

Results MBON_CORALNET

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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).

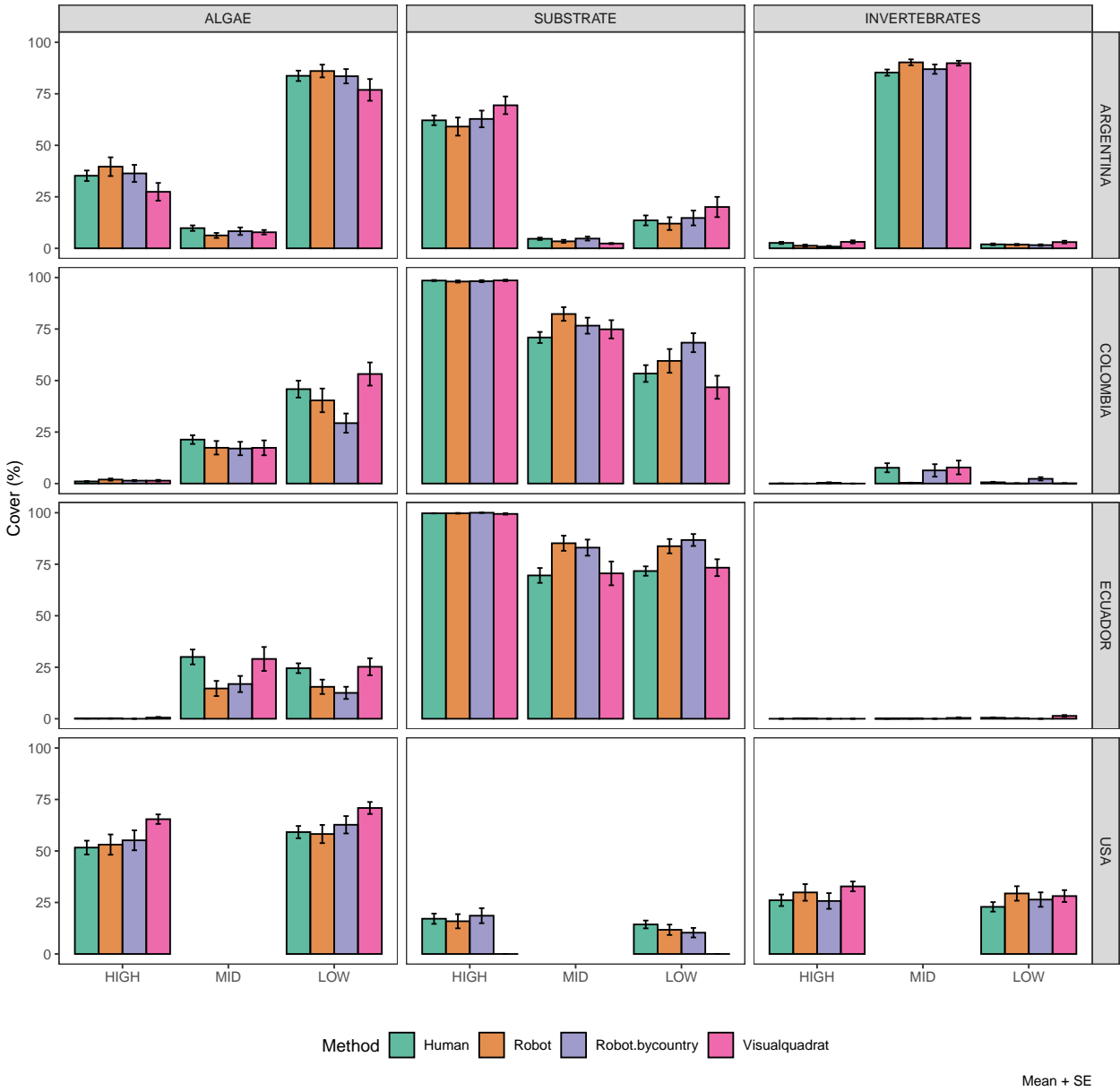
Methods

Photoquadrats from 4 locations with 90 quadrats per location were used for testing automated annotations from the CoralNet software and results were compared with visual quadrats.

Workflow

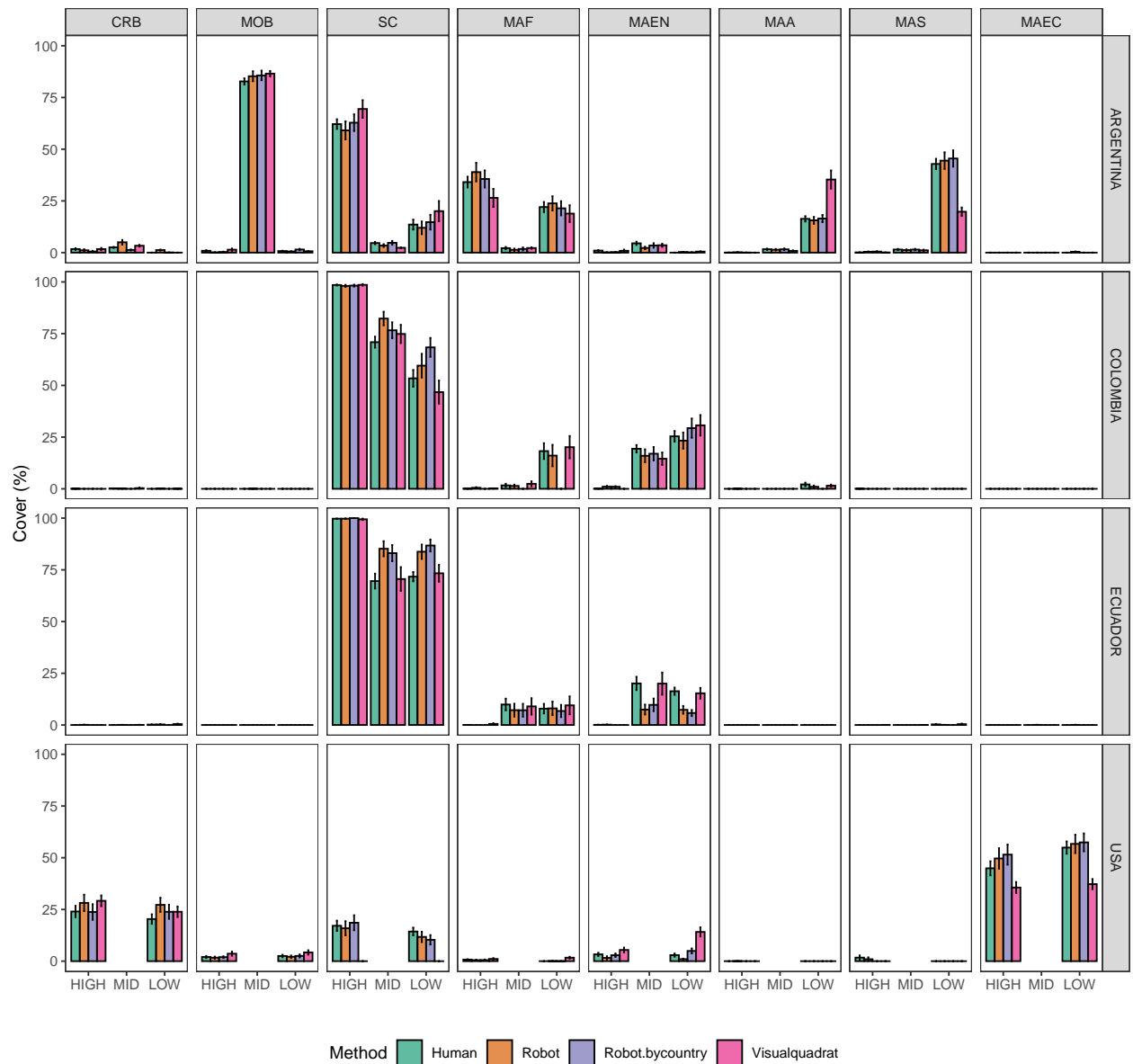
- 1- 90 quadrats/site were visually inspected in situ with a 100 point grid (“Visualquadrat”).
- 2- 90 photoquadrats/site were annotated by experts using a 100 points grid in CoralNet (“Human”).
- 3- The 90 photoquadrats/site of point (1) were re-annotated by the experts using 100 random points. These 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 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



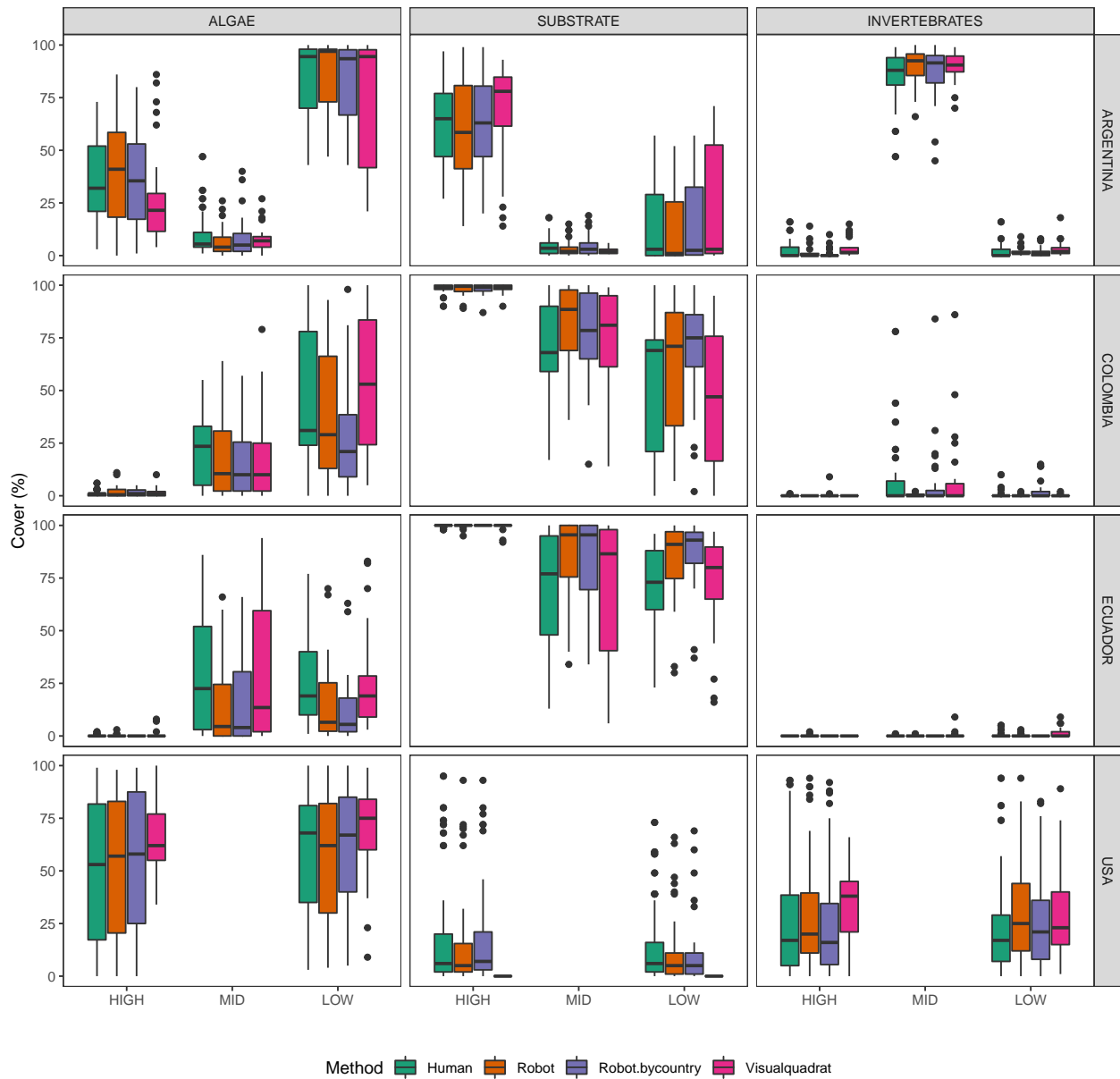
CATAMI list

Name	Short.Code	Functional.Group	ID.CoralNet	ID.CATAMI
Cnidaria: Colonial anemones	CNCA	Other Invertebrates	4773	11500901
Cnidaria: True anemones	CNTR	Other Invertebrates	4774	11229000
Crustacea: Barnacles	CRB	Other Invertebrates	357	27500000
Molluscs: Bivalves	MOB	Other Invertebrates	355	23199000
Molluscs: Gastropods	MOG	Other Invertebrates	353	24000000
Sponge	SP	Other Invertebrates	102	10000000
Worms: Polychaetes: Tube worms	WPOT	Other Invertebrates	361	22000901
Substrate: Consolidated (hard)	SC	Hard Substrate	4114	82001001
Unclear	Unc	Other	118	NA
Macroalgae: Articulated calcareous	MAA	Algae	325	80300911
Macroalgae: Encrusting	MAEN	Algae	321	80300926
Macroalgae: Filamentous / filiform	MAF	Algae	309	80300930
Macroalgae: Globose / saccate	MAG	Algae	305	80300914
Macroalgae: Large canopy-forming : brown	MALCB	Algae	299	80300902
Macroalgae: Sheet-like / membranous	MAS	Algae	294	80300922

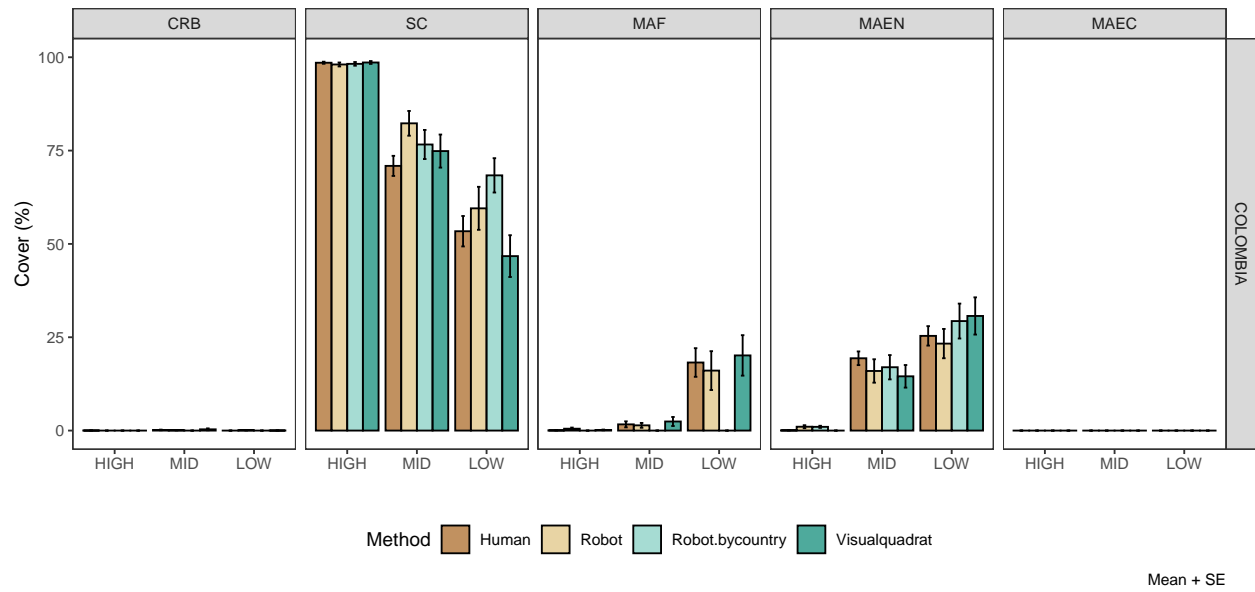


Mean + SE

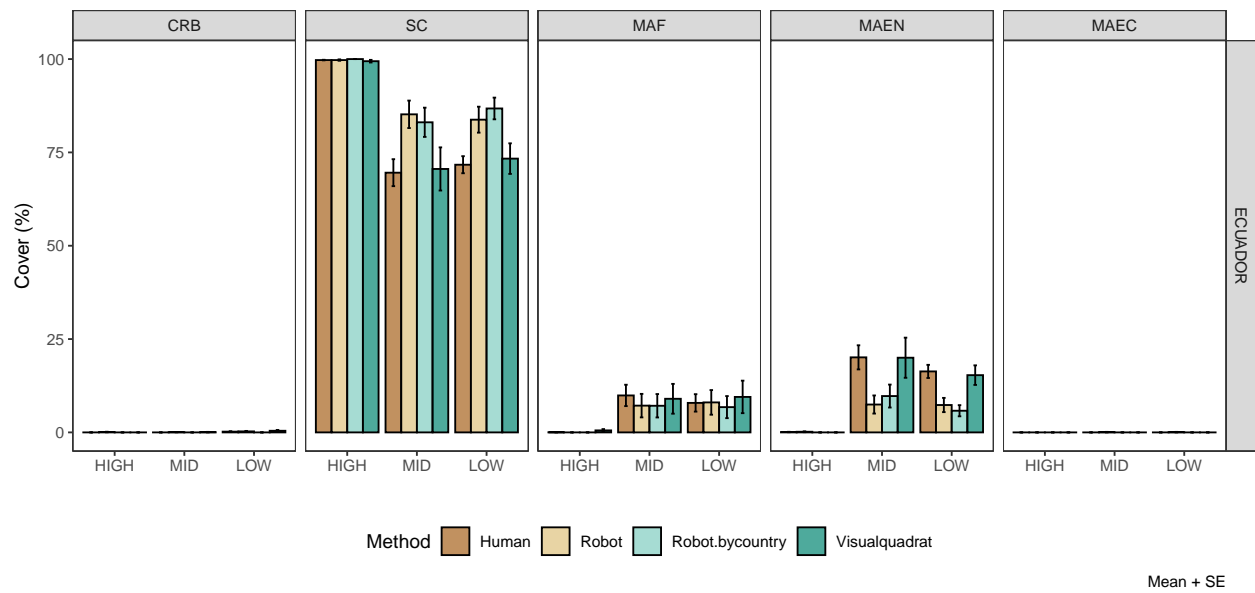
BOXPLOT



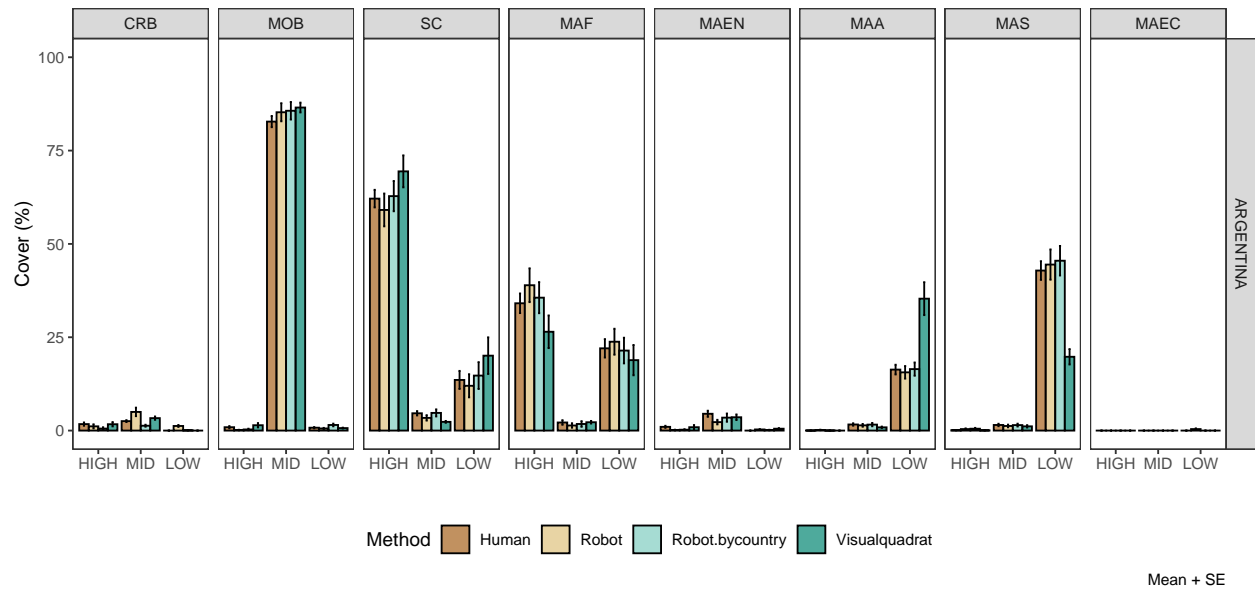
COLOMBIA



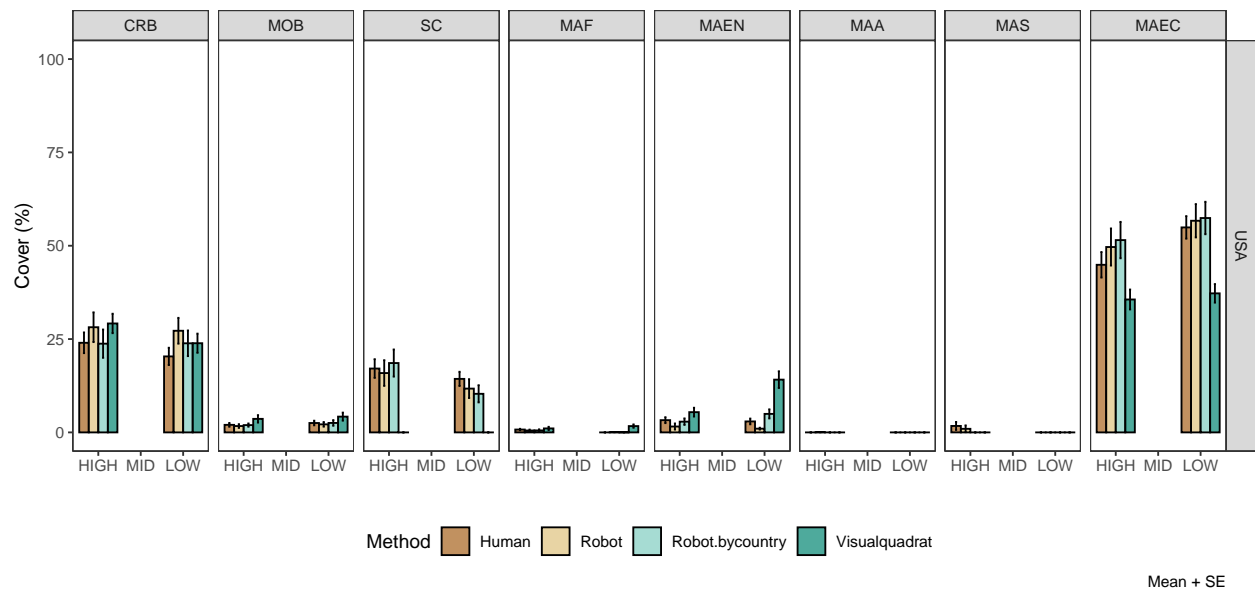
ECUADOR



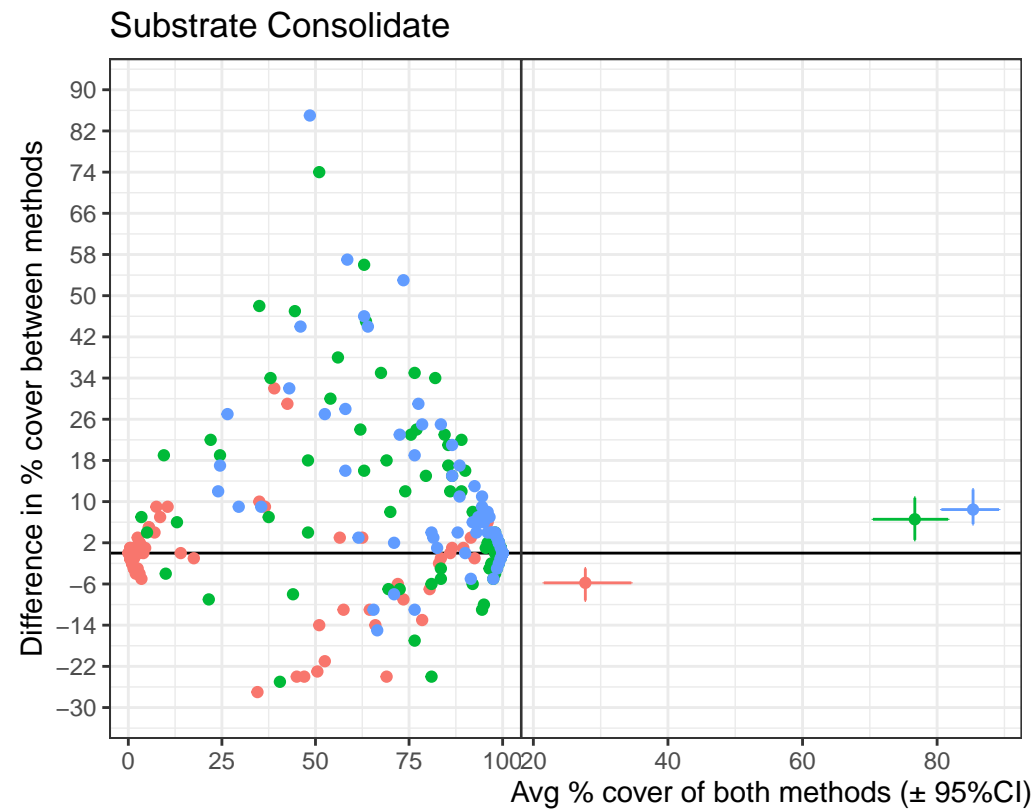
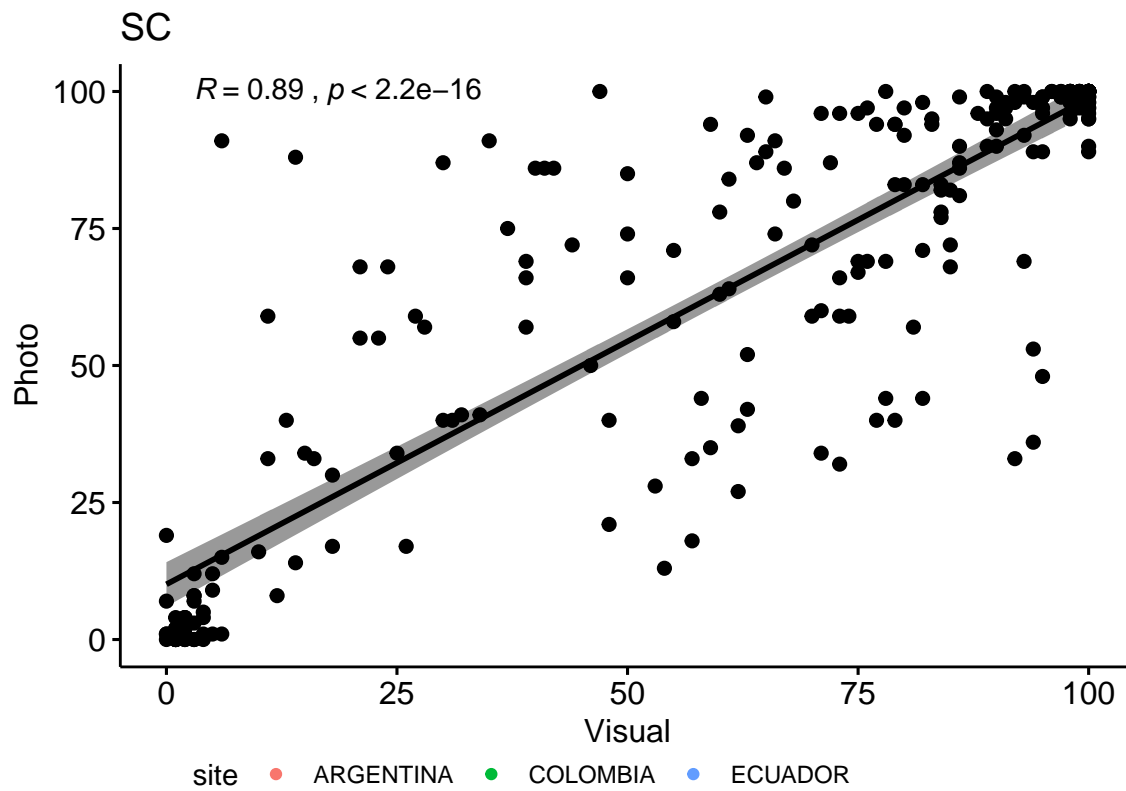
ARGENTINA



USA



Methods comparisons



Code and data files

All the codes and data files are in github

https://github.com/gonzalobravoargentina/CoralNet_MBON