


Diversity and Quality of Aquatic Foods to Support Human Nutrition

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The Aquatic Food Composition Database (AFCD)

Food composition tables and peer reviewed literature

> 373,000 samples with empirical laboratory analyzed data

> 200 nutrients included

> 2,800 unique species

> 20 food parts (e.g., filet, liver, skin, whole fish, etc.)

https://dataverse.harvard.edu/dataverse/afcd

nature

Article

Aquatic foods to nourish nations

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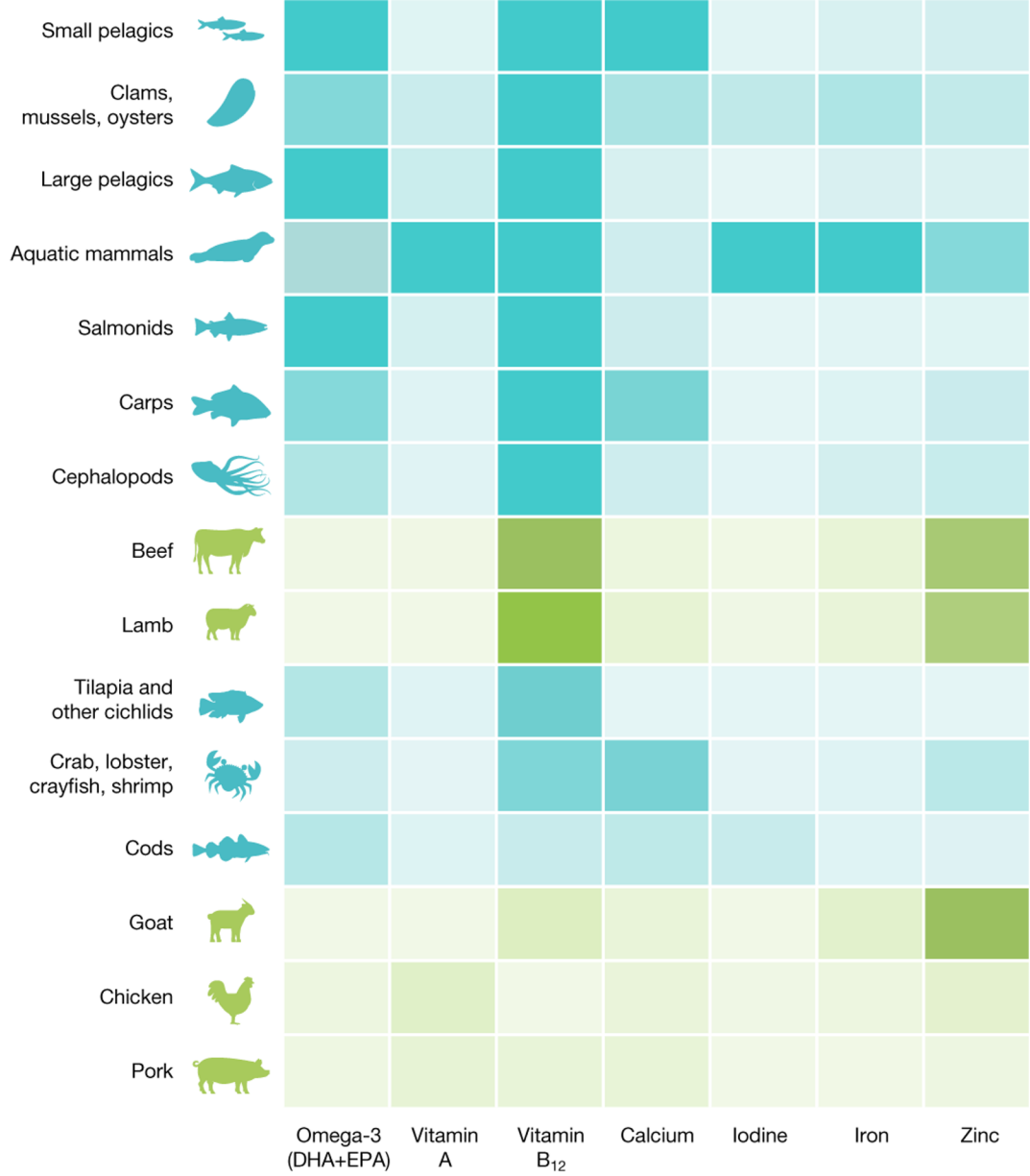
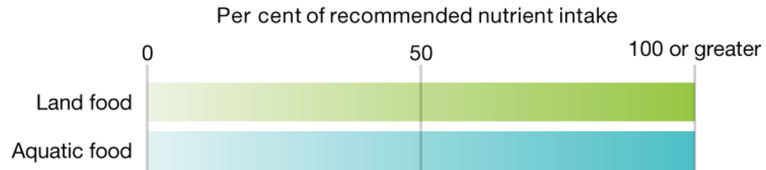




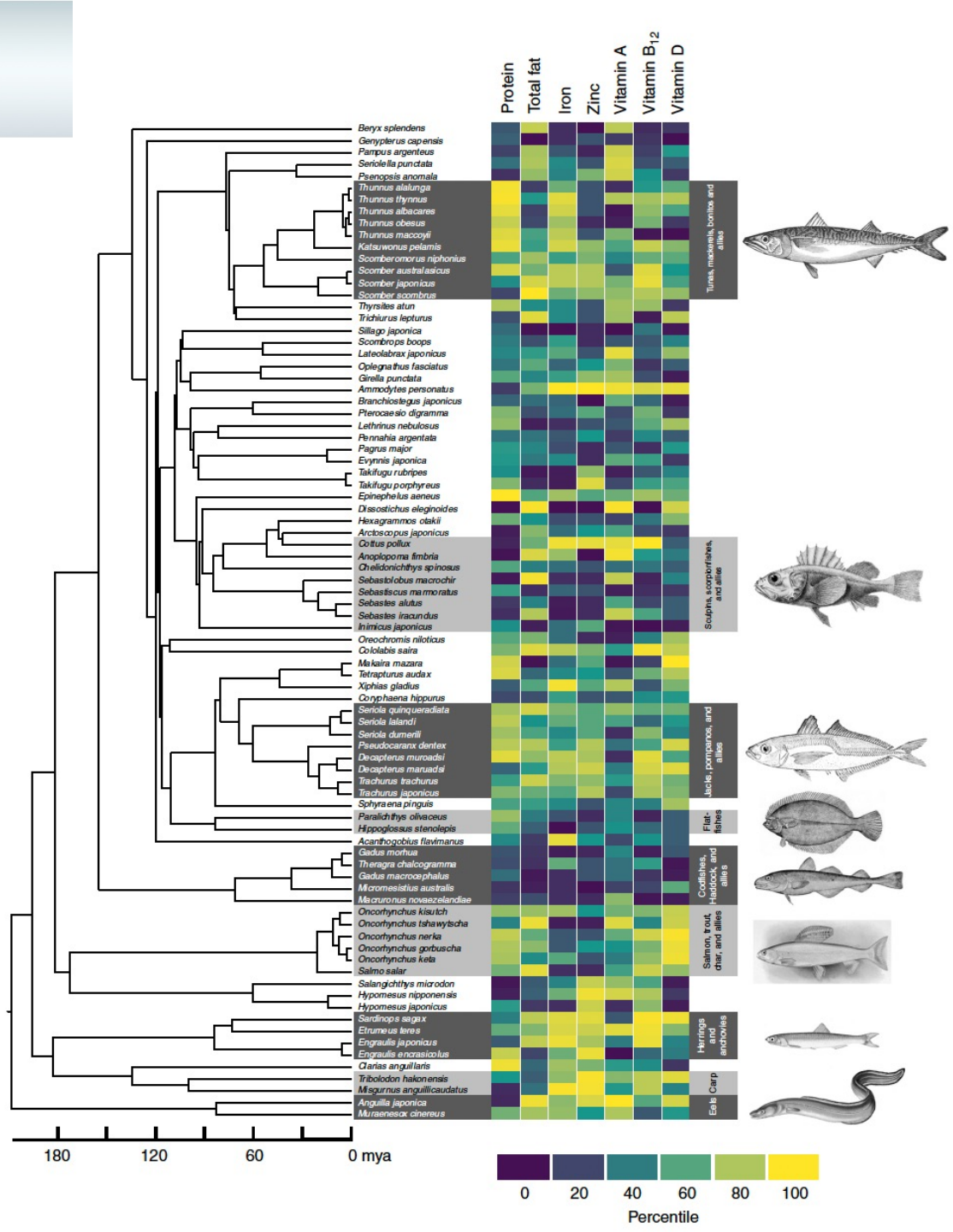
nature COMMUNICATIONS

ARTICLE

DOI: 10.1038/s41467-018-06199-w OPEN

Predicting nutrient content of ray-finned fishes using phylogenetic information

Bapu Vaitla[1], David Collar[2], Matthew R. Smith[3], Samuel S. Myers[3,4], Benjamin L. Rice[5] & Christopher D. Golden[1,3]



LETTER

https://doi.org/10.1038/s41586-019-1592-6

Harnessing global fisheries to tackle micronutrient deficiencies

Christina C. Hicks[1,2]*, Philippa J. Cohen[2,3], Nicholas A. J. Graham[1,2], Kirsty L. Nash[4,5], Edward H. Allison[3,6], Coralie D'Lima[3], David J. Mills[2,3], Matthew Roscher[3], Shakuntala H. Thilsted[3], Andrew L. Thorne-Lyman[7] & M. Aaron MacNeil[8]

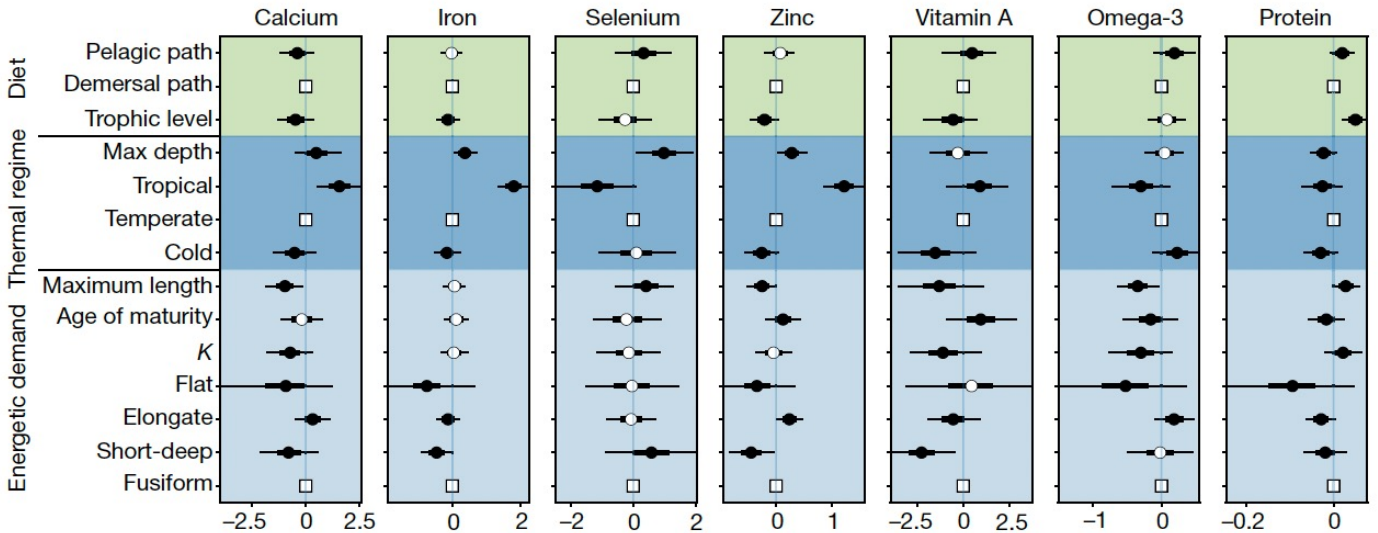
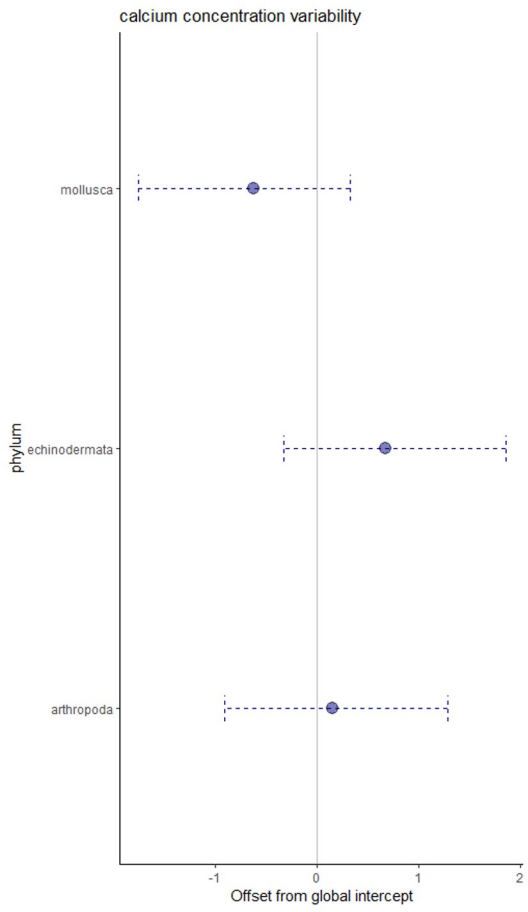
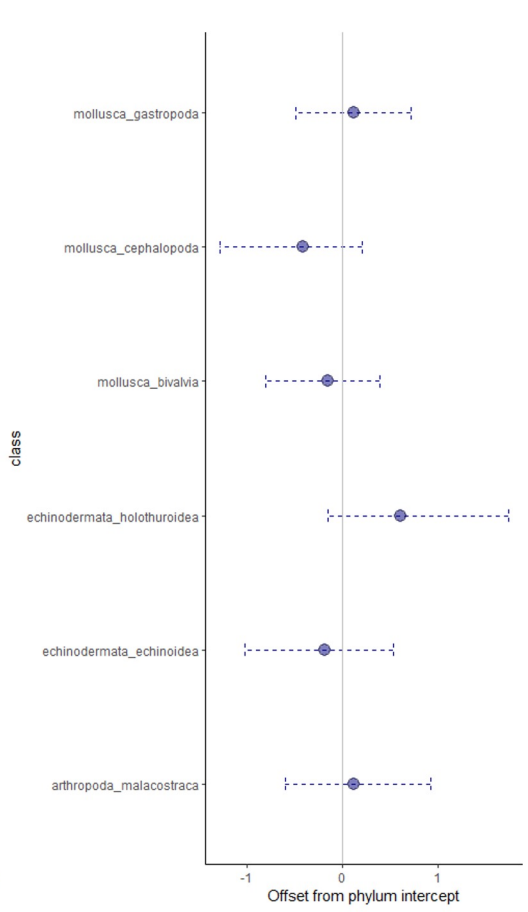
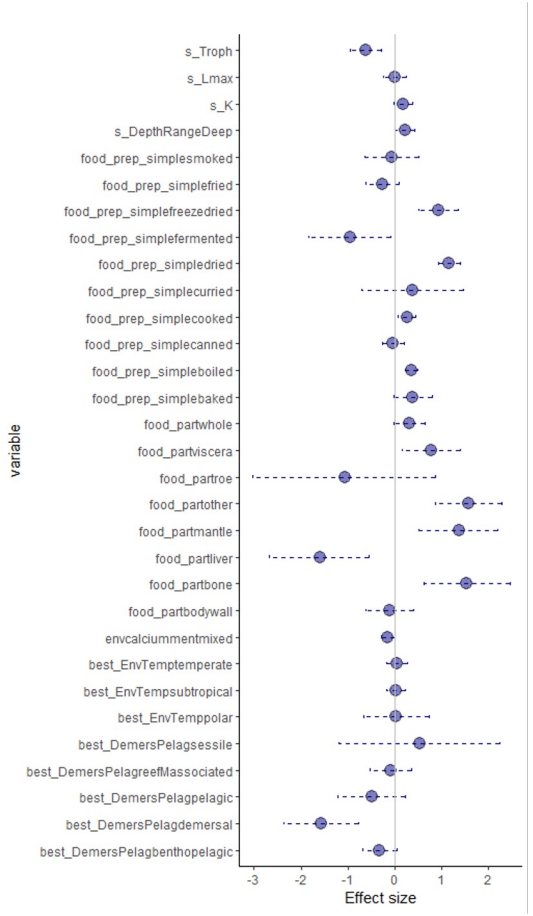


Fig. 1 | Bayesian hierarchical predictive model of nutrient concentrations in fish. Standardized effect sizes for environmental and ecological drivers of nutrient concentrations for diet, thermal regime and energetic demand. Parameter estimates are Bayesian posterior median values, 95% highest posterior density uncertainty intervals (thin lines) and 50% uncertainty intervals (thick lines). Black dots indicate that the 50% uncertainty intervals do not overlap zero, indicating that more than 75% of the posterior density was either positive or negative, whereas open circles indicate that the 50% uncertainty intervals overlap zero. Open squares indicate the baseline category in the statistical model. *K* denotes parameter *K* of the von Bertalanffy growth equation. Underlying sample sizes are as follows: calcium, $n = 170$ biologically independent samples; iron, $n = 173$; selenium, $n = 134$; zinc $n = 196$; vitamin A, $n = 69$; omega-3 fatty acids, $n = 176$; protein, $n = 627$. Effect sizes are not on a common *x*-axis scale for clarity of presentation.

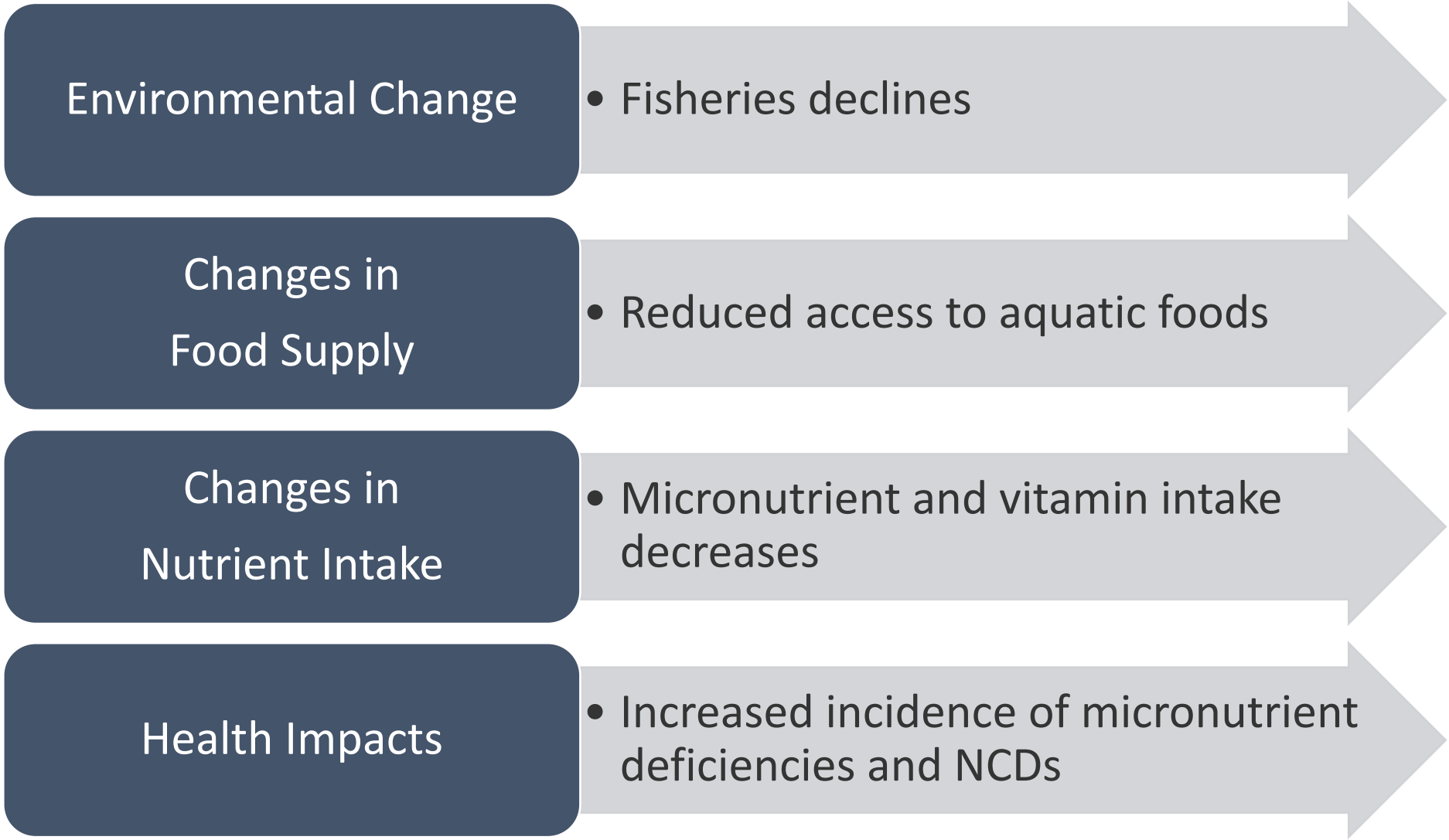
Nutrient predictive models for invertebrates



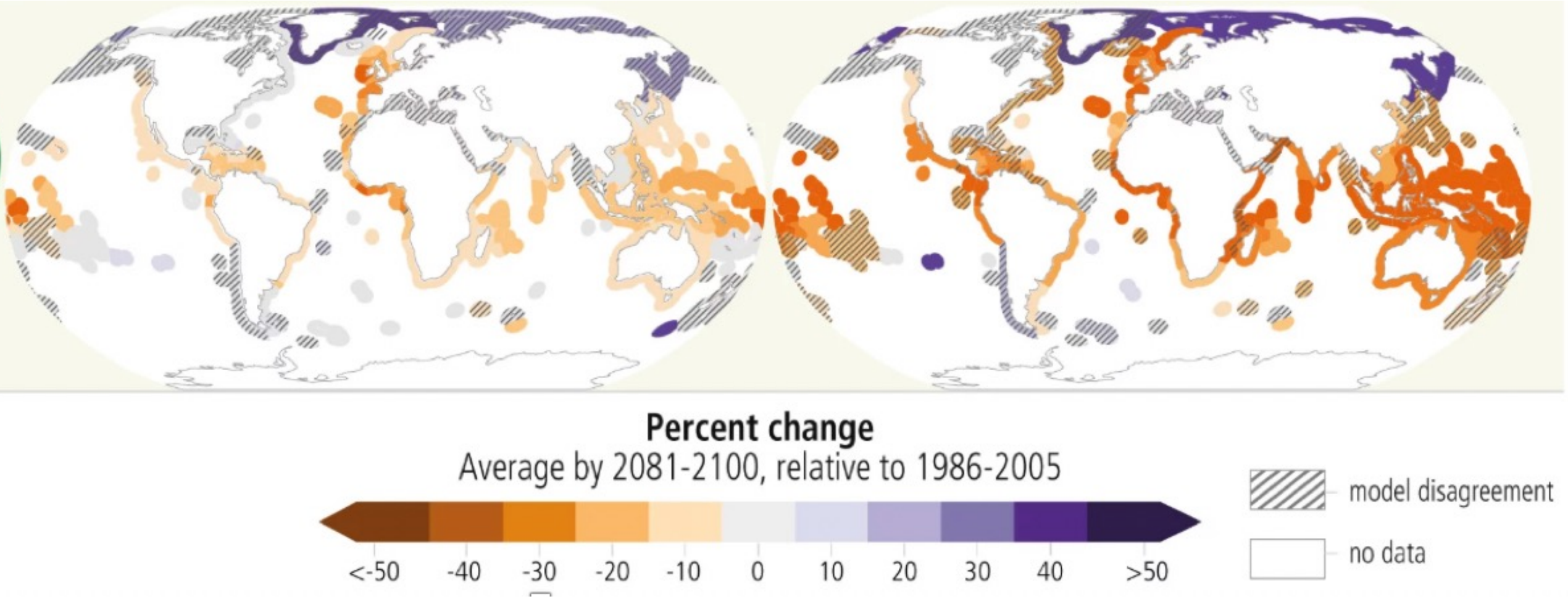




Fish Catch Declines and Human Nutrition



Projected changes in maximum fisheries catch potential



IPCC, 2019: IPCC Special Report on the Ocean and Cryosphere in a Changing Climate. Pörtner, Roberts, Masson-Delmotte, Zhai, Tignor, Poloczanska, Mintenbeck, Nicolai, Okem, Petzold, Rama, and Weyer (eds.).

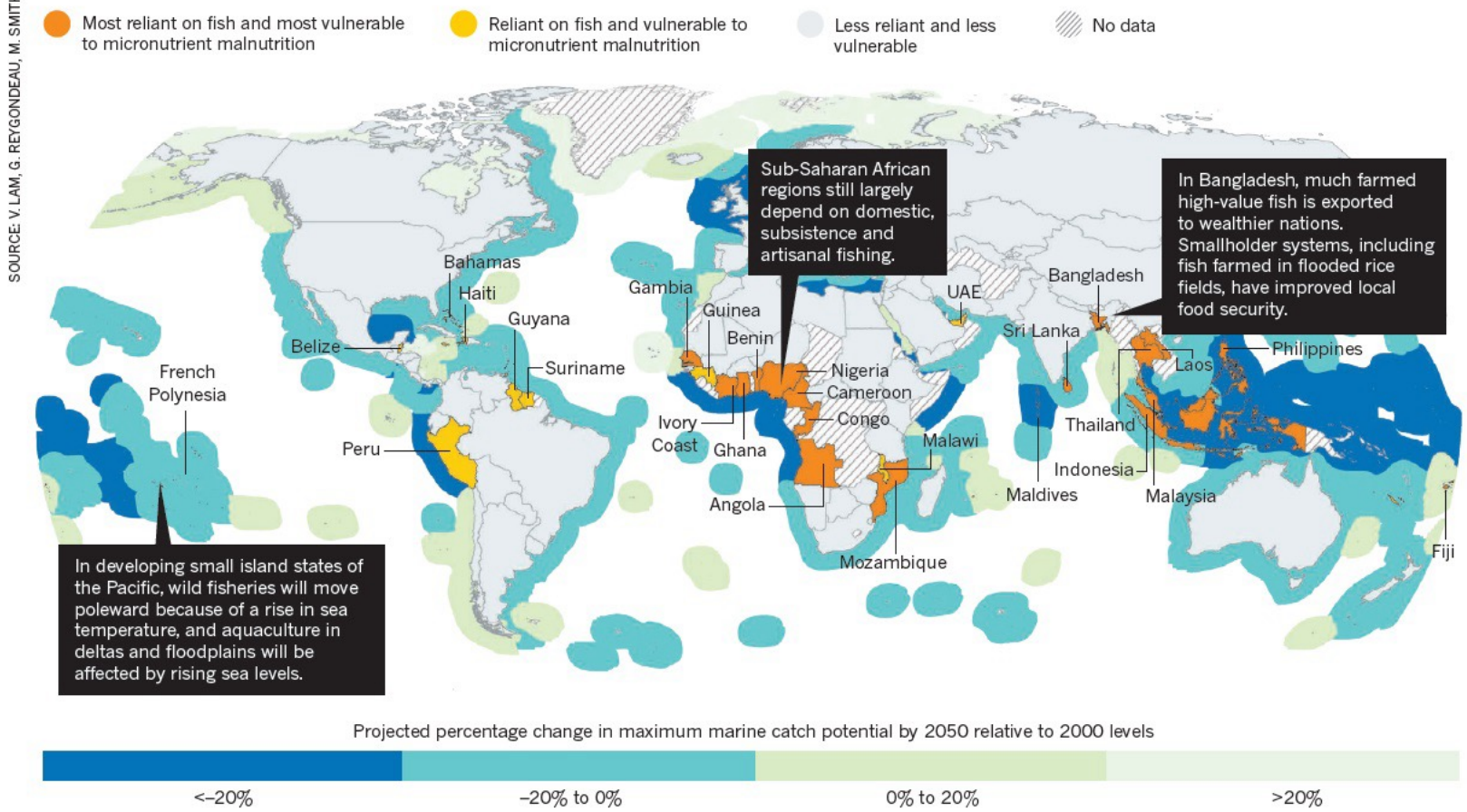
nature International weekly journal of science

Nutrition: Fall in fish catch threatens human health

Christopher D. Golden, Edward H. Allison, William W. L. Cheung, Madan M. Dey, Benjamin S. Halpern, Douglas J. McCauley, Matthew Smith, Bapu Vaitla, Dirk Zeller & Samuel S. Myers

TROUBLED WATERS

In the low-latitude developing nations, human nutrition is most dependent on wild fish, and fisheries are most at risk from illegal fishing, weak governance, poor knowledge of stock status, population pressures and climate change. These countries urgently need effective strategies for marine conservation and fisheries management to rebuild stocks for nutritional security.



SOURCE: V. LAM, G. REYGONDEAU, M. SMITH & W. CHEUNG

Impact on Nations from Fishery Declines

Less affected wealthy nations

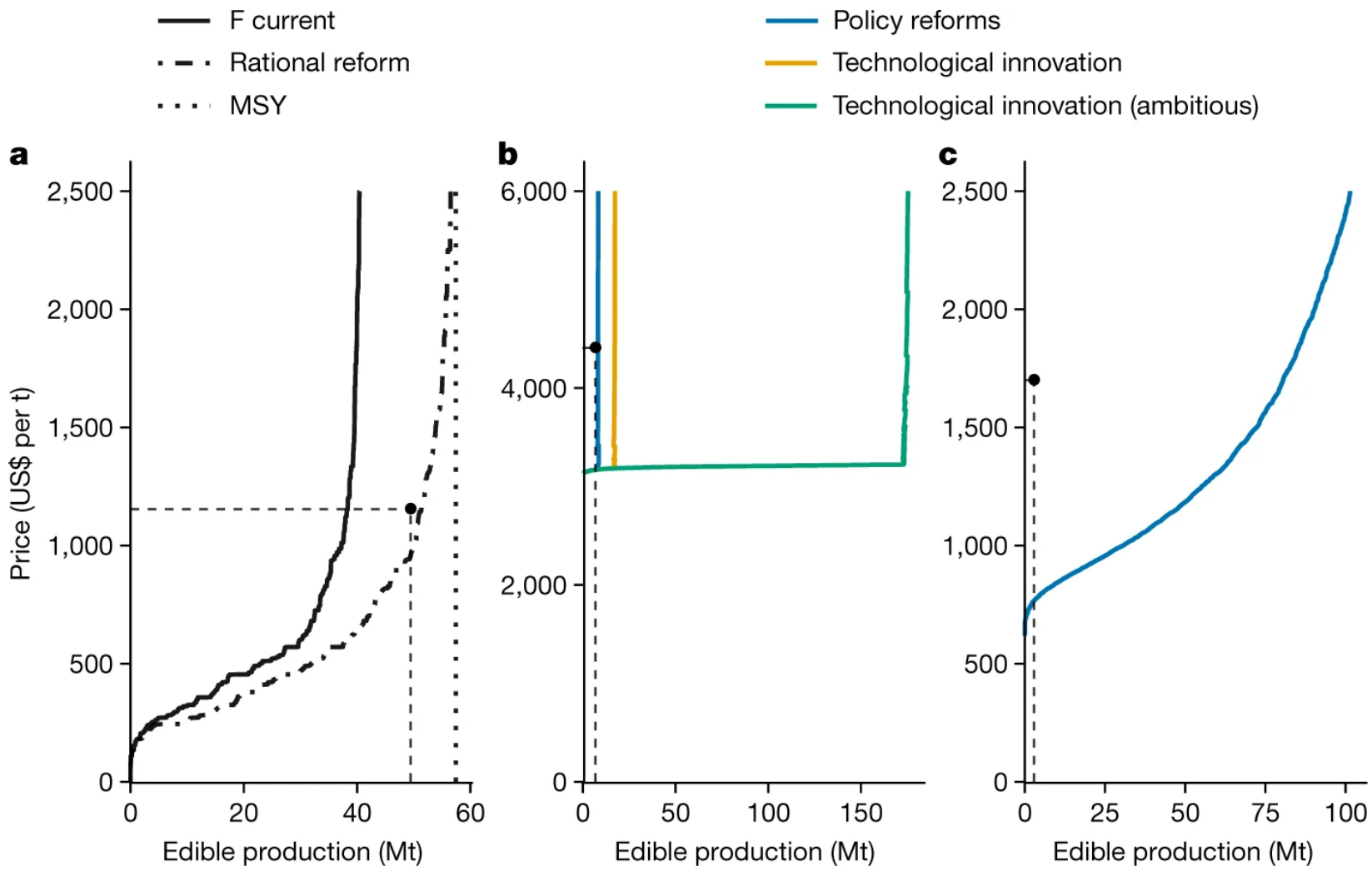
Increasing undernutrition

Acceleration of nutrition transition

The future of food from the sea

Christopher Costello ✉, Ling Cao ✉, Stefan Gelcich ✉, Miguel Á. Cisneros-Mata, Christopher M. Free, Halley E. Froehlich, Christopher D. Golden, Gakushi Ishimura, Jason Maier, Ilan Macadam-Somer, Tracey Mangin, Michael C. Melnychuk, Masanori Miyahara, Carryn L. de Moor, Rosamond Naylor, Linda Nøstbakken, Elena Ojea, Erin O'Reilly, Ana M. Parma, Andrew J. Plantinga, Shakuntala H. Thilsted & Jane Lubchenco

Nature **588**, 95–100 (2020) | Cite this article



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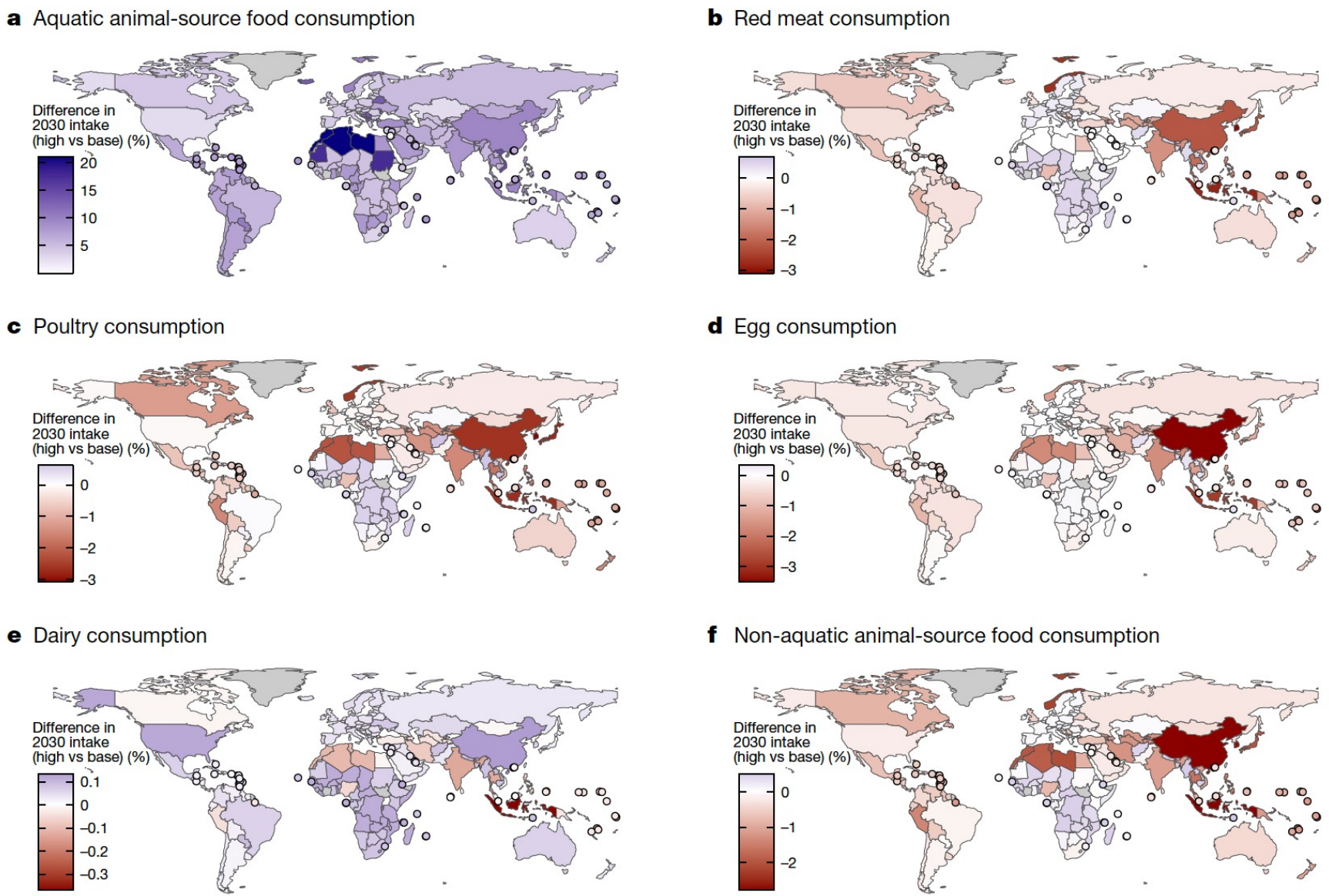

Fish Intake, Contaminants, and Human Health

Evaluating the Risks and the Benefits

Dariush Mozaffarian, MD, DrPH; Eric B. Rimm, ScD

Known or likely benefit:

An analysis of 20 studies involving hundreds of thousands of participants indicates that eating approximately one to two 3-ounce servings of fatty fish a week—salmon, herring, mackerel, anchovies, or sardines—reduces the risk of dying from heart disease by 36 percent

Regular fish consumption and age-related brain gray matter loss

Cyrus A Raji [1], Kirk I Erickson [2], Oscar L Lopez [3], Lewis H Kuller [4], H Michael Gach [2], Paul M Thompson [5], Mario Riverol [6], James T Becker [7]

Possible benefit:

Eating fish once or twice a week may also reduce the risk of stroke, depression, Alzheimer's disease, and other chronic conditions

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- Jessica Gephart
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