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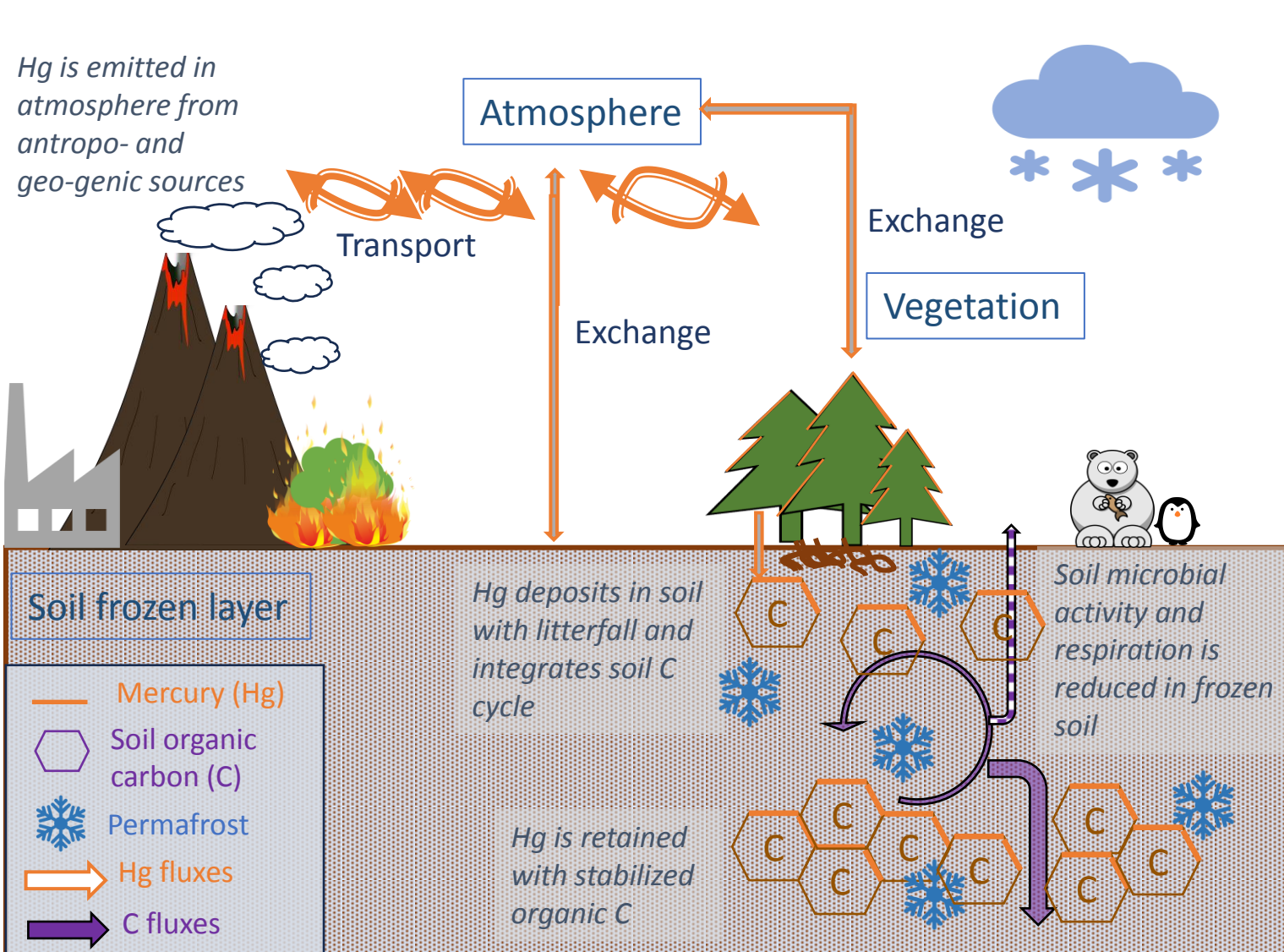
# Fate of mercury locked in permafrost with global warming

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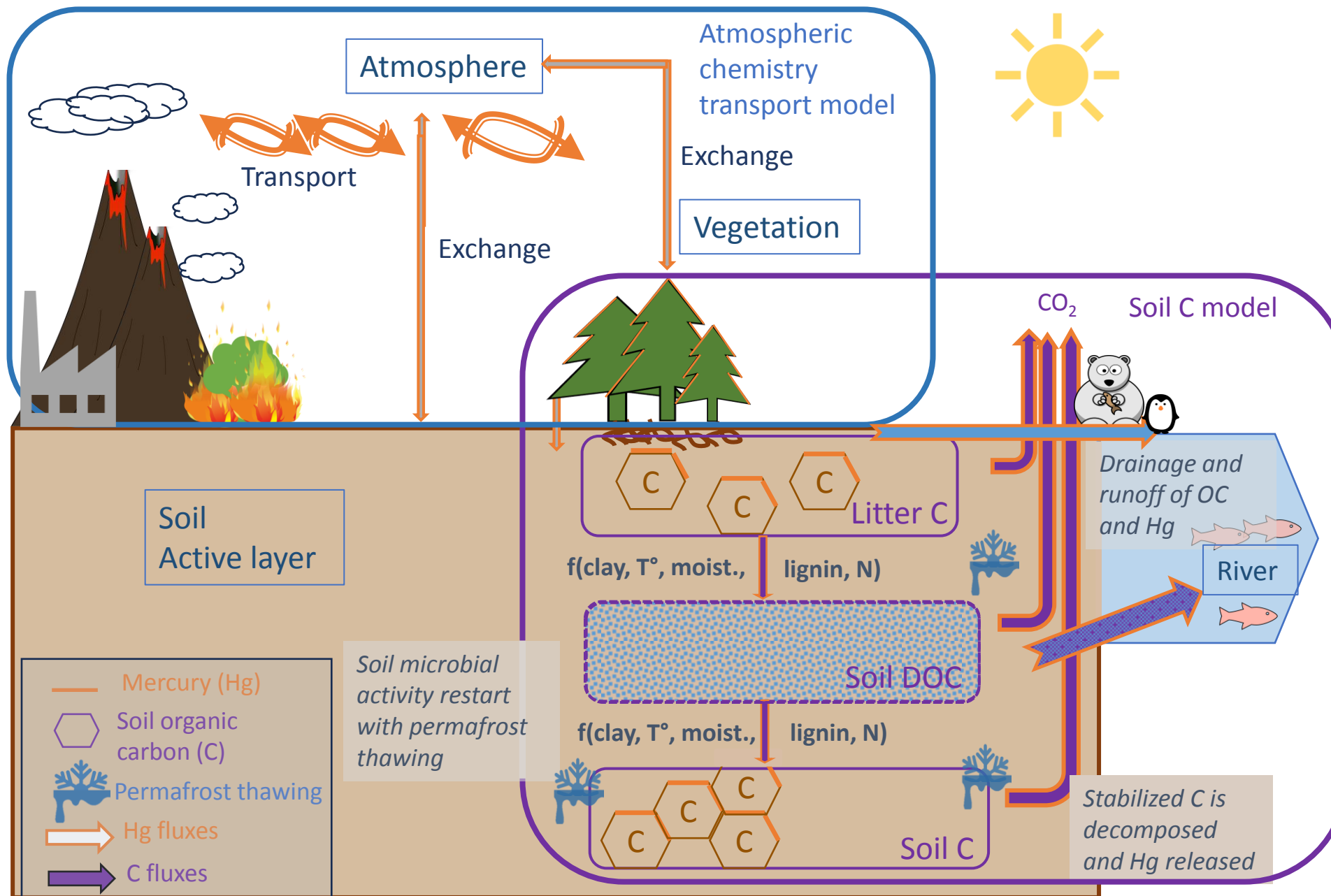
## Context

- Hg from anthropo– geo-genic sources is transported<sup>1,2</sup> worldwide
- Hg deposited in plants<sup>3</sup> then in soil with litterfall<sup>4,5</sup>
- Hg and C progressively accumulated<sup>6</sup> in frozen permafrost where microbial activity and C decomposition is reduced<sup>7</sup>



## Issues

- Hg is a powerful neurotoxic pollutant<sup>10</sup>
- Large amounts of Hg are locked in permafrost<sup>8</sup>
- Permafrost will thaw due to global warming<sup>9</sup>
- Fate of released Hg with permafrost thawing is unknown



## Goals

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

## Method

- Combined atmospheric chemistry<sup>11</sup> transport model of Hg and soil C cycle model<sup>12</sup>

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