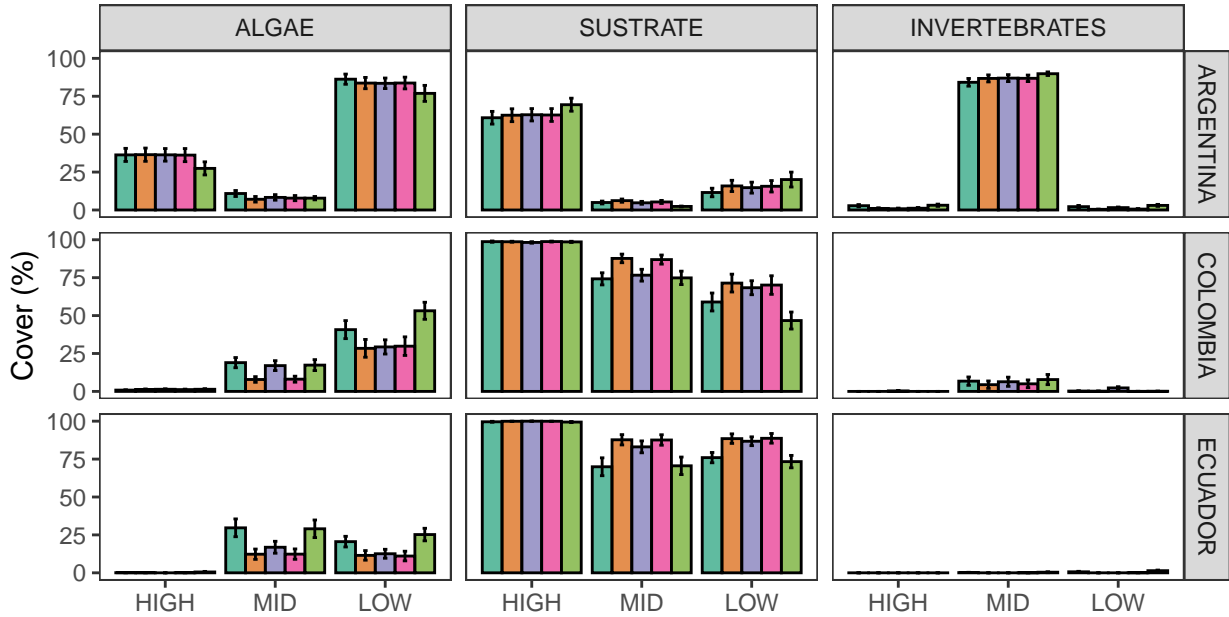
Methods

Photoquadrats from three locations with 90 quadrats per location were used for testing automated annotations from the CoralNet software and results were compared with visual quadrats.

Workflow

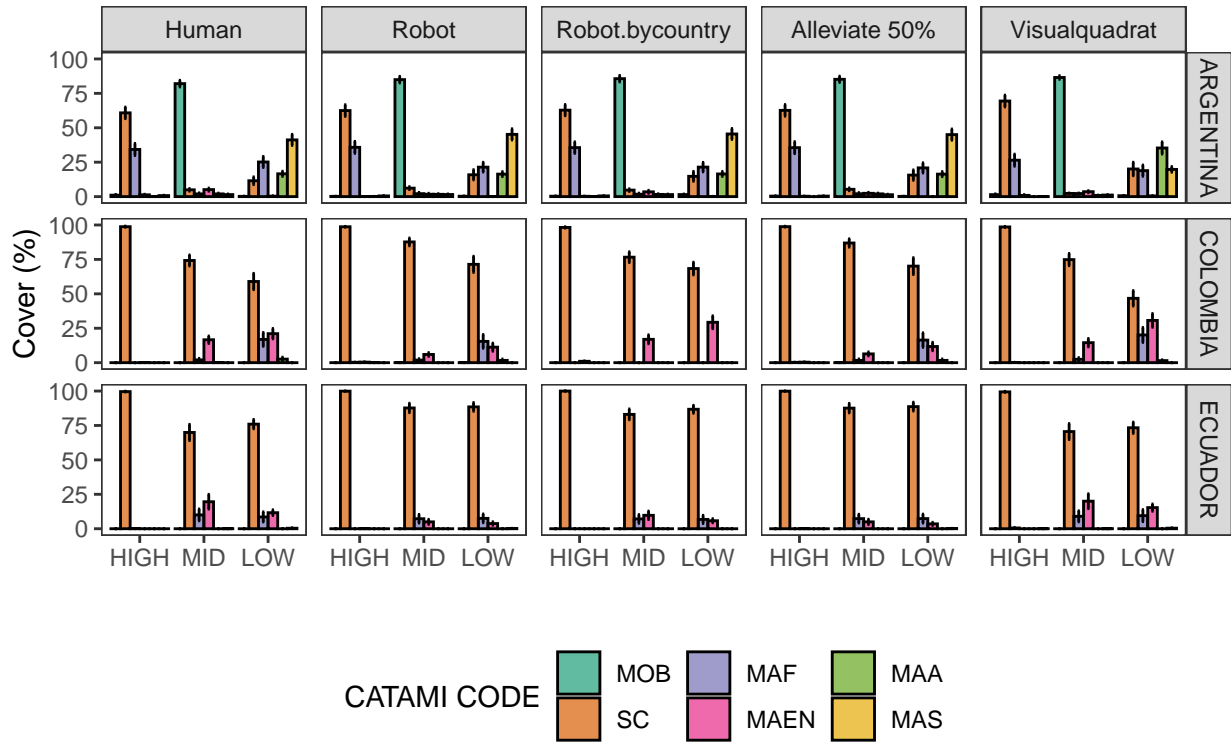
- 1- 90 quadrats/site were visually inspected in situ with a 100 point grid (“Visualquadrat”).
- 2- 90 photoquadrats/site were annotated by experts using a 100 points grid in CoralNet (“Human”).
- 3- The 90 photoquadrats/site of point (1) were re-annotated by the experts using 100 random points. These annotations were used for training the automatic annotator of CoralNet using a different set of points than photoquadrats in point (2).
- 3- 90 photoquadrats/site were automatically annotated by the CoralNet robot using 100 points grid (“Robot”).
- 4- 90 photoquadrats/site were annotated using the 50% alleviated mode of CoralNet robot. This mode annotates all the points in which the robot has a 50 % or higher level of confidence and the remaining points are annotated by humans (“Alleviated 50%”).
- 5- 90 photoquadrats/site were automatically annotated by the CoralNet robot using 100 points grid (same photos than in points 2 and 3) but using one independent robot for each site (“Robot.bycountry”).

FUNCTIONAL GROUPS RESULTS

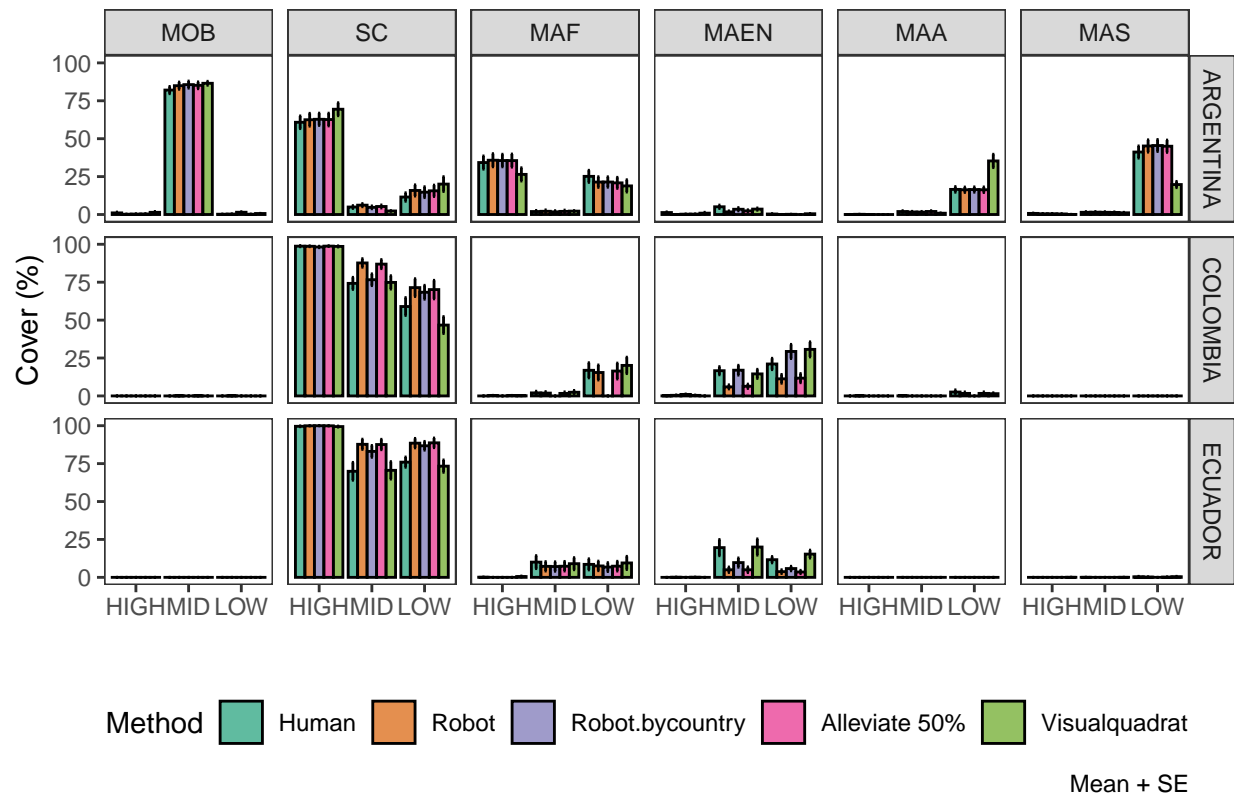


CATAMI list

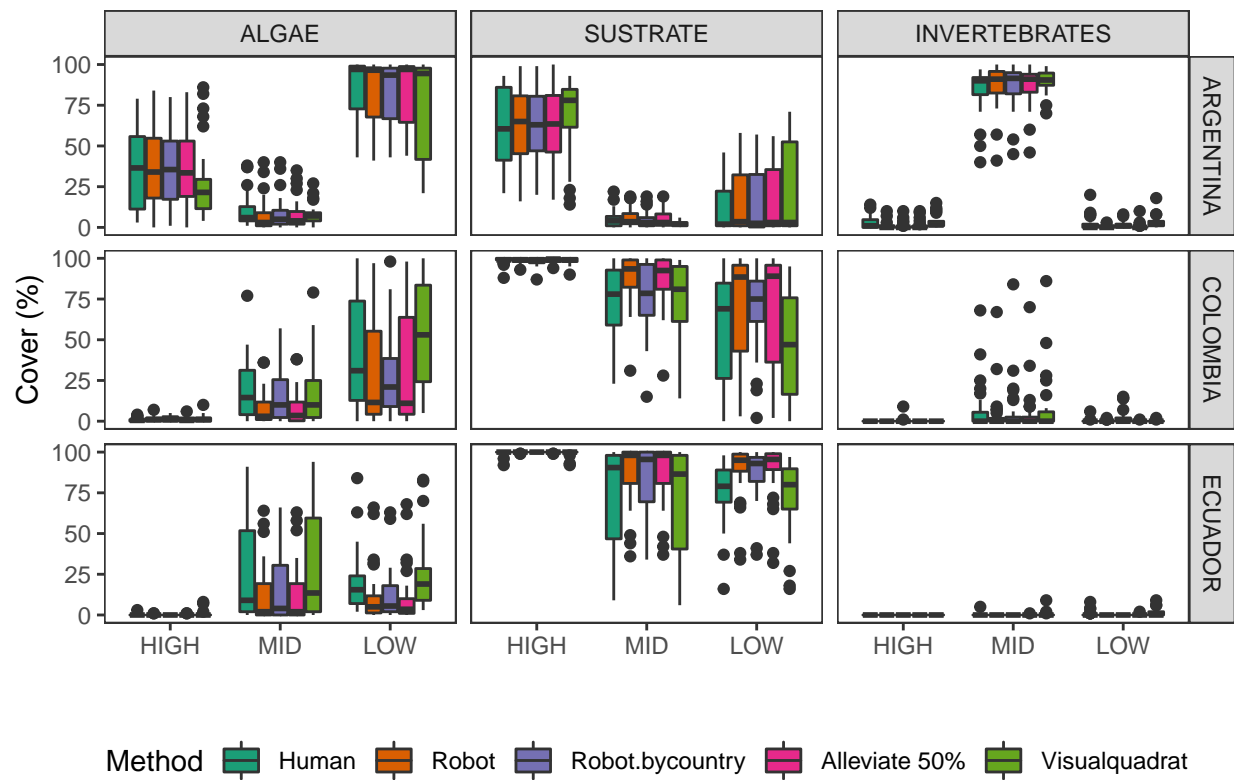
Name	Short.Code	Functional.Group	Label.ID
Cnidaria: Colonial anemones	CNCA	Other Invertebrates	4773
Cnidaria: True anemones	CNTR	Other Invertebrates	4774
Crustacea: Barnacles	CRB	Other Invertebrates	357
Molluscs: Bivalves	MOB	Other Invertebrates	355
Molluscs: Gastropods	MOG	Other Invertebrates	353
Sponge	SP	Other Invertebrates	102
Worms: Polychaetes: Tube worms	WPOT	Other Invertebrates	361
Substrate: Consolidated (hard)	SC	Hard Substrate	4114
Unclear	Unc	Other	118
Macroalgae: Articulated calcareous	MAA	Algae	325
Macroalgae: Encrusting	MAEN	Algae	321
Macroalgae: Filamentous / filiform	MAF	Algae	309
Macroalgae: Globose / saccate	MAG	Algae	305
Macroalgae: Large canopy-forming : brown	MALCB	Algae	299
Macroalgae: Sheet-like / membranous	MAS	Algae	294



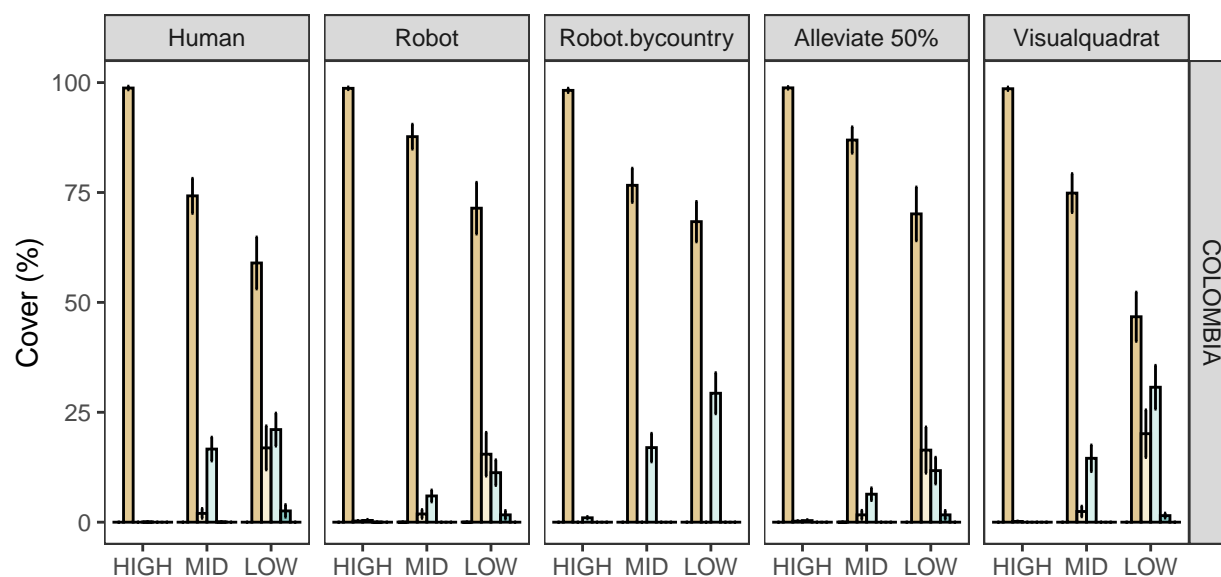
Mean + SE



BOXPLOT

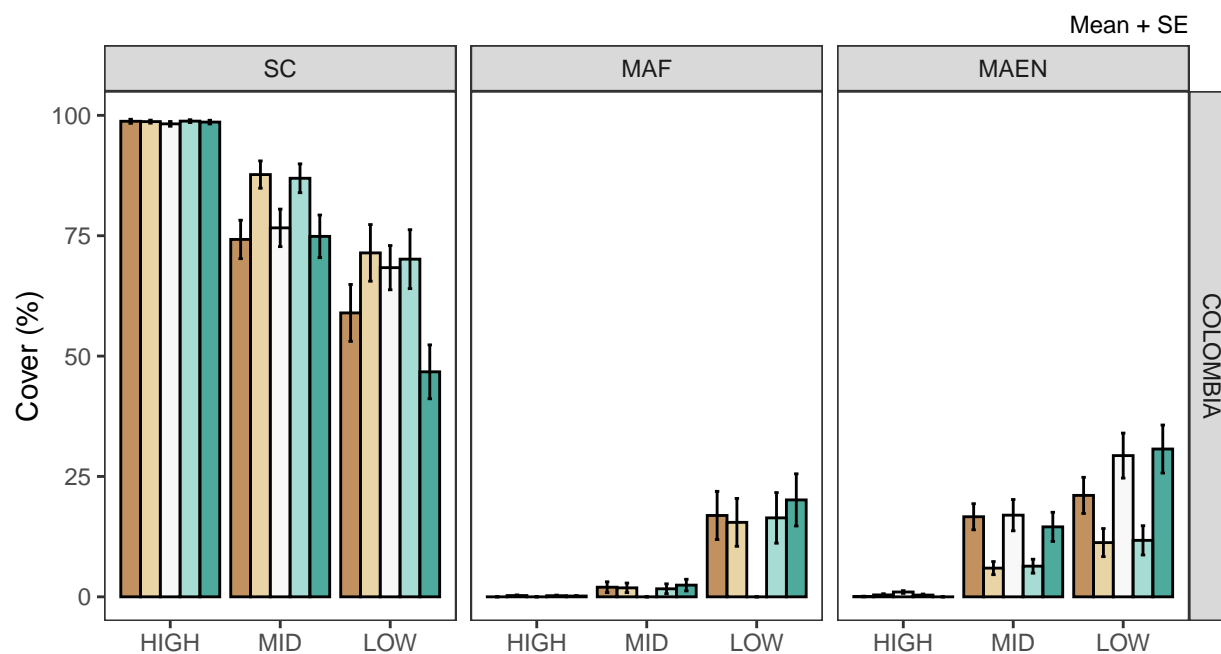


COLOMBIA



CATAMI CODE

MOB	MAF	MAA
SC	MAEN	MAS

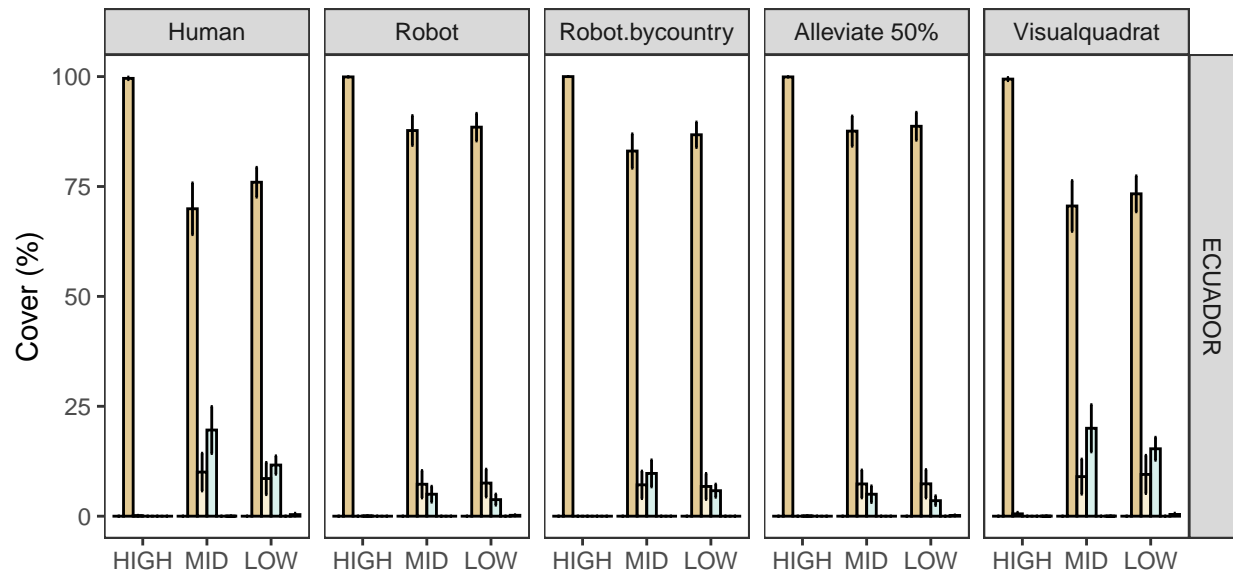


Method

Human	Robot	Robot.bycountry	Alleviate 50%	Visualquadrat
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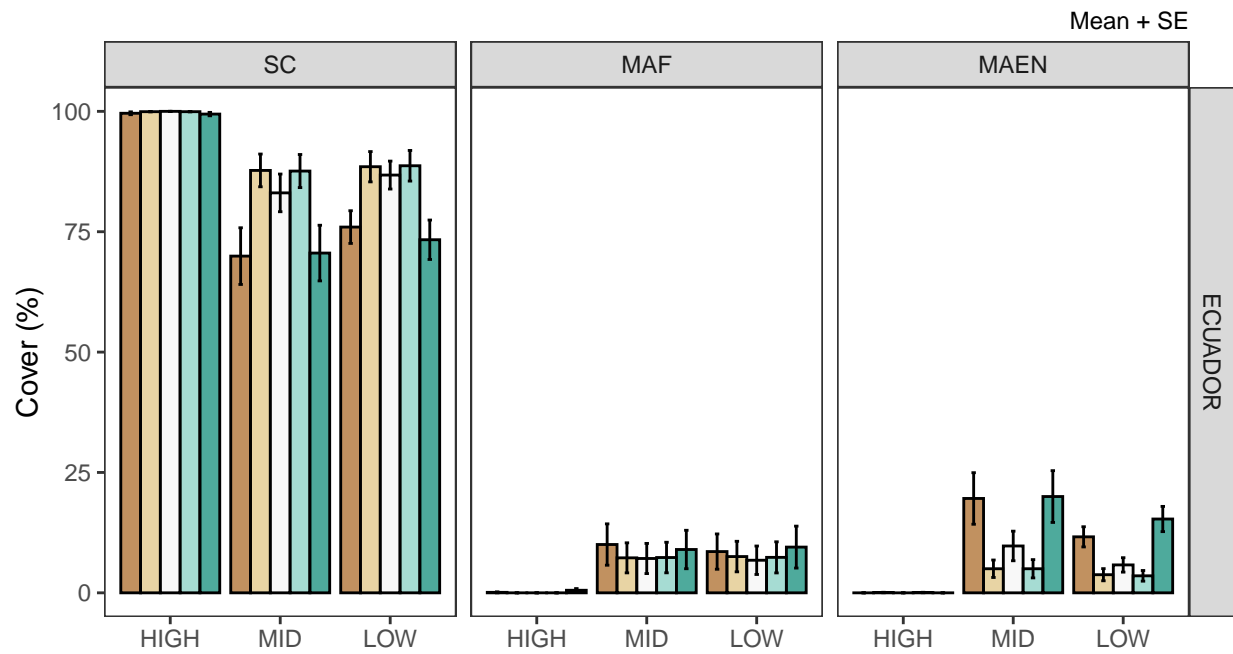
Mean + SE

ECUADOR



CATAMI CODE

MOB	MAF	MAA
SC	MAEN	MAS

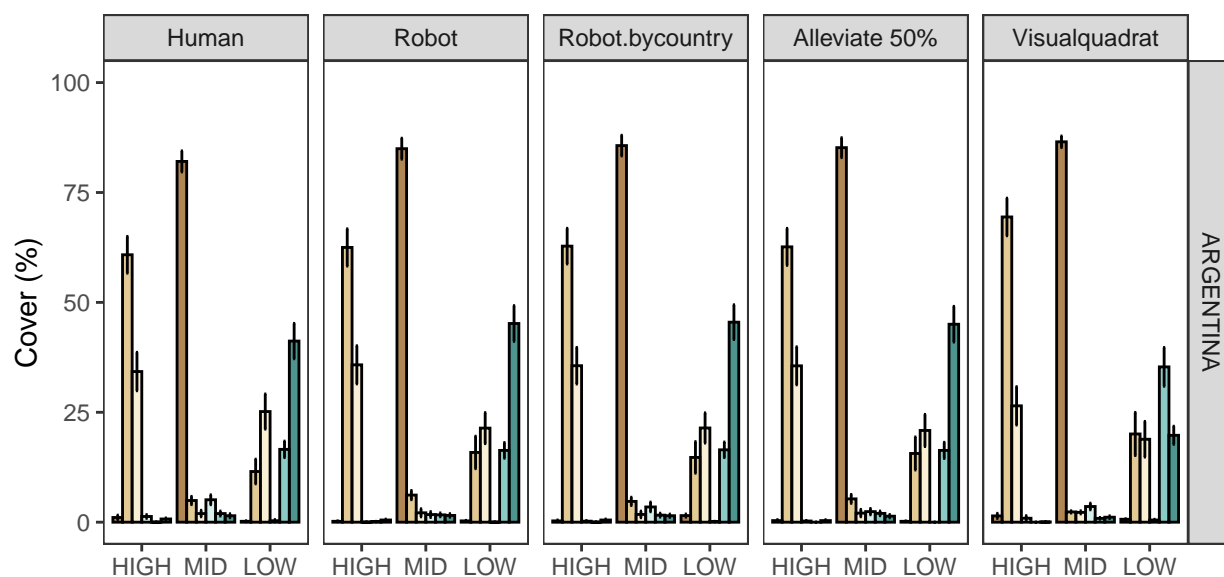


Method

Human	Robot	Robot.bycountry	Alleviate 50%	Visualquadrat
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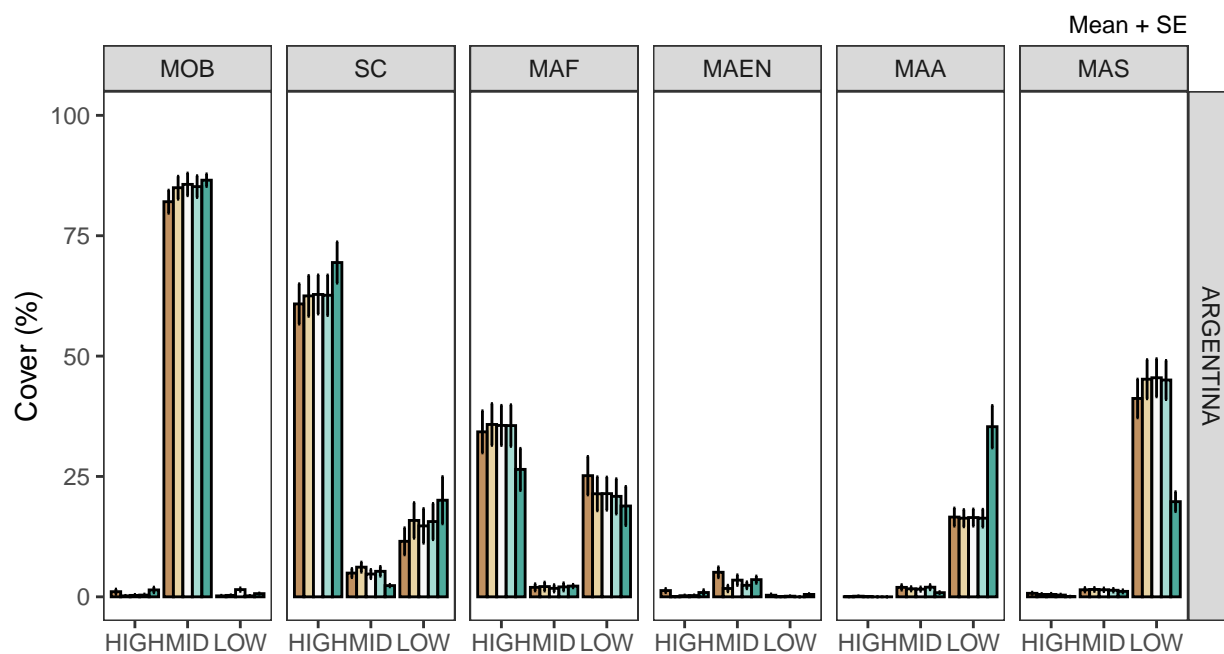
Mean + SE

ARGENTINA



CATAMI CODE

MOB	MAF	MAA
SC	MAEN	MAS



Method

Human	Robot	Robot.bycountry	Alleviate 50%	Visualquadrat
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Mean + SE

Code and data files

All the codes and data files are in github

https://github.com/gonzalobravoargentina/CoralNet_MBON