



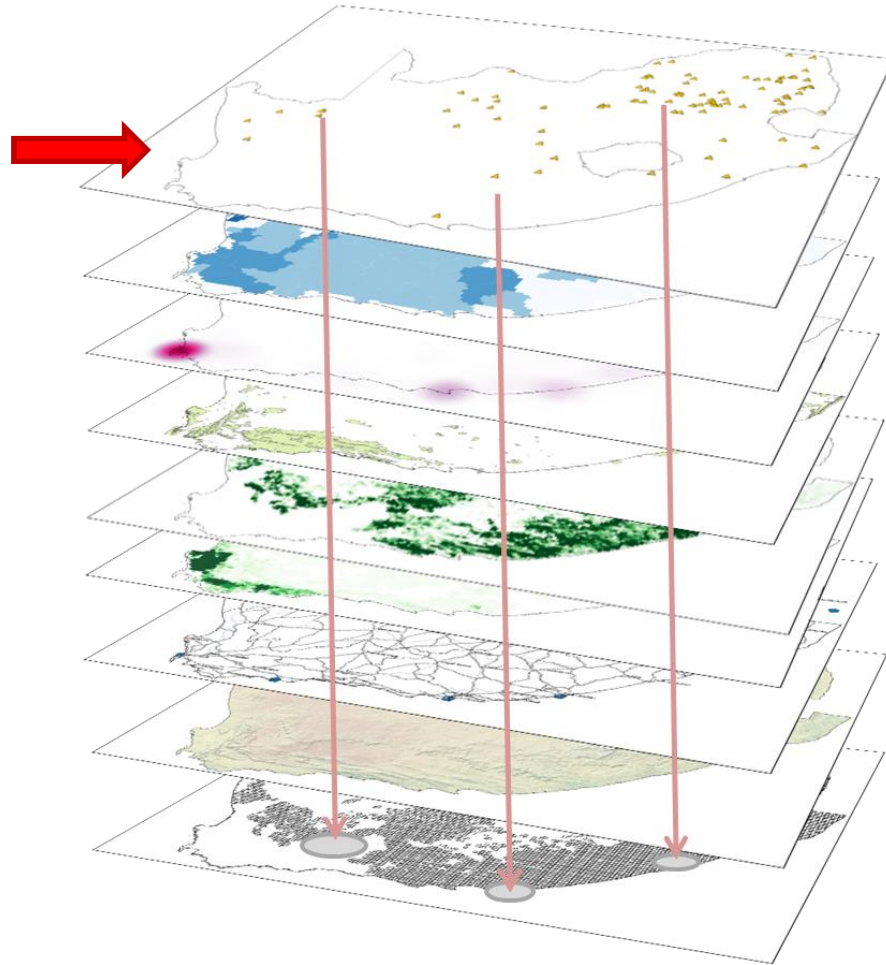
European Research Council
Established by the European Commission



Creating global extraction maps for non-renewable resources

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28.02.2019

Within the FINEPRINT project



Mining activities

Water depletion levels

Hotspots of social conflicts

Protected areas

Crop production / Harvested area

Infrastructure

Land cover

Geographic entities

Coverage



30+ minerals

Metallic minerals

Iron

Base metals

Precious metals

...

Non-metallic minerals

Limestone

Industrial sands

Graphite

...

Fossil fuels

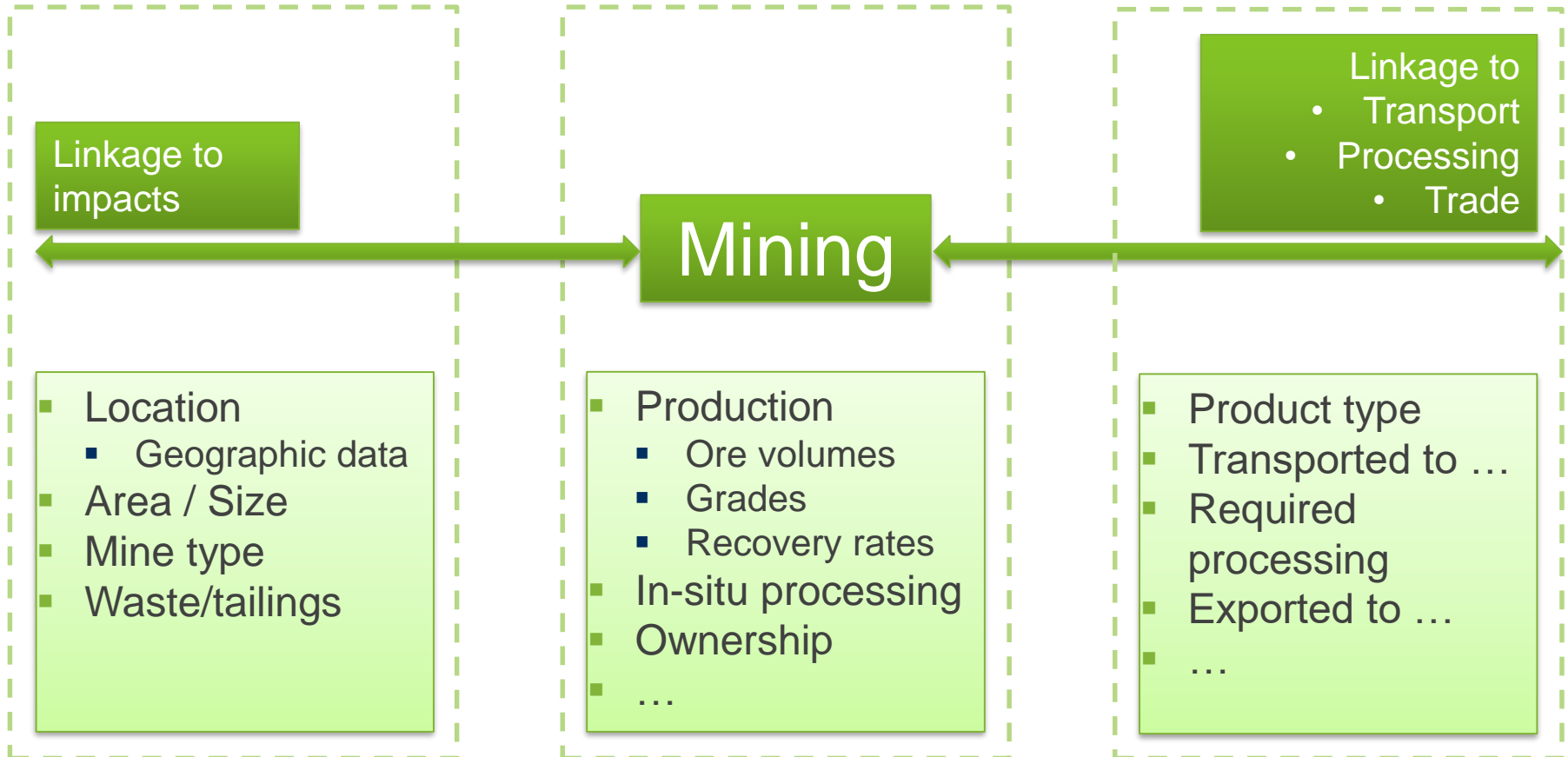
Brown coal(s)

Hard coal(s)

Oil and tar sands

...

Required data



Data sources

Ensuring basic information and coverage

S&P Global
-
„SNL
Metals and Mining
Database“

Using openly and transparently available data

Country-specific sources

Mining company reports

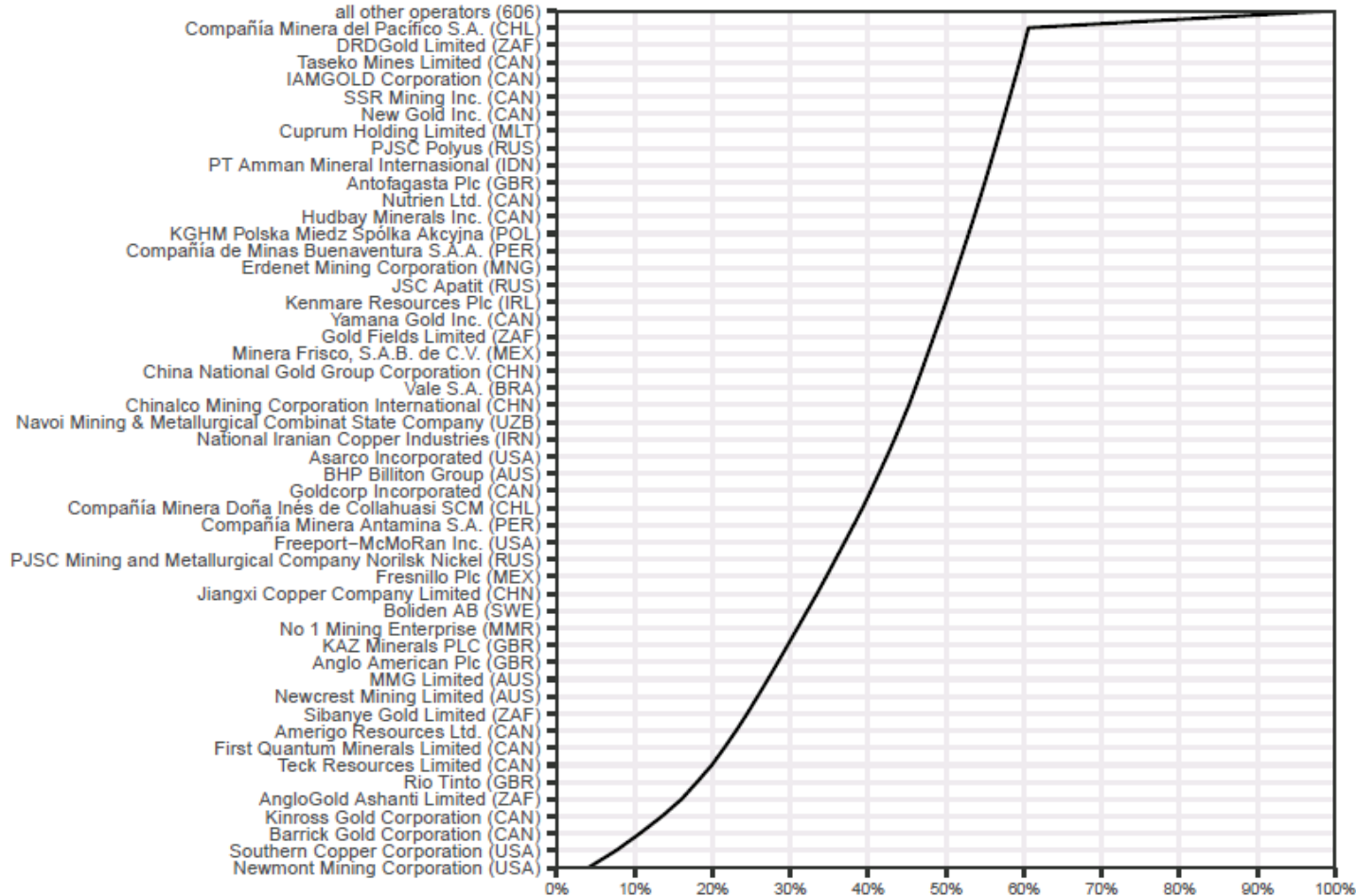
Academic / Other sources

Data sources - Country-specific sources



Country	Institution
Australia	The Australian Atlas of Mineral Resources, Mines, and Processing Centres
Australia	MINEDEX
Australia	MINDEP
Cameroon	Ministry of Mines and Technological Development
Colombia	Agencia Nacional de Minería de Colombia
DR Congo	Ministry of Mines Mining Registry
Ghana	Ghana Extractives Dashboard
Peru	Ministerio de Energía y Minas
Rwanda	Rwanda ICGLR Database of Mining Sites
Sierra Leone	GoSL Online Repository in action
Zambia	Zambia EITI
...	...

Data sources – Company reports



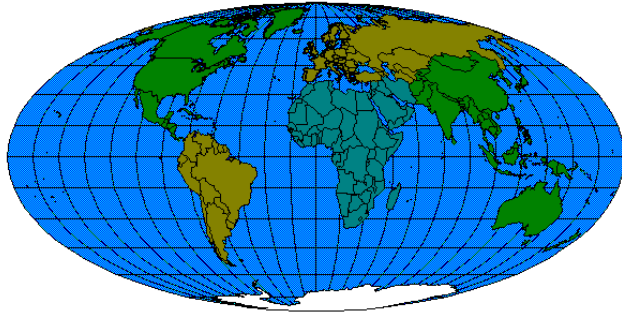
Ore processed
by operators,
global, 2017

Data sources - Other



International Minerals Statistics and Information

[Contacts](#) [Publications](#) [Maps](#) [Links](#)



[Africa and the Middle East](#)

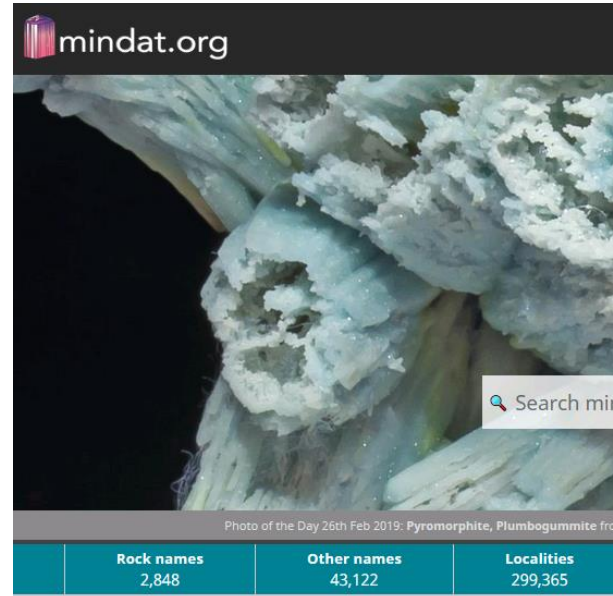
[Antarctica](#)

[Asia and the Pacific](#)

[Europe and Central Eurasia](#)

[North America, Central America, and the Caribbean](#)

[South America](#)



mindat.org

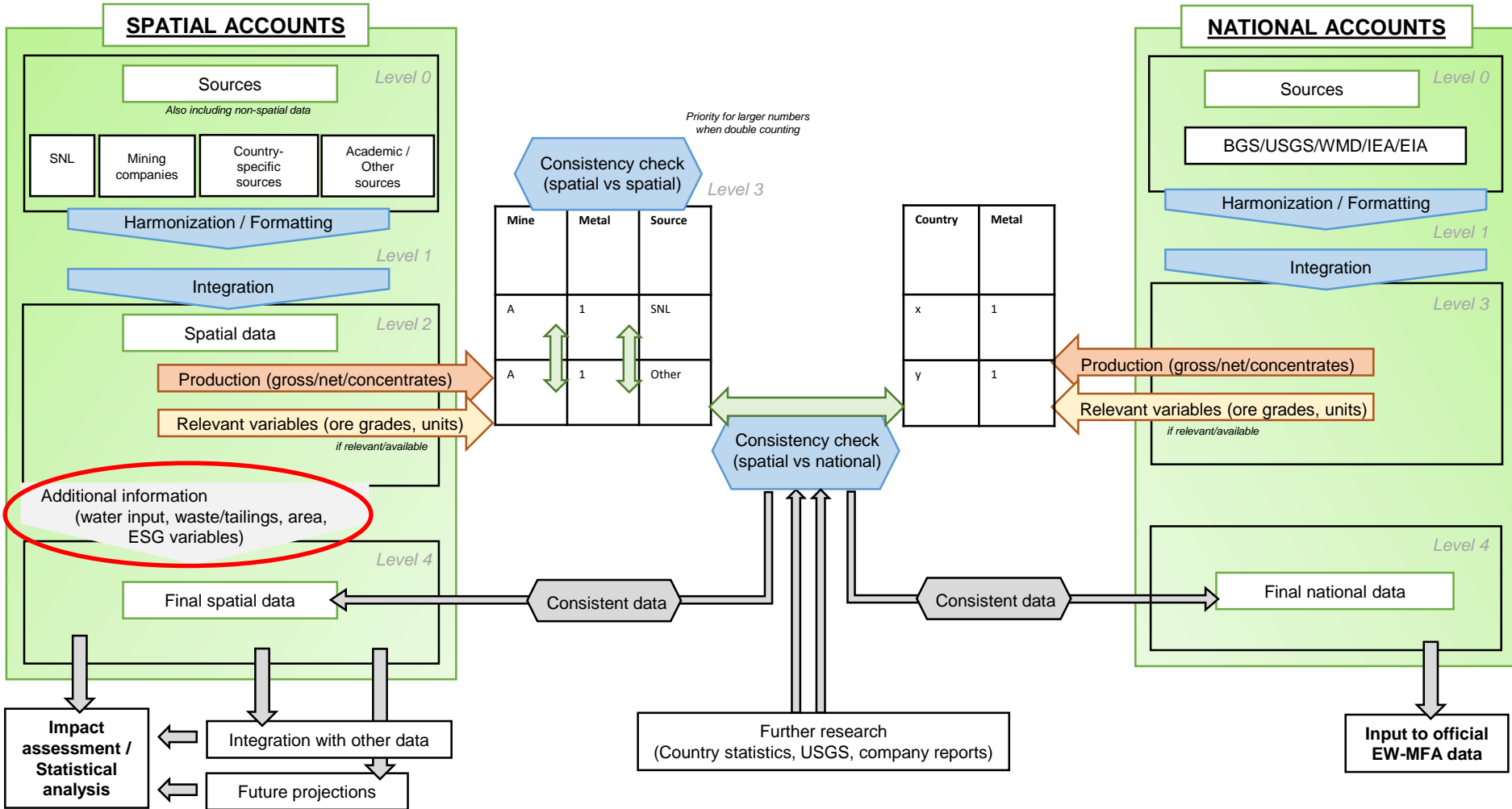
Search minerals

Photo of the Day 26th Feb 2019: Pyromorphite, Plumbogummite from

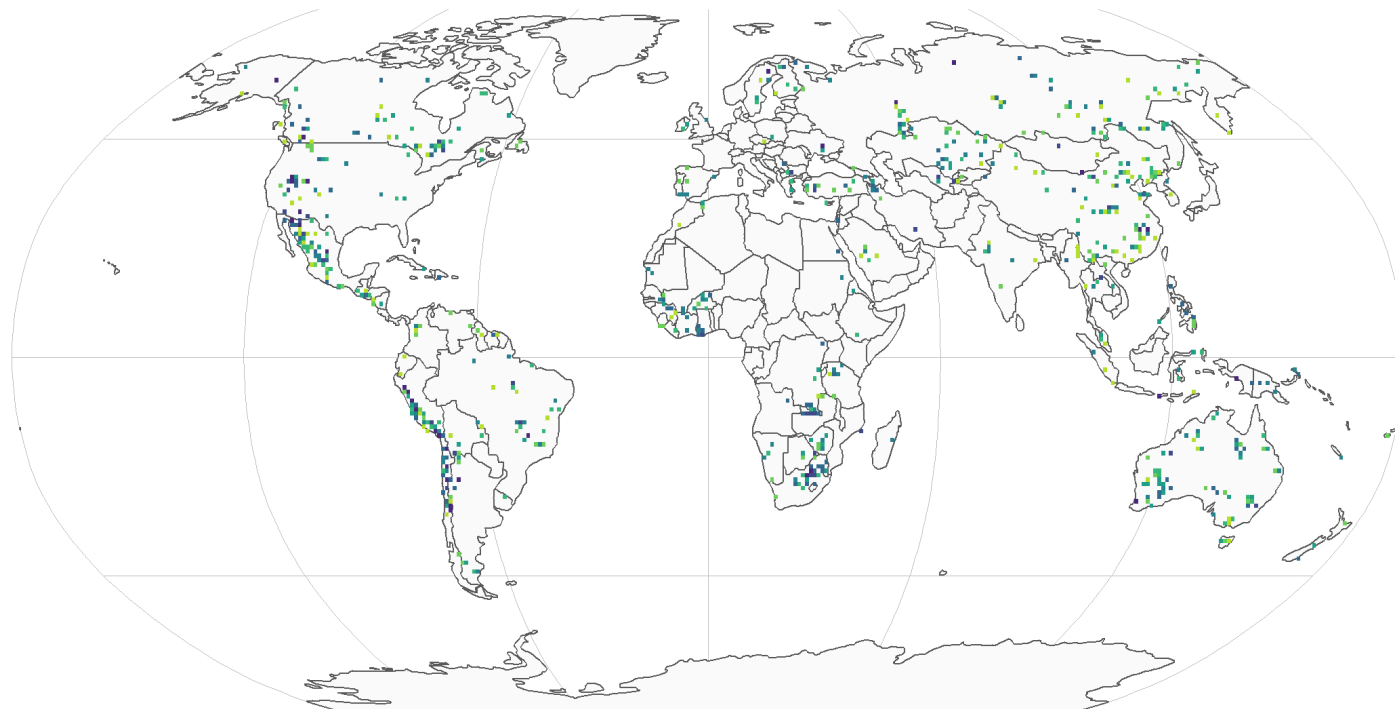
Rock names	Other names	Localities
2,848	43,122	299,365

+ Collaborations with partner institutions

Data integration and consistency



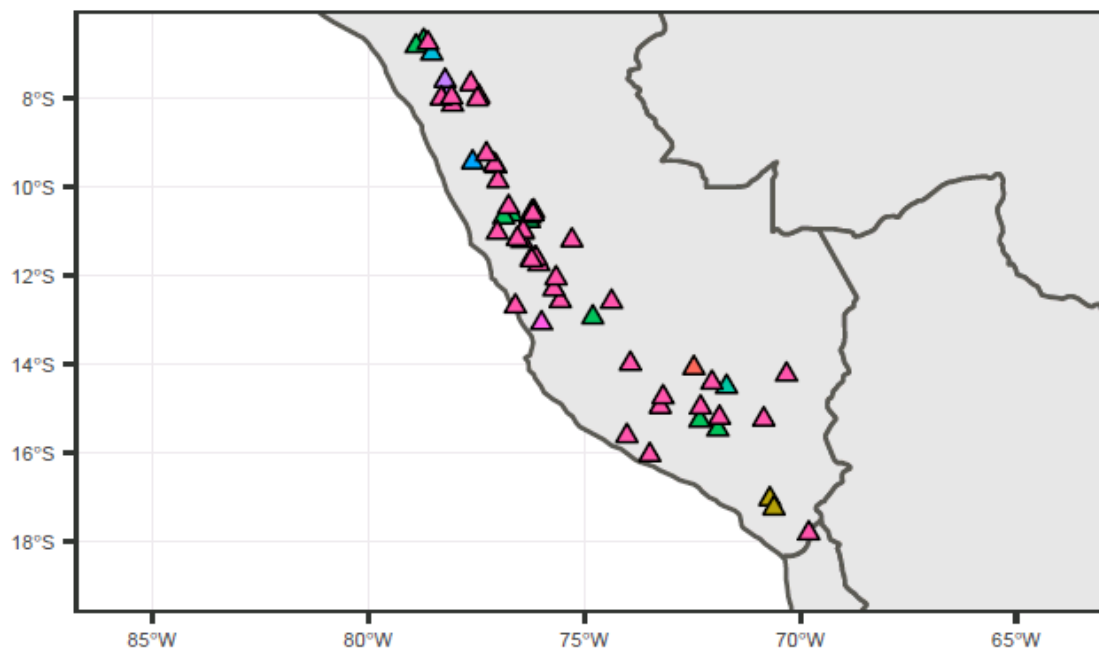
Sample info



Ore Processed, 2015 (in mn. tonnes)

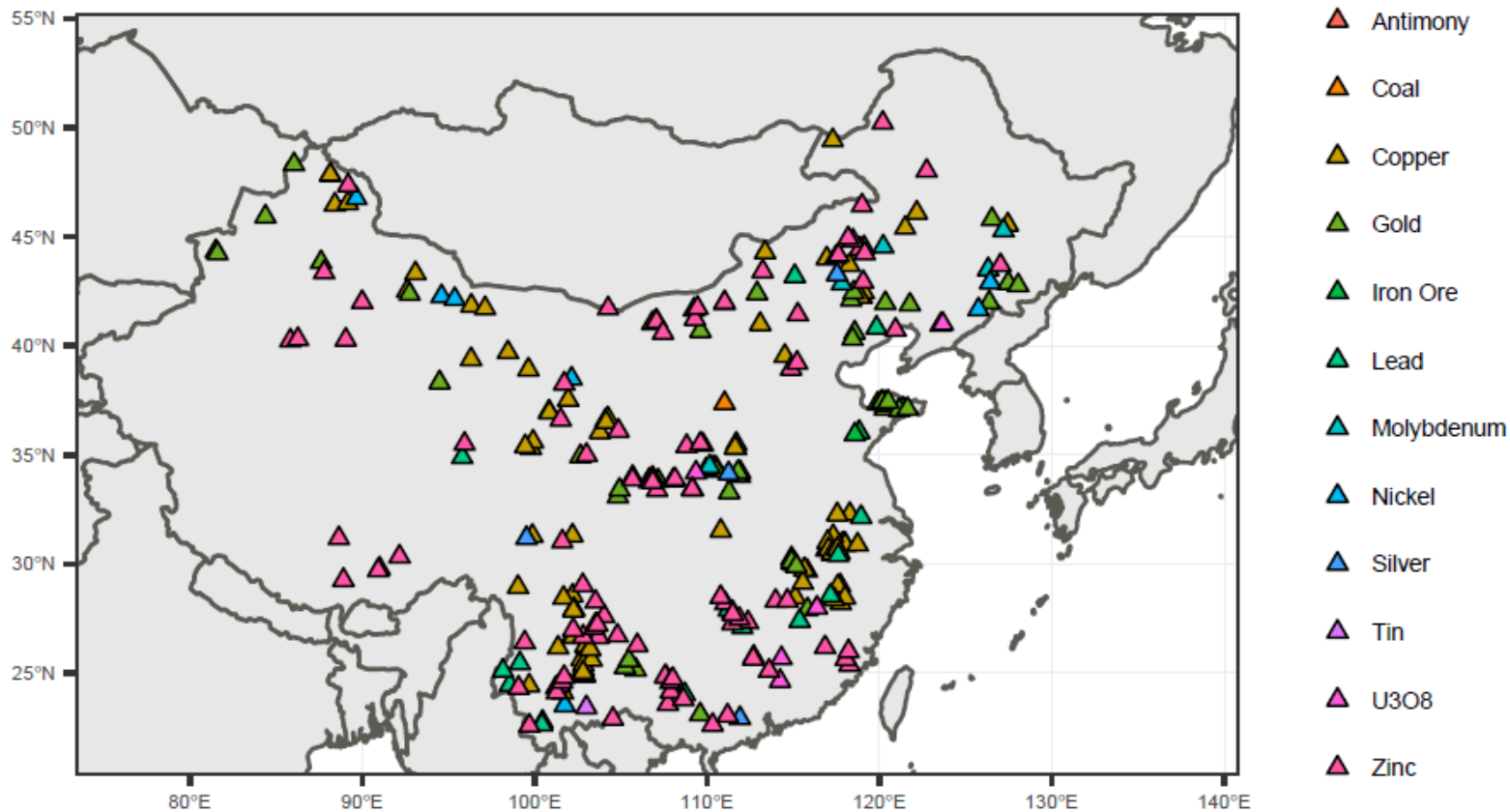


Sample info

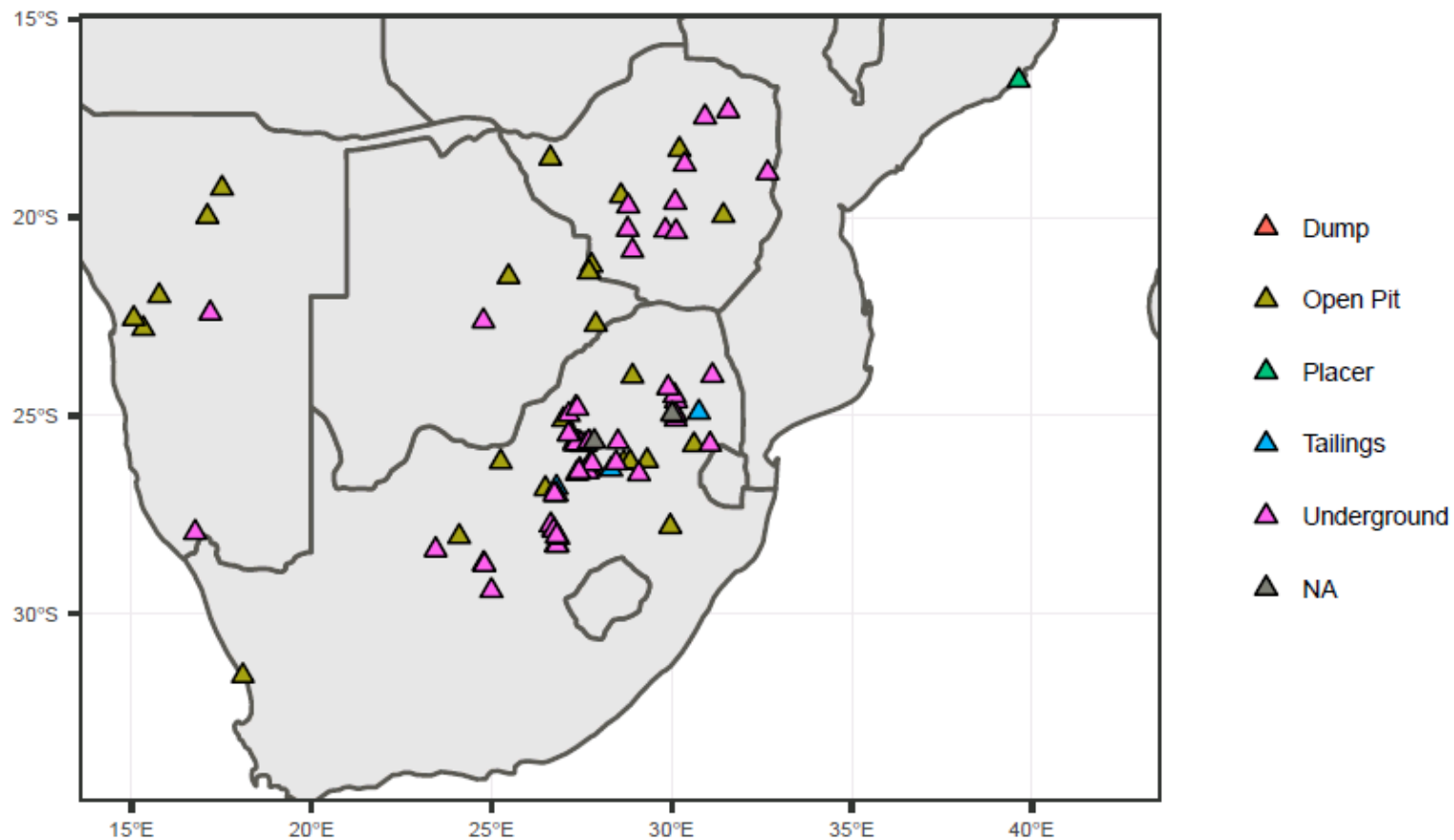


- ▲ MMG Limited
- ▲ Compañía Minera Antamina S.A.
- ▲ Southern Copper Corporation
- ▲ Chinalco Mining Corporation International
- ▲ Compañía de Minas Buenaventura S.A.A.
- ▲ Hudbay Minerals Inc.
- ▲ Newmont Mining Corporation
- ▲ Barrick Gold Corporation
- ▲ Tahoe Resources Inc.
- ▲ Nexa Resources Perú S.A.A.
- ▲ all other operators (29)

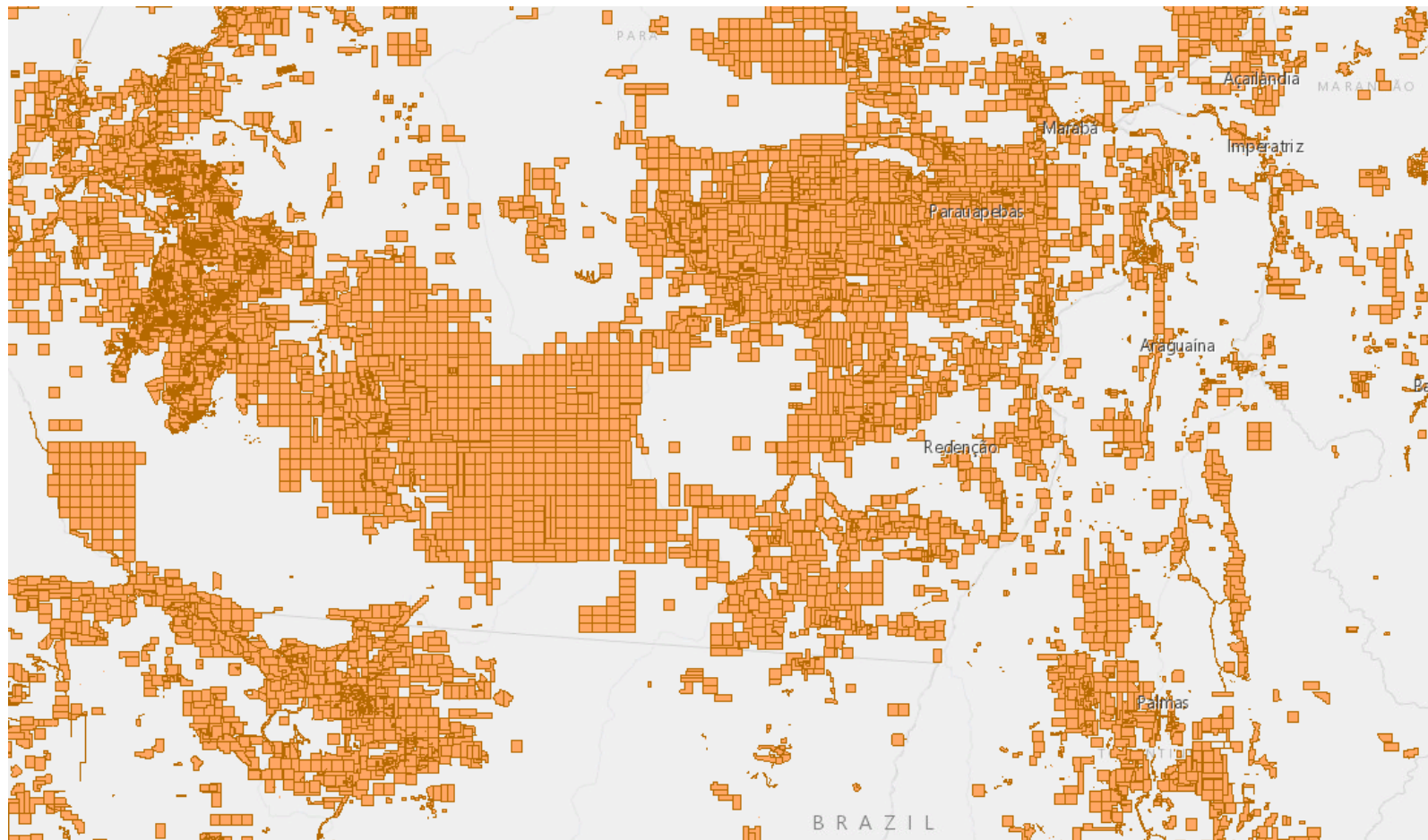
Sample info



Sample info



Sample - concessions



Linkage to impacts

Linkage to impacts

Mining



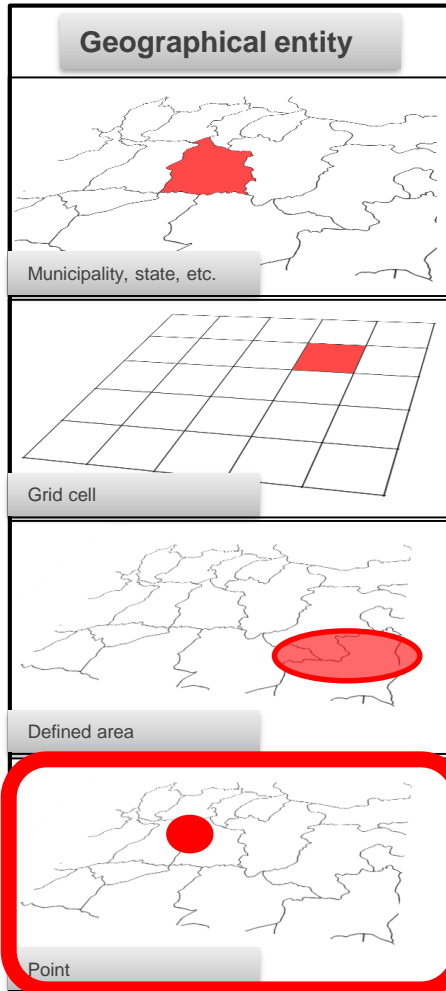
- What amount and kind of toxic tailings are produced and dumped for decades?
- Is more of the area around a mine potentially impacted in the future?
- How long are production and impacts likely to last in this area?
- Are current impacts possibly related to production planned in the near future?

Variables
Mining type
Processing type
Type of waste
Claim/Concession size
Location
Projected closure year
Reserves
Capacity
Projected start-up year
...

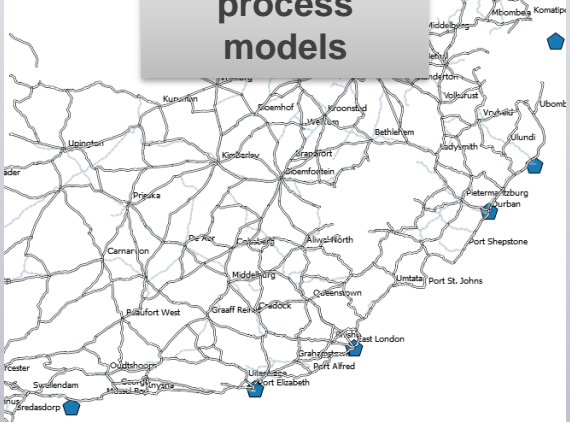
- | | |
|-------------------|-----------------------|
| Land grabbing | Deforestation |
| Child work | Militant rebel groups |
| Violent conflicts | Biodiversity losses |
| Water [...] | ... |



Linkage to local and global supply chains



Transport and process models



	Exports to ...	Exports to ...	Exports to ...	Exports to ...	Exports to ...
Zinc ore					
Mine 1		100			
Mine 2			30		
Other		50			80
Zinc Concentrate					
Mine 1				75	
Mine 2					
Other			502		
Zinc product XY					
...					
...					

International trade flow models

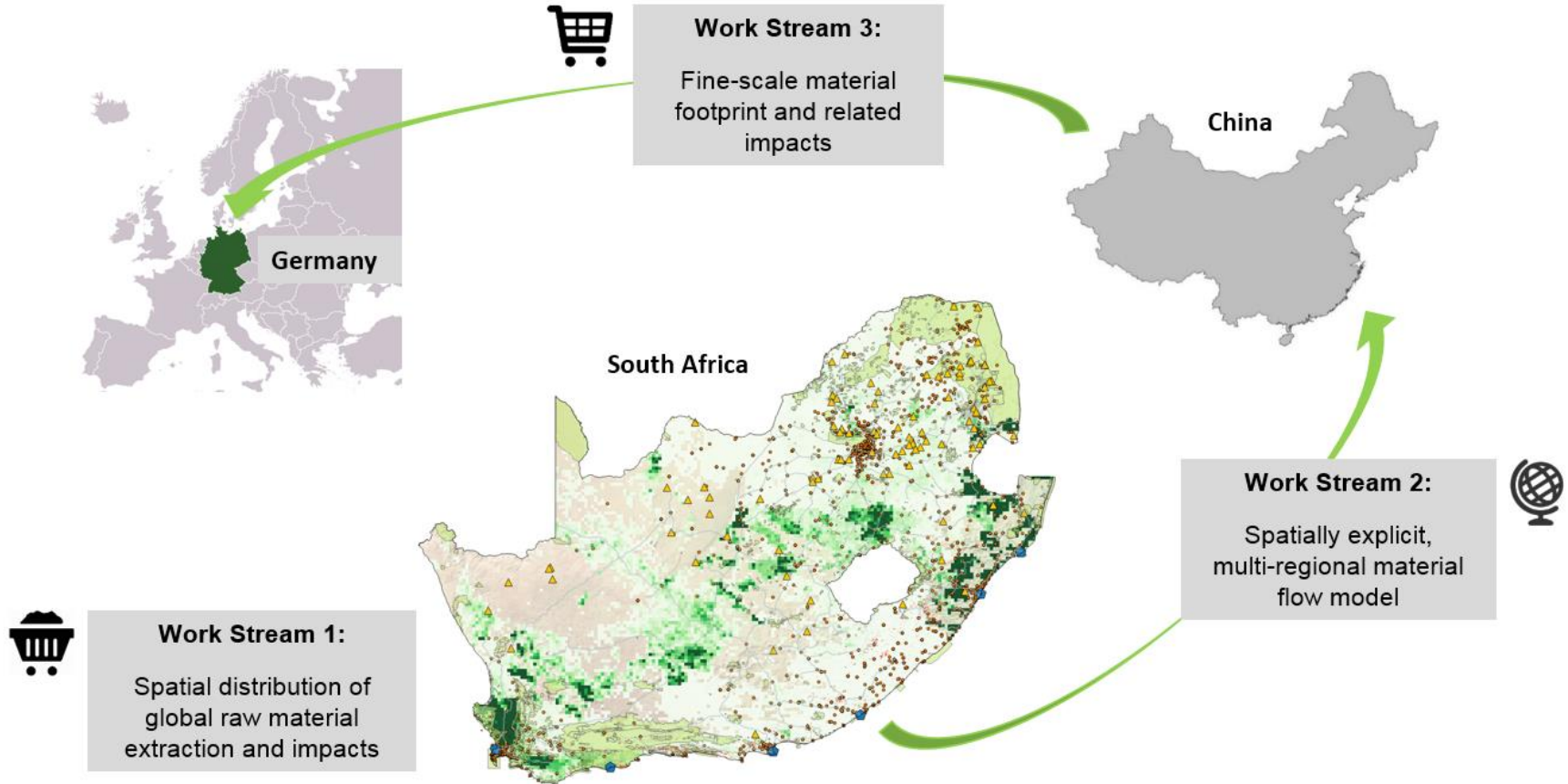


Material footprint analysis



Impacts related to material footprint

Back into the bigger context





European Research Council
Established by the European Commission



www.fineprint.global

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