

Supplementary Materials for

# Global Health Effects of Future Atmospheric Mercury Emissions

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## Model Evaluation

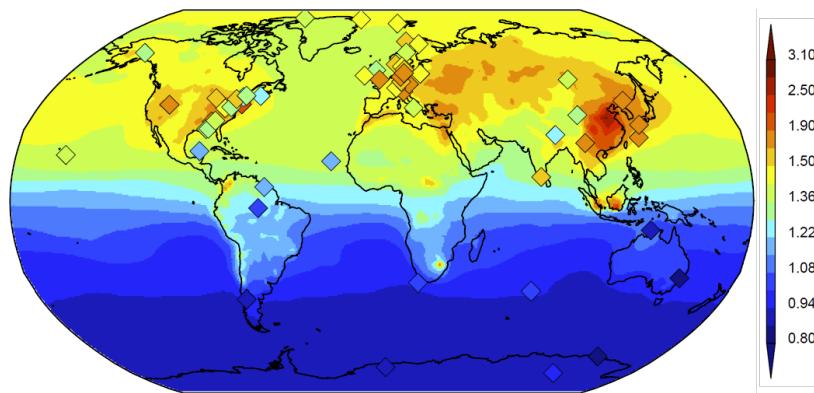


Fig. S1. Comparison of modeled annual mean atmospheric total gaseous Hg concentrations (background) in the surface air against observations (symbols). Data are as previously compiled by Horowitz et al.<sup>1</sup>, Song et al.<sup>2</sup> and Zhang et al.<sup>3</sup>. Note the change in the linear color scale at 1.50 ng m<sup>-3</sup>.

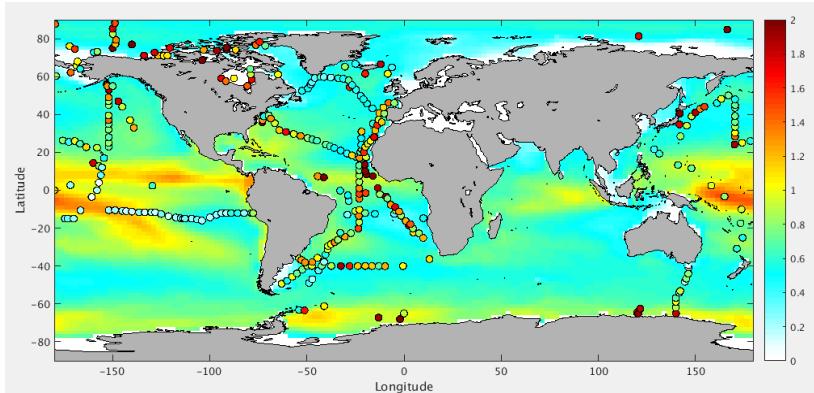


Fig. S2. Comparison of modeled annual mean surface ocean total Hg concentrations (pM, background) against observations (symbols). Data are as previously compiled by Bowman et al.<sup>4</sup> and Zhang et al.<sup>5</sup>.

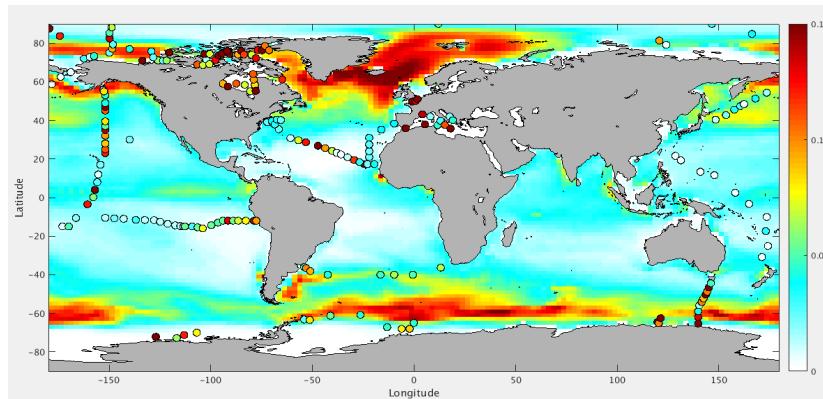


Fig. S3. Comparison of modeled annual mean surface ocean total MeHg concentrations (pM, background) against observations (symbols). Data are as previously compiled by Bowman et al.<sup>4</sup> and Zhang et al.<sup>6</sup>.

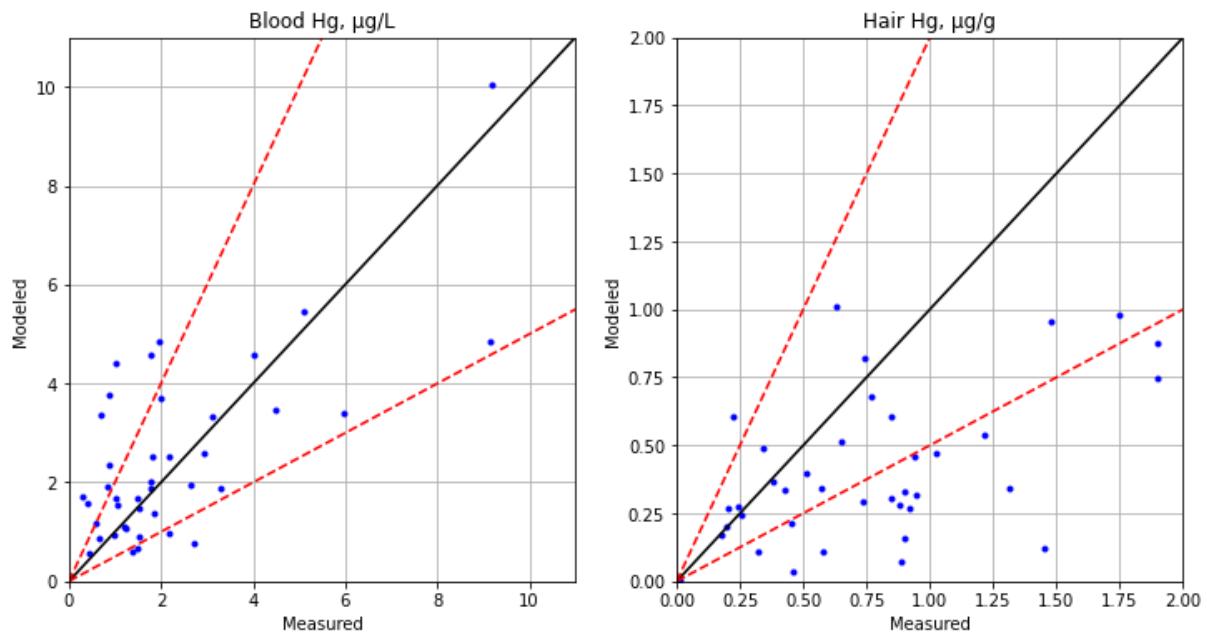


Fig. S4. Comparison between modeled and measured mercury biomarker concentrations for individual countries. Left) Blood Hg; Right) Hair Hg. Measured data are collected from literature (a detailed list of literature is provided below).

### MeHg exposure

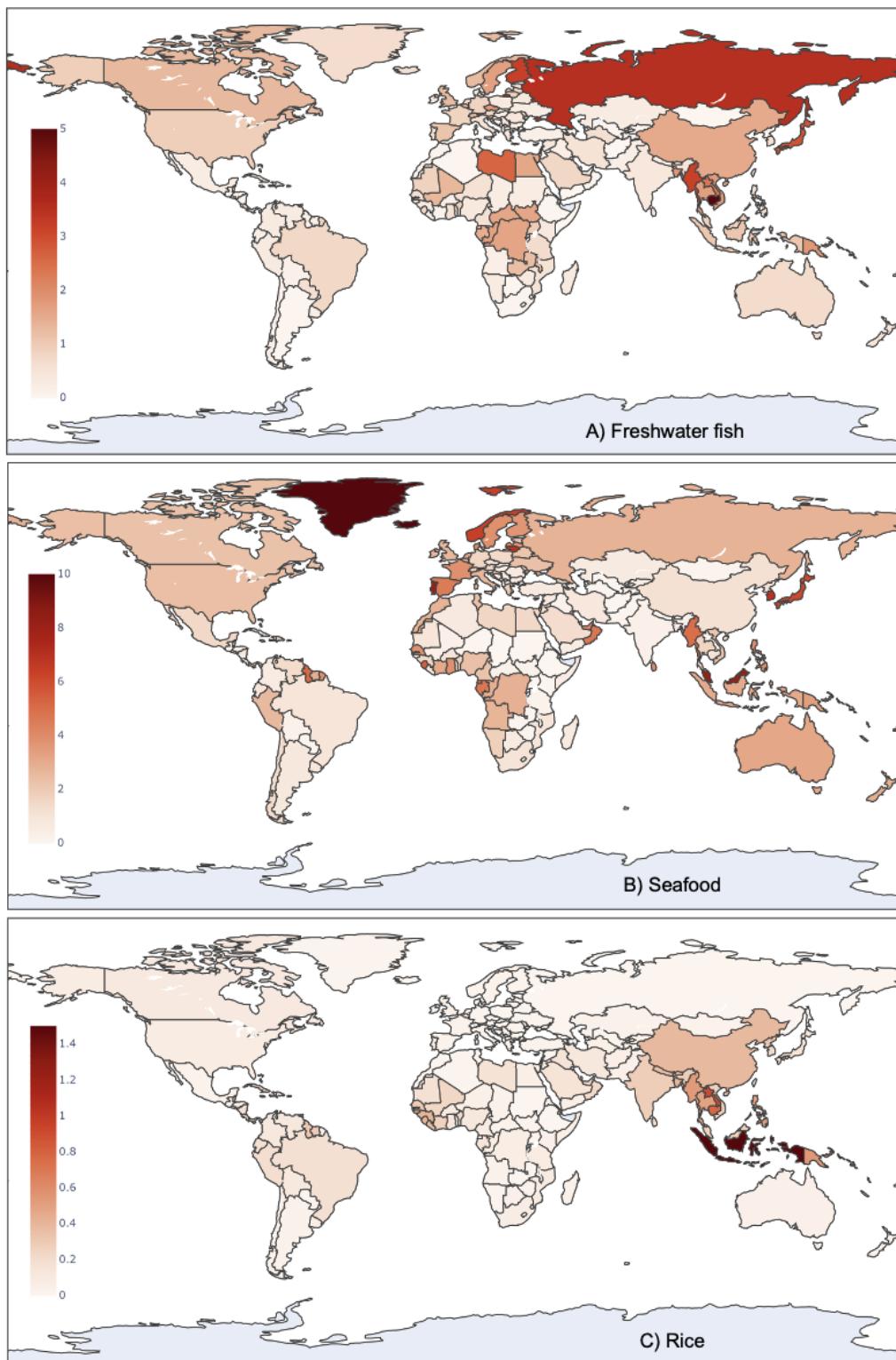


Fig. S5. MeHg exposure of general population in individual countries from the intake of different food: A) Freshwater fish/aquatic animals, B) Seafood, and C) Rice. Note that the color scales are in log-scale, and the ranges are different for the three categories of food to highlight the spatial patterns.

## Model uncertainties

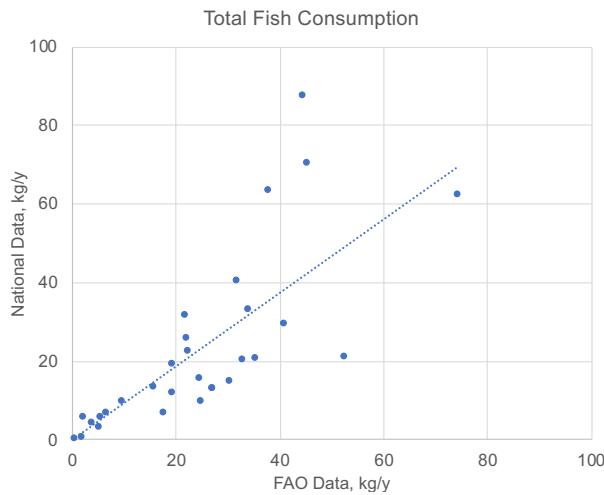


Fig. S6. Comparison between FAO and national data for total fish consumption of individual countries. The national data of 39 countries are collected from the literature. These countries include Tuvalu, Samoa, Niue Wallis and Futuna, French Polynesia, FSM, Kiribati, Nauru, Cook Island, Palau, Solomon Islands, New Caledonia, Fiji, Vanuatu, Tonga, Papua New Guinea, Cambodia, Philippines, Thailand, Myanmar, Lao PDR, Vietnam, Indonesia, Timor Leste, Sri Lanka, Bangladesh, India, Pakistan, China, Bhutan, Mongolia, Kenya, South Africa, Zambia, Australia, Brazil, Japan, Nigeria, and the United States. Data sources include household surveys in the Asia-Pacific region<sup>7,8,17,9–16</sup>.

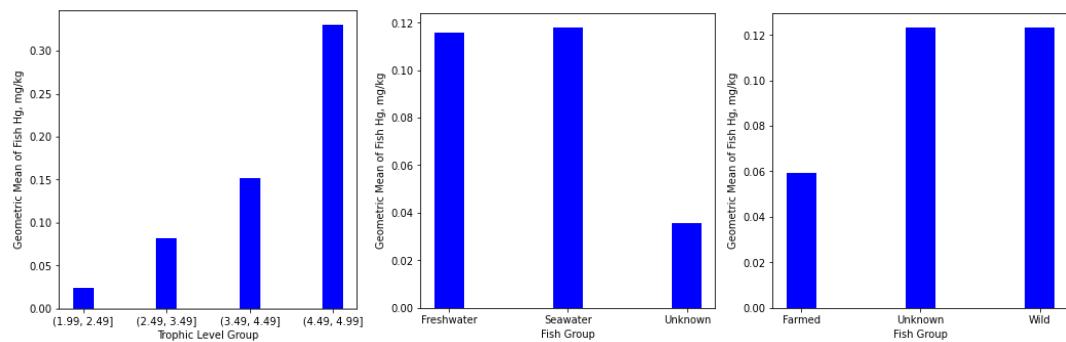


Fig. S7. MeHg levels in different groups of fish/aquatic animals (left: trophic level, middle: water type, right: farm raised or wild caught).

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