Scenario to a caldera-forming (super, huge) eruption in the long-term & short-term: From earth science to risk management & communication

- Its impact is global,
  so that we need international collaboration
  and multi-disciplinary ways

(1) **Potentiality** of a caldera-forming eruption in the long-term
-> education, information, policy making, --
(2) **Scenario** to the climax in the short-term
-> From a few historical cases to modern scenario
with risk management & communication

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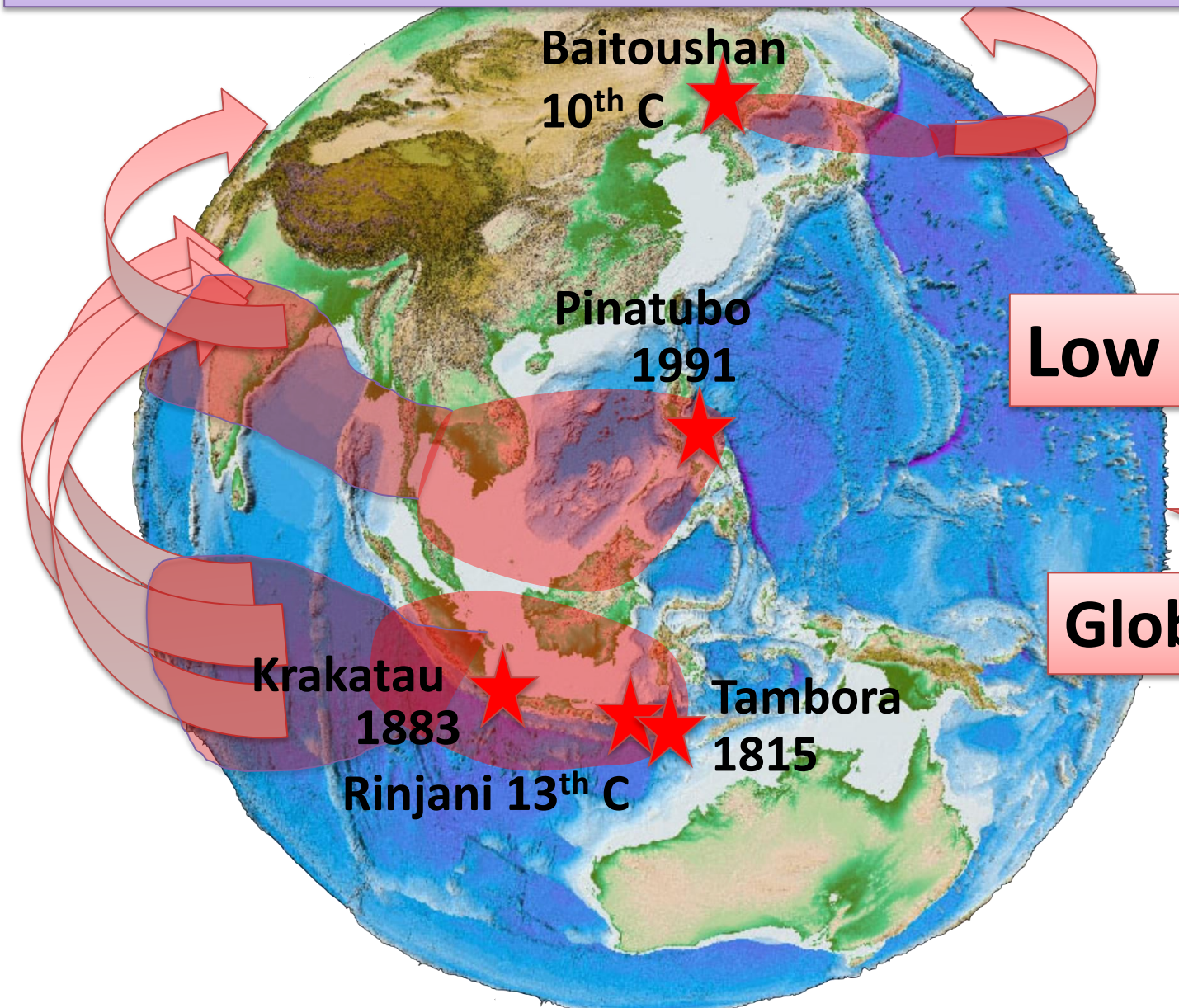
Caldera-forming eruptions (super, huge) during the last 1000 years in E-SE Asia

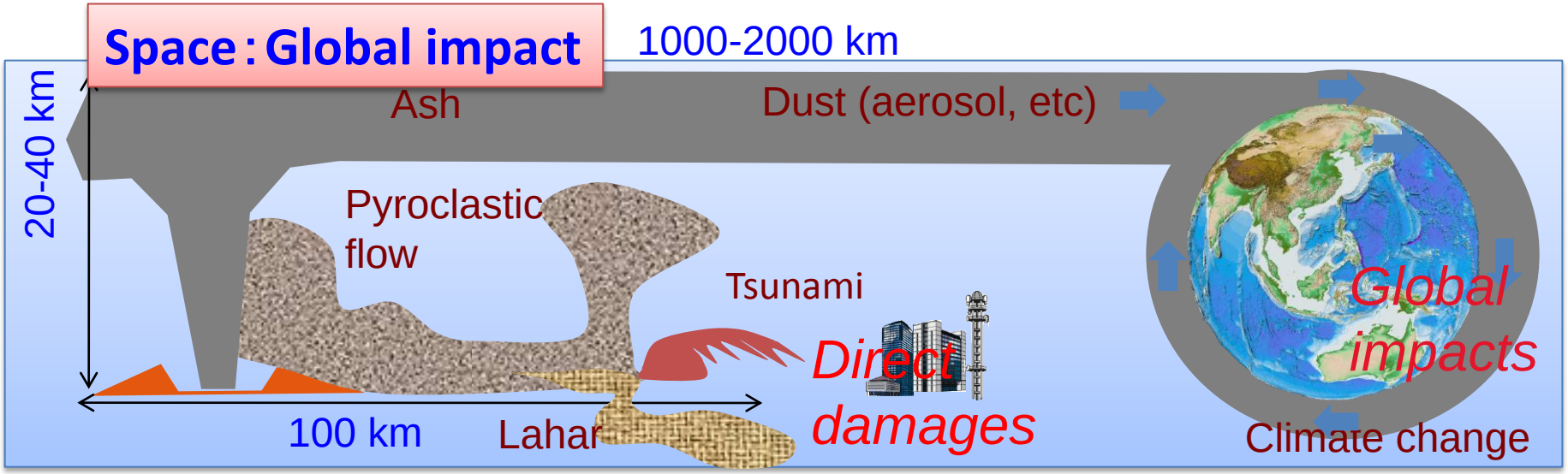


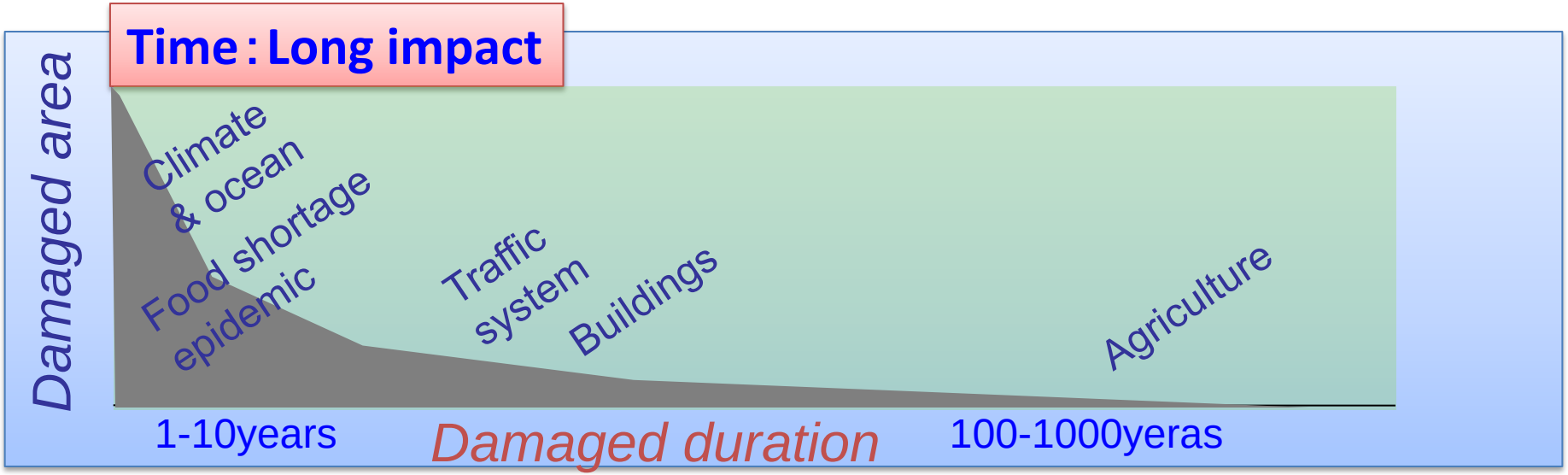
Low frequency

Global impacts

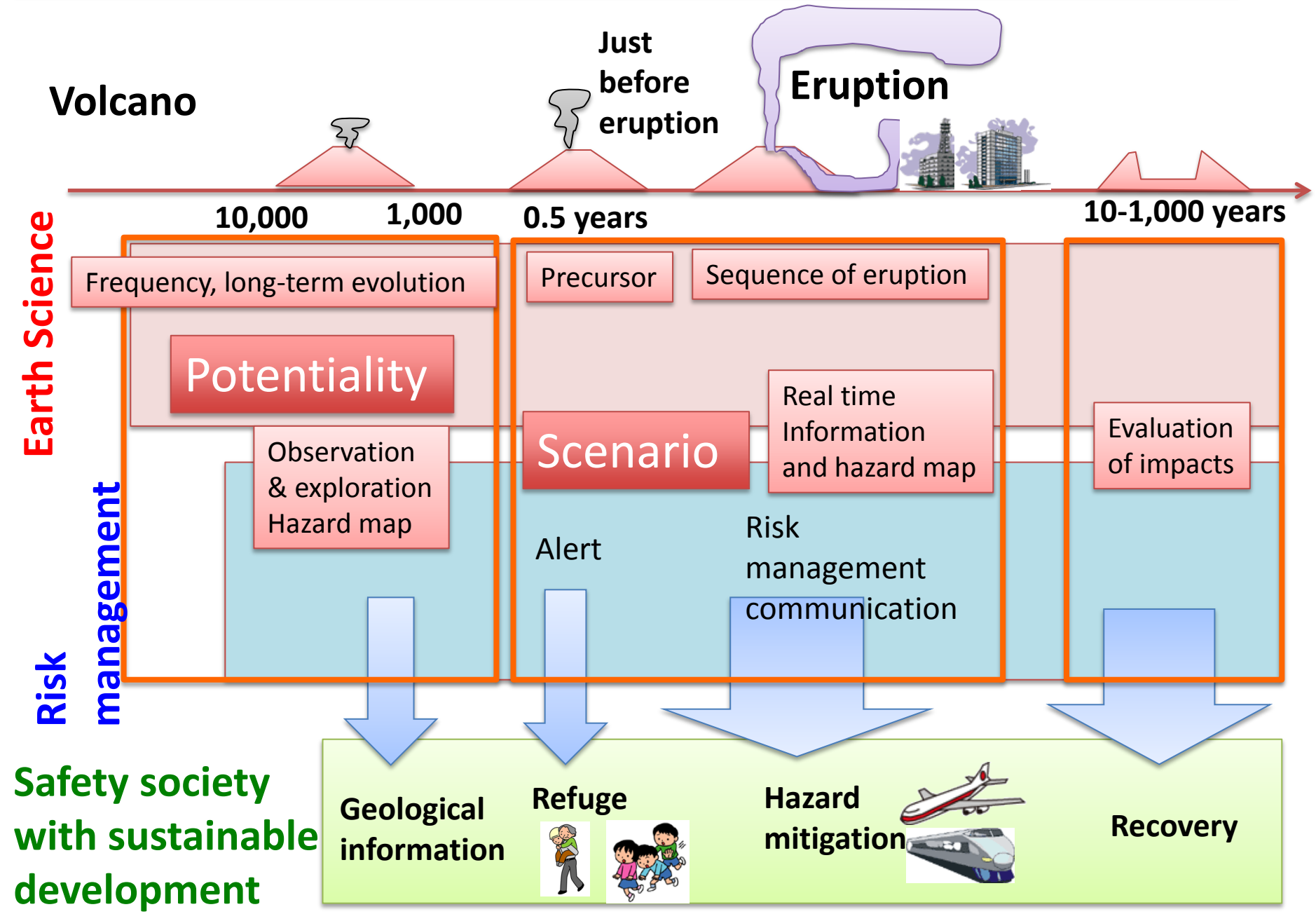
Caldera-forming eruption

Erupted volume ~ 1000-100-10 km ^{3} (cf. Usual eruptions < 0.1 km^3)





Hazard mitigation for a caldera-forming (super, huge) eruption



Frequency
Long-term evolution

Which volcano has a potential for a large volume eruption in the future (e.g. within 10,000-100 years)?

Evaluation of potentiality

Observation & exploration
Hazard map

Geological information

Safety society with sustainable development

Precursor events

Eruption

Can we predict erupted volume (max.)??
small ---------- large
< 1 km^3 , 1 km^3, 10km^3, 100km^3, 1000km^3

Scenario

Real time Information and hazard map

Risk management & communication

Geology
Geophysical observation
Modeling

Refuge