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Fate of mercury locked in permafrost with global warming

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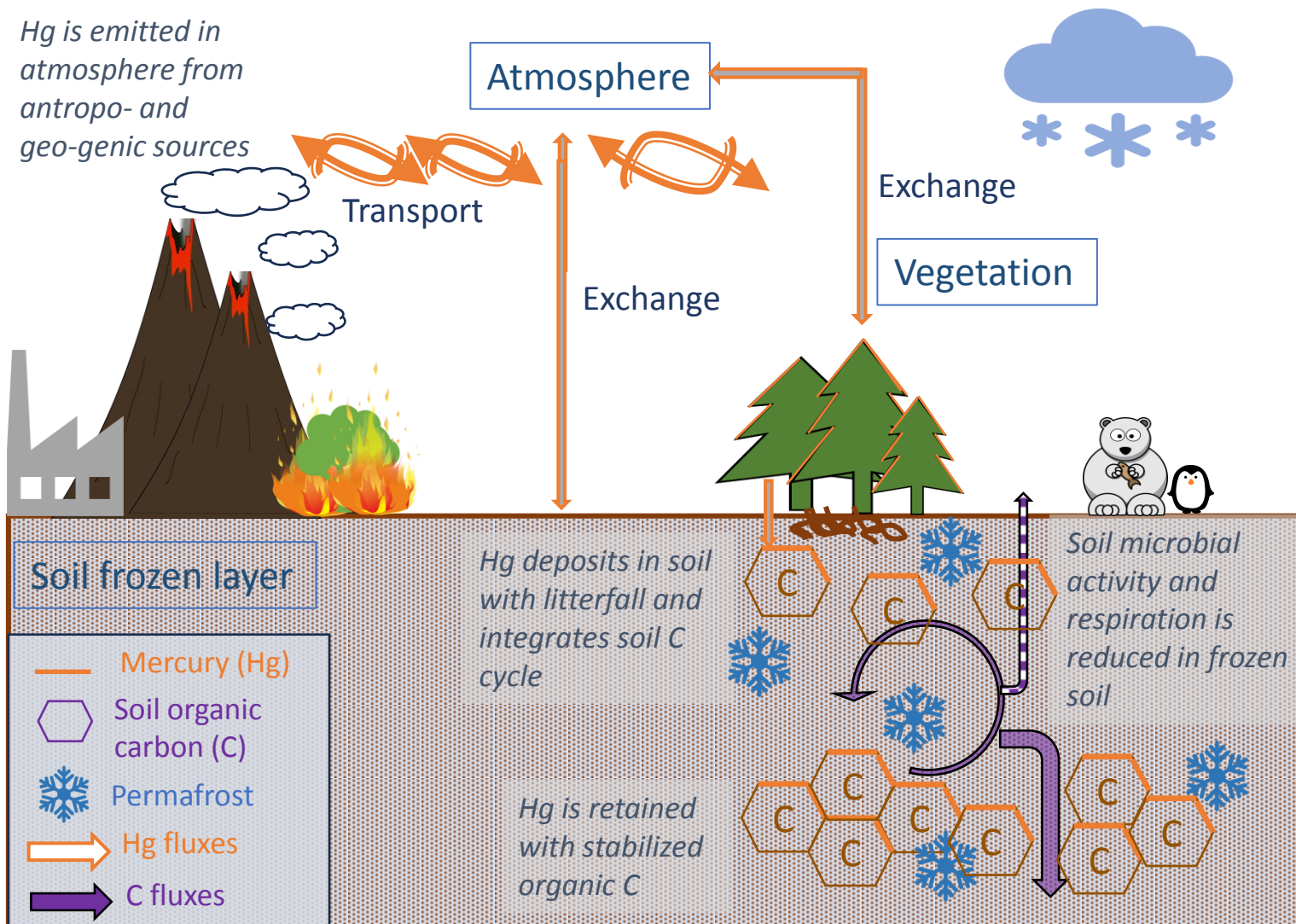
Context

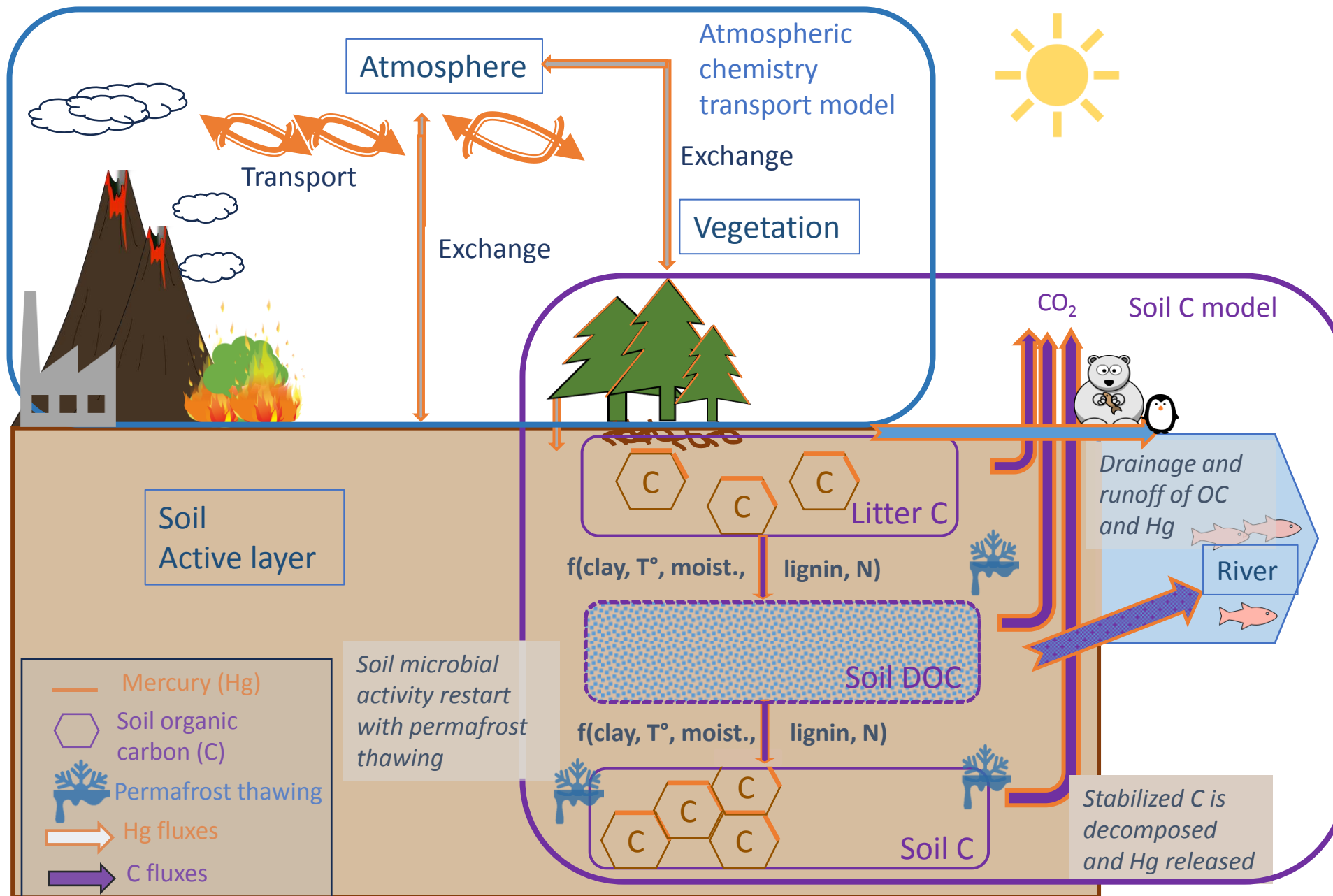
- Hg from anthropo– geo-genic sources is transported^{1,2} worldwide
- Hg deposited in plants³ then in soil with litterfall^{4,5}
- Hg and C progressively accumulated⁶ in frozen permafrost where microbial activity and C decomposition is reduced⁷



Issues

- Hg is a powerful neurotoxic pollutant¹⁰
- Large amounts of Hg are locked in permafrost⁸
- Permafrost will thaw due to global warming⁹
- Fate of released Hg with permafrost thawing is unknown





Goals

- Estimate C-Hg
 - * from permafrost thawing
 - * toward atmosphere
 - * toward rivers

Method

- Combined atmospheric chemistry¹¹ transport model of Hg and soil C cycle model¹²

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