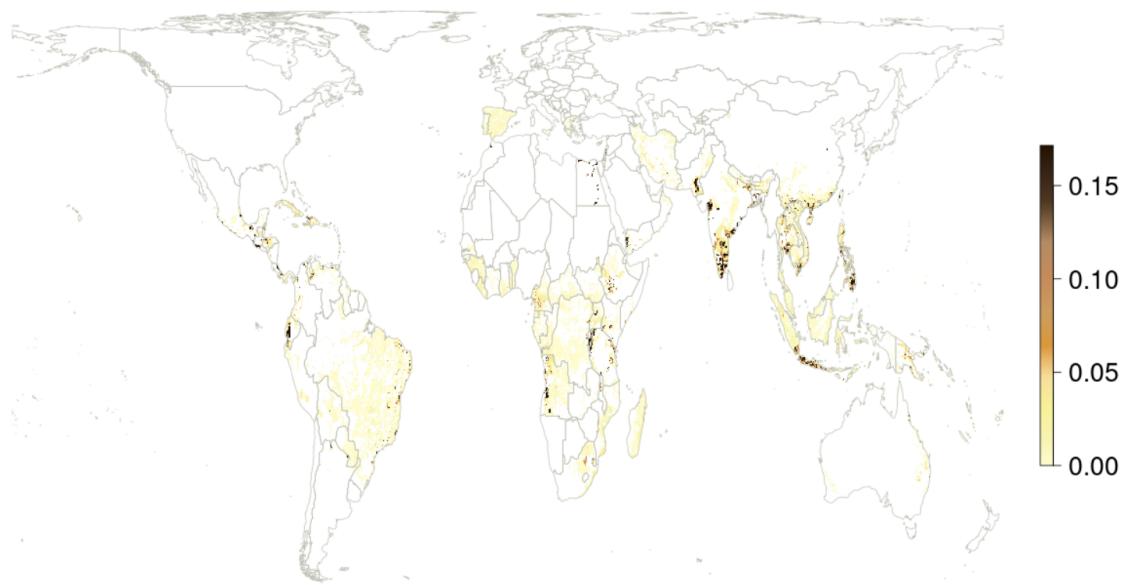


## Extended Data Fig. 1

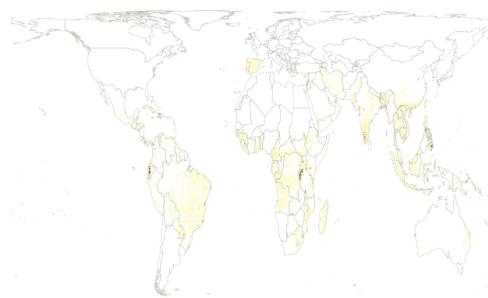
**Extended Data Fig. 1:** Cumulative and individual (disturbance, GHG, water, nutrient) pressures for four food systems; 1a) 27 crop categories (includes production for feed, human consumption, and other uses), 1b) 11 livestock categories, 1c) 8 categories of marine fisheries and one category of freshwater fisheries, and 1d) 6 categories of marine aquaculture. The individual pressure maps describe the rescaled pressure data, calculated by dividing each pixel value (e.g., m<sup>3</sup> water consumption) by the total global pressure across all food systems and pixels, such that each pixel describes its proportional contribution to the global total for that pressure. These values were then multiplied by one million to prevent artefacts from small values. The cumulative pressure score was calculated by summing the rescaled pressure layers. Colour ramp scaling is unique to each plot so the relative spatial distribution of each food item can be more easily visualised.

**Extended Data Fig. 1a:** Cumulative and individual (disturbance, GHG, water, nutrient) pressures for 27 crop categories (includes production for feed, human consumption, and other uses).

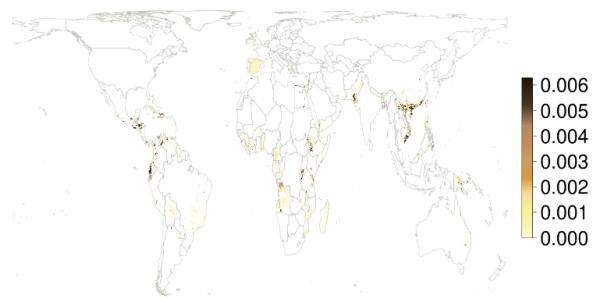
**Cumulative Pressure**



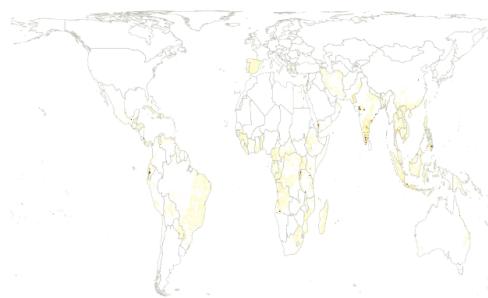
**Disturbance**



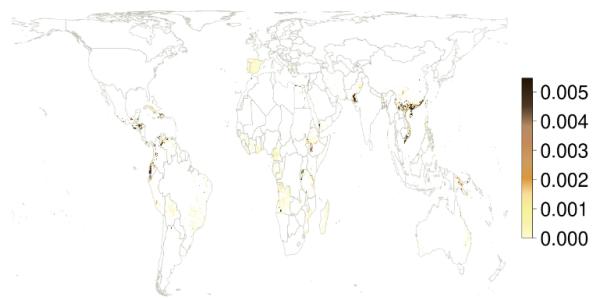
**GHG**



**Water**

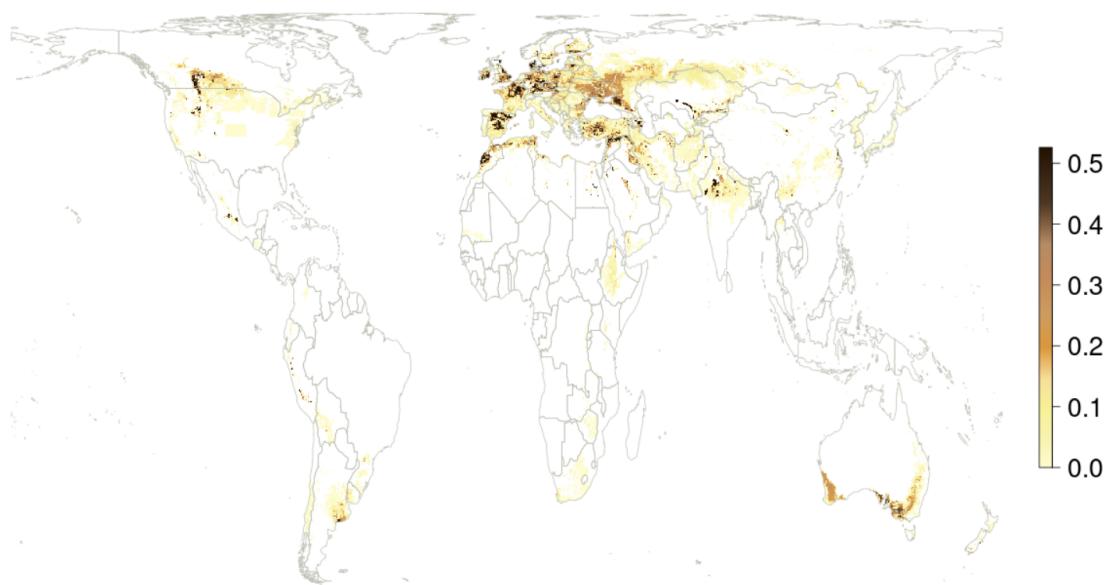


**Nutrient**

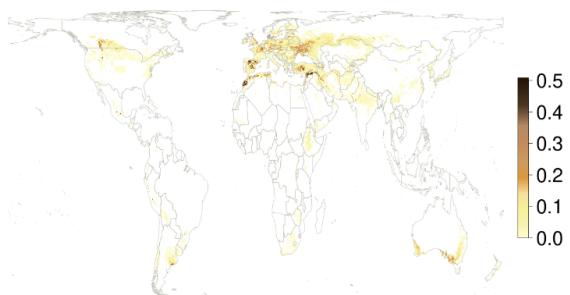


1) Banana

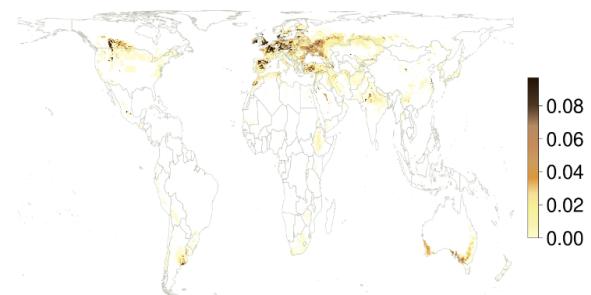
**Cumulative Pressure**



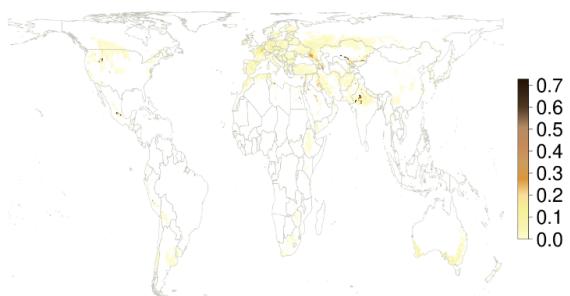
**Disturbance**



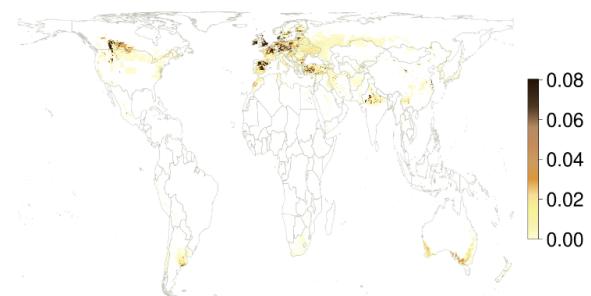
**GHG**



**Water**

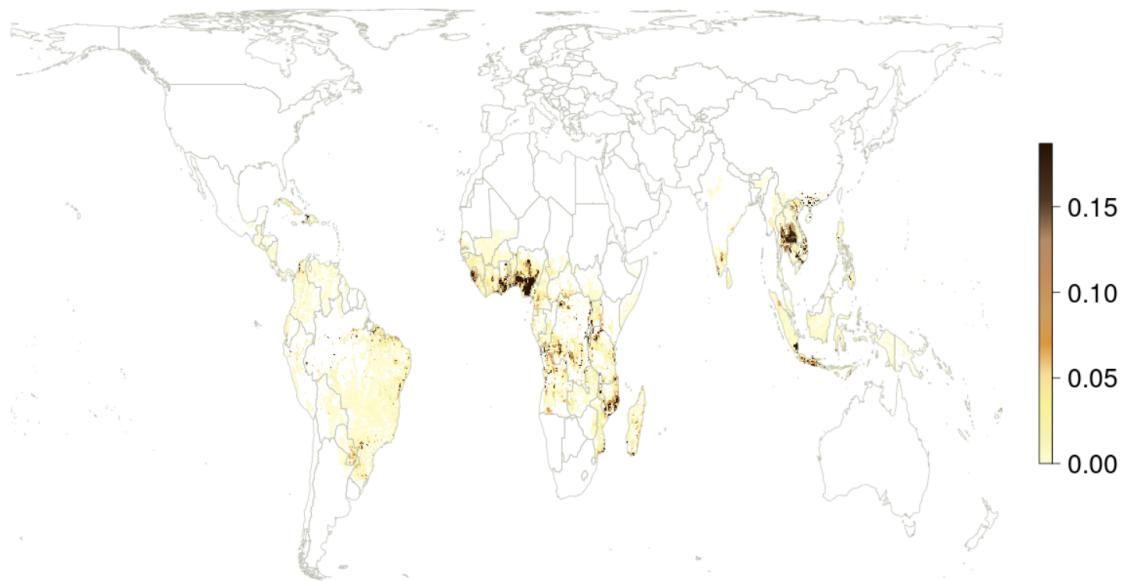


**Nutrient**

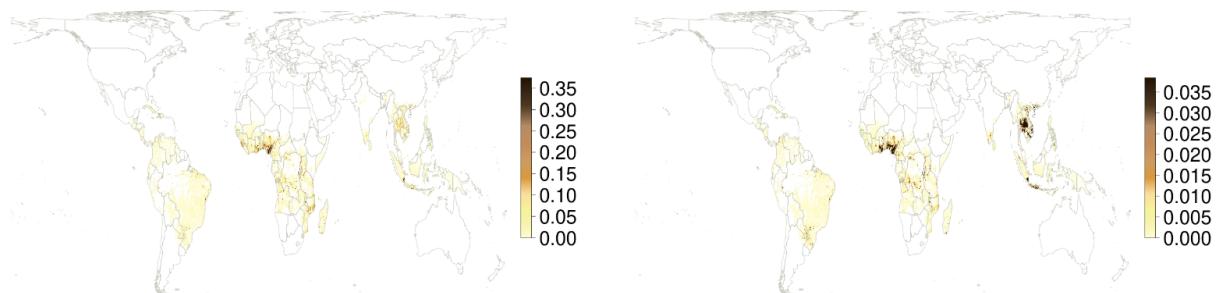


2) Barley

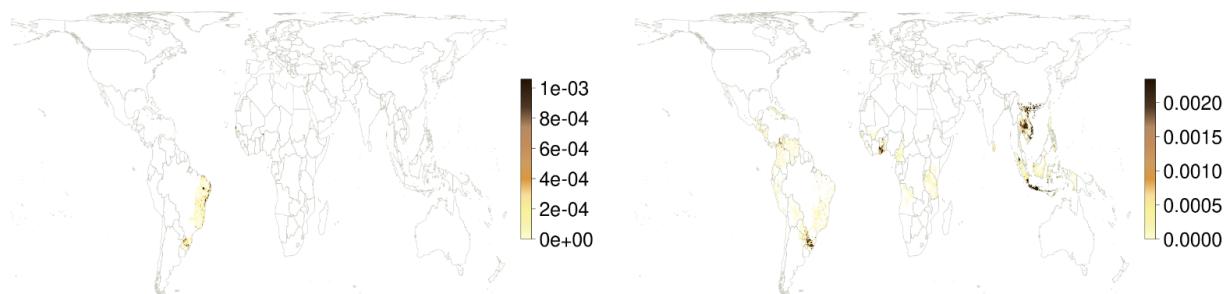
**Cumulative Pressure**



**Disturbance**

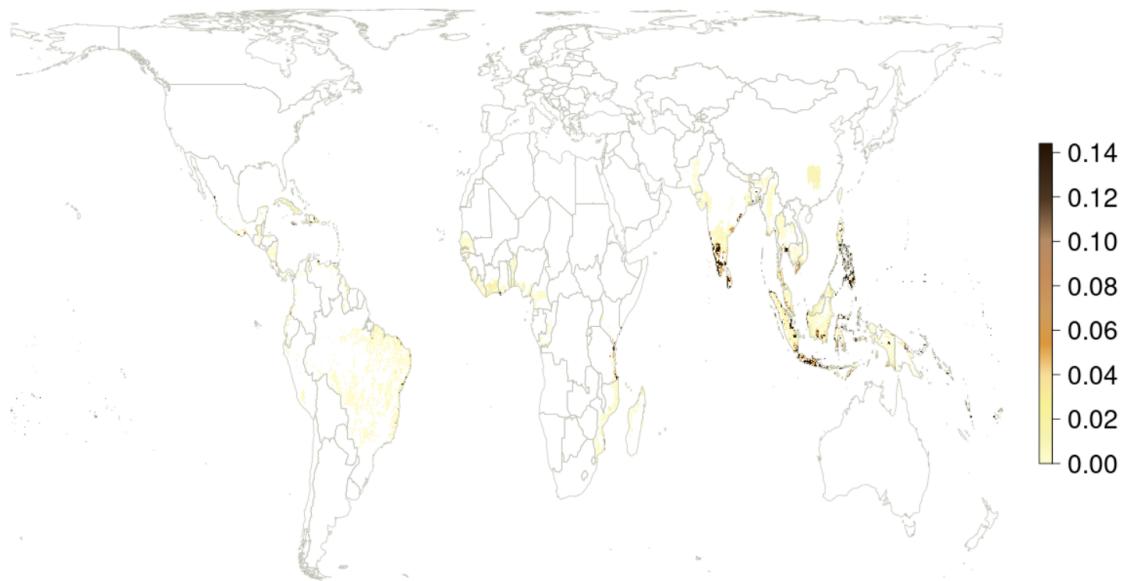


**Water**

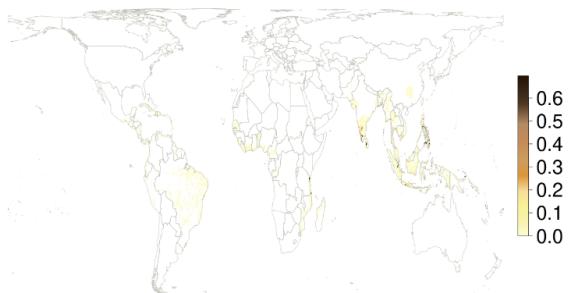


3) Cassava

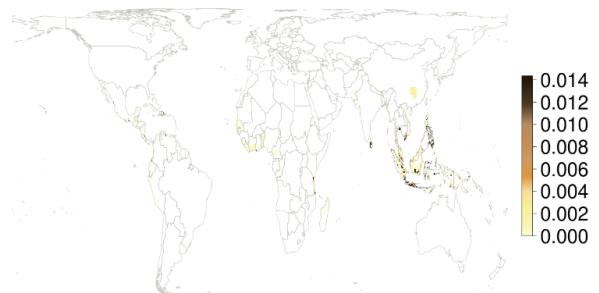
**Cumulative Pressure**



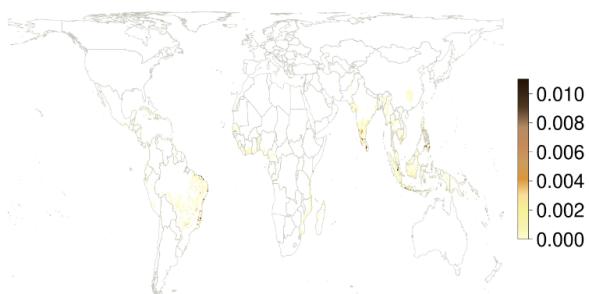
**Disturbance**



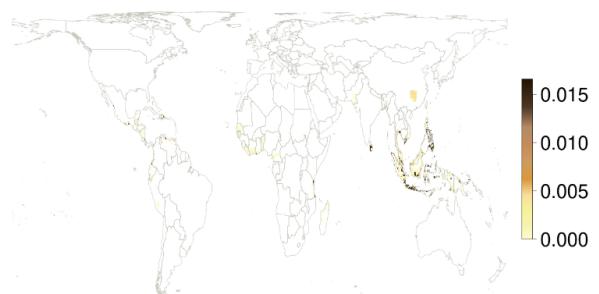
**GHG**



**Water**

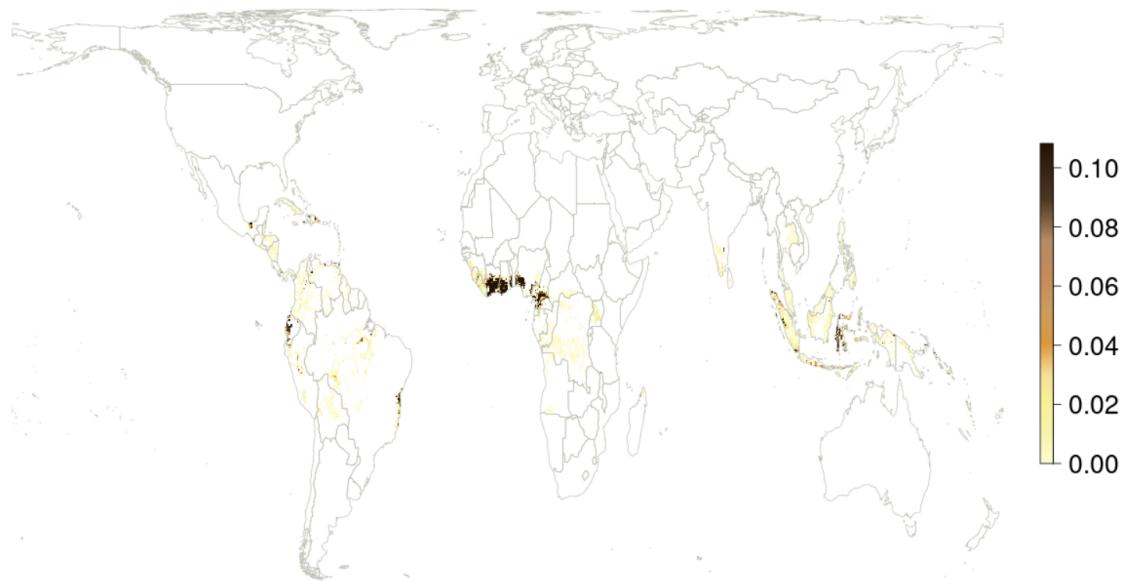


**Nutrient**

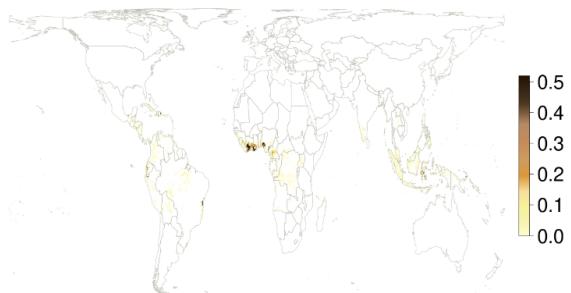


4) Coconut

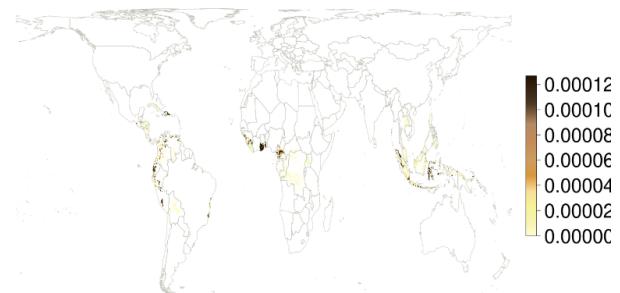
Cumulative Pressure



Disturbance



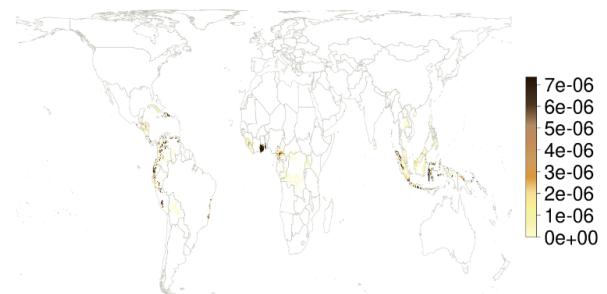
GHG



Water

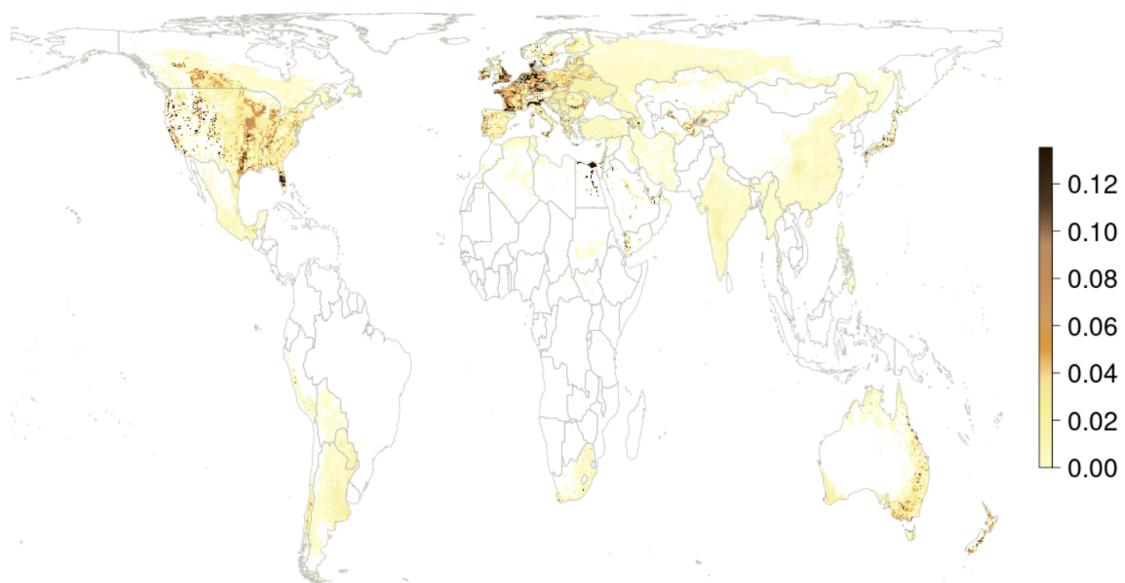


Nutrient

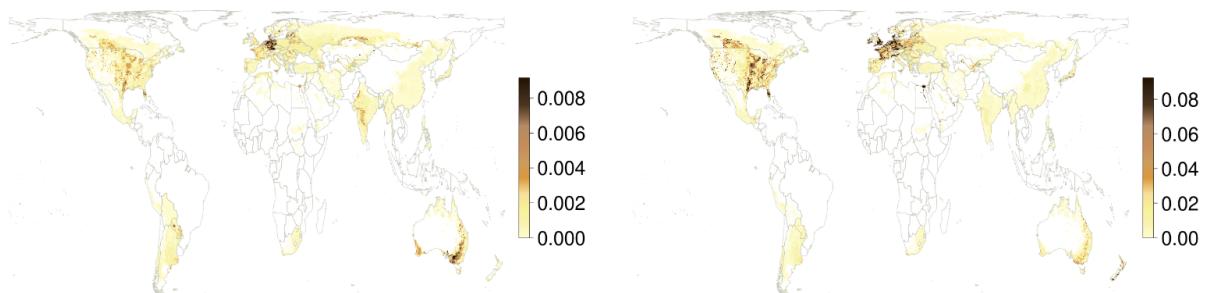


5) Cocoa

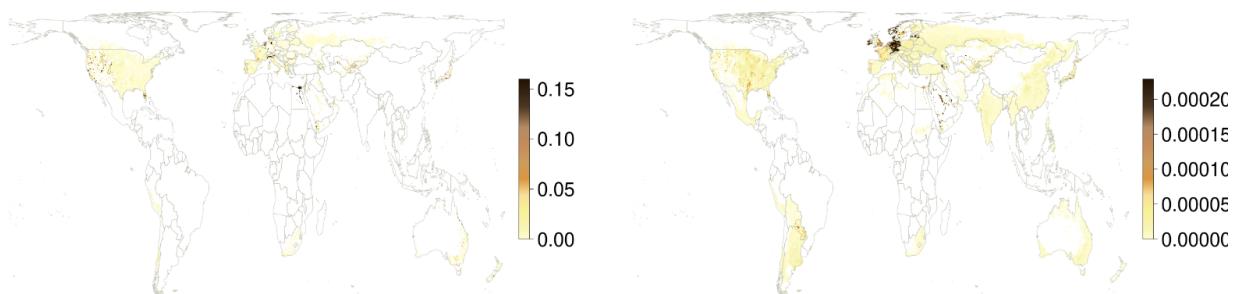
**Cumulative Pressure**



**Disturbance**

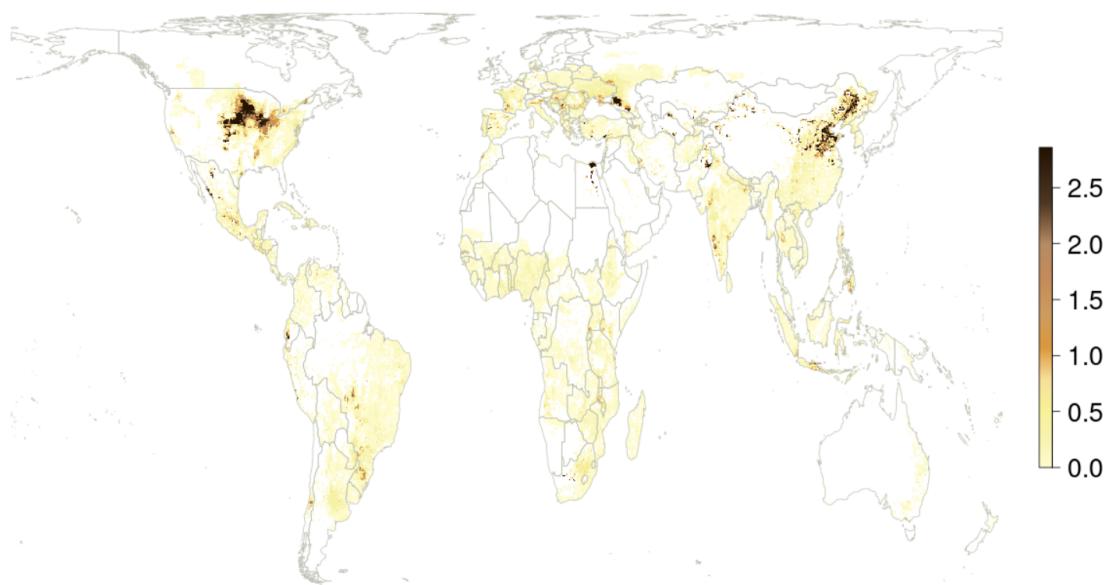


**Water**

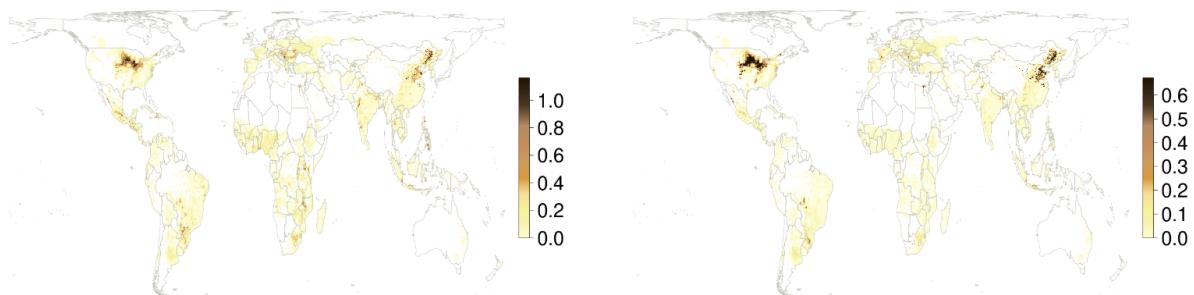


6) Fodder

**Cumulative Pressure**

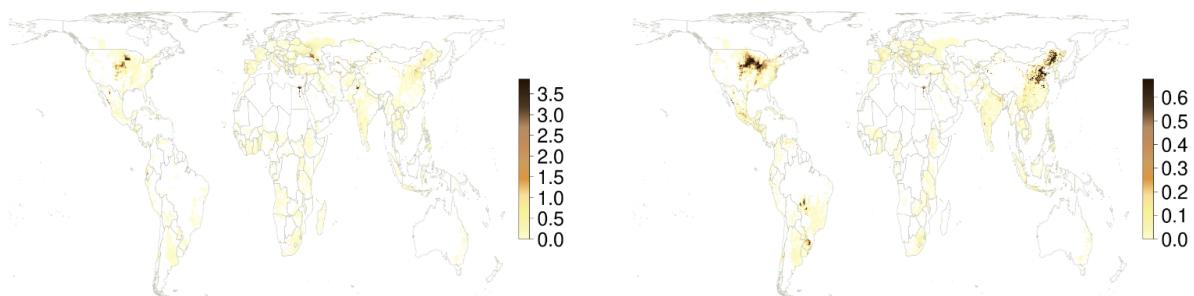


**Disturbance**



**GHG**

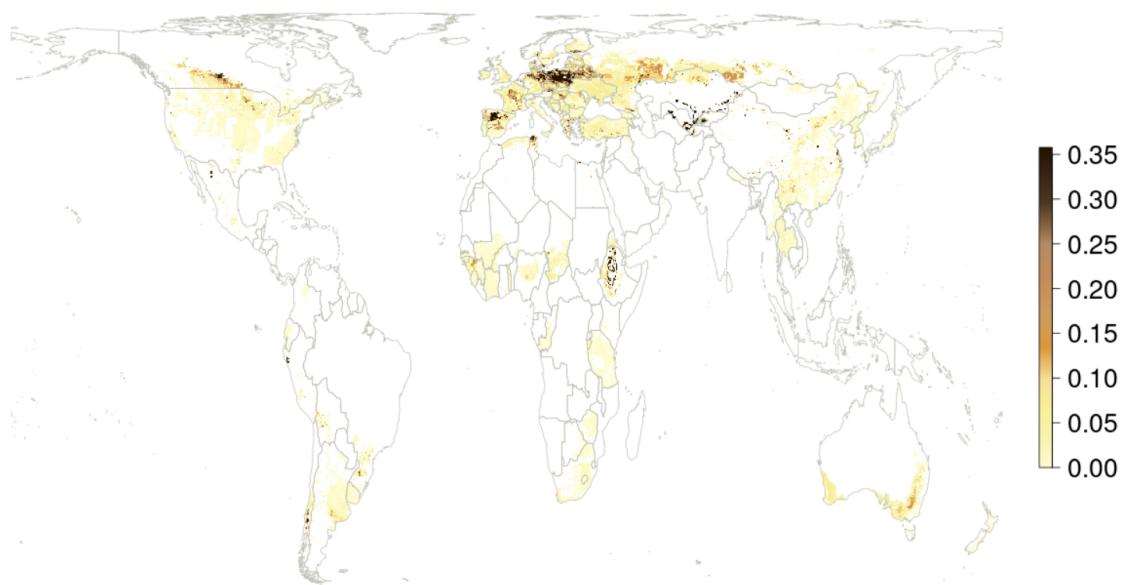
**Water**



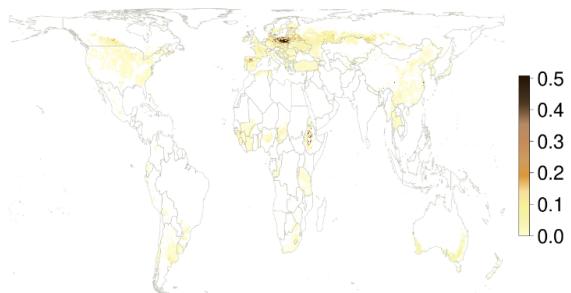
**Nutrient**

7) Maize

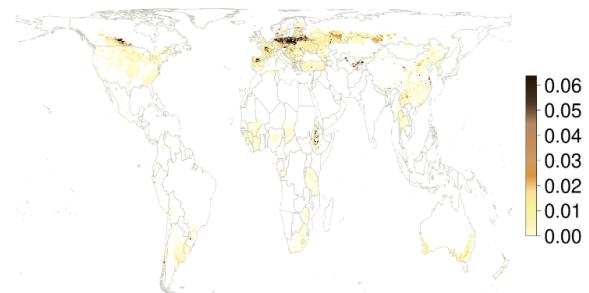
**Cumulative Pressure**



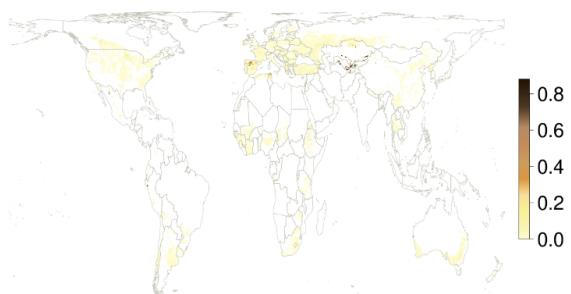
**Disturbance**



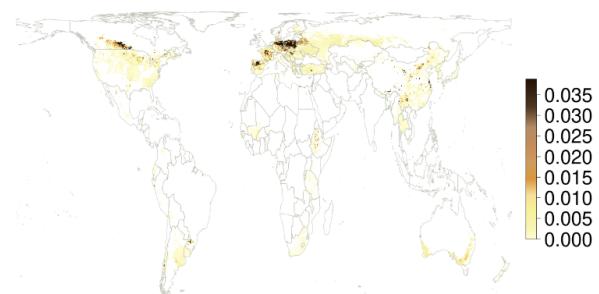
**GHG**



**Water**

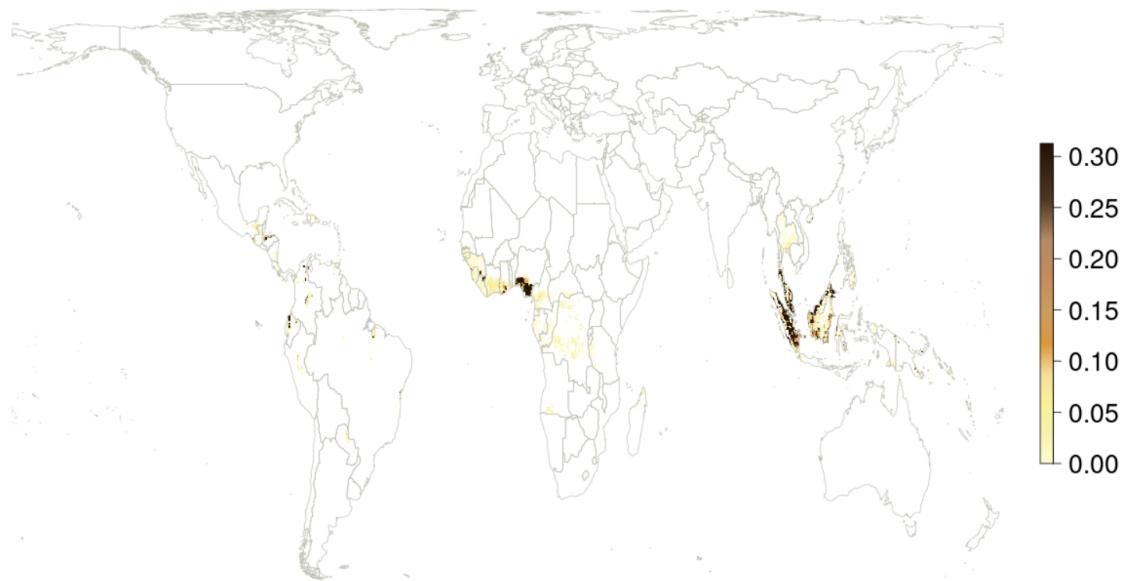


**Nutrient**

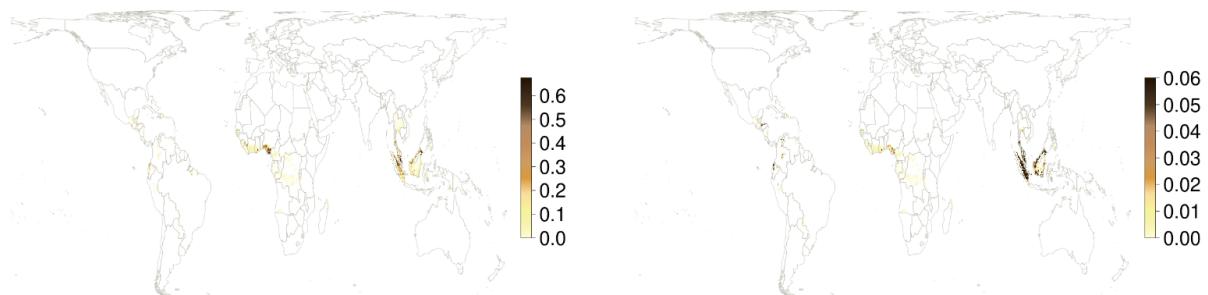


8) Other cereals

**Cumulative Pressure**

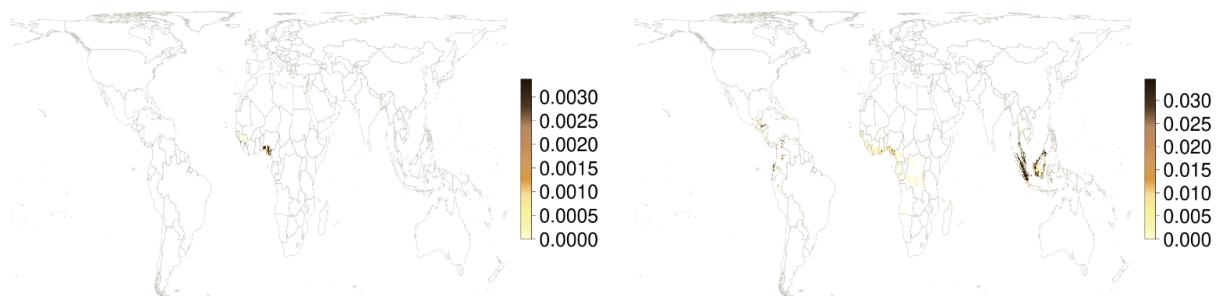


**Disturbance**



**GHG**

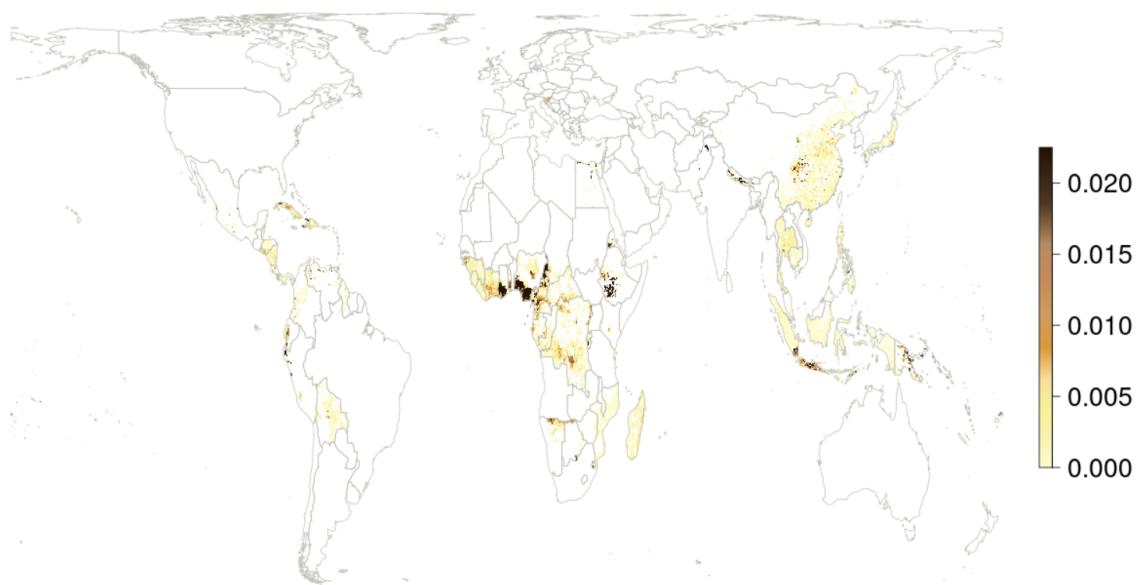
**Water**



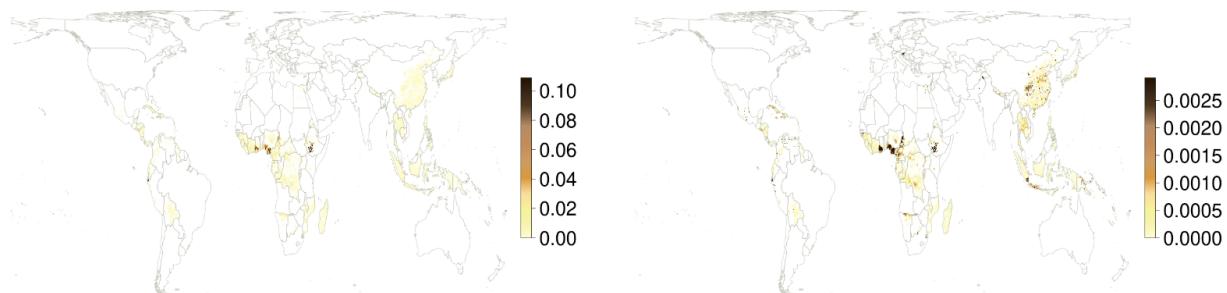
**Nutrient**

9) Oilpalm

Cumulative Pressure



Disturbance



GHG

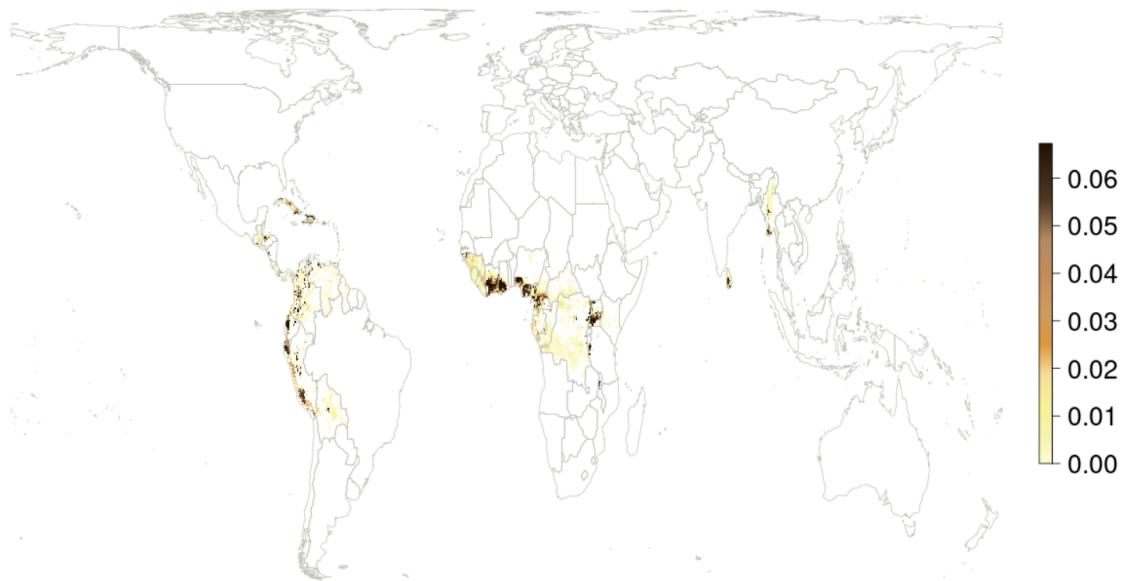
Water



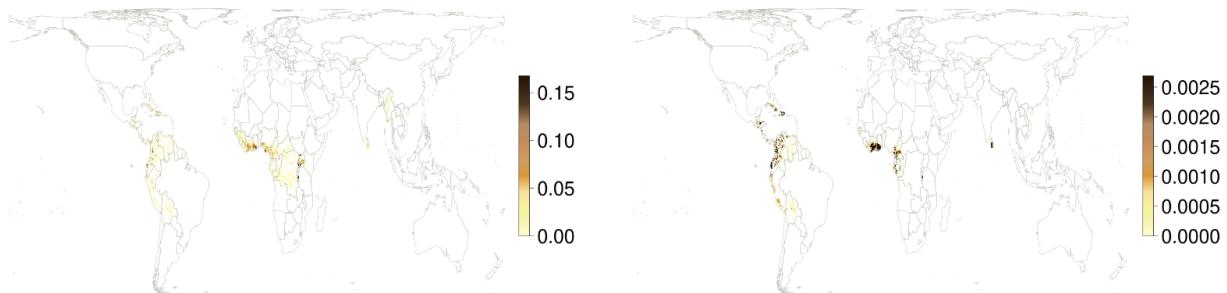
Nutrient

10) Other roots

**Cumulative Pressure**

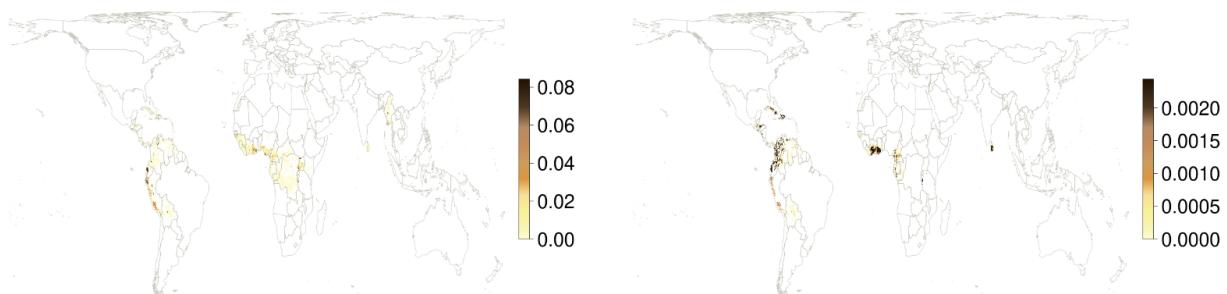


**Disturbance**



**GHG**

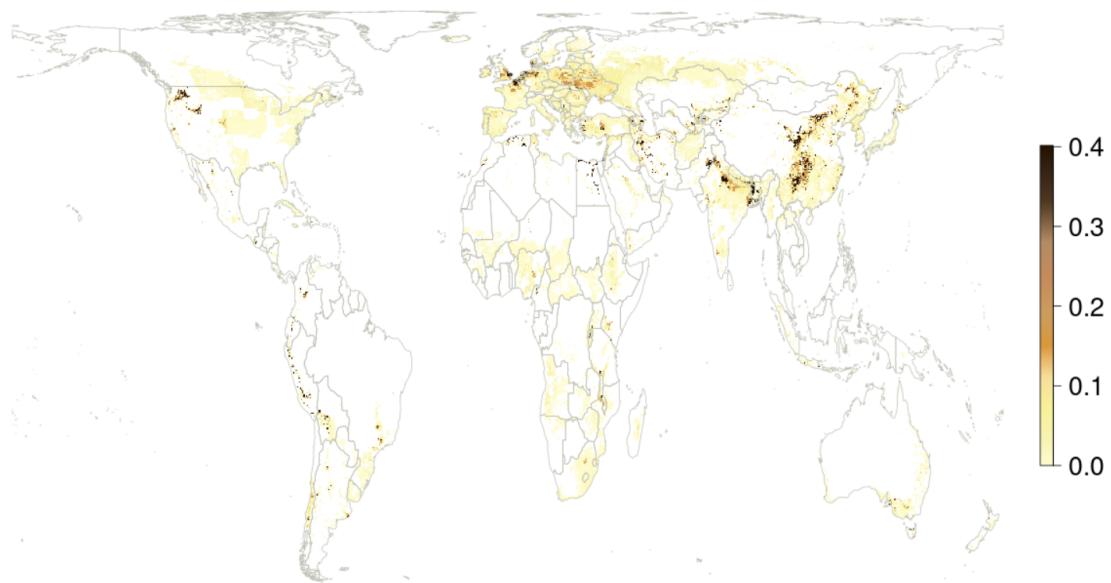
**Water**



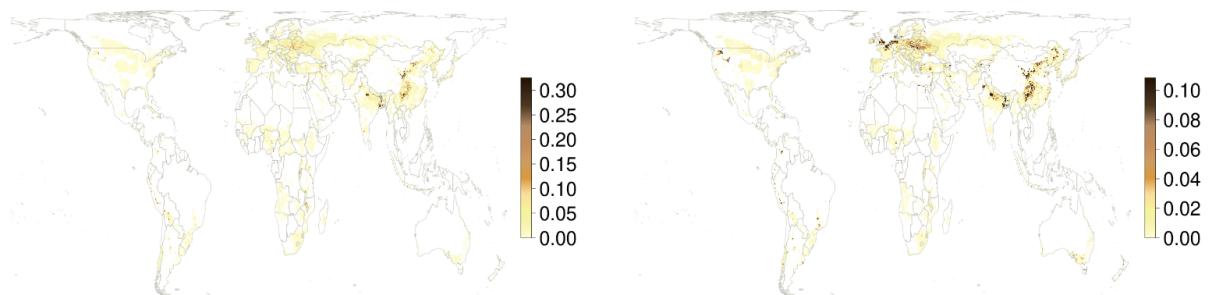
**Nutrient**

11) Plantain

**Cumulative Pressure**

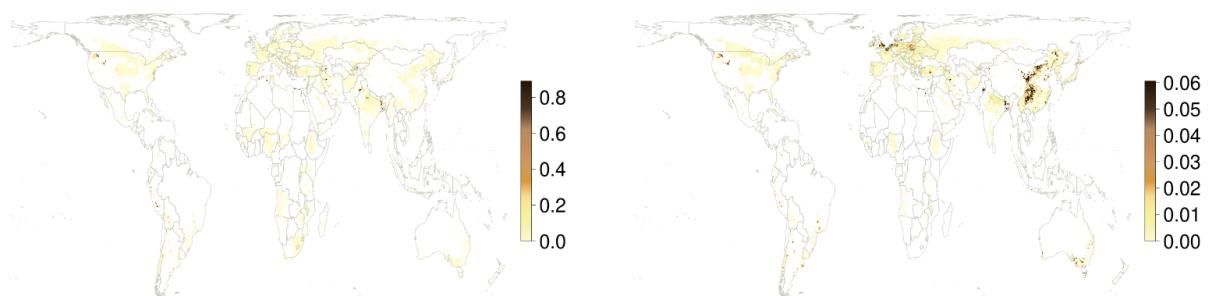


**Disturbance**



**GHG**

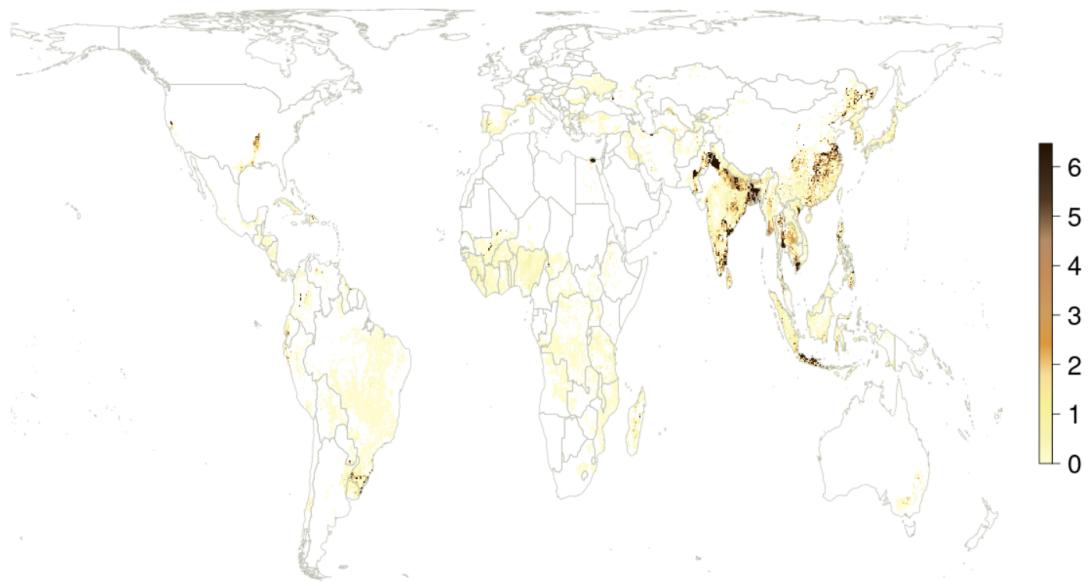
**Water**



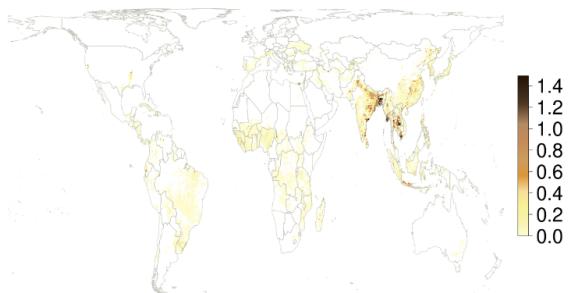
**Nutrient**

12) Potato

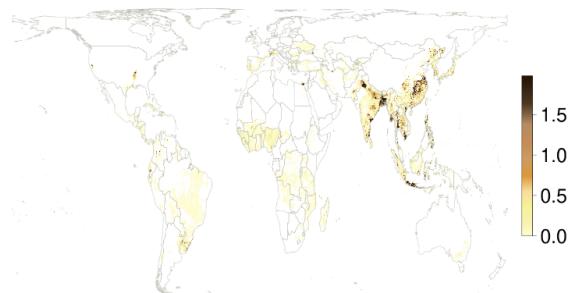
**Cumulative Pressure**



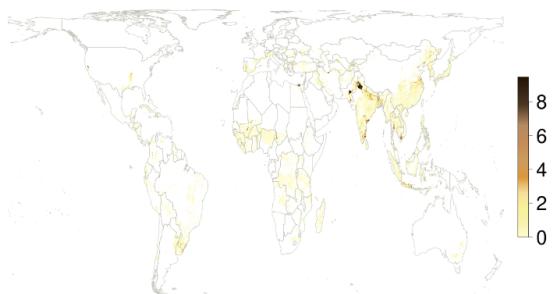
**Disturbance**



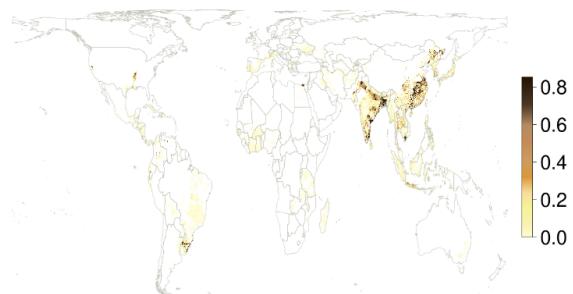
**GHG**



**Water**

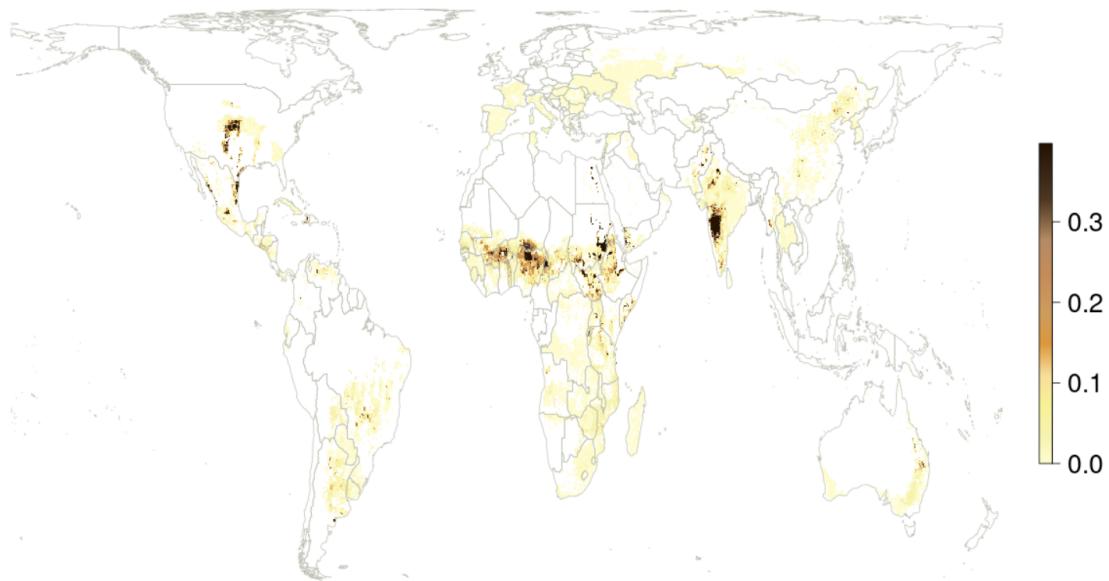


**Nutrient**

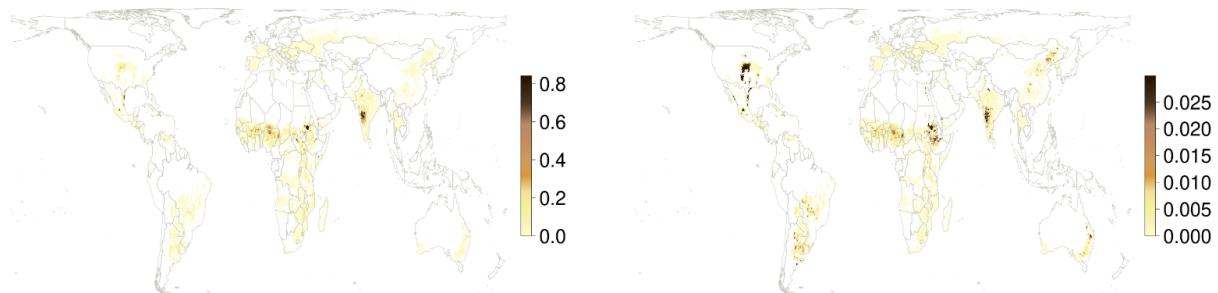


13) Rice

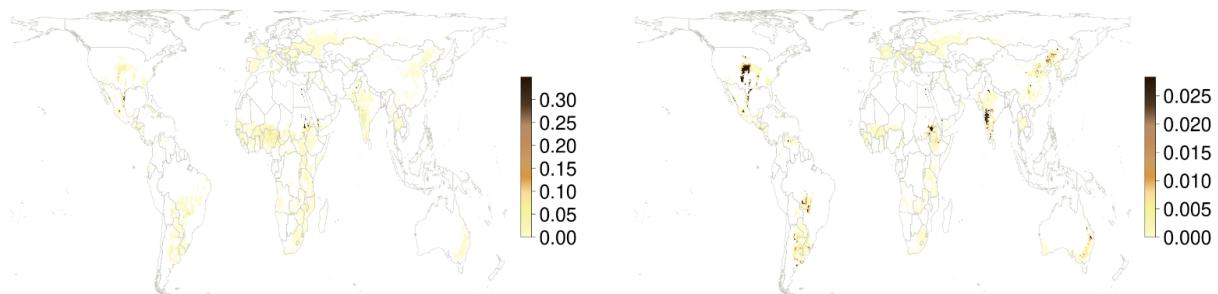
**Cumulative Pressure**



**Disturbance**

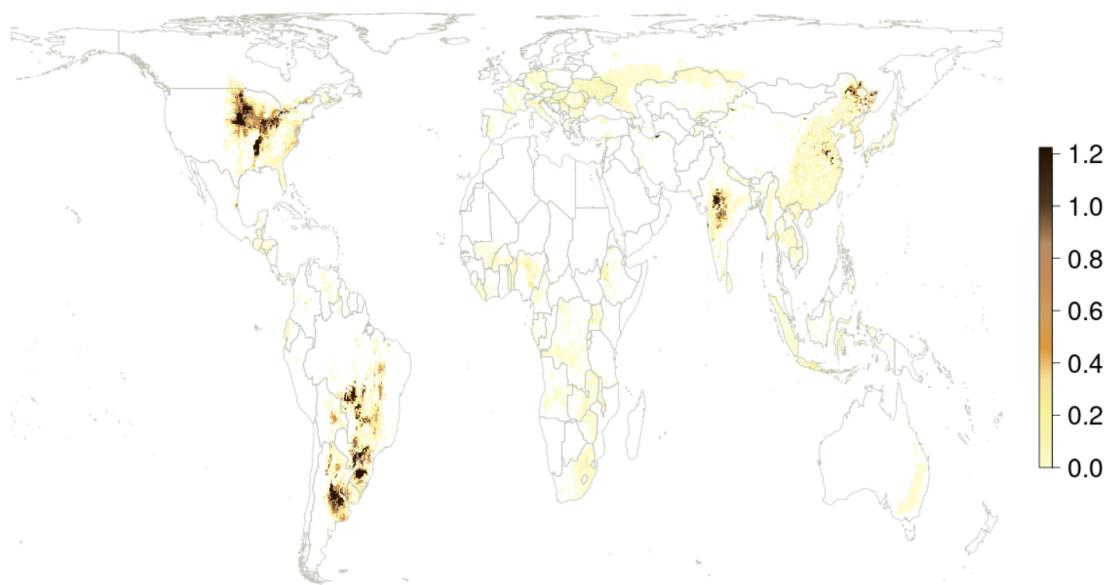


**Water**

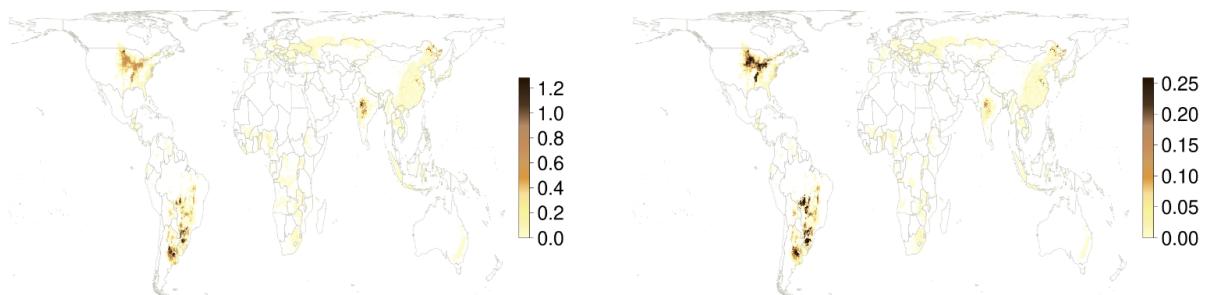


14) Sorghum

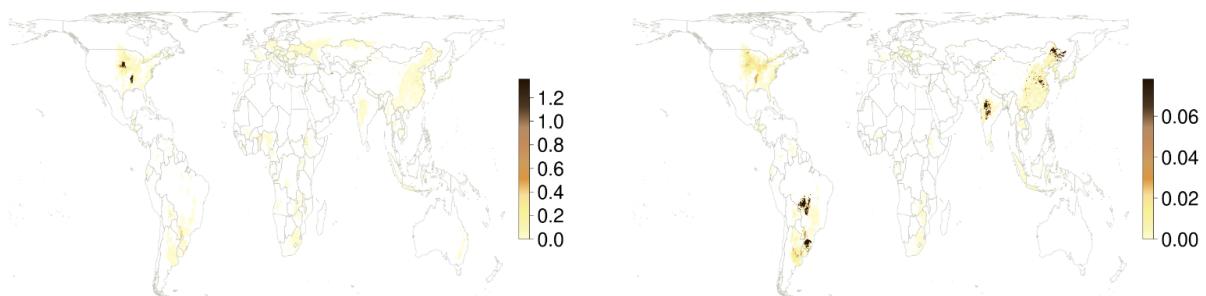
**Cumulative Pressure**



**Disturbance**

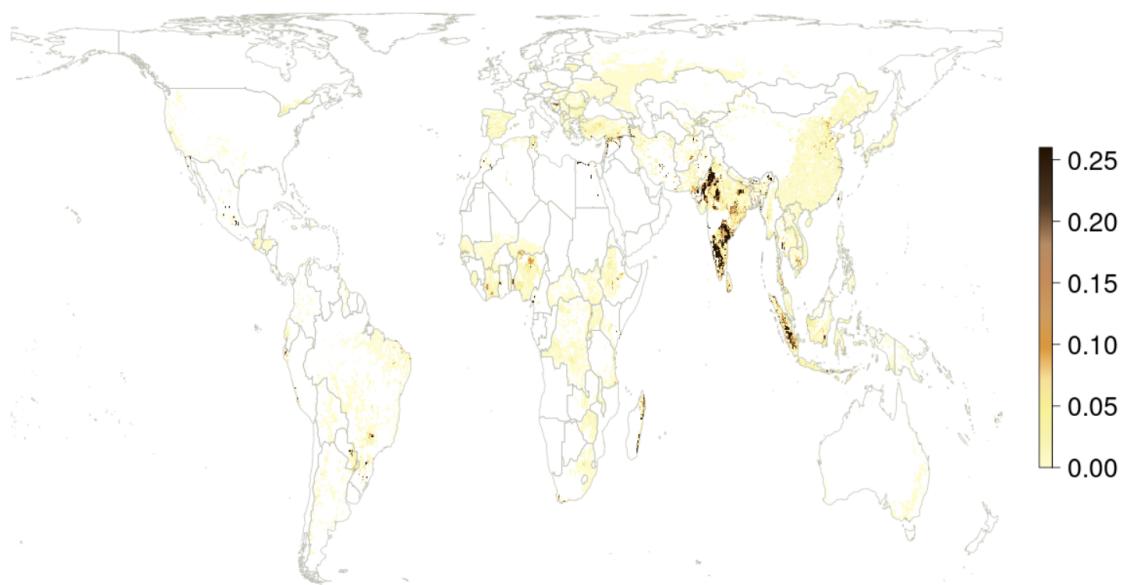


**Water**

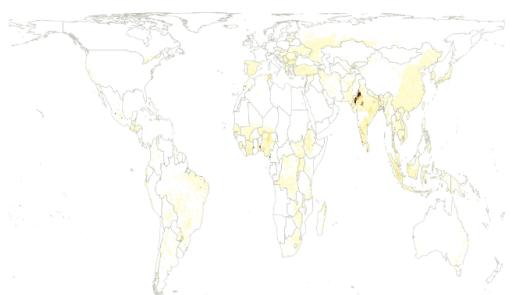


15) Soybean

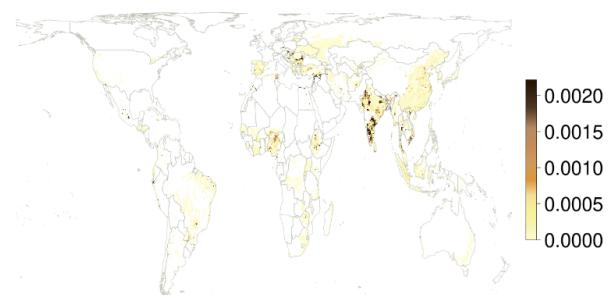
Cumulative Pressure



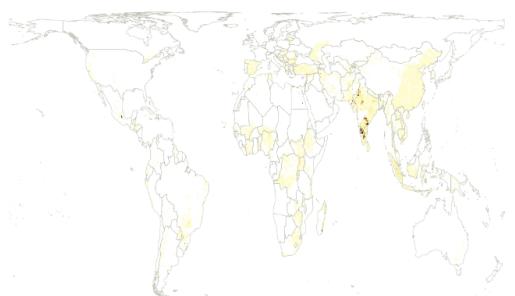
Disturbance



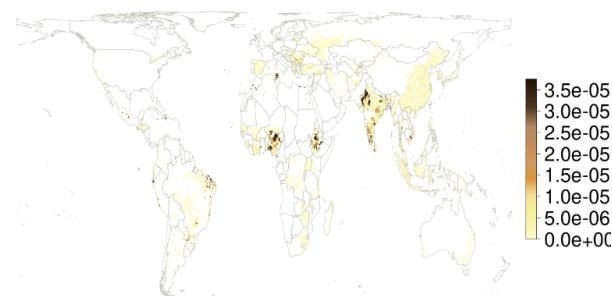
GHG



Water

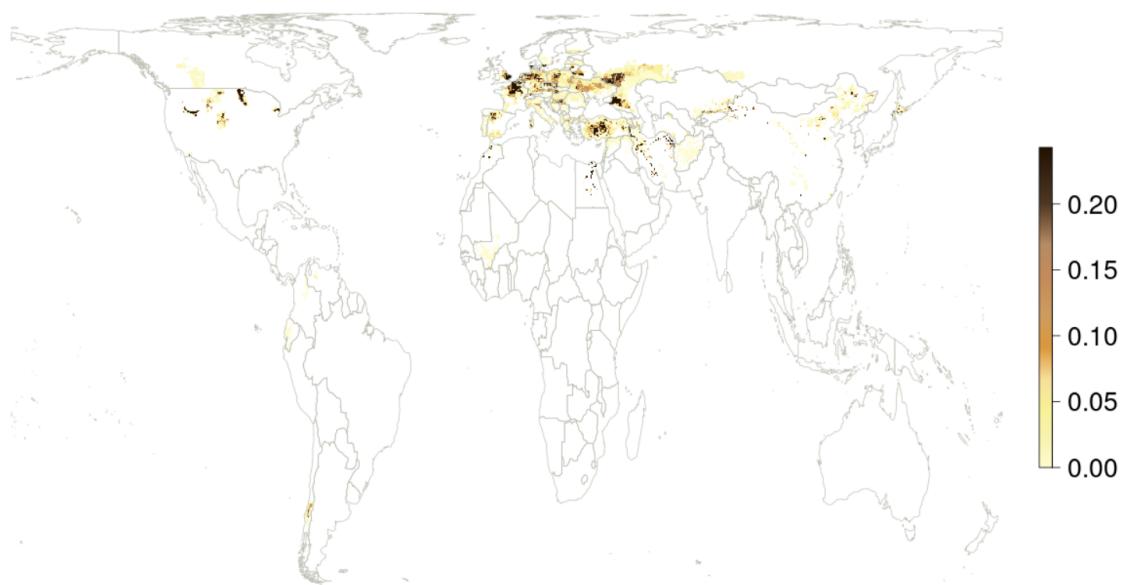


Nutrient

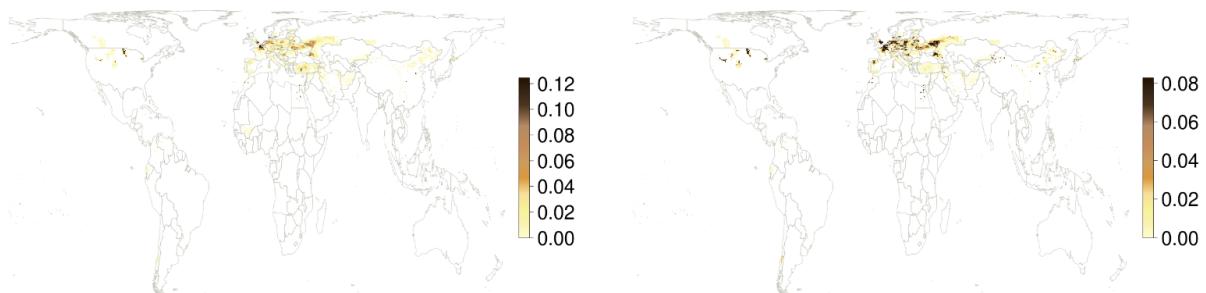


16) Spices

**Cumulative Pressure**

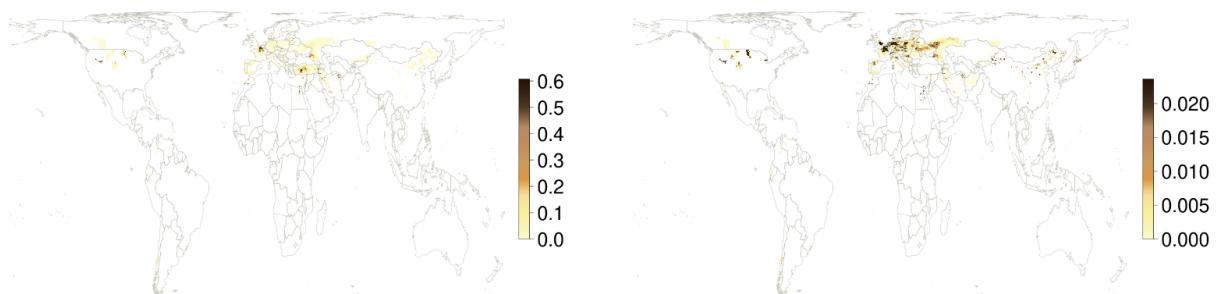


**Disturbance**



**GHG**

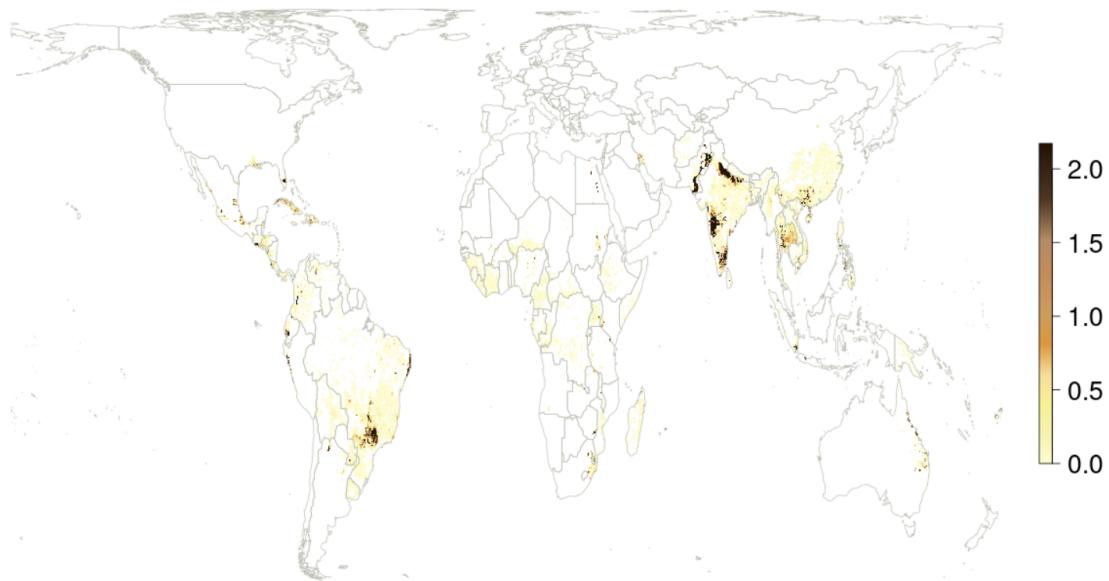
**Water**



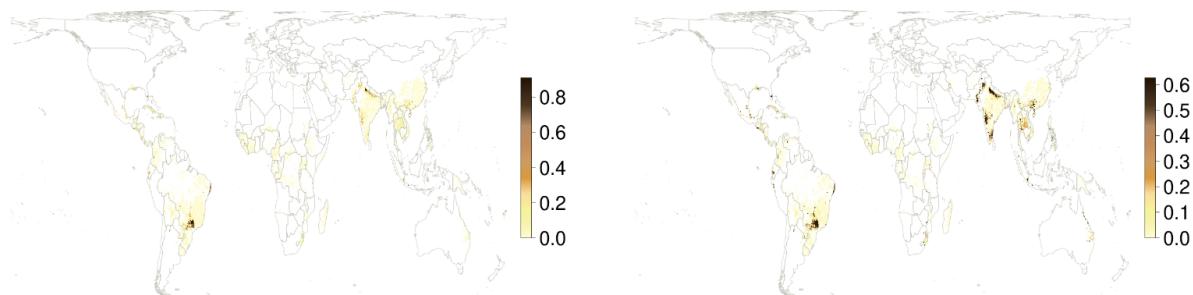
**Nutrient**

17) Sugarbeet

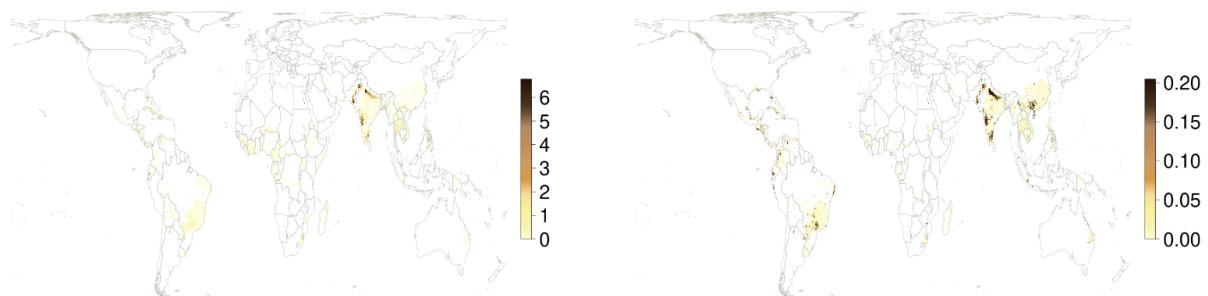
**Cumulative Pressure**



**Disturbance**

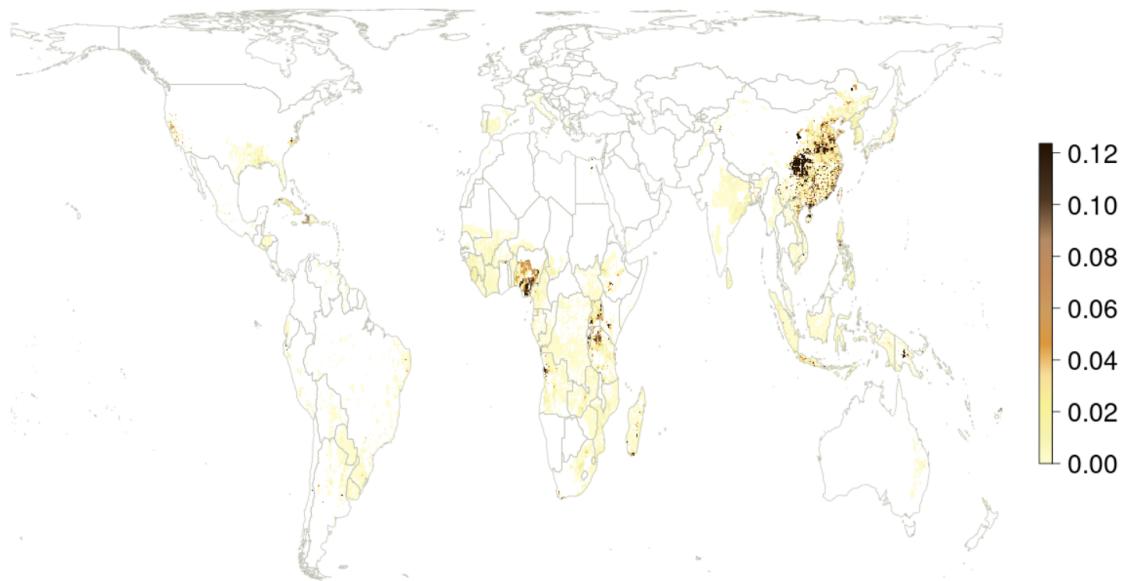


**Water**

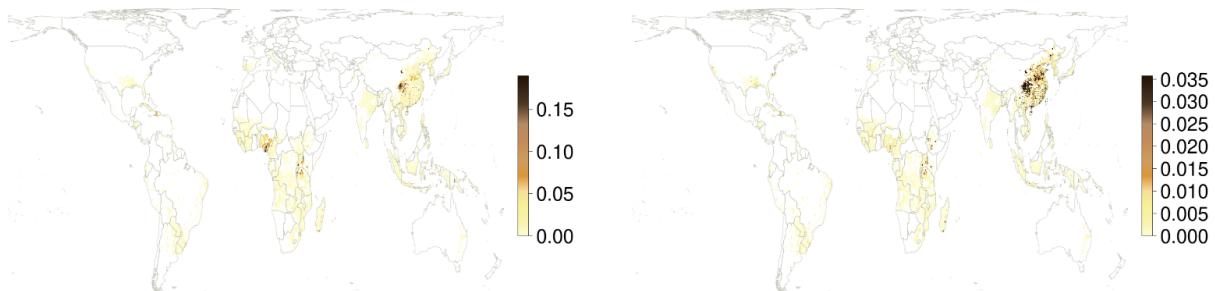


18) Sugarcane

**Cumulative Pressure**

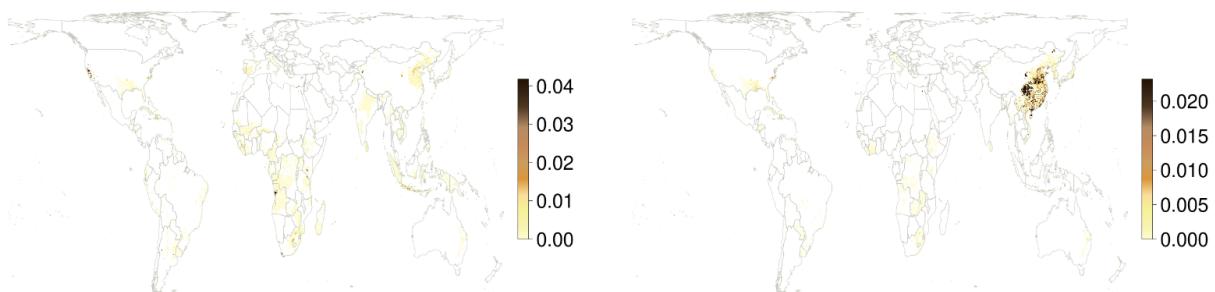


**Disturbance**



**GHG**

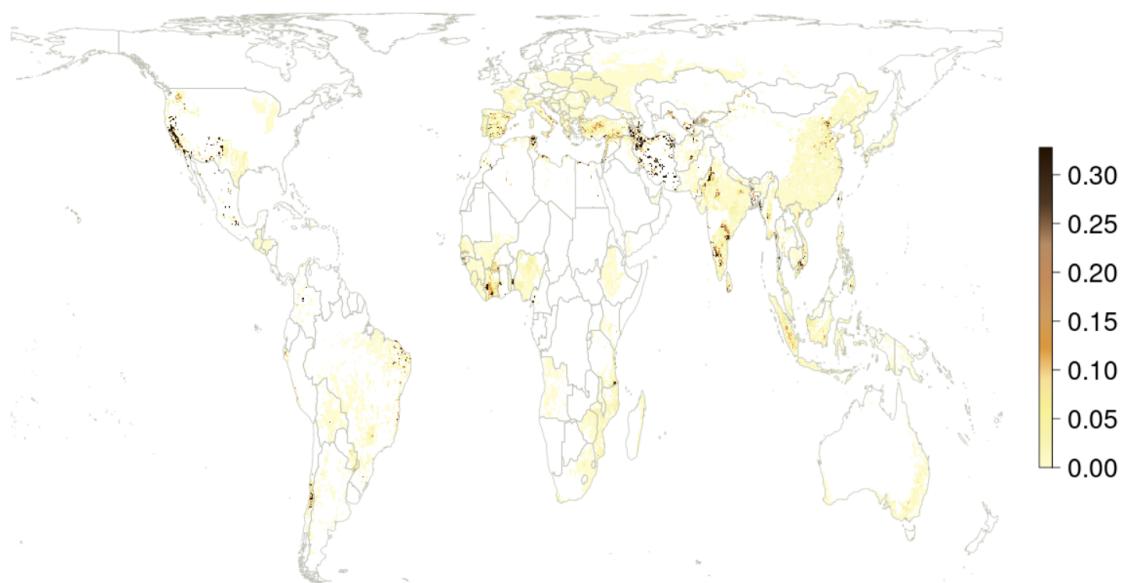
**Water**



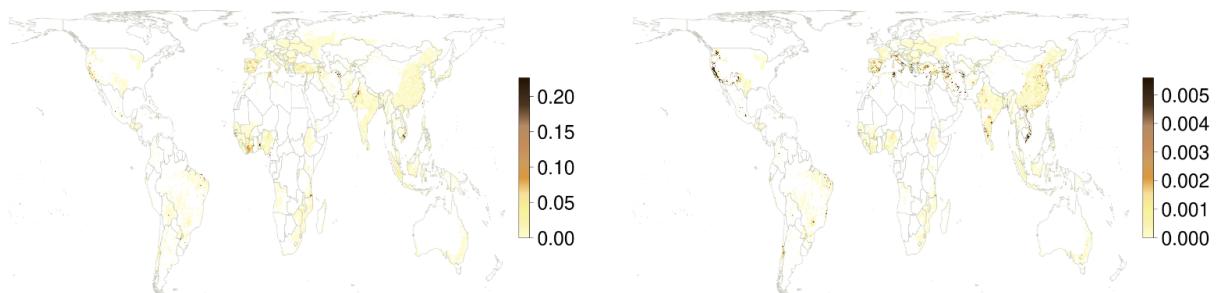
**Nutrient**

19) Sweet potato

**Cumulative Pressure**

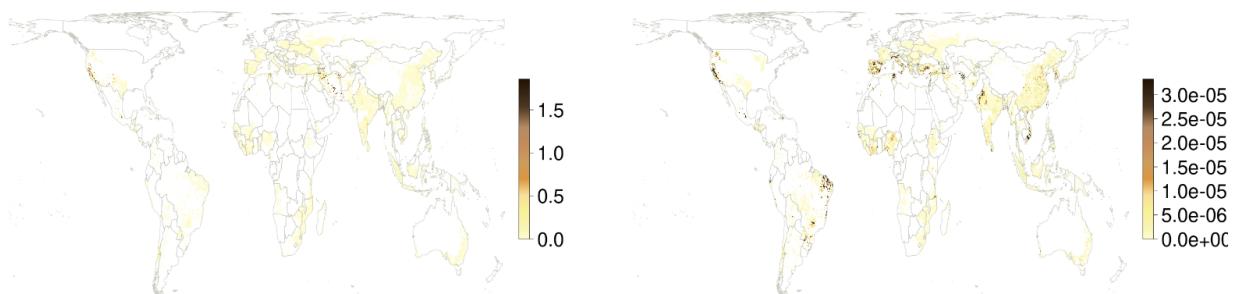


**Disturbance**



**GHG**

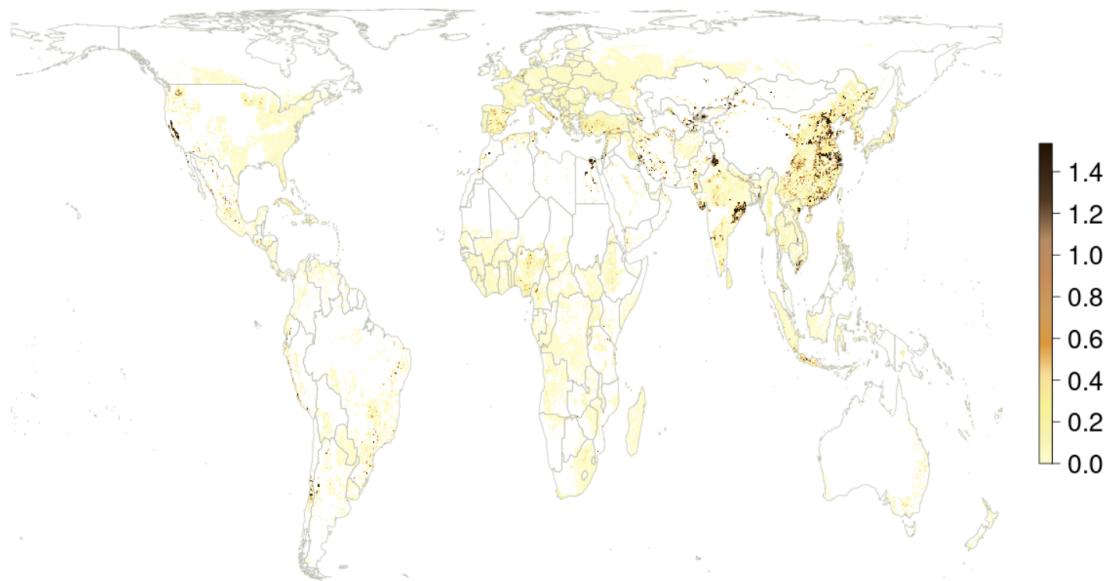
**Water**



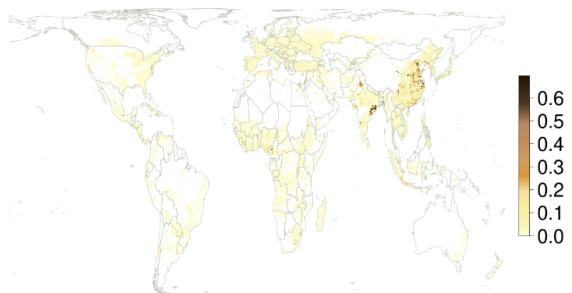
**Nutrient**

20) Treenuts

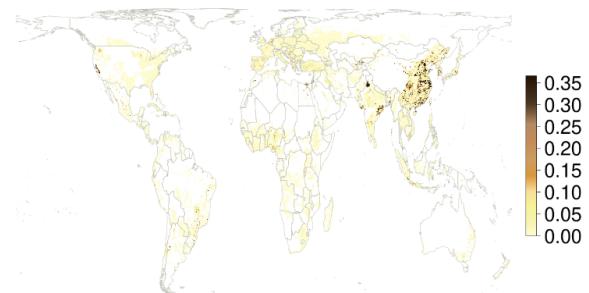
**Cumulative Pressure**



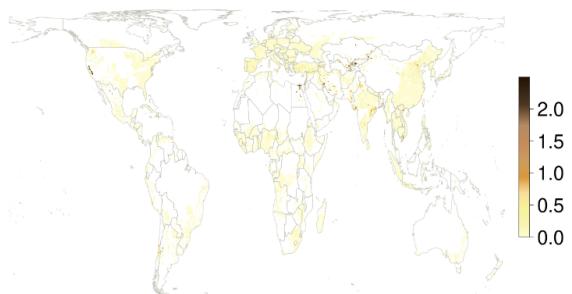
**Disturbance**



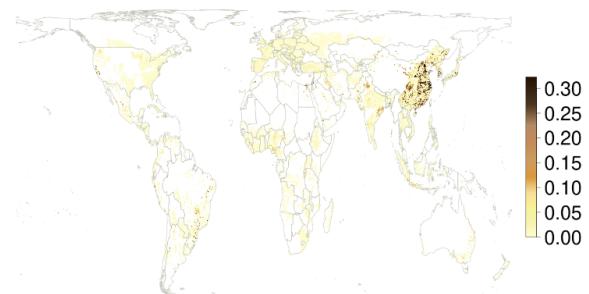
**GHG**



**Water**

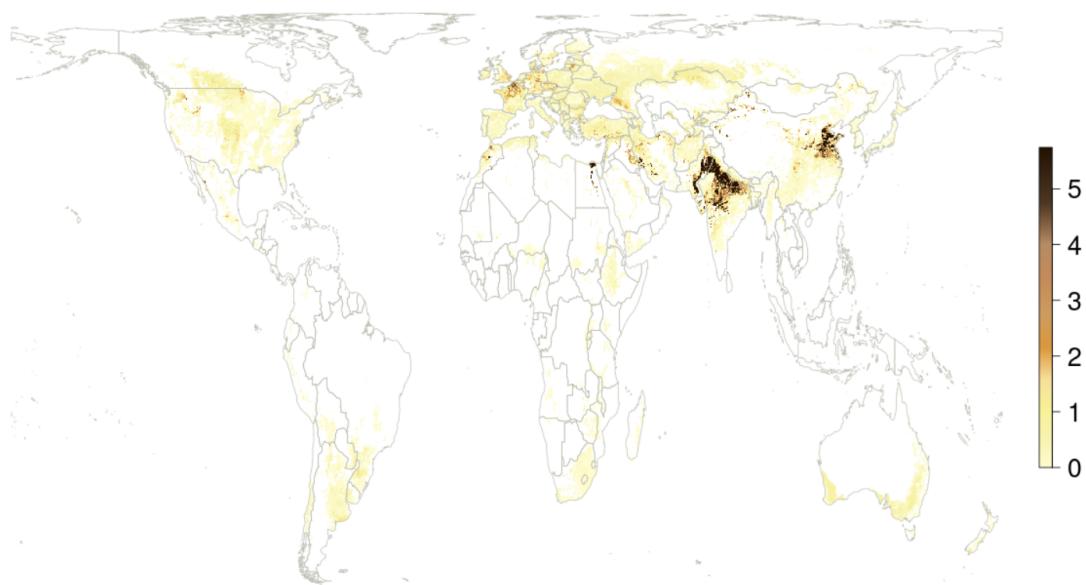


**Nutrient**

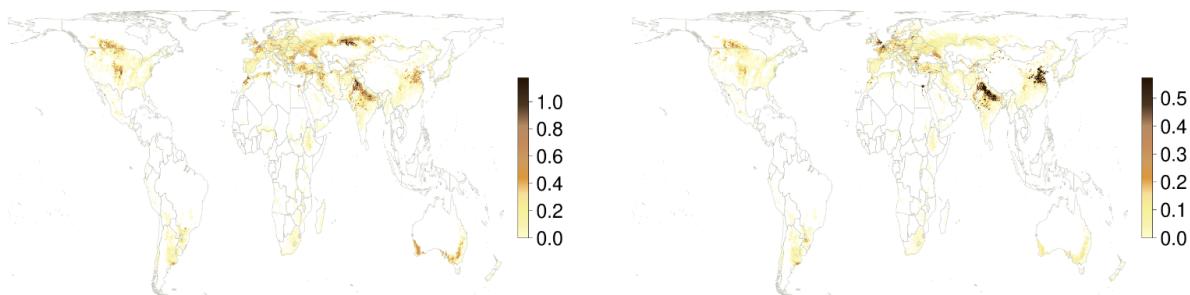


21) Vegetables

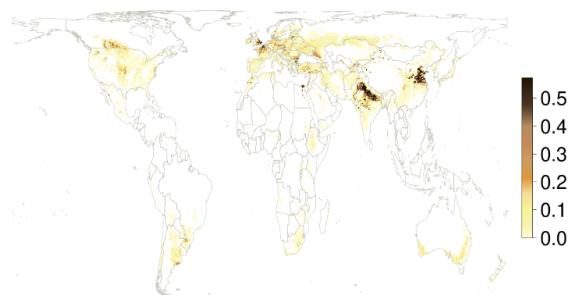
**Cumulative Pressure**



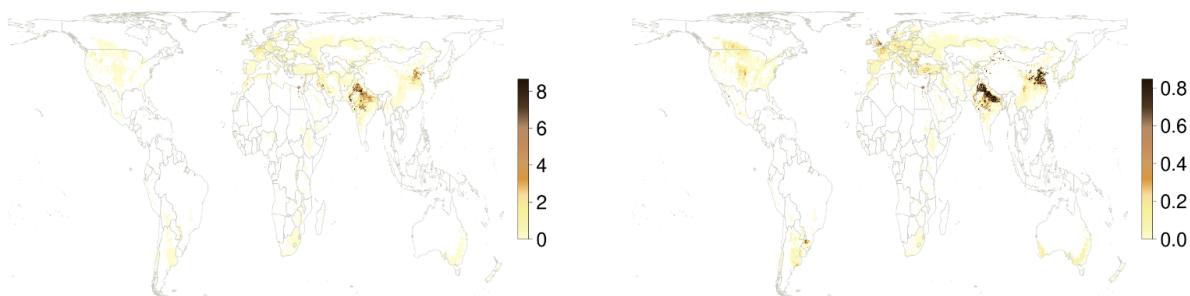
**Disturbance**



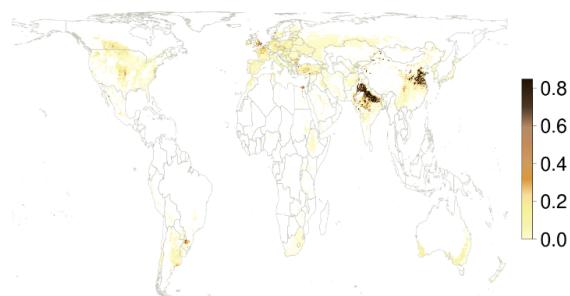
**GHG**



**Water**

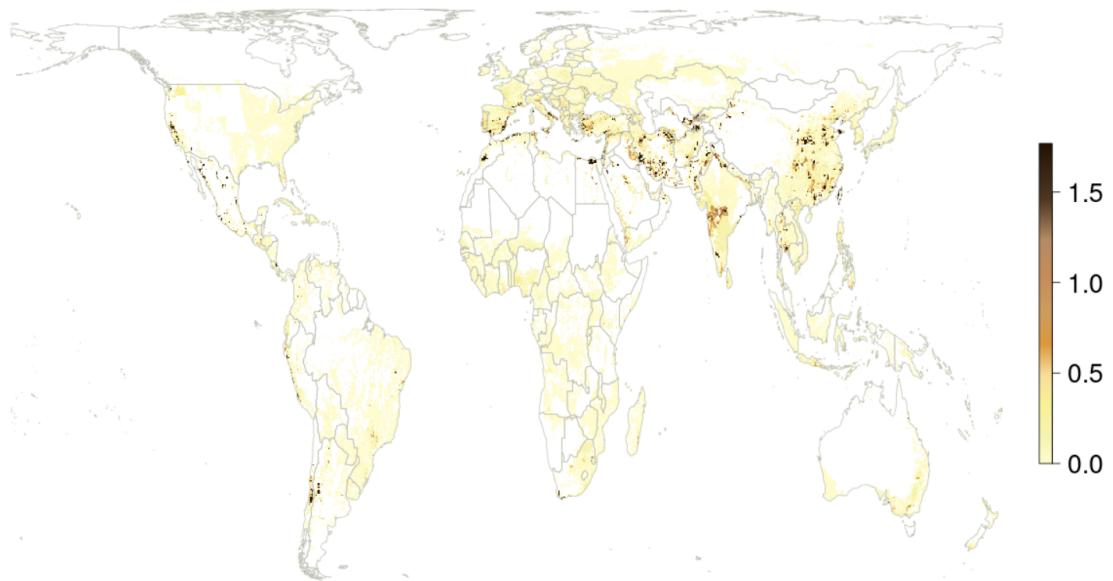


**Nutrient**

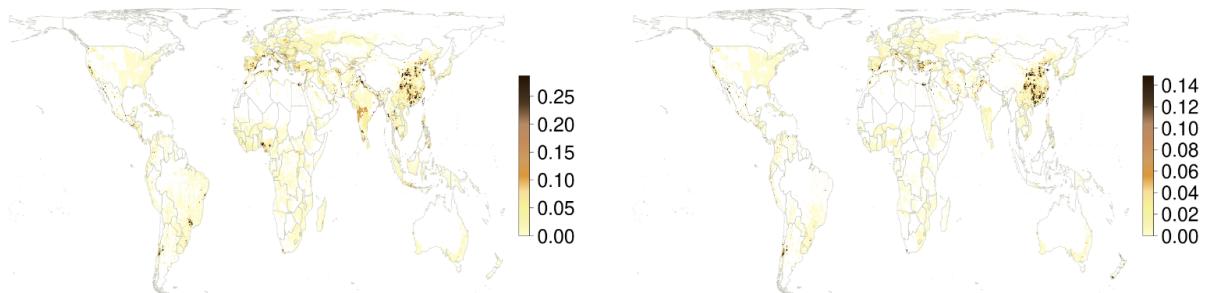


22) Wheat

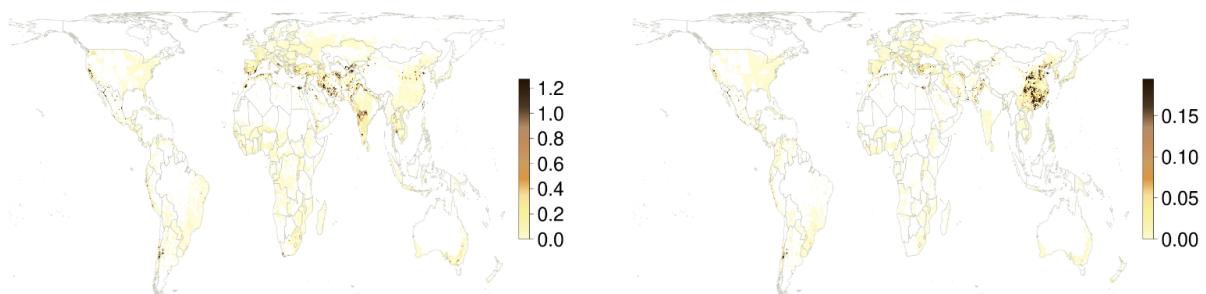
**Cumulative Pressure**



**Disturbance**

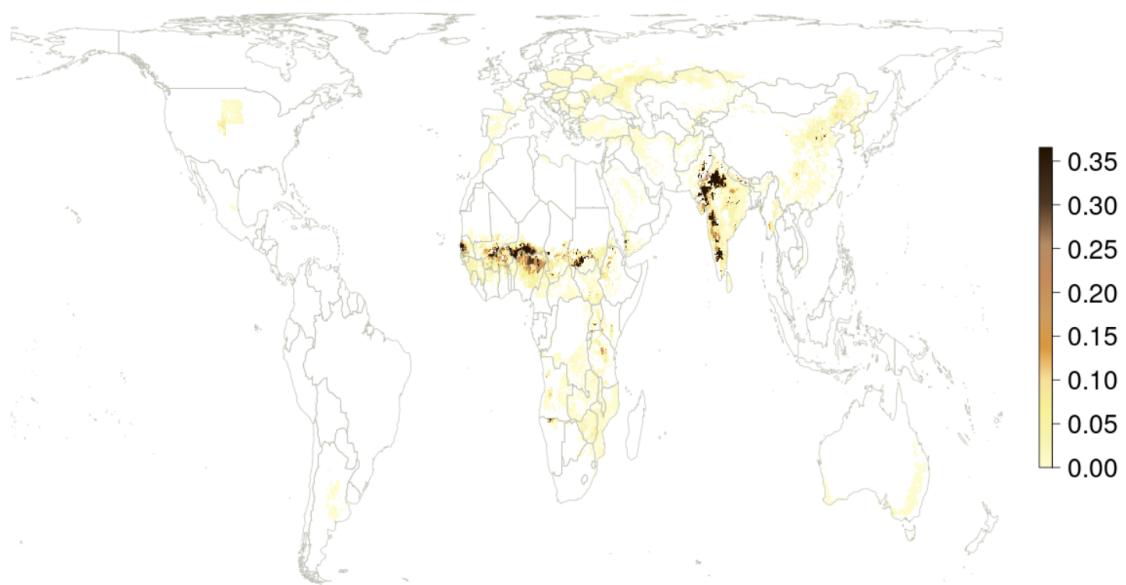


**Water**

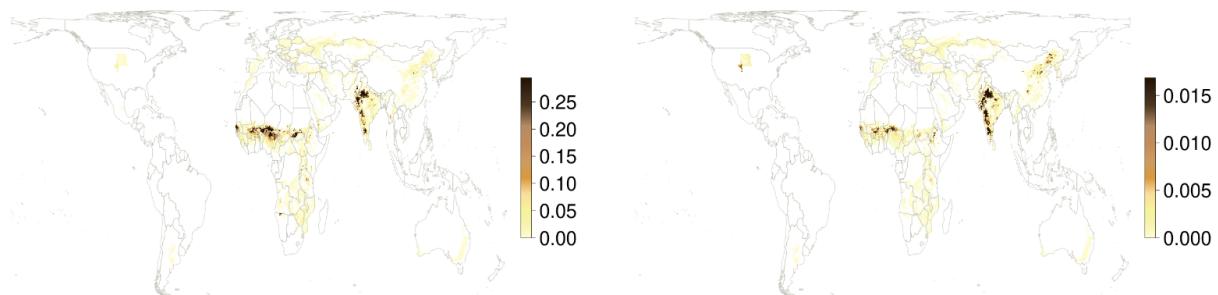


23) Fruits

**Cumulative Pressure**

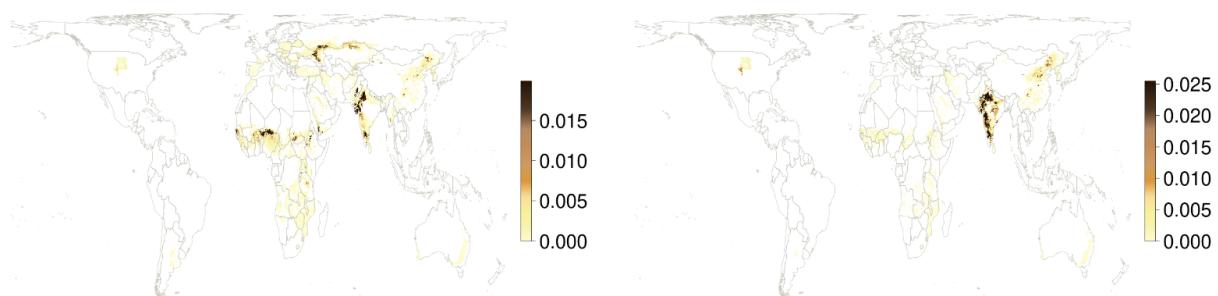


**Disturbance**



**GHG**

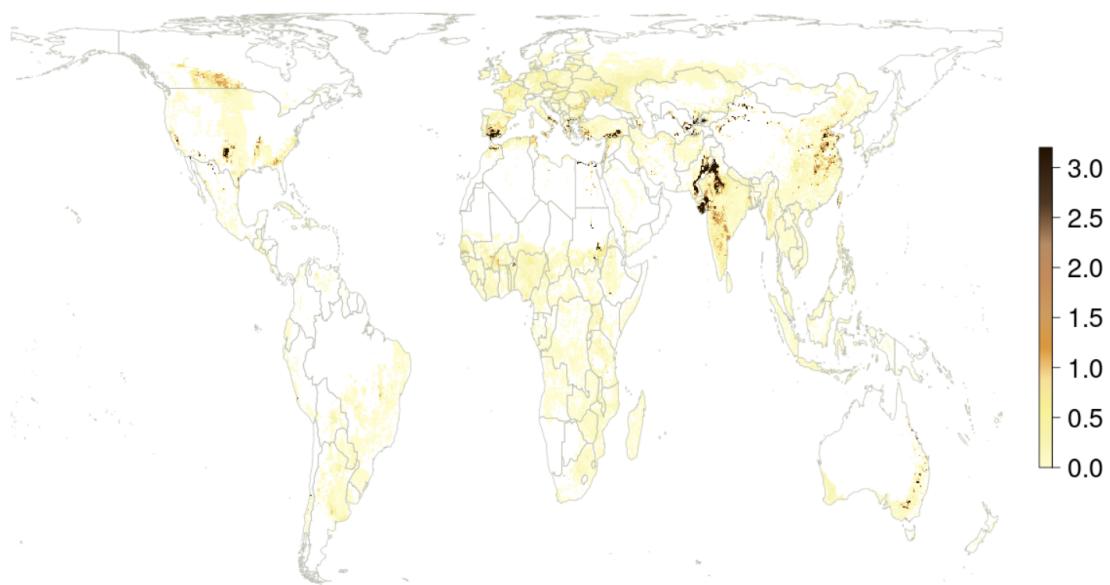
**Water**



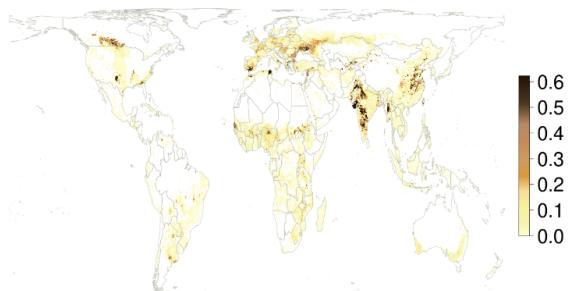
**Nutrient**

24) Millet

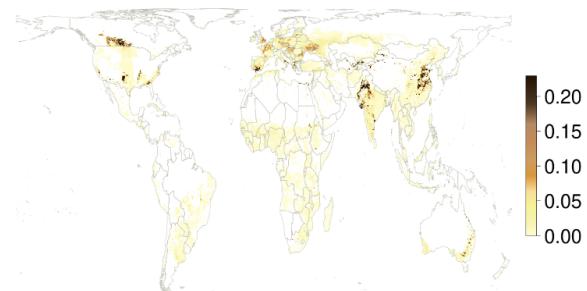
**Cumulative Pressure**



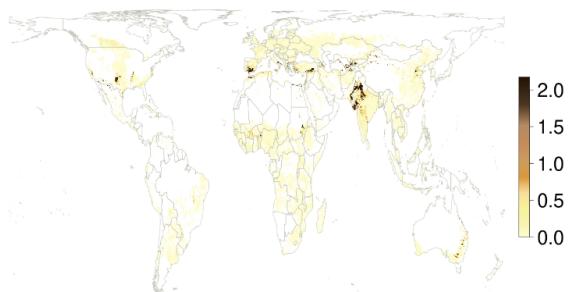
**Disturbance**



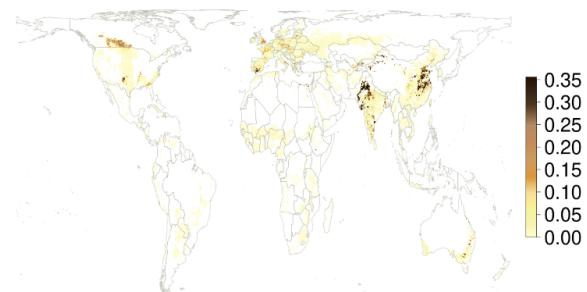
**GHG**



**Water**

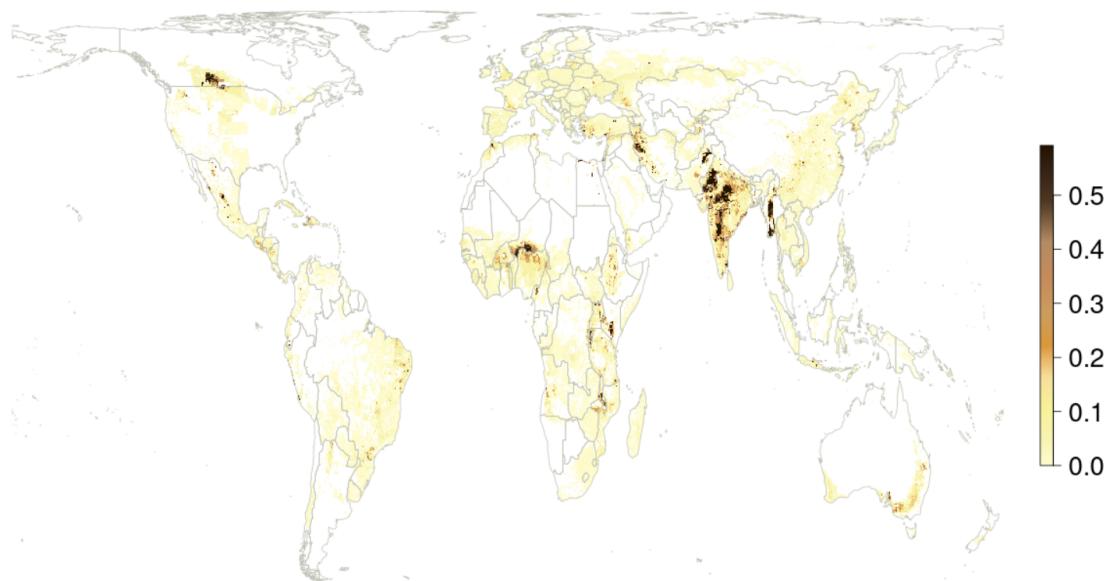


**Nutrient**

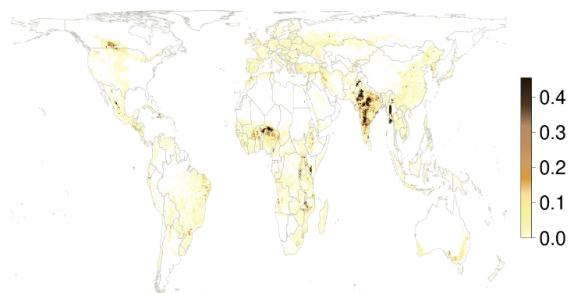


25) Other oil crops

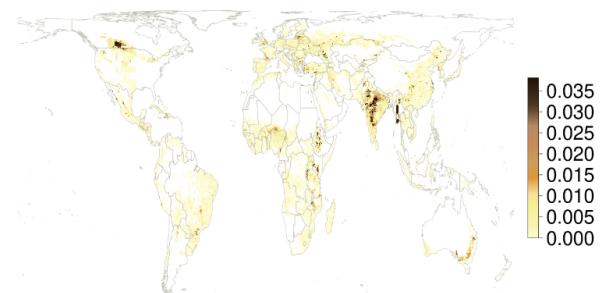
Cumulative Pressure



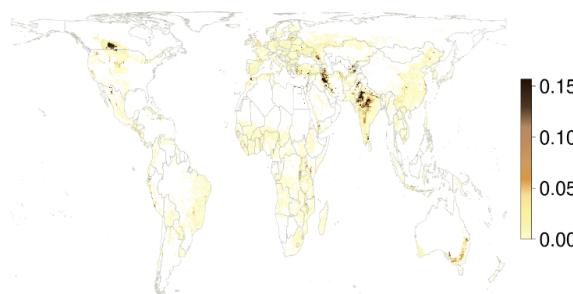
Disturbance



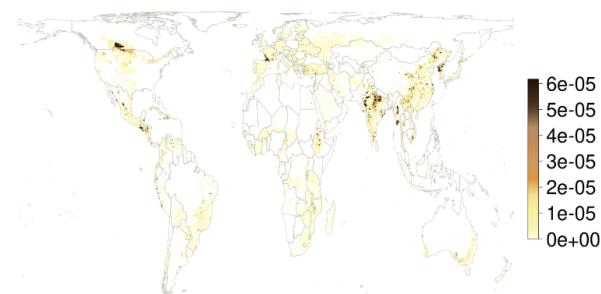
GHG



Water

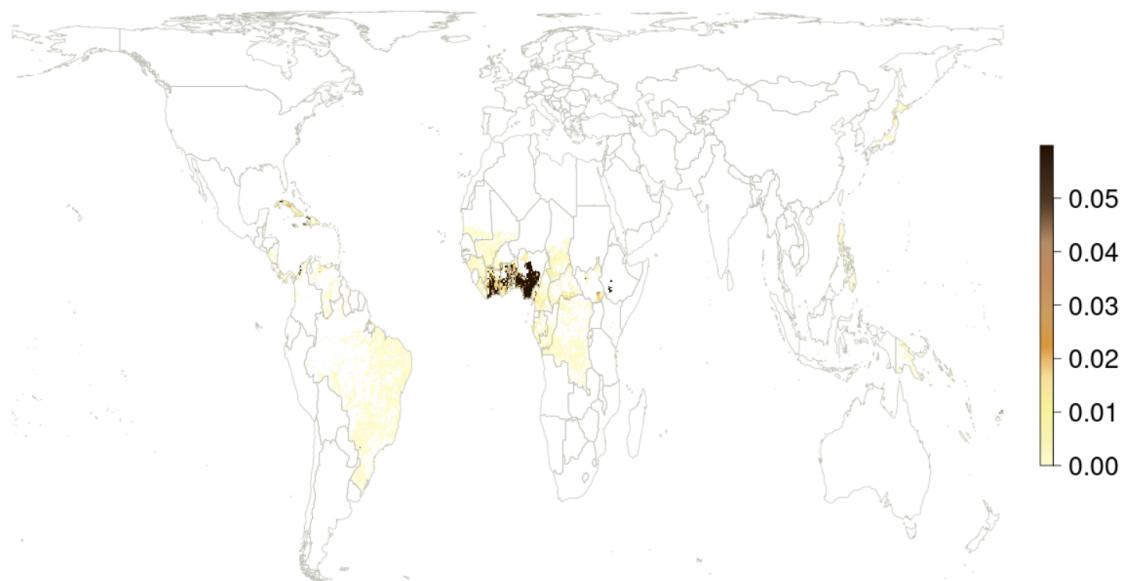


Nutrient

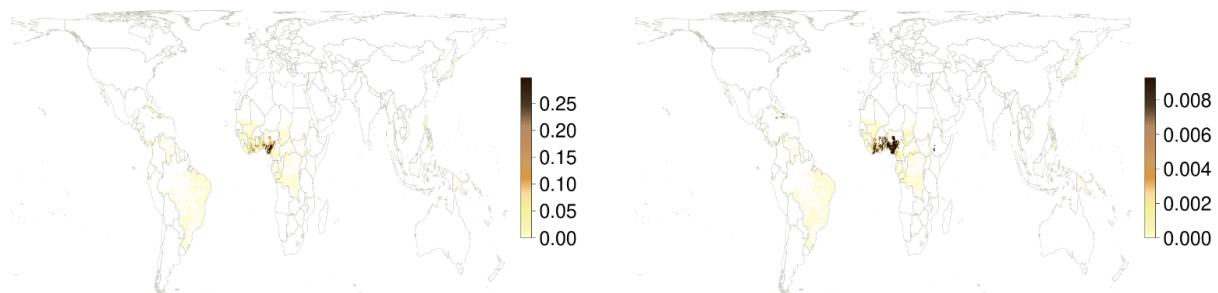


26) Other pulses

Cumulative Pressure

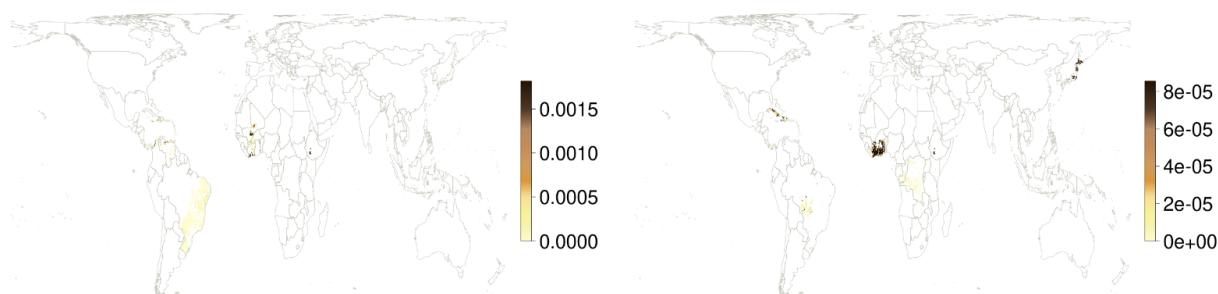


Disturbance



GHG

Water

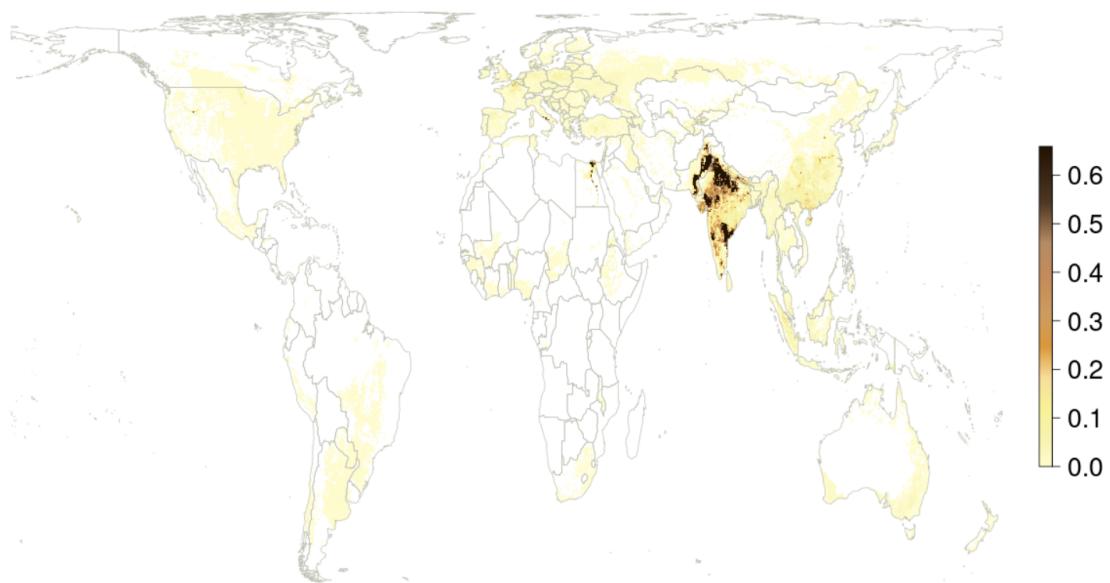


Nutrient

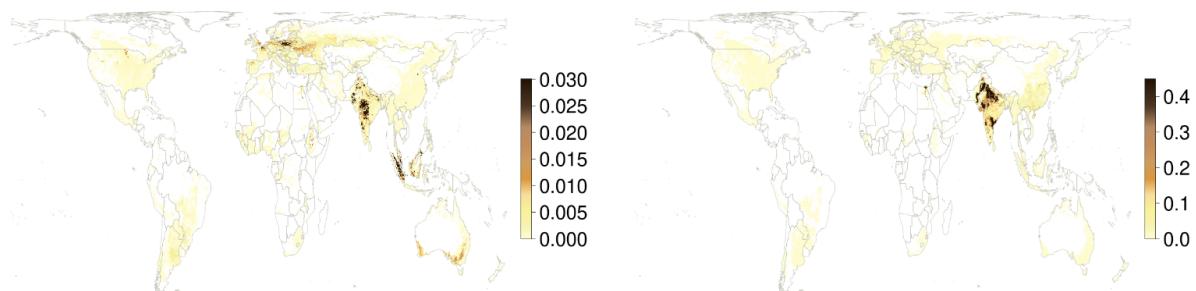
27) Yams

**Extended Data Fig. 1b:** Cumulative and individual (disturbance, GHG, water, nutrient) pressures for eleven livestock categories. Data includes both on-farm pressures and off-farm feed pressures.

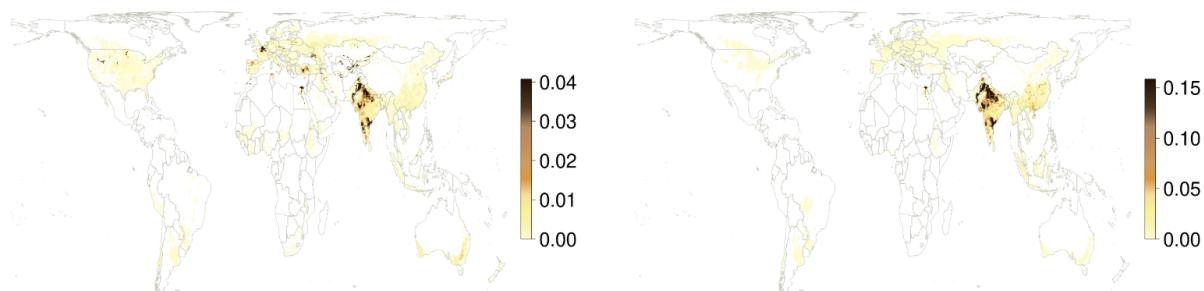
**Cumulative Pressure**



**Disturbance**

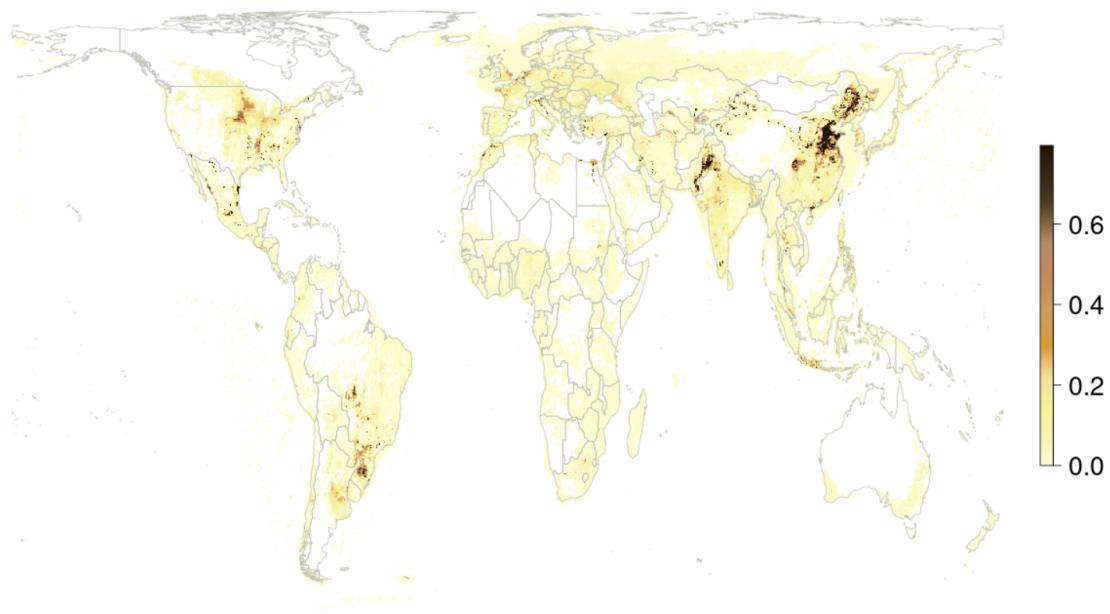


**Water**

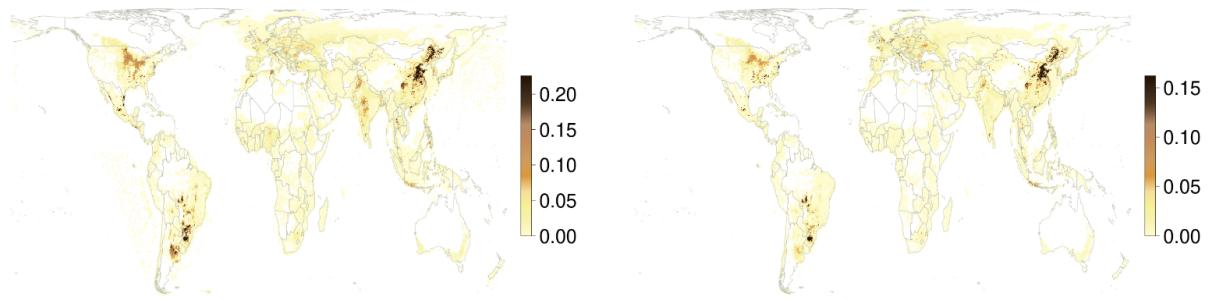


- 1) Buffaloes milk

**Cumulative Pressure**

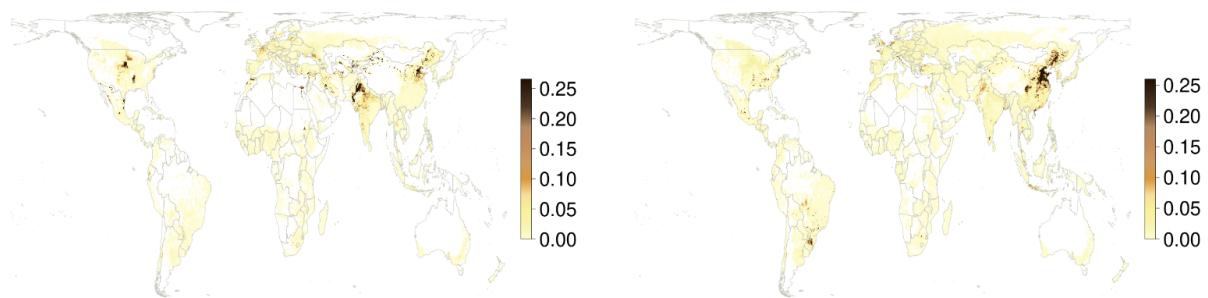


**Disturbance**



**GHG**

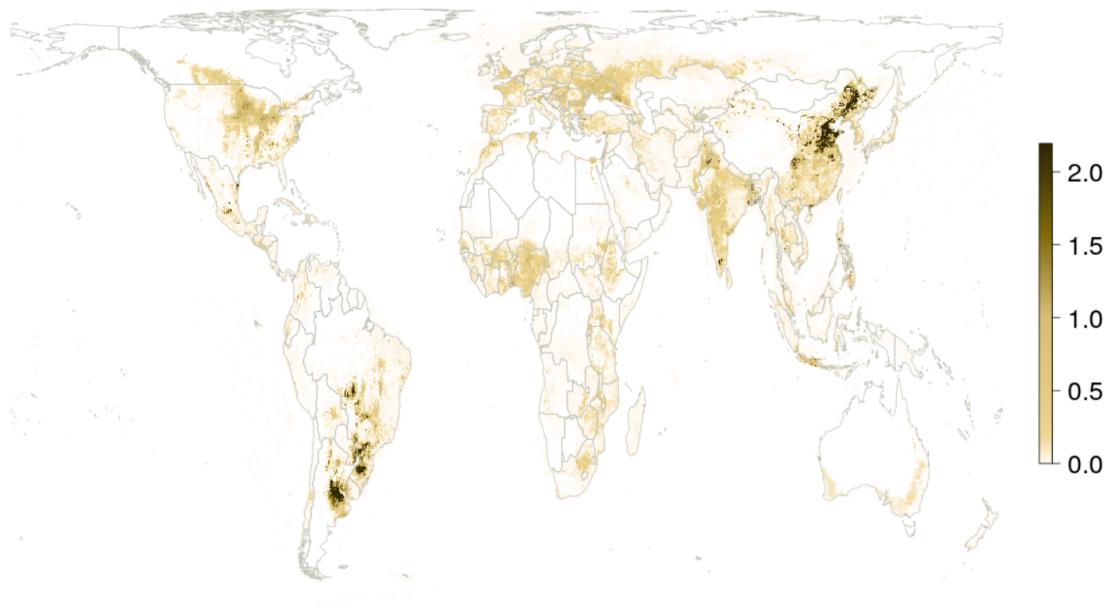
**Water**



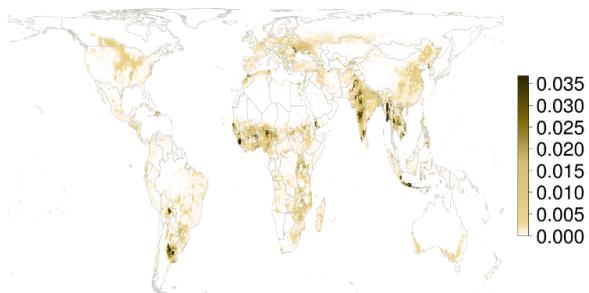
**Nutrient**

2) Chickens eggs

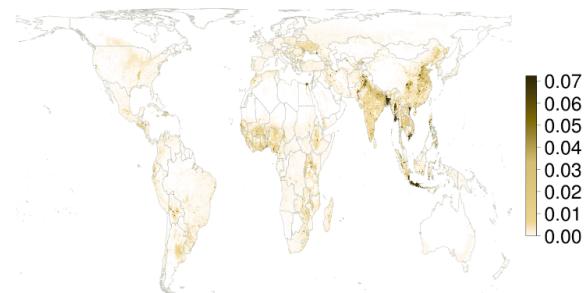
**Cumulative Pressure**



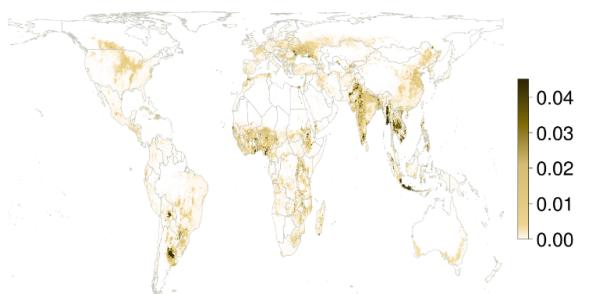
**Disturbance**



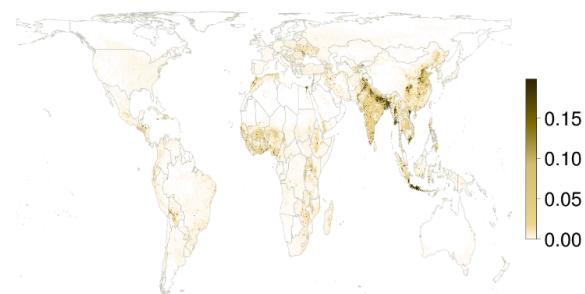
**GHG**



**Water**

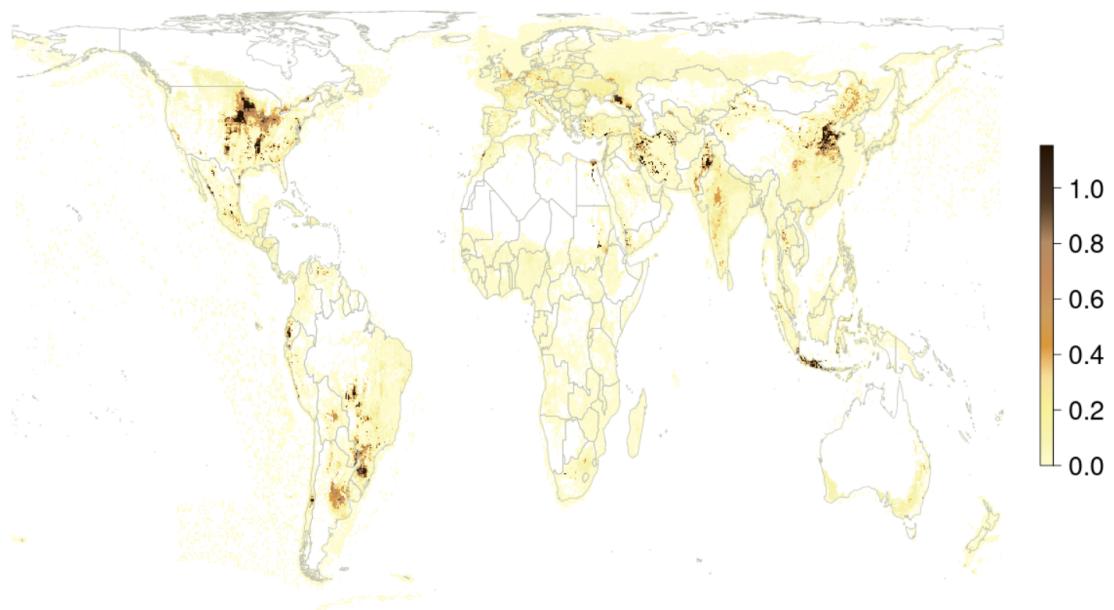


**Nutrient**

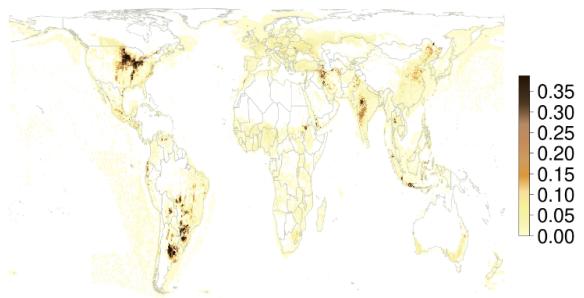


3) Chickens eggs and meat

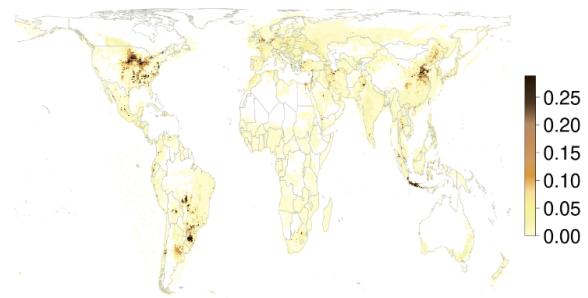
**Cumulative Pressure**



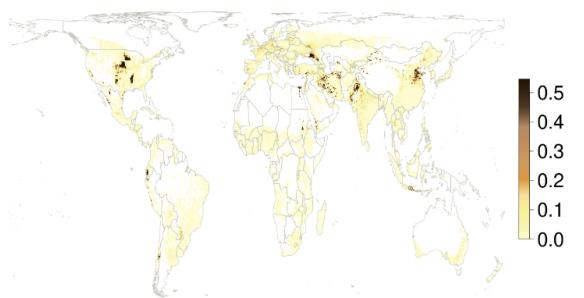
**Disturbance**



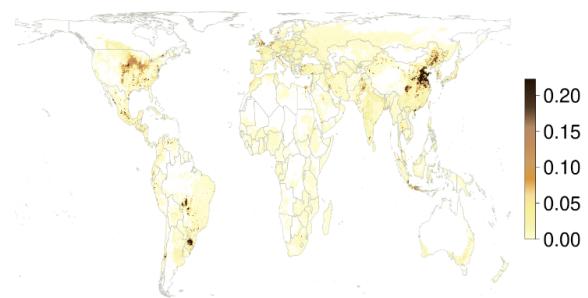
**GHG**



**Water**

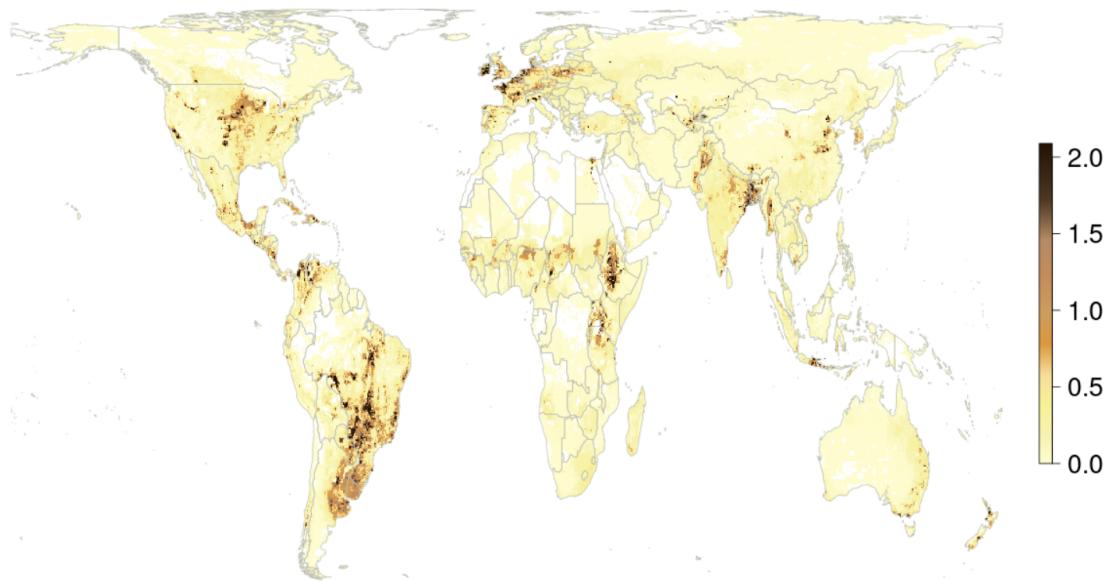


**Nutrient**

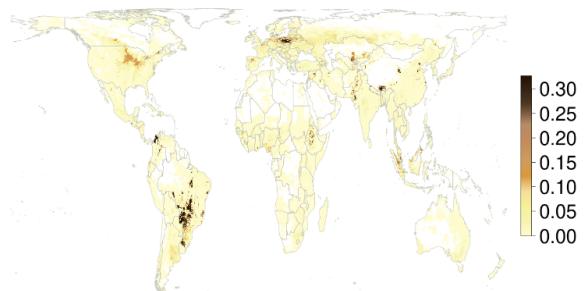


4) Chickens meat

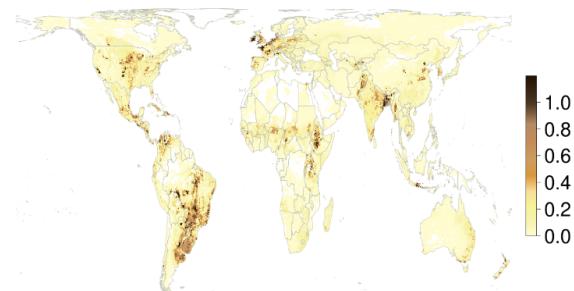
**Cumulative Pressure**



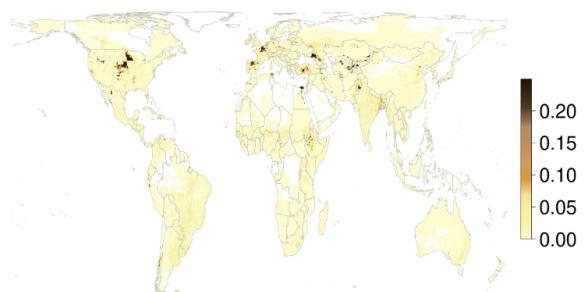
**Disturbance**



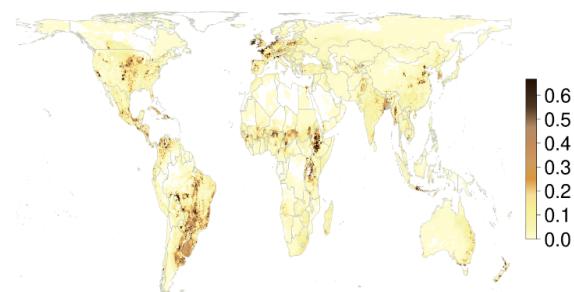
**GHG**



**Water**

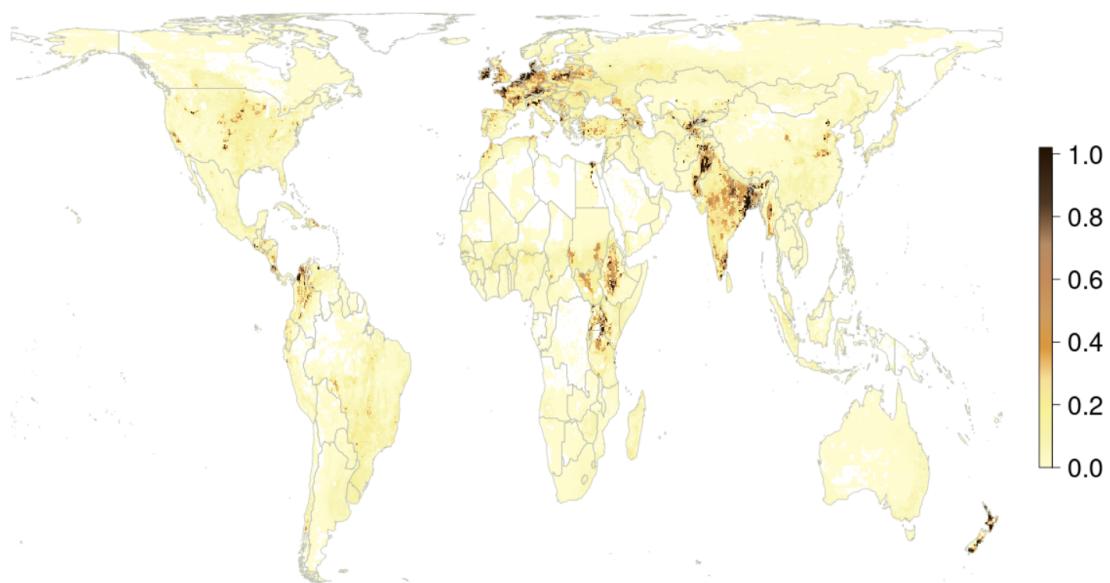


**Nutrient**

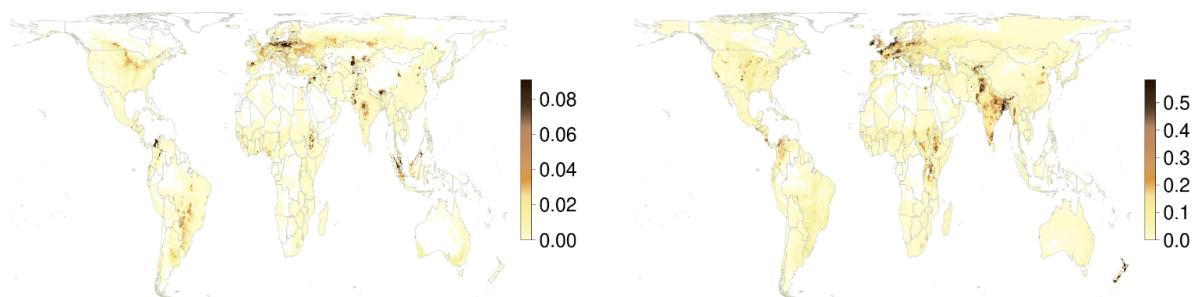


5) Cows meat

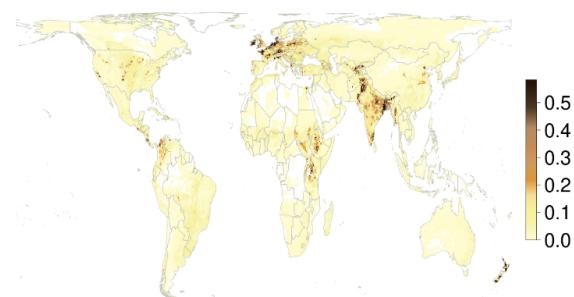
**Cumulative Pressure**



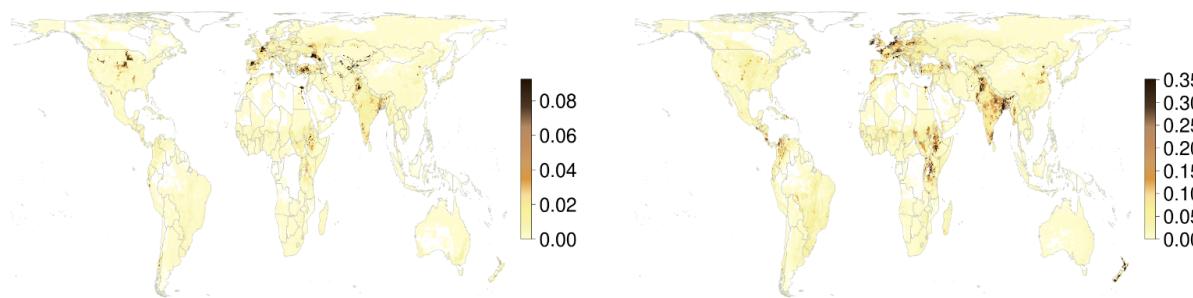
**Disturbance**



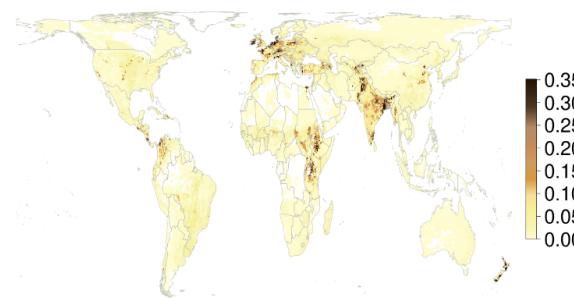
**GHG**



**Water**

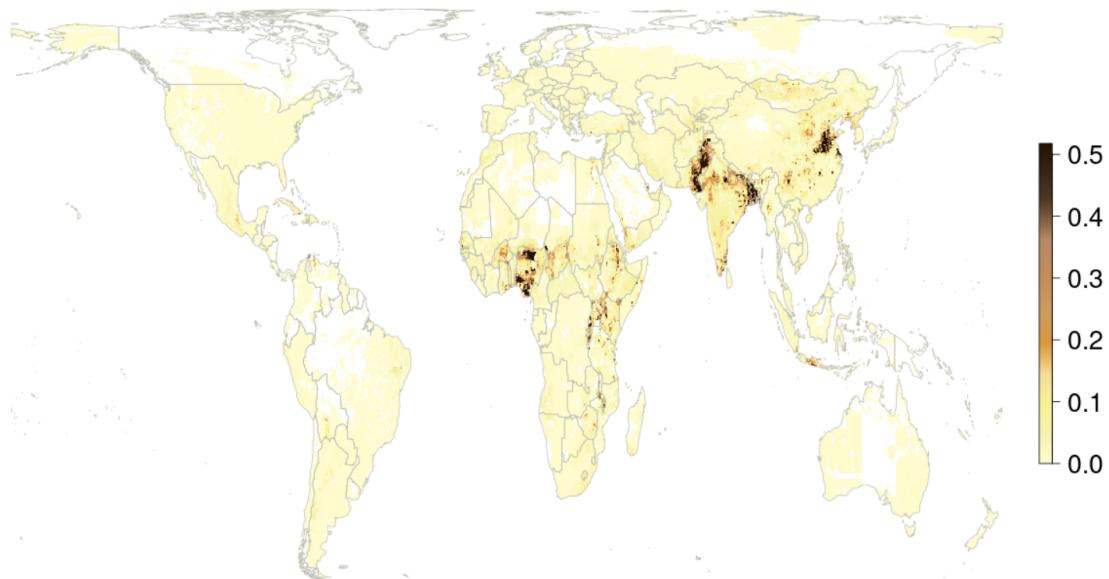


**Nutrient**

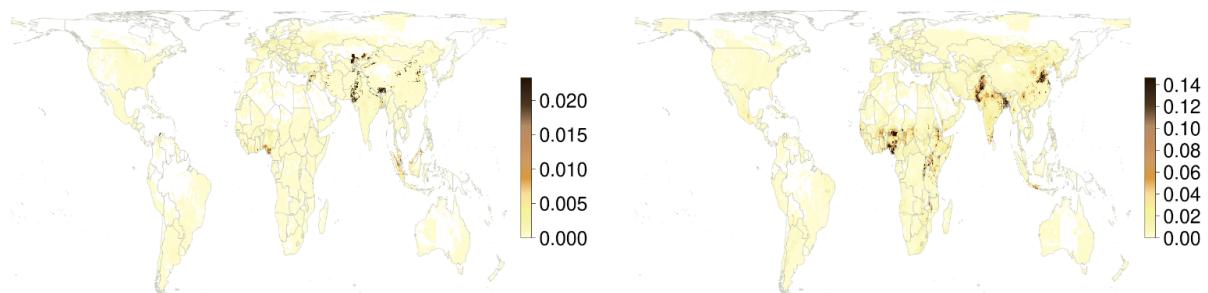


6) Cows milk

**Cumulative Pressure**

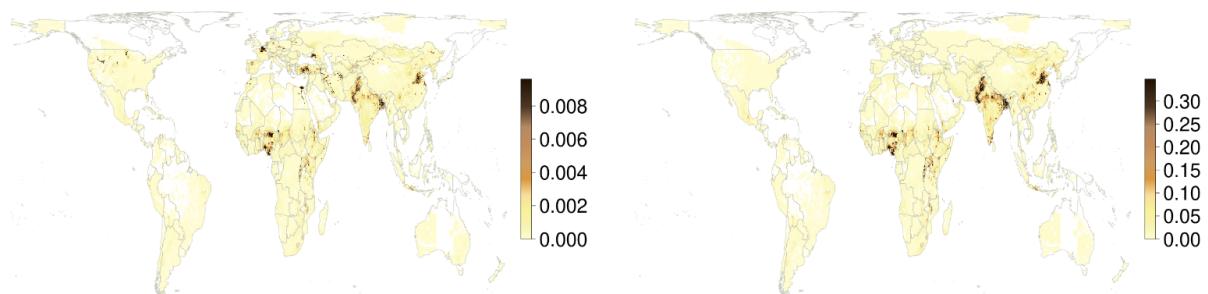


**Disturbance**



**GHG**

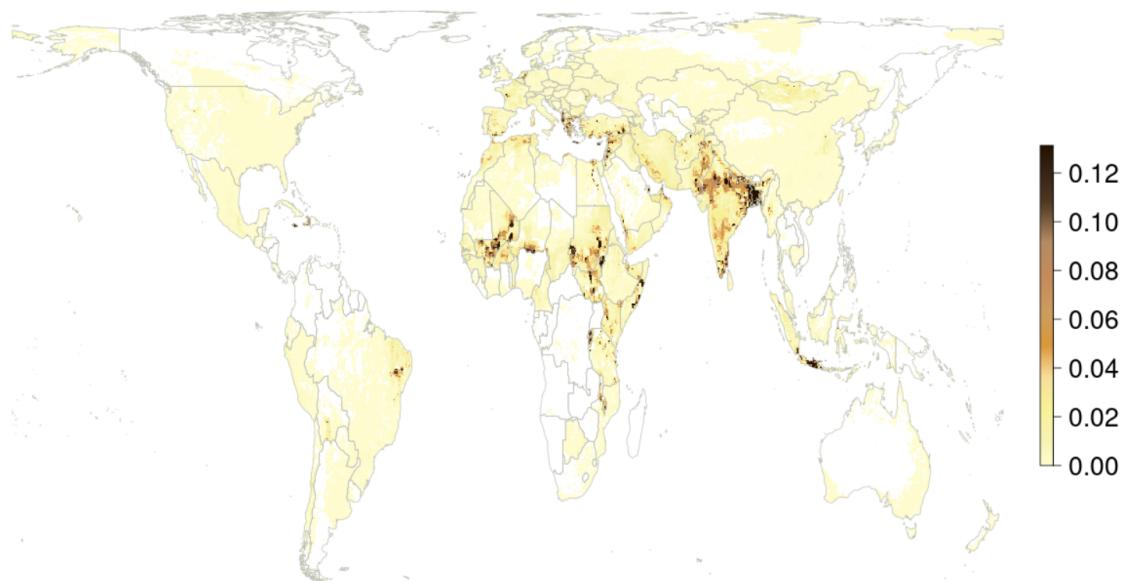
**Water**



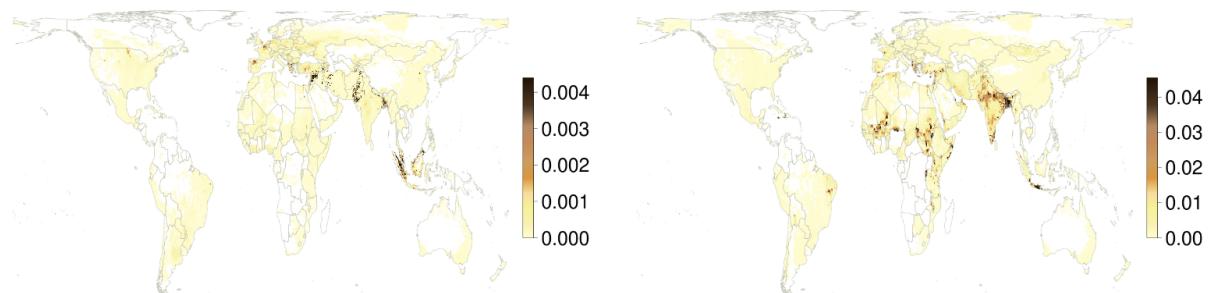
**Nutrient**

7) Goats meat

**Cumulative Pressure**

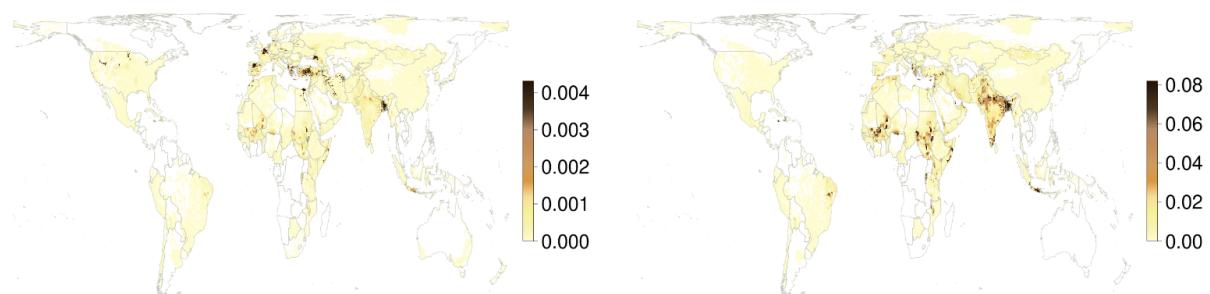


**Disturbance**



**GHG**

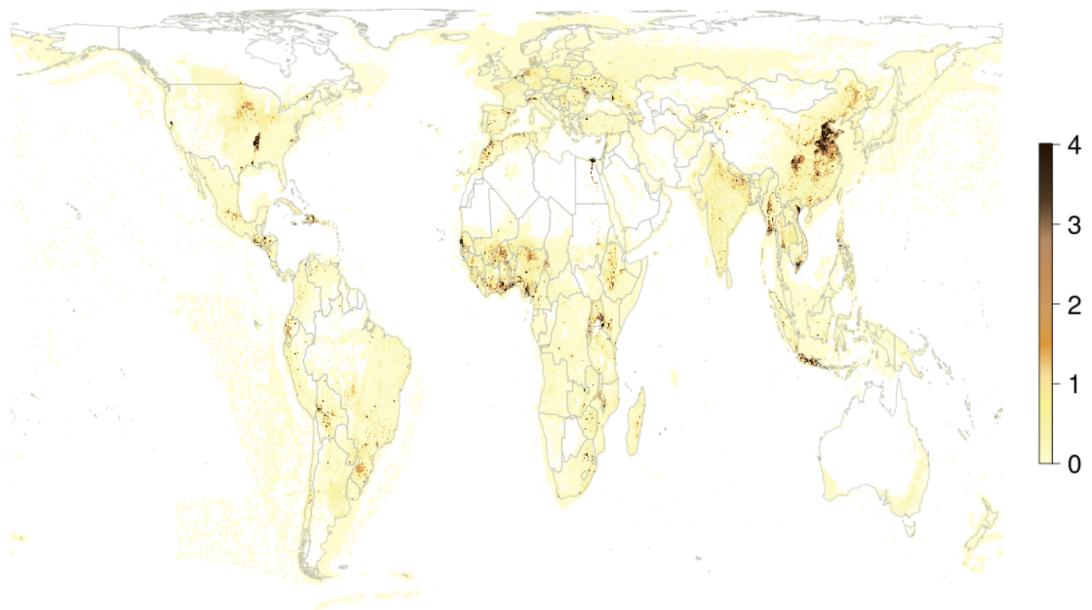
**Water**



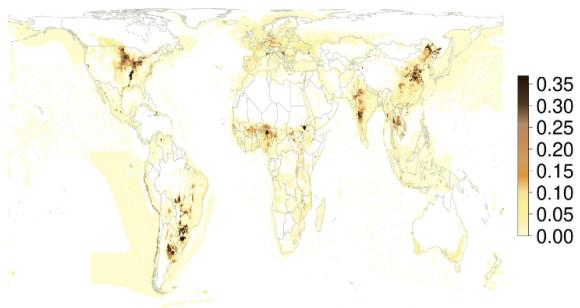
**Nutrient**

8) Goats milk

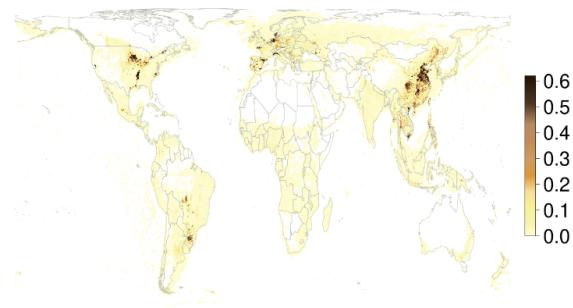
**Cumulative Pressure**



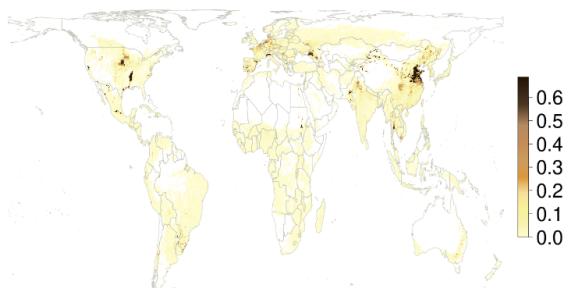
**Disturbance**



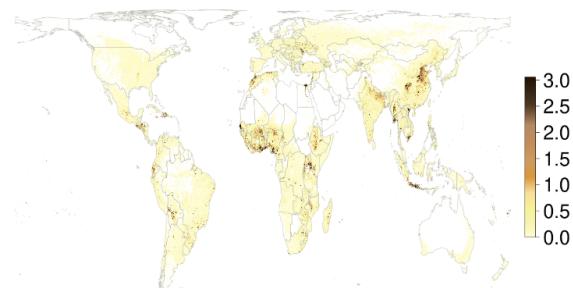
**GHG**



**Water**

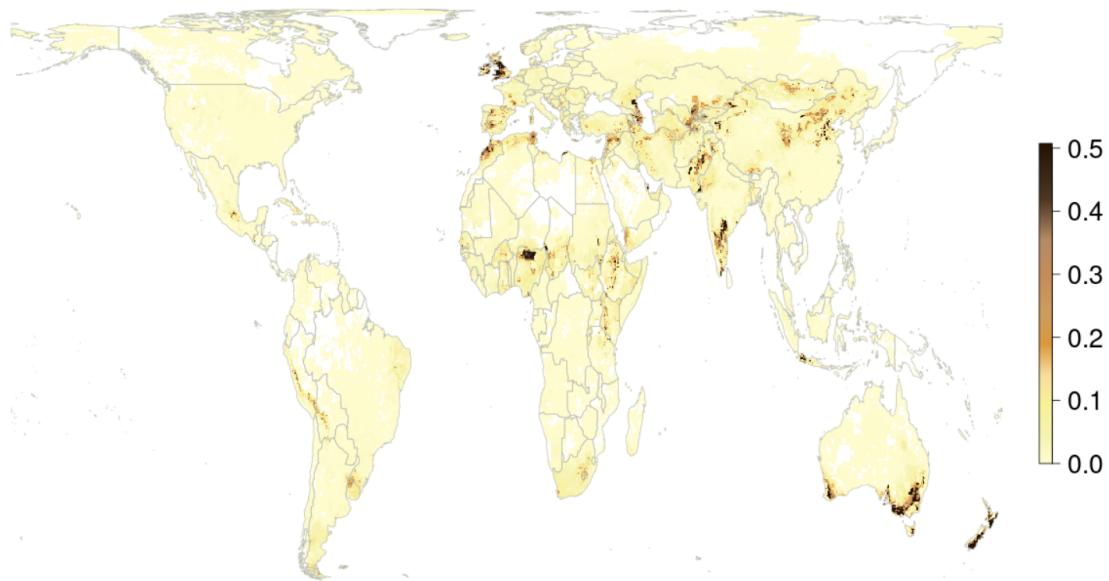


**Nutrient**

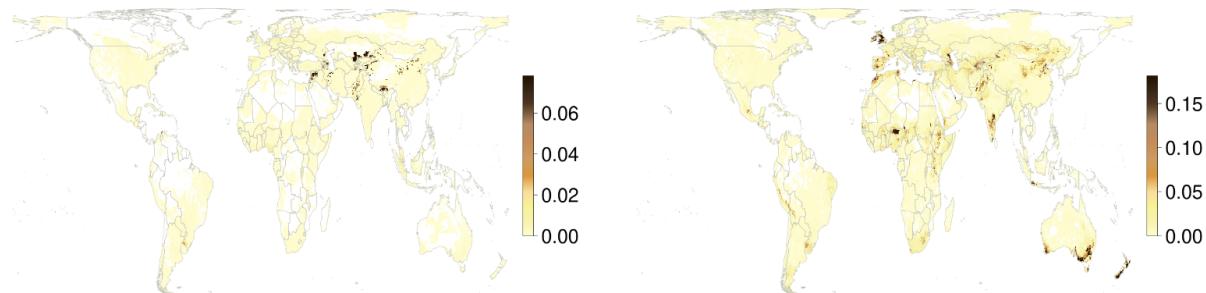


9) Pigs meat

**Cumulative Pressure**

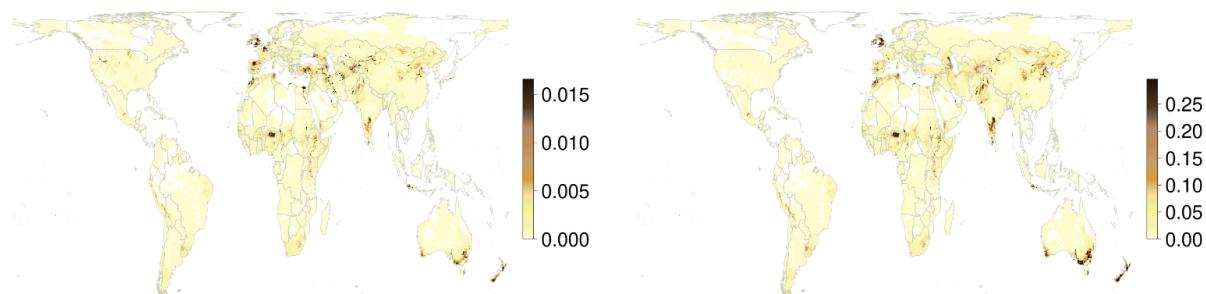


**Disturbance**



**GHG**

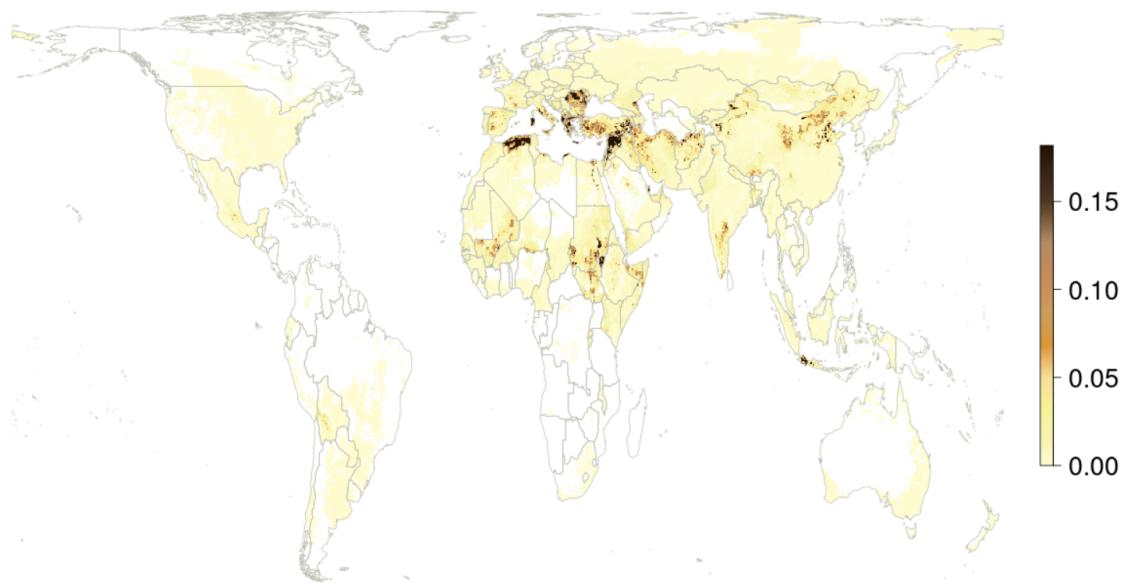
**Water**



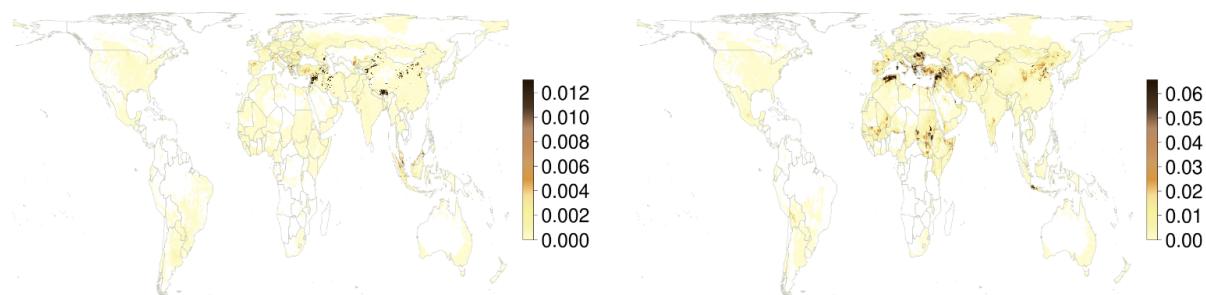
**Nutrient**

10) Sheep meat

**Cumulative Pressure**

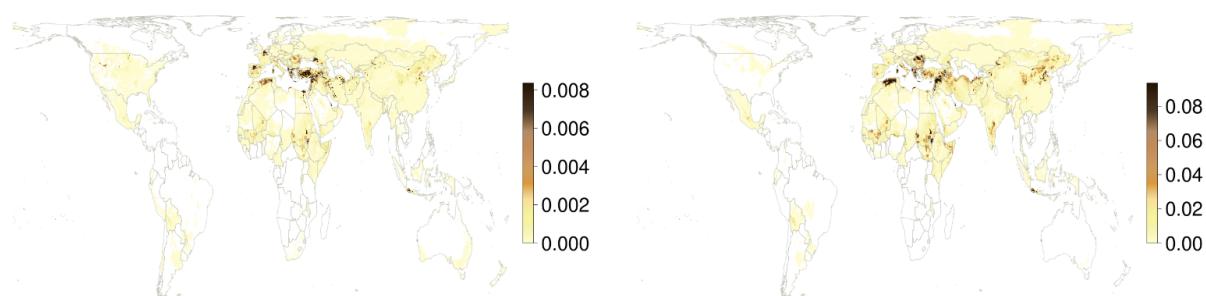


**Disturbance**



**GHG**

**Water**

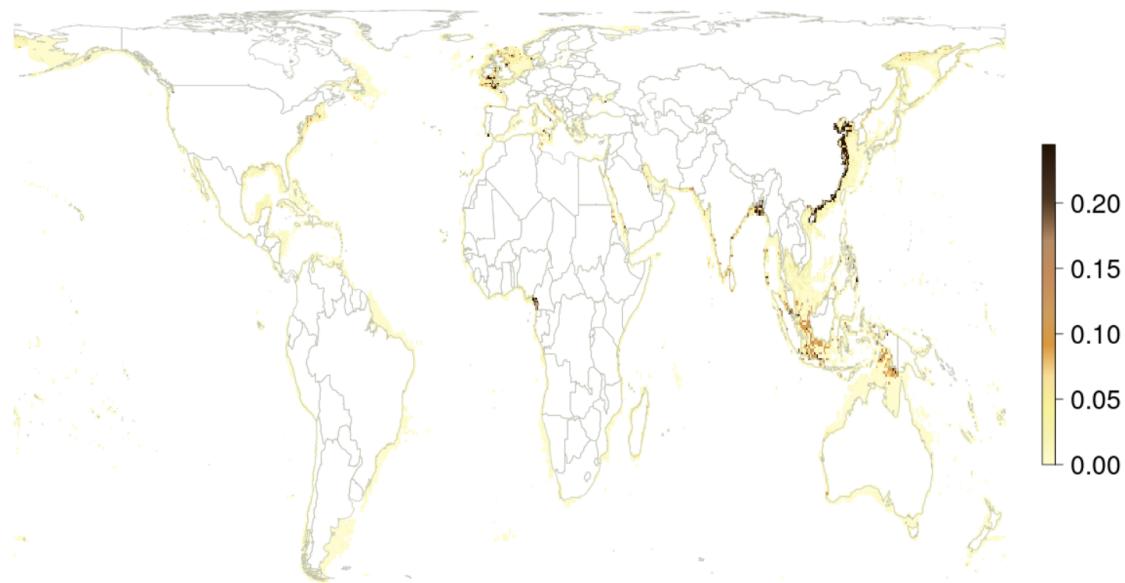


**Nutrient**

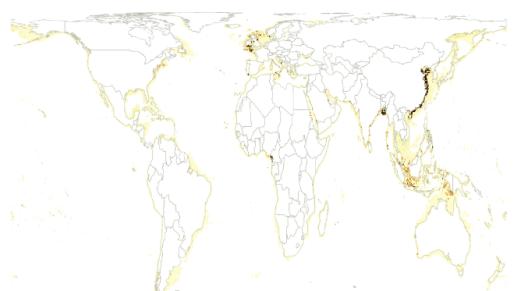
11) Sheep milk

**Extended Data Fig. 1c:** Cumulative and individual (disturbance, GHG, water, nutrient) pressures for eight categories of marine fisheries and one category of freshwater fisheries.

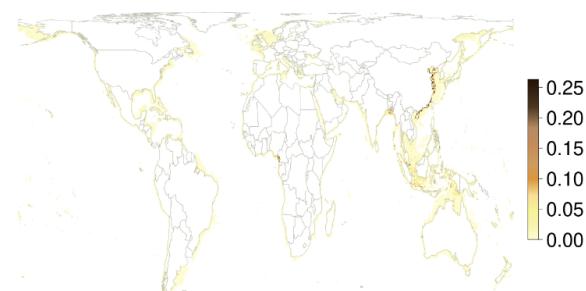
### Cumulative Pressure



Disturbance



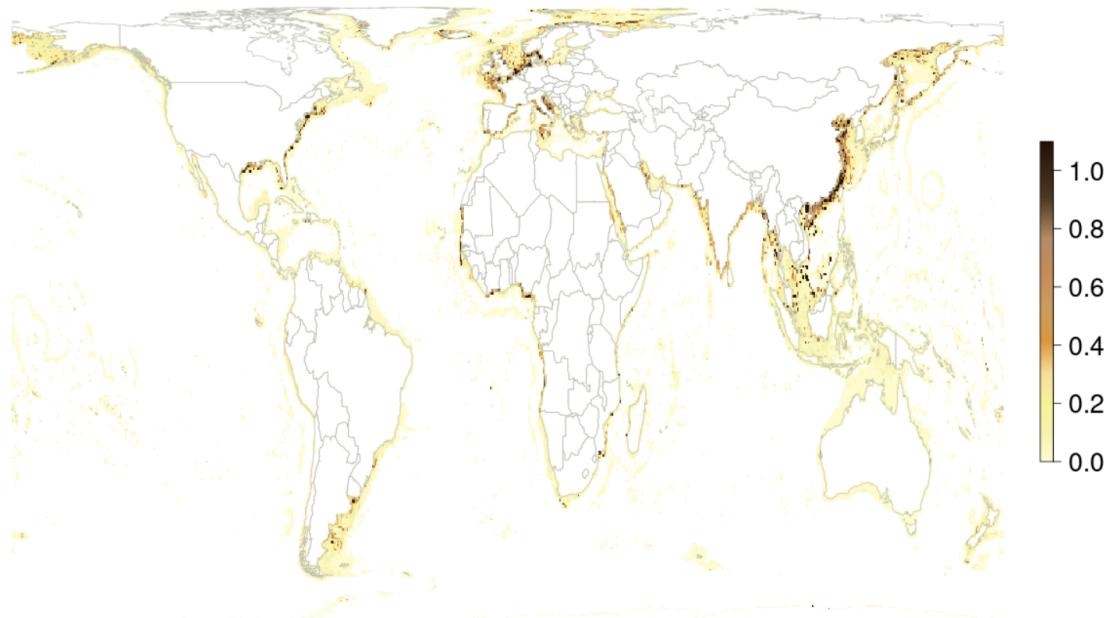
GHG



- 1) Marine benthic fisheries

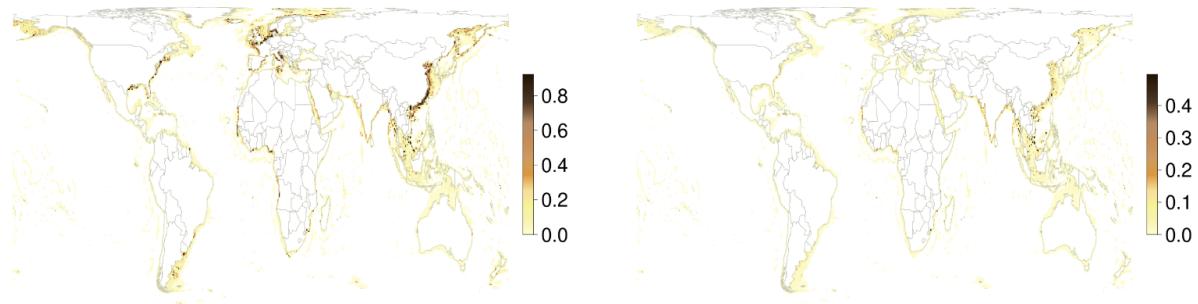
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### Cumulative Pressure



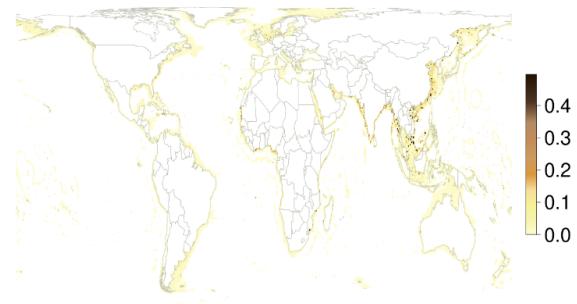
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### Disturbance



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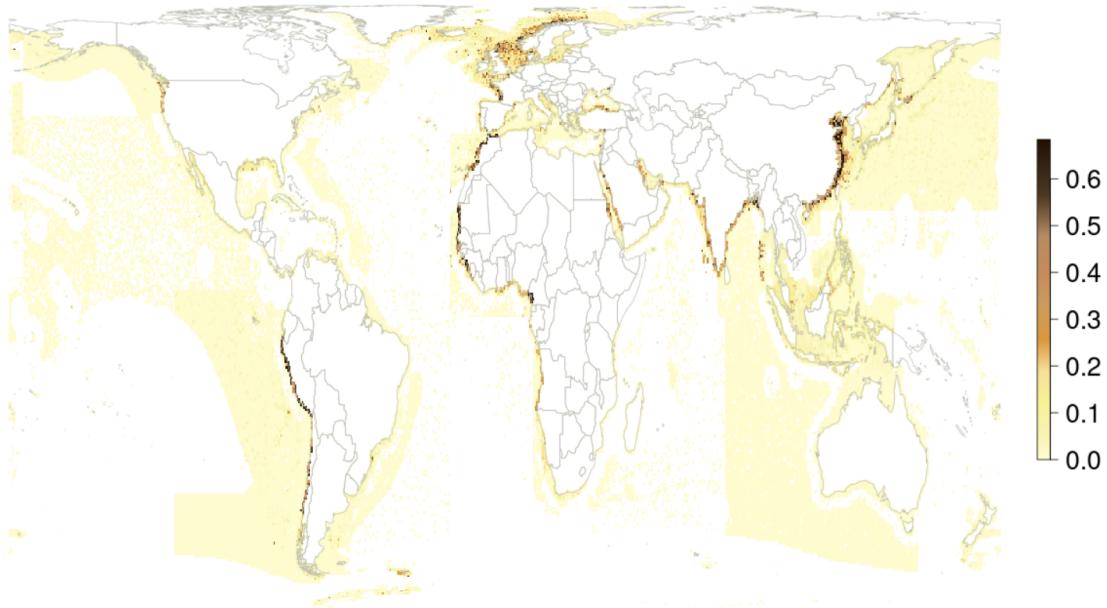
### GHG



2) Marine demersal fisheries

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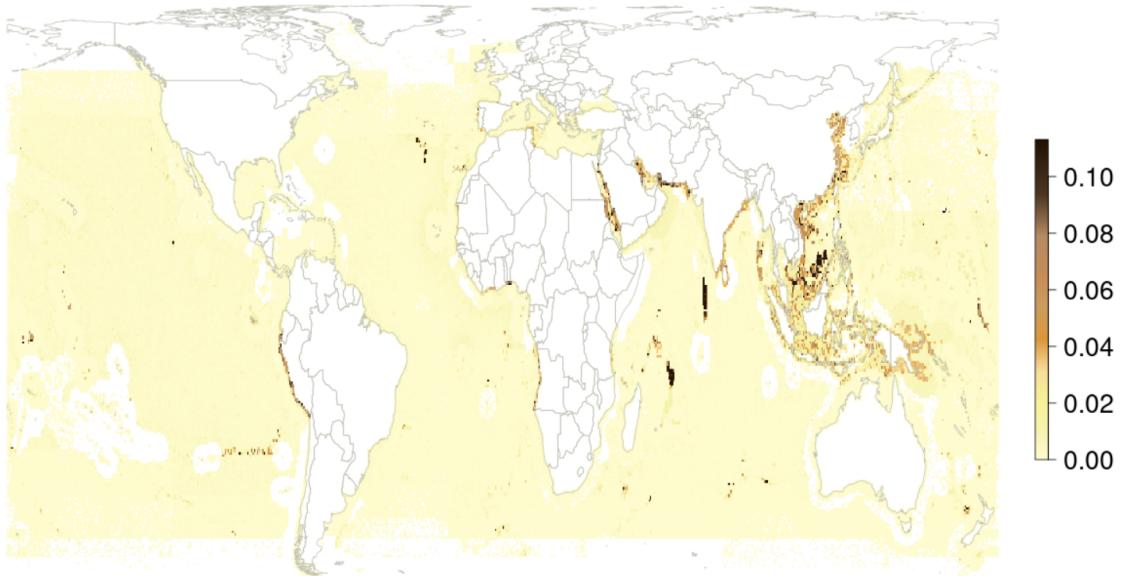
### Cumulative Pressure



3) Marine fish oil fish meal fisheries

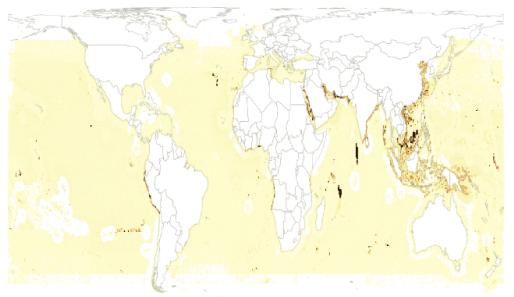
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### Cumulative Pressure



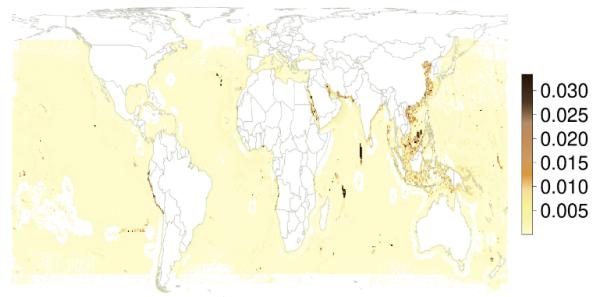
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### Disturbance



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### GHG

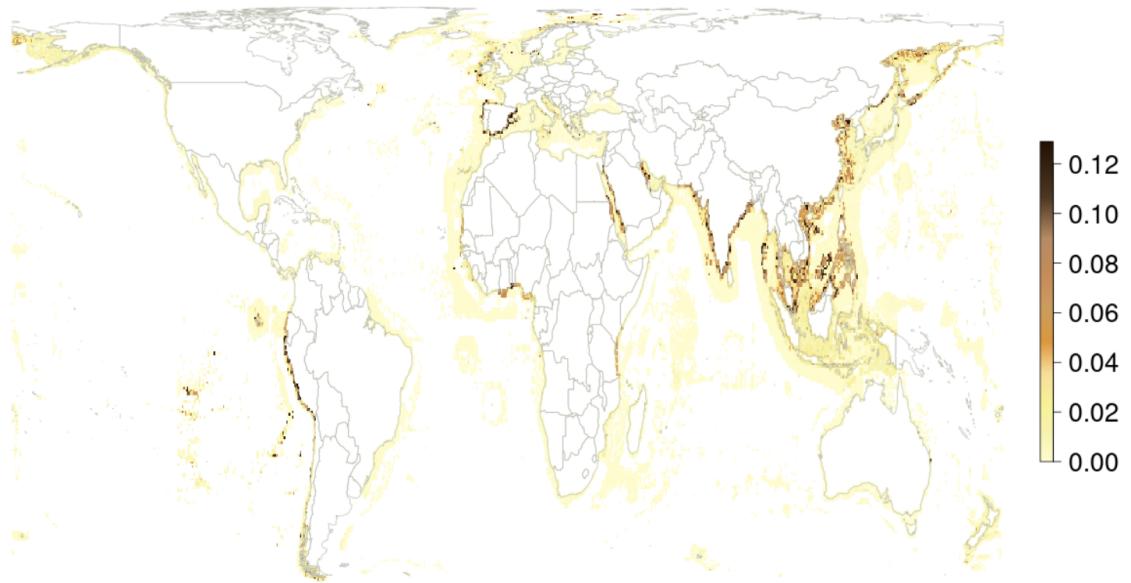


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4) Marine large pelagic fisheries

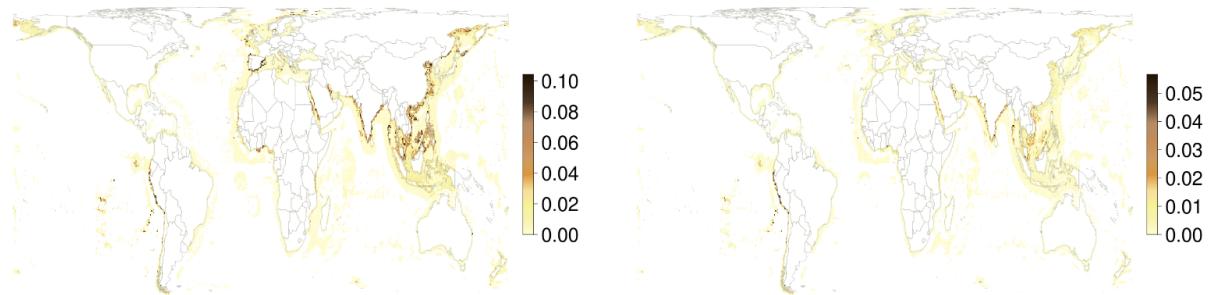
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### Cumulative Pressure

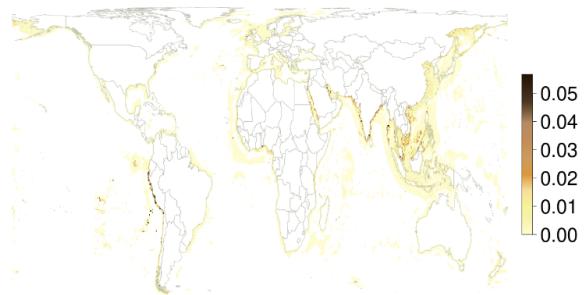


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### Disturbance



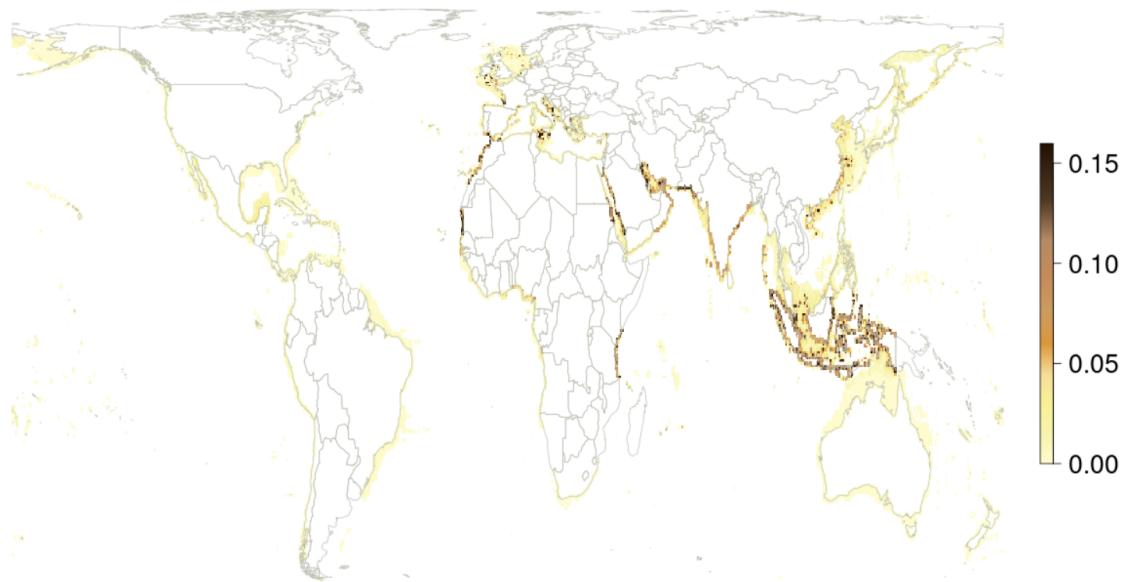
### GHG



5) Marine medium pelagic fisheries

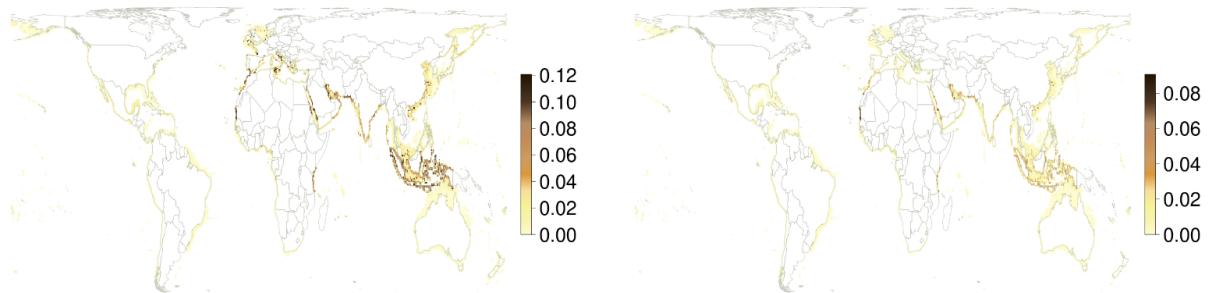
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### Cumulative Pressure



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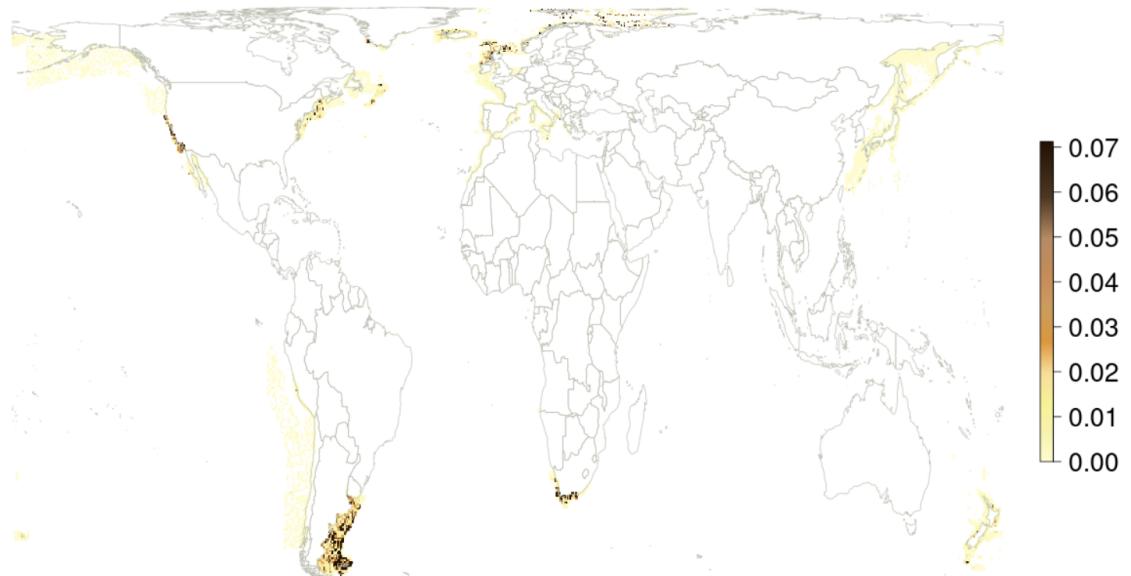
### Disturbance



6) Marine reef fisheries

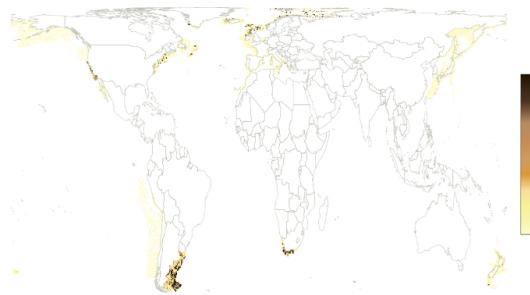
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### Cumulative Pressure

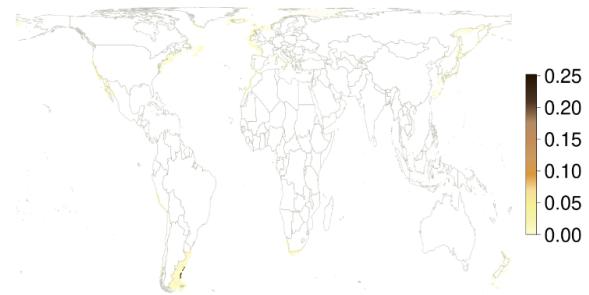


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### Disturbance



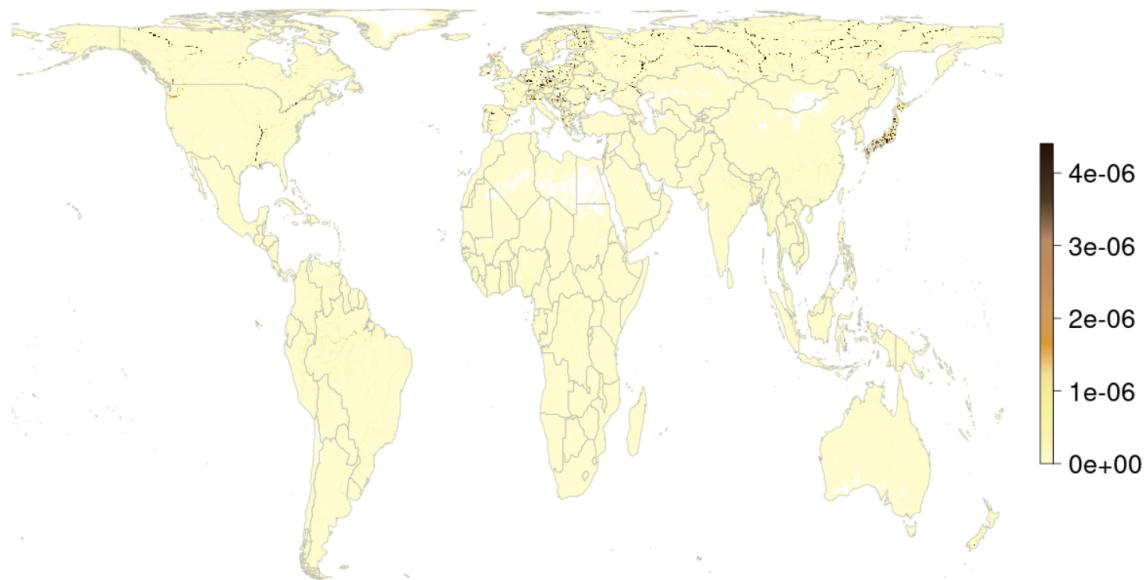
### GHG



7) Marine small pelagic fisheries

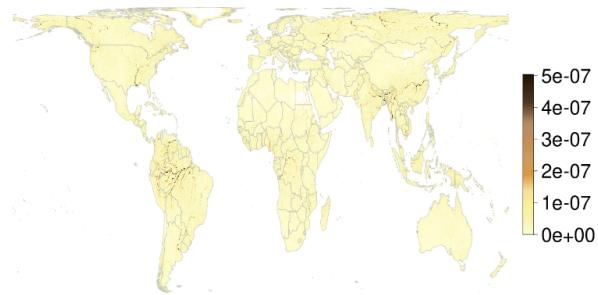
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### Cumulative Pressure



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### Disturbance



### GHG



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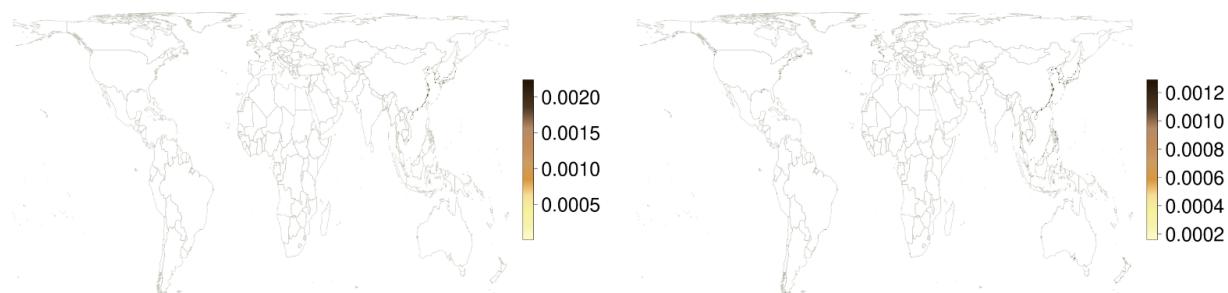
8) Freshwater fisheries

**Extended Data Fig. 1d:** Cumulative and individual (disturbance, GHG, water, nutrient) pressures for six categories of marine aquaculture. Data includes both on-farm pressures and off-farm feed pressures (except for unfed or algae fed shellfish).

**Cumulative Pressure**



**Disturbance**

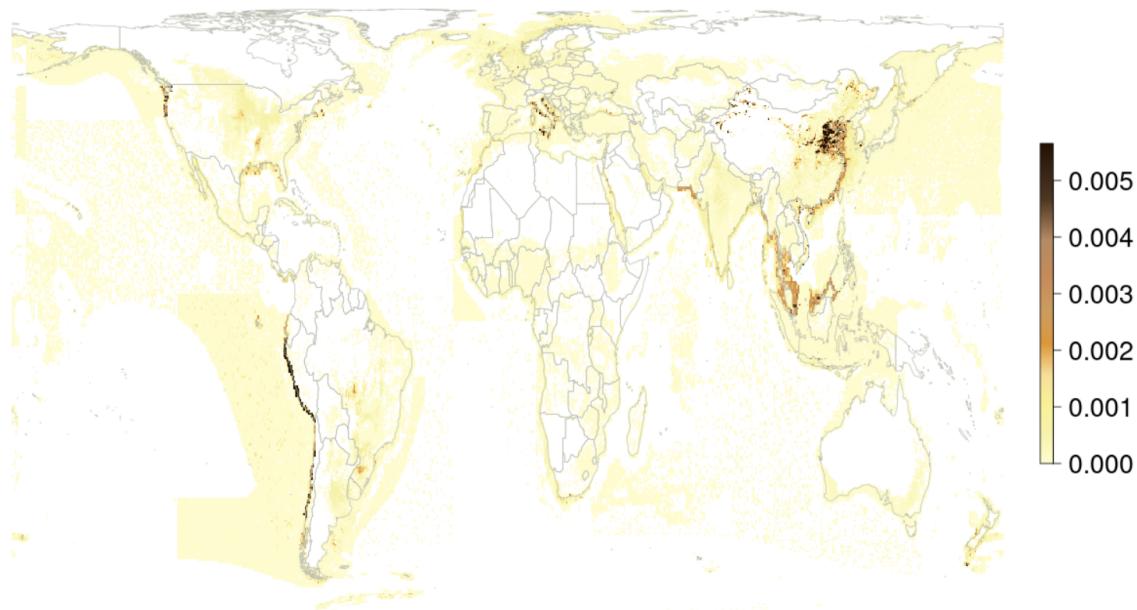


**Water**

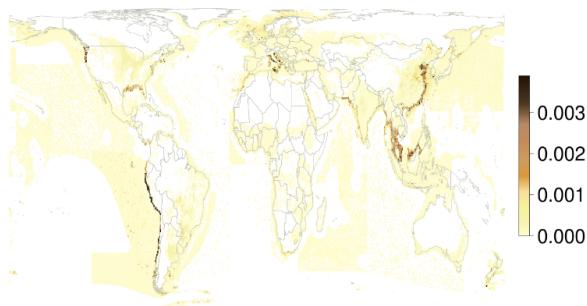


- 1) Bivalve aquaculture

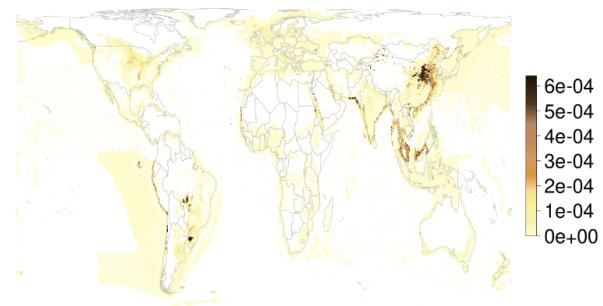
**Cumulative Pressure**



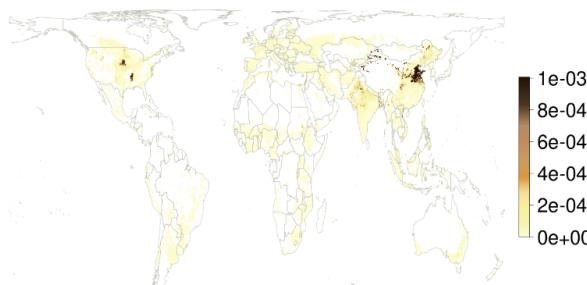
**Disturbance**



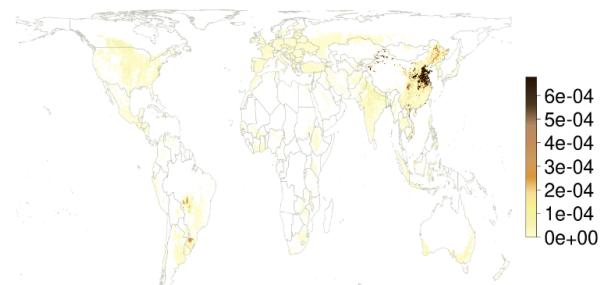
**GHG**



**Water**

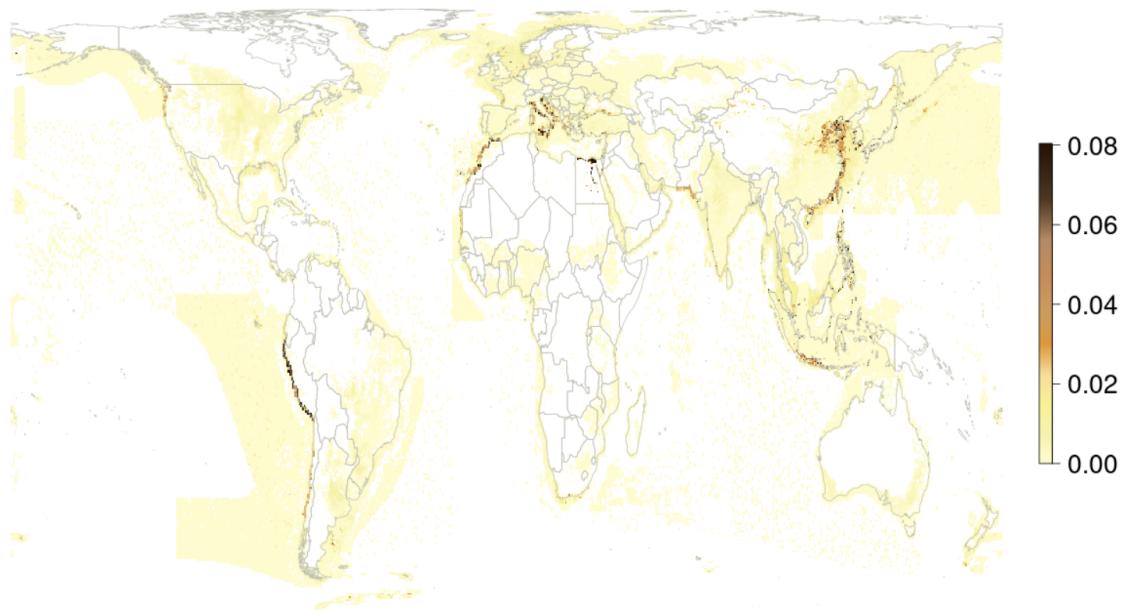


**Nutrient**

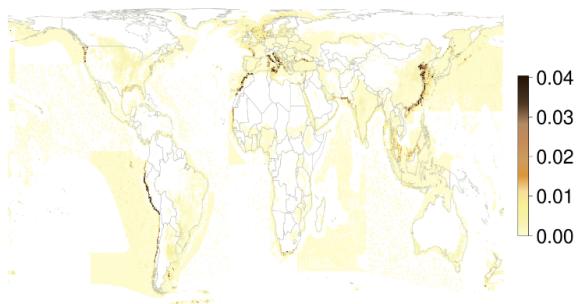


2) Crustaceans aquaculture

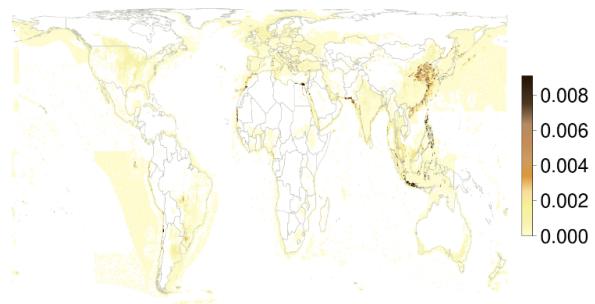
**Cumulative Pressure**



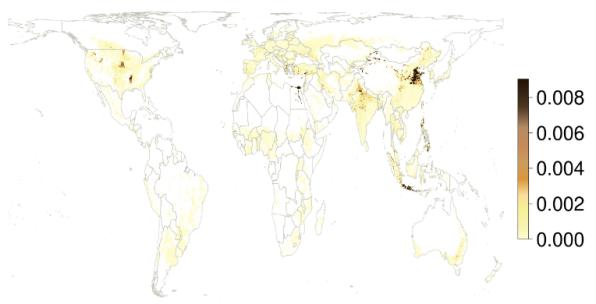
**Disturbance**



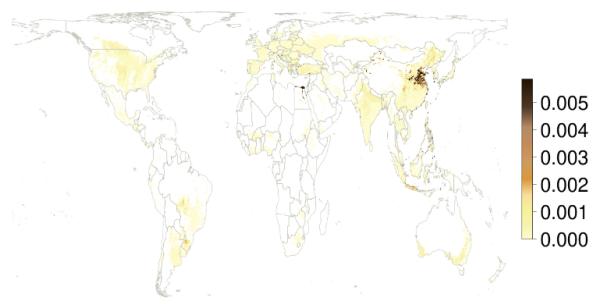
**GHG**



**Water**

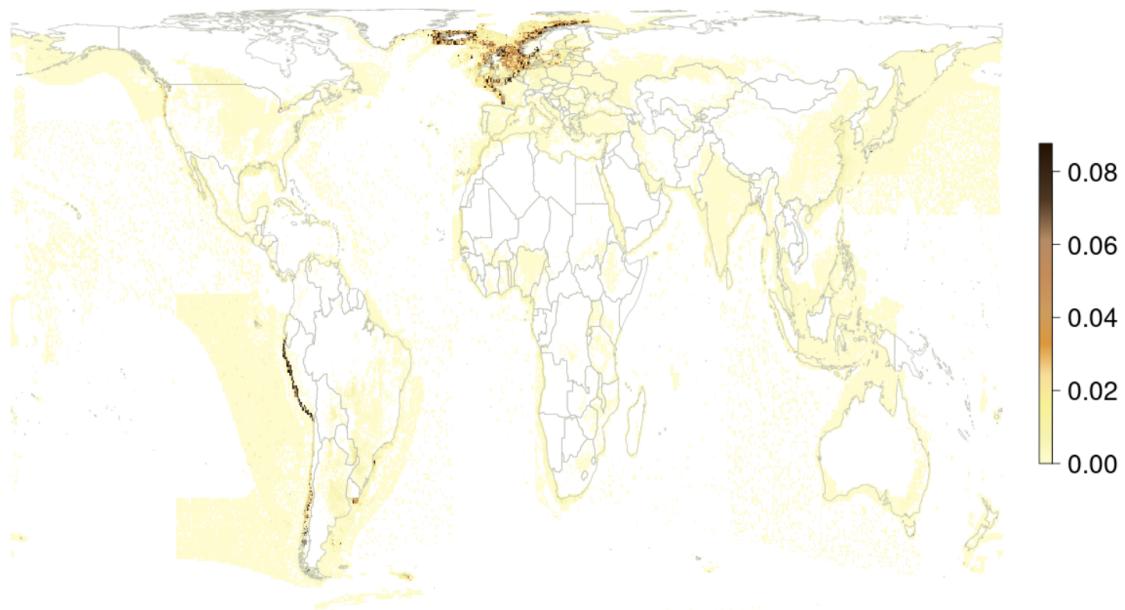


**Nutrient**

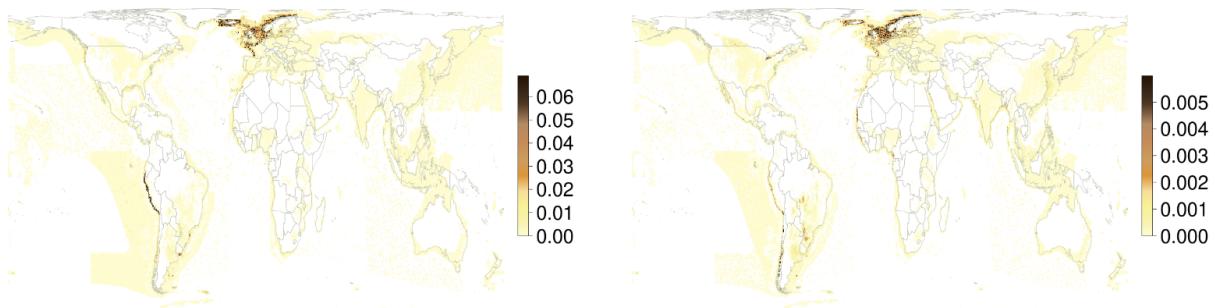


3) Marine fish general aquaculture

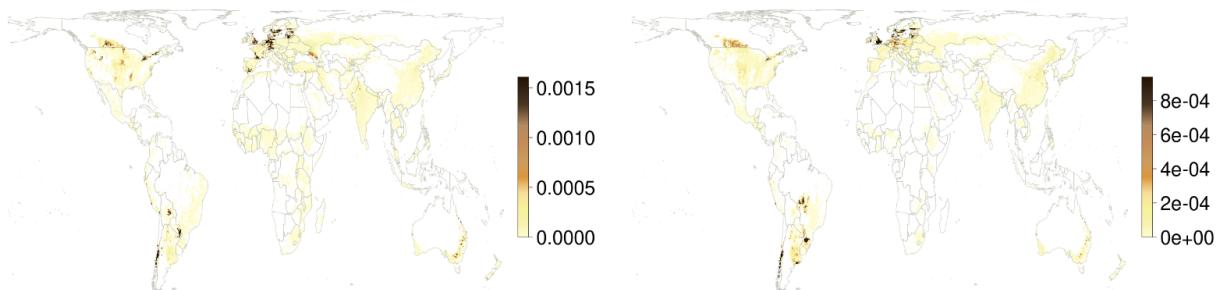
**Cumulative Pressure**



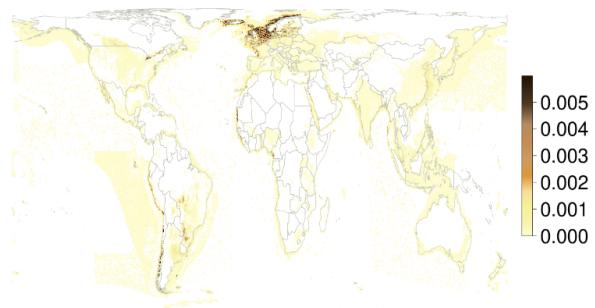
**Disturbance**



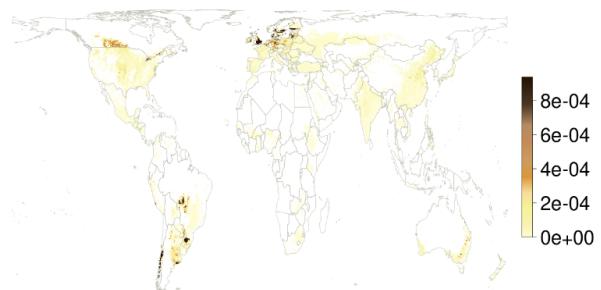
**Water**



**GHG**

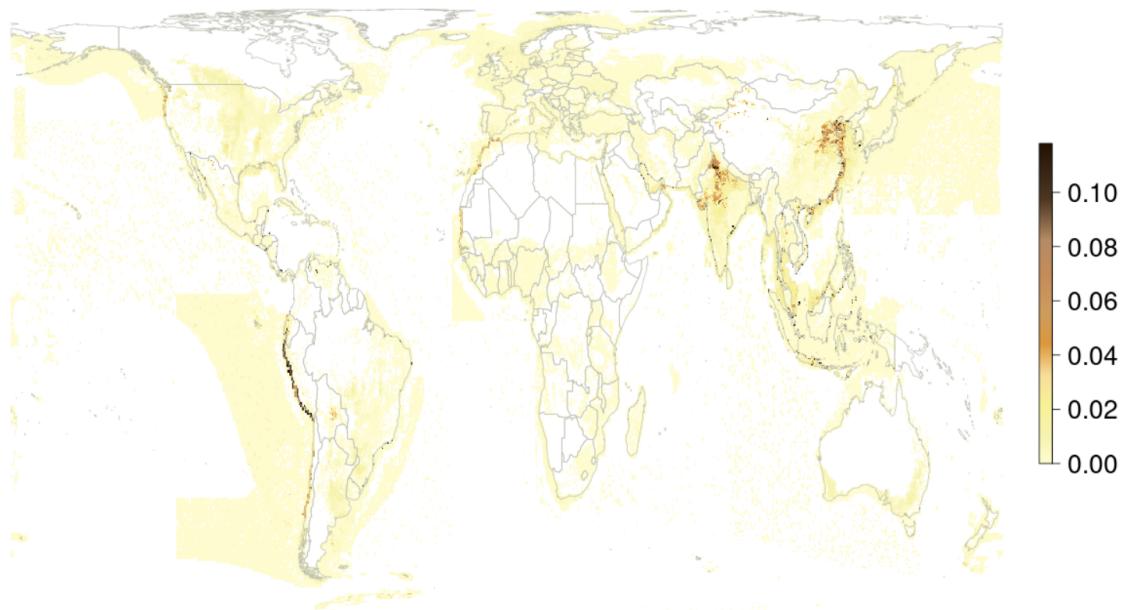


**Nutrient**

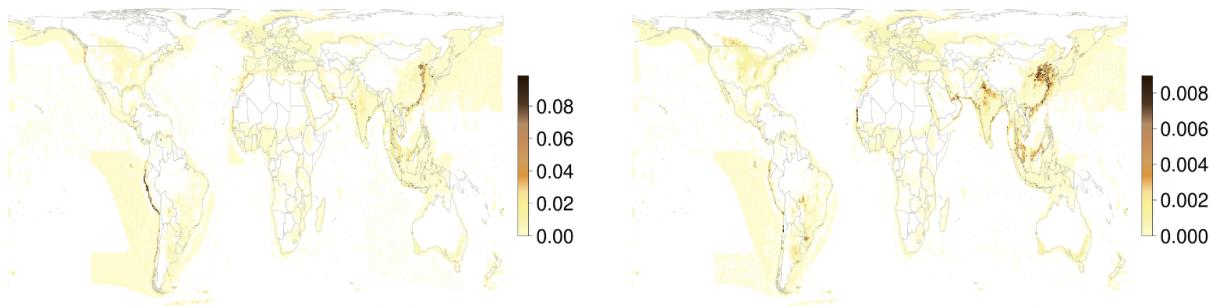


4) Salmon aquaculture

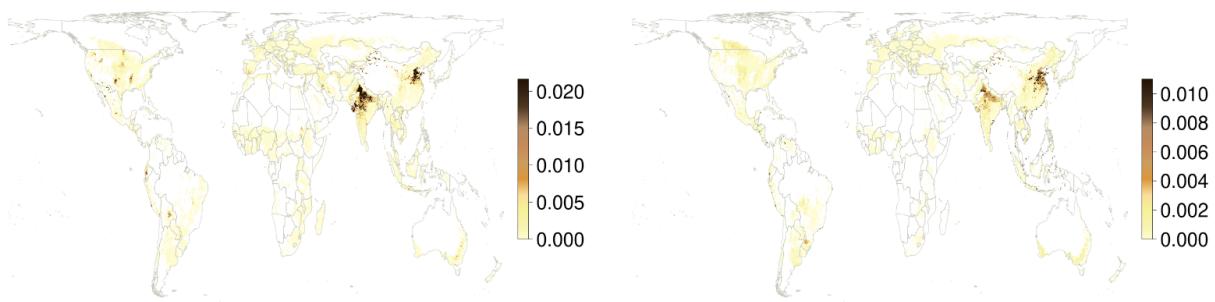
**Cumulative Pressure**



**Disturbance**

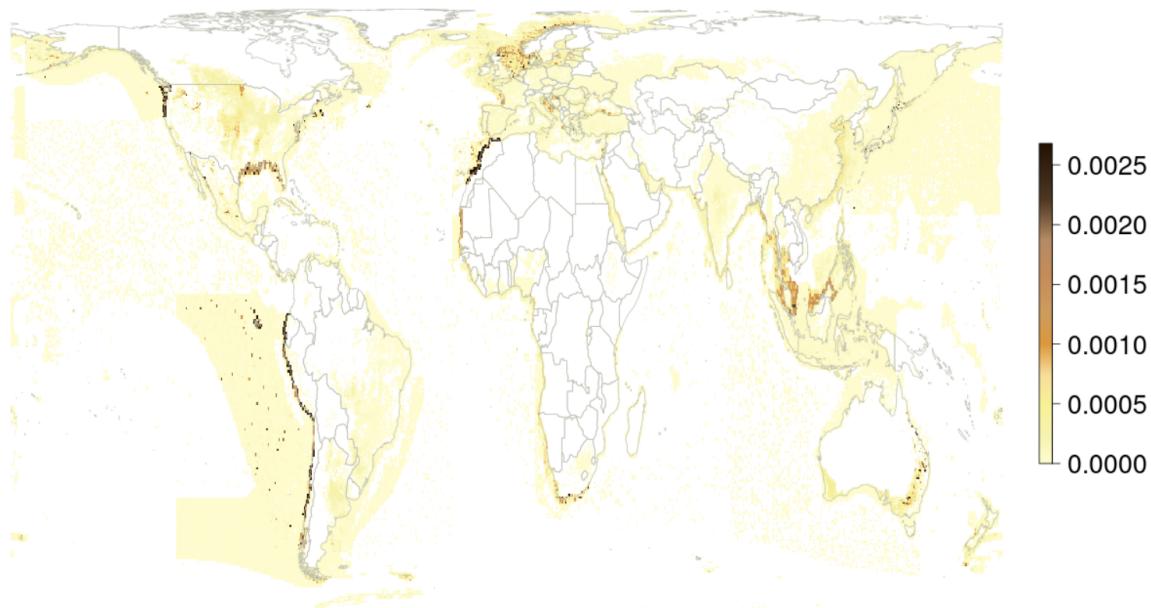


**Water**

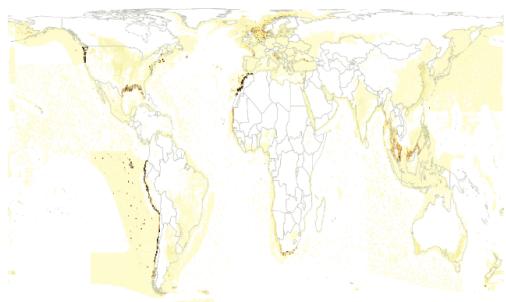


5) Shrimp aquaculture

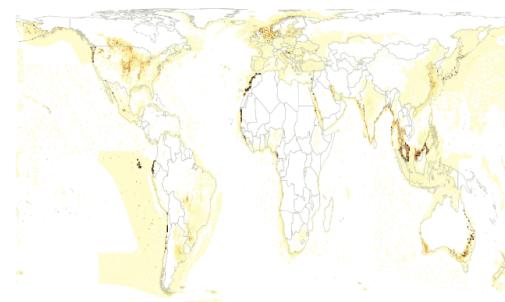
Cumulative Pressure



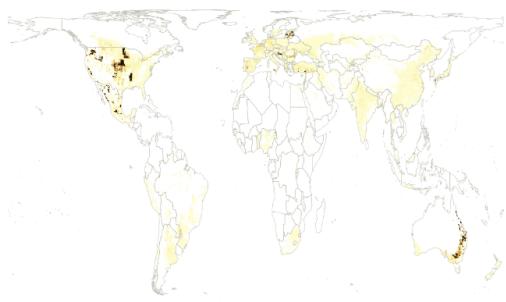
Disturbance



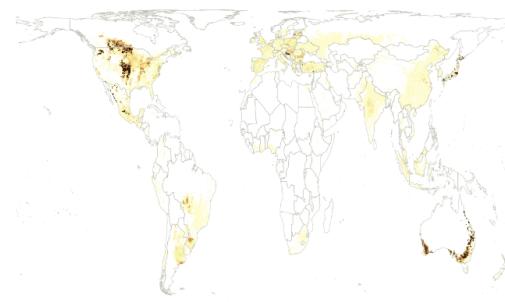
GHG



Water



Nutrient



6) Tuna aquaculture