1. Introduction

Currently, the spatial resolution of global models of raw material extraction, trade and consumption is limited to the national level. Thus, they fail to link specific supply chains to the actual geographical location of production and related impacts. Here we present our preliminary results mapping global biotic and abiotic raw materials extraction in 5-arc-minute (around 10 km x 10 km at the equator) grid cell level.

2. Methods

In this work, we use the spatially explicit abiotic materials from MapSPAM [1] and abiotic materials from the SNL Metals & Mining Data (Source: S&P Global Market Intelligence), both for the year 2005. We aggregate the abiotic materials to the MapSPAM grid cell and display the most significant materials for each cell; a reproducible version of maps and poster is available on our Github at https://github.com/finiteprint-global/poster_EGU_2018.

3. Conclusions

Our novel database will allow developing new methods to assess the distant interlinkages between world-wide material consumption [2] and various environmental and social impacts related to raw material extraction on a grid cell level. [3] It can boost the spatially explicit assessments of supply chains and consumption patterns in both developed and developing countries, which is crucial for the design of international policy instruments to achieve sustainable production and consumption patterns. In the next versions, our database will cover a larger number of materials as well as the production over time starting from 2000.

4. References