

Supporting information

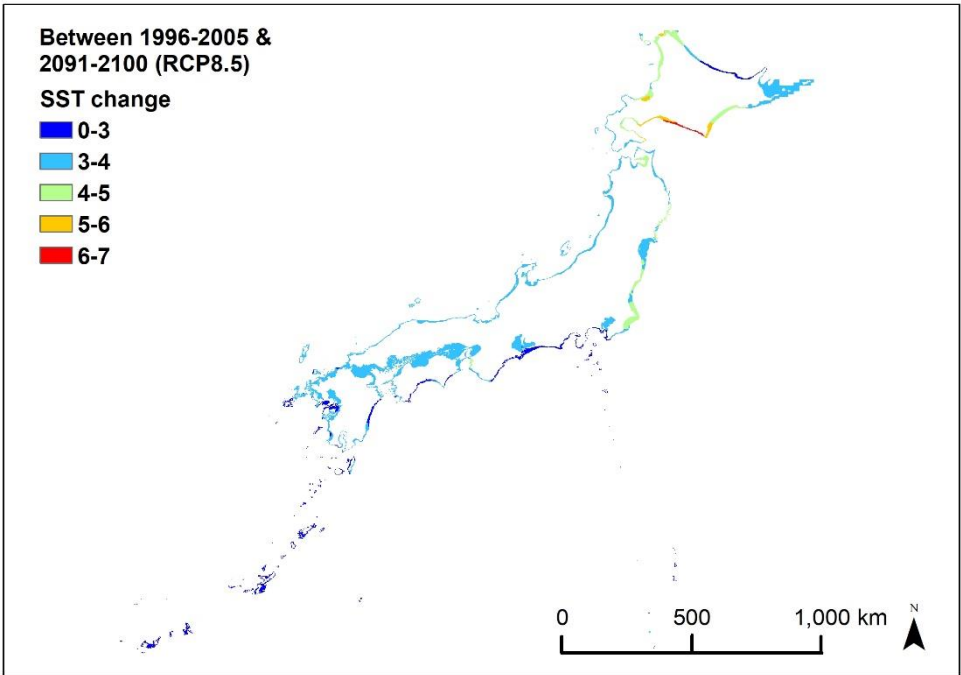


Fig. S1-1. SST change between 1996-2005 and 2091-2100 in Feb. (RCP8.5)

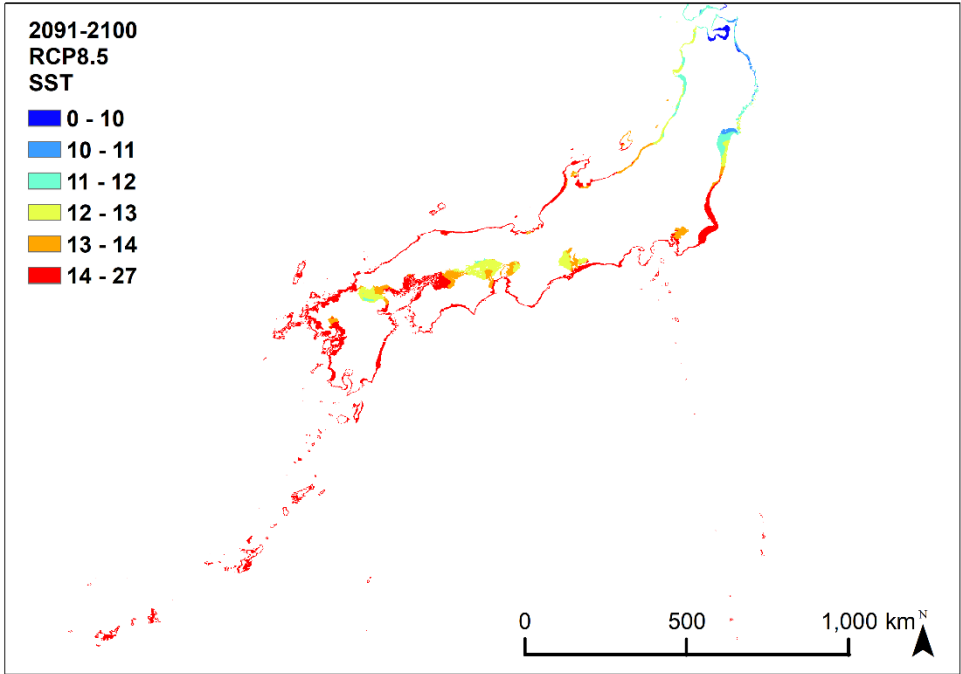


Fig. S1-2. SST in Feb. 2091-2100 (RCP8.5)

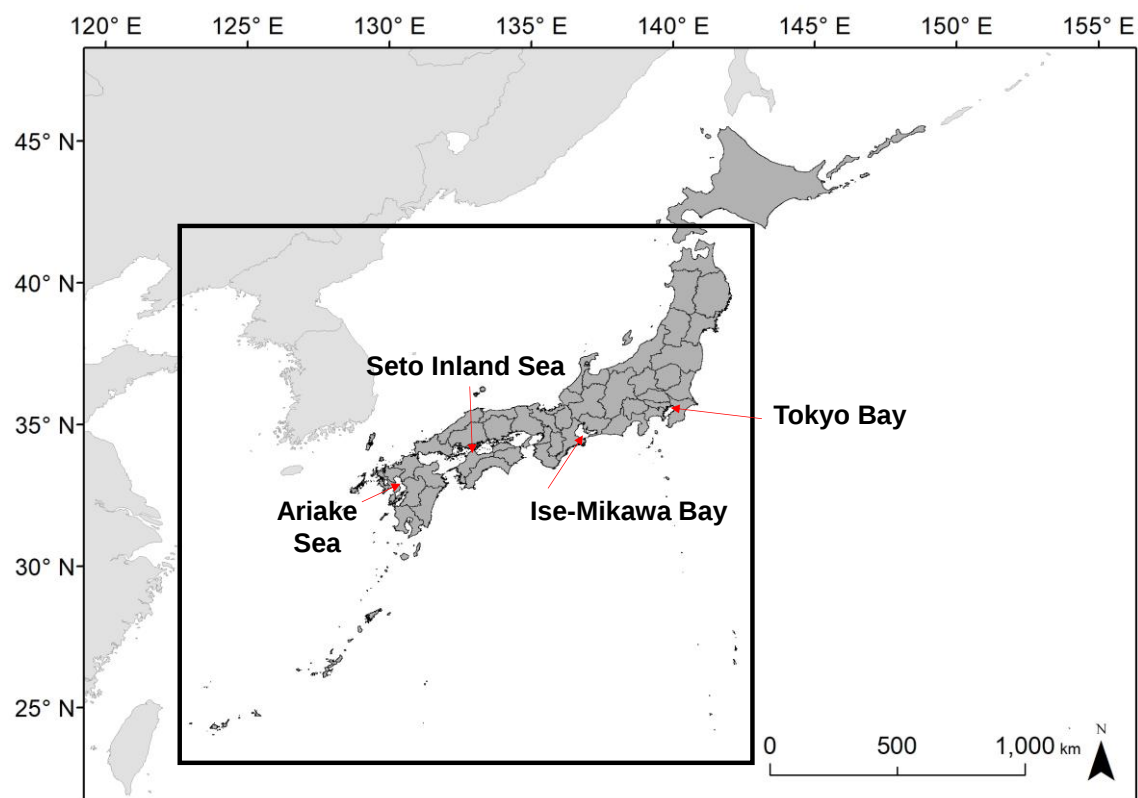
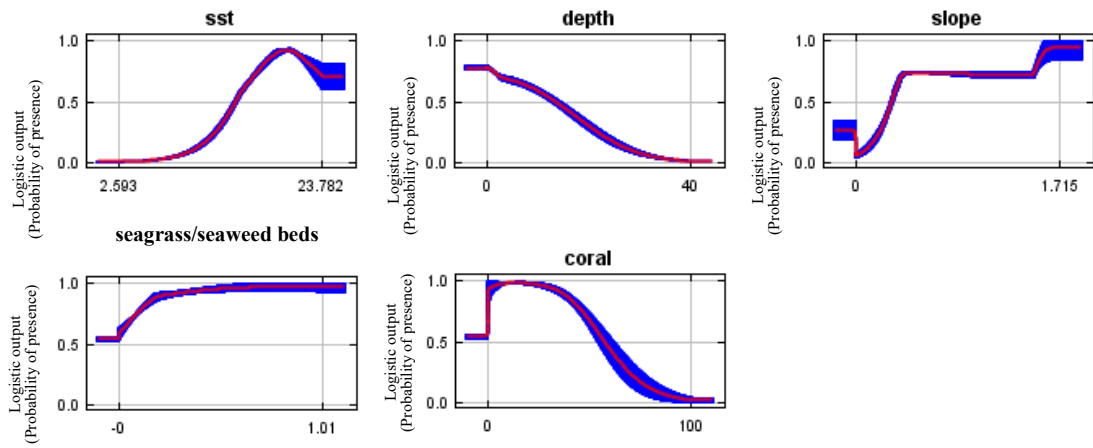
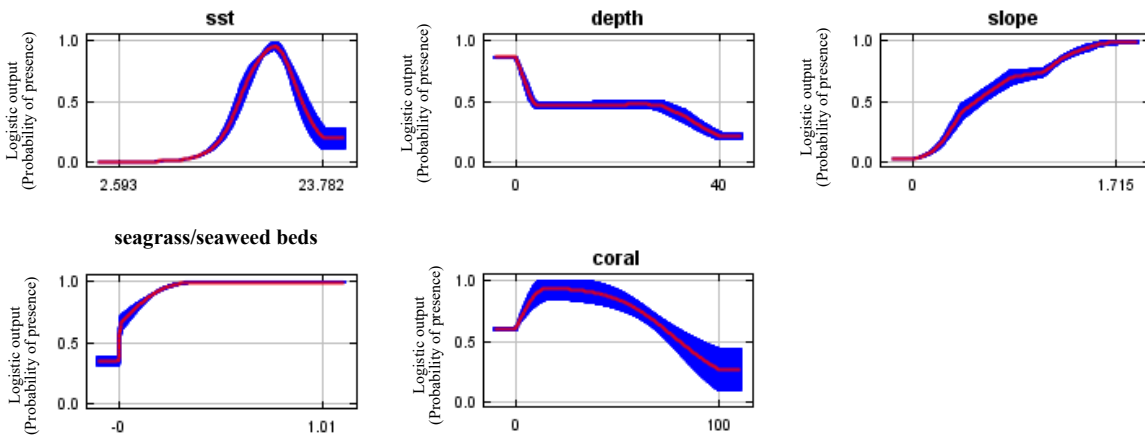


Fig. S2. Semi-closed sea in Japan



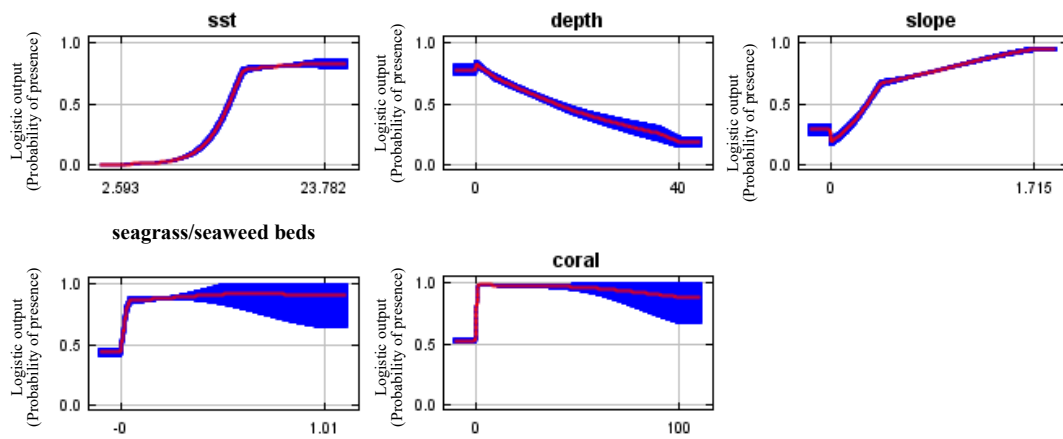
Aluterus scriptus



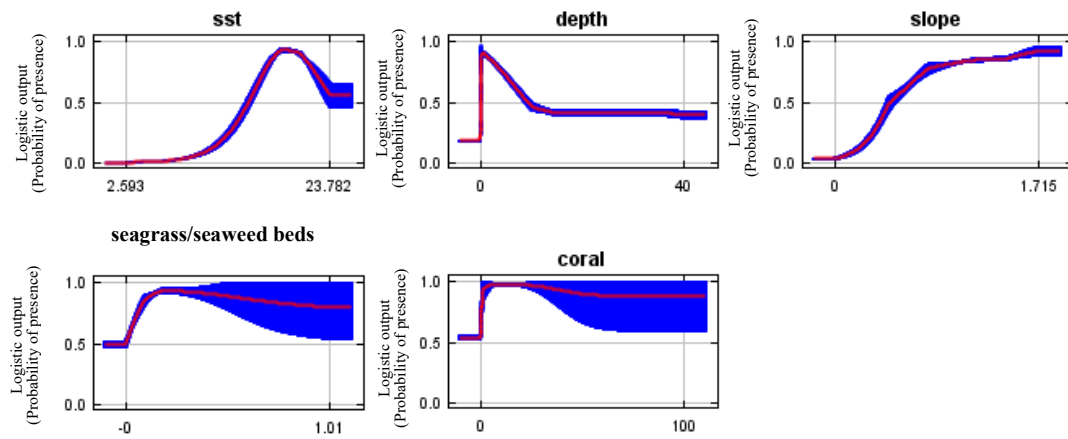
Scarus ovifrons

Fig. S3-1. Response curve of the environmental variables for each model for *Aluterus scriptus* and *Scarus ovifrons*

Red: mean response of 10 replicate Maxent runs. Blue: mean $\pm$ one standard deviation.



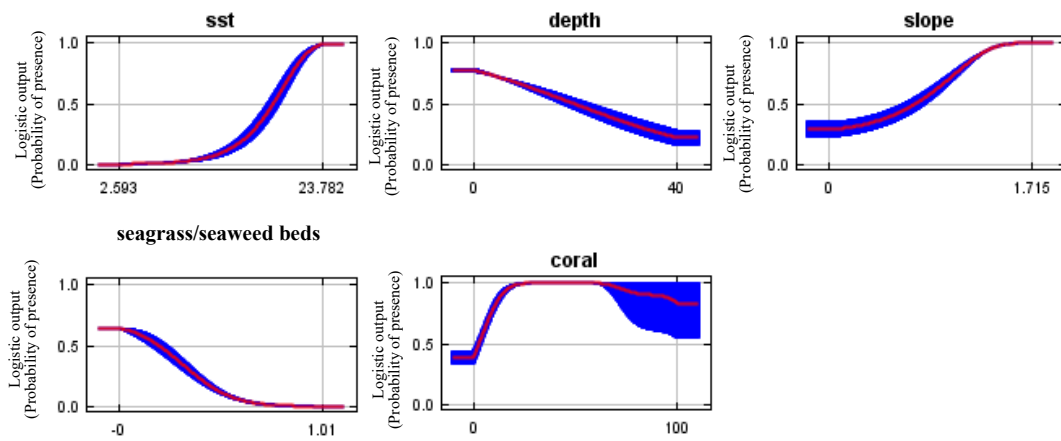
Siganus fuscescens



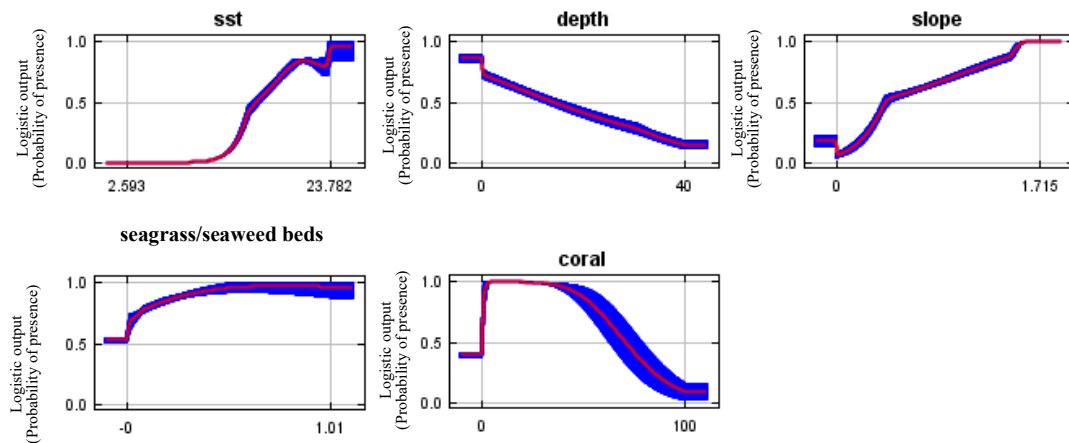
Kyphosus bigibbus

Fig. S3-2. Response curve of the environmental variables for *Siganus fuscescens* and *Kyphosus bigibbus*

Red: mean response of 10 replicate Maxent runs. Blue: mean $\pm$ one standard deviation.



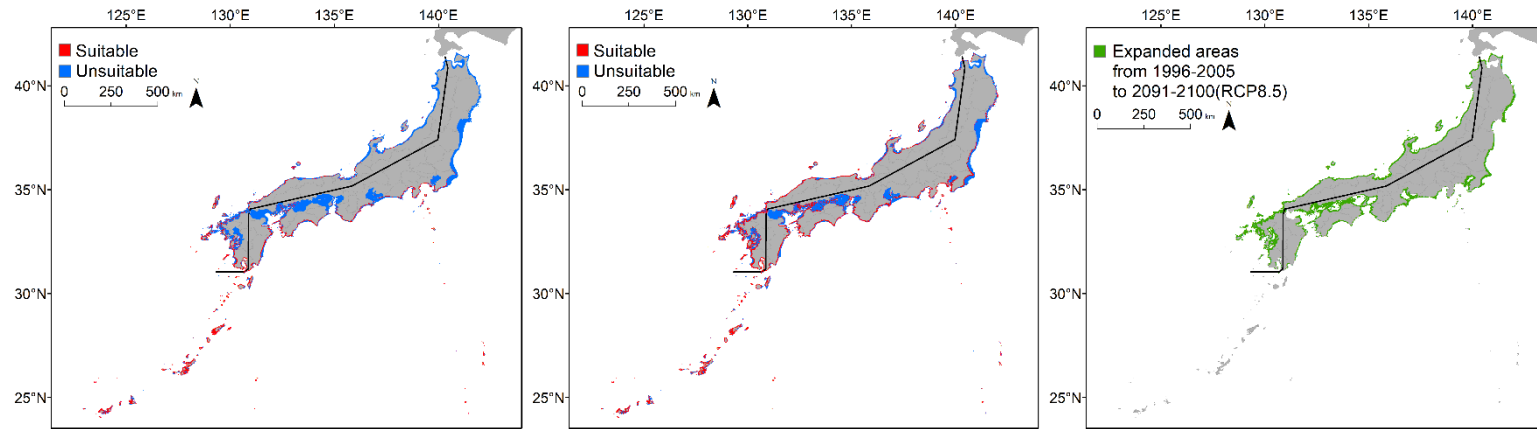
Amphiprion frenatus



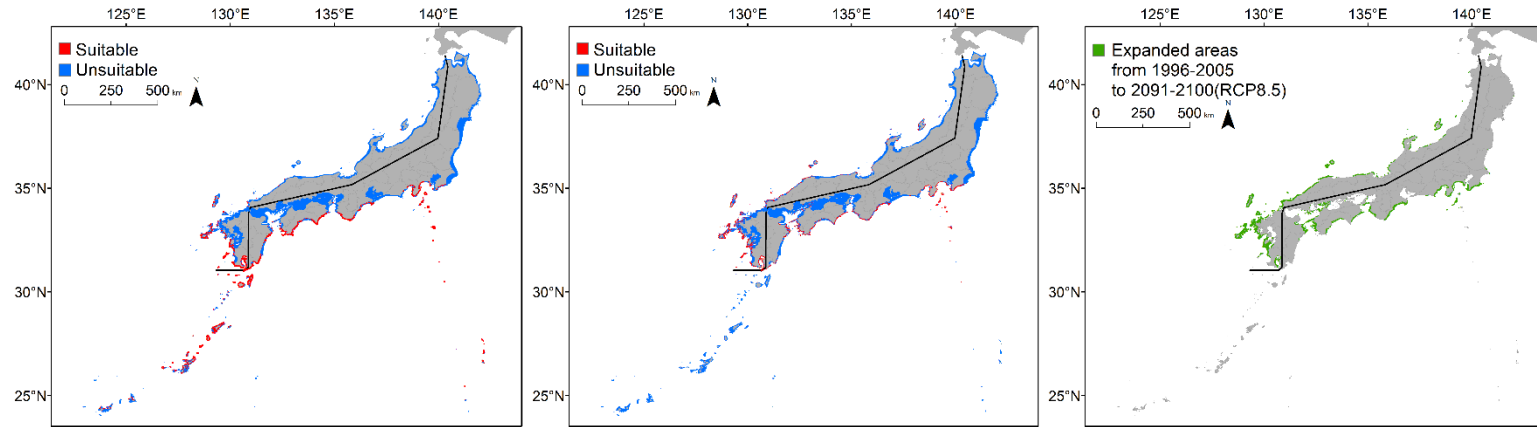
Chaetodon auriga

Fig. S3-3. Response curve of the environmental variables for each model for *Amphiprion frenatus* and *Chaetodon auriga*

Red: mean response of 10 replicate Maxent runs. Blue: mean $\pm$ one standard deviation.

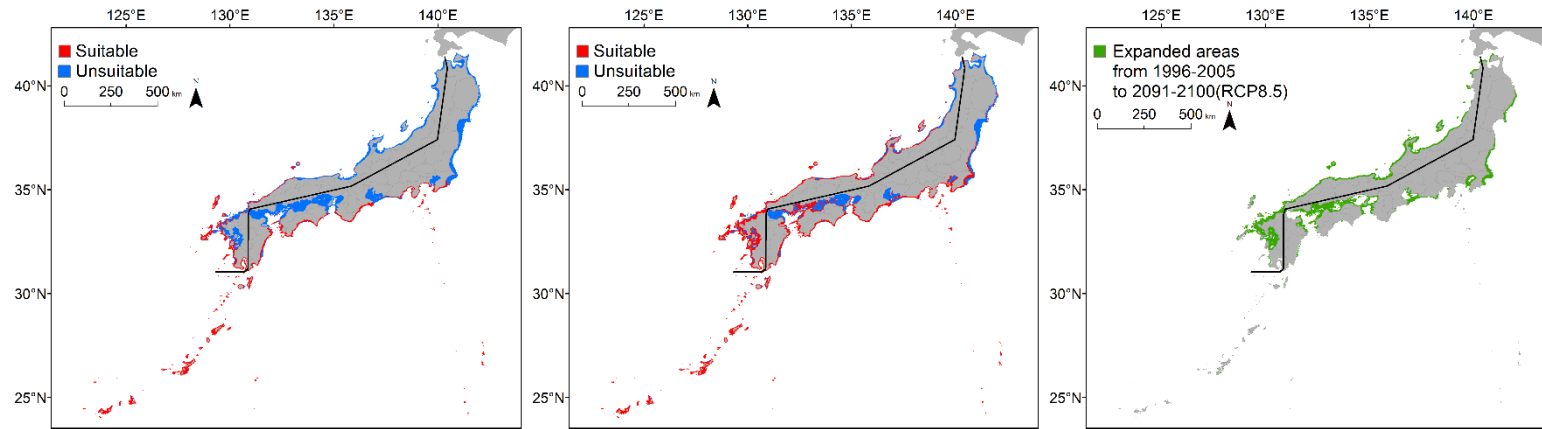


Aluterus scriptus

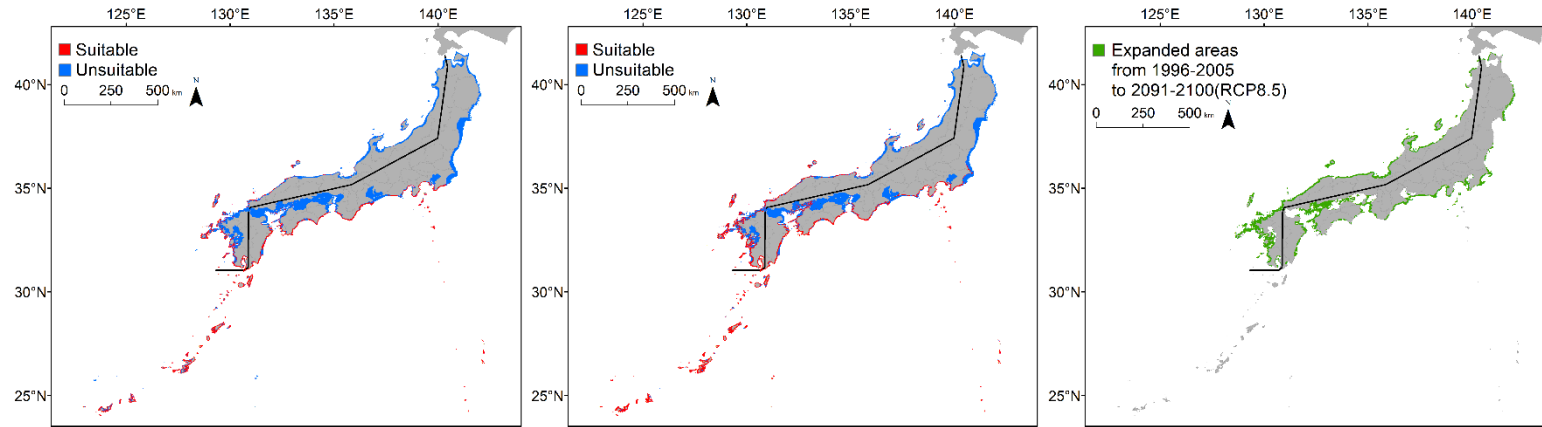


Scarus ovifrons

Fig. S4-1. Estimated distribution to target species. The maps show their distribution in 2000–2018 (left), 2091–2100 (for RCP8.5 scenario) (middle) and expanded areas from 2000–2018 to 2091–2100 (RCP8.5) (right).

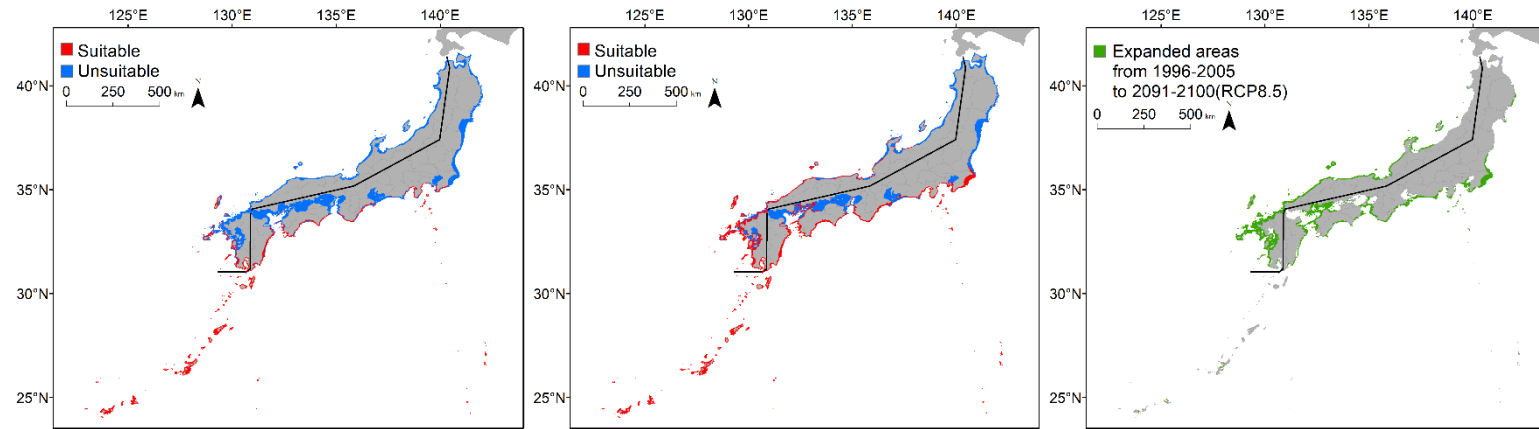


Siganus fuscescens

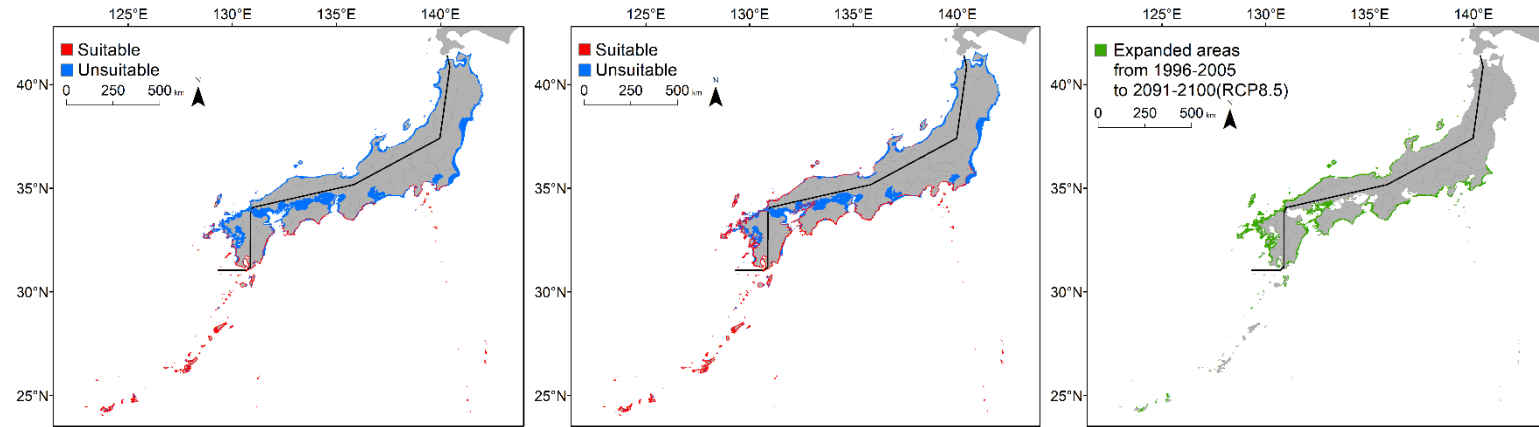


Kyphosus bigibbus

Fig. S4-2. Estimated distribution to target species. The maps show their distribution in 2000–2018 (left), 2091–2100 (for RCP8.5 scenario) (middle) and expanded areas from 2000–2018 to 2091–2100 (RCP8.5) (right).



Amphiprion frenatus



Chaetodon auriga

Fig. S4-3. Estimated distribution to target species. The maps show their distribution in 2000–2018 (left), 2091–2100 (for RCP8.5 scenario) (middle) and expanded areas from 2000–2018 to 2091–2100 (RCP8.5) (right).

Table S1. Prediction of water temperature change from 1996-2005 and its range based on the ensemble model integrating four future ocean projection models.

	RCP2.6	RCP8.5
	2091-2100	2091-2100
Ensemble average	1.2	3.6
Ensemble range($\pm$ SD)	0.4	0.8
Maximum of ensemble	1.6	4.3
Minimum of ensemble	0.7	2.4

GBIF Citation

GBIF.org (22 June 2021) GBIF Occurrence Download

Aluterus scriptus <https://doi.org/10.15468/dl.nuxawv>

Scarus ovifrons <https://doi.org/10.15468/dl.fwnsps>

Kyphosus bigibbus <https://doi.org/10.15468/dl.wkb4rz>

Siganus fuscescens <https://doi.org/10.15468/dl.vnmqhs>

Amphiprion frenatus <https://doi.org/10.15468/dl.4xbp24>

Chaetodon Auriga <https://doi.org/10.15468/dl.ezwwp8>