

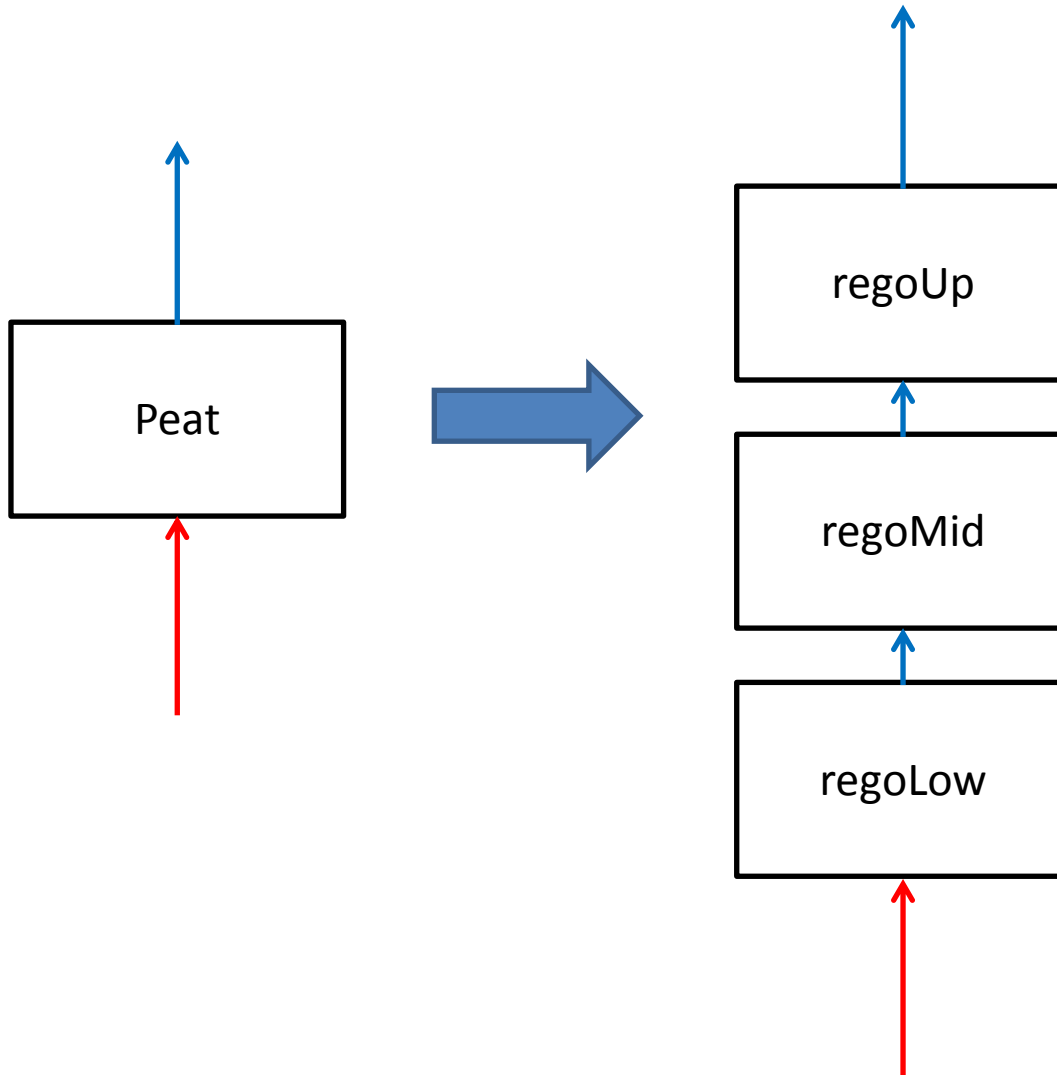
Questions concerning the advective transport in the Radionuclide Model

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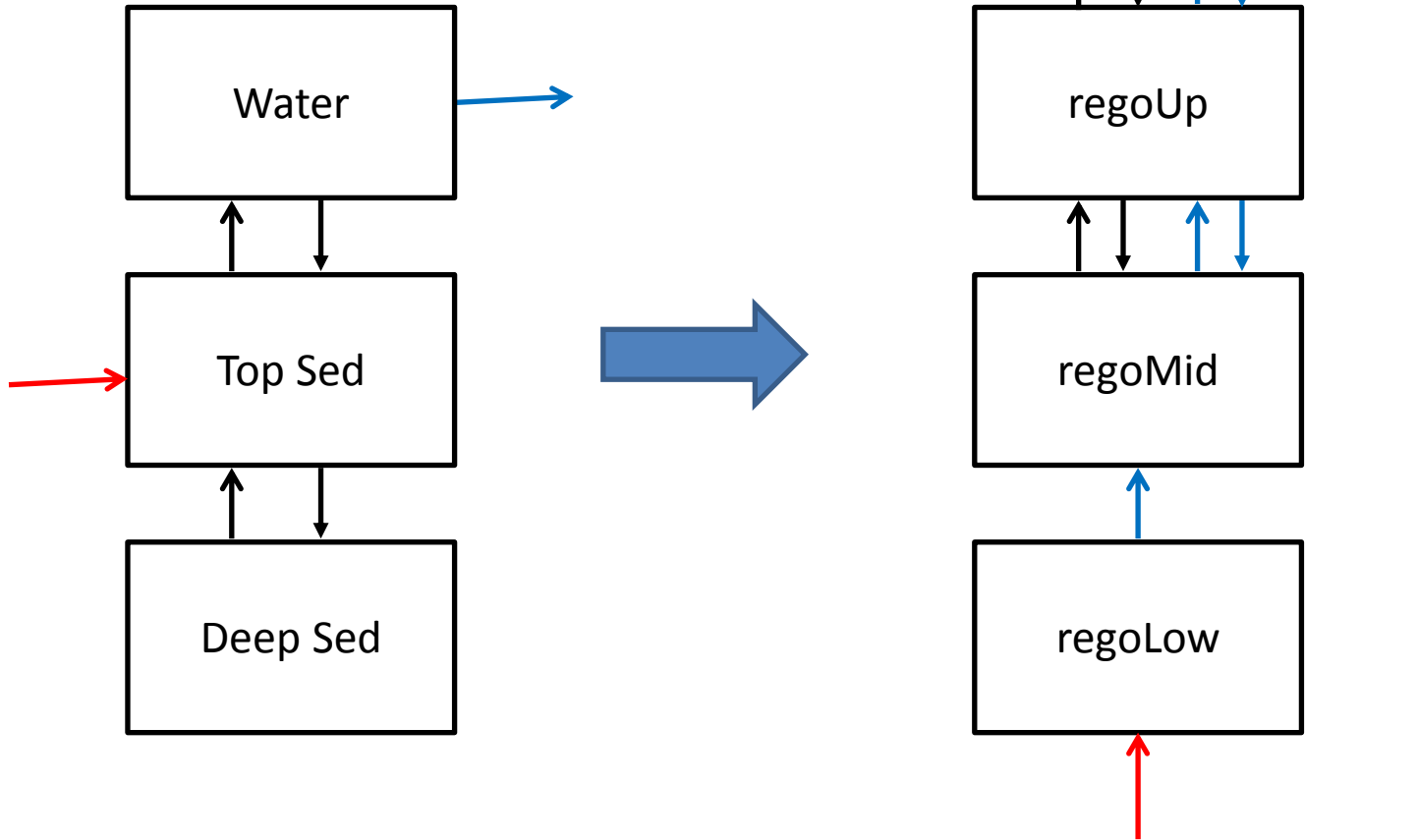
Question

At what stage was the compartmentalisation of the contaminated object decided?

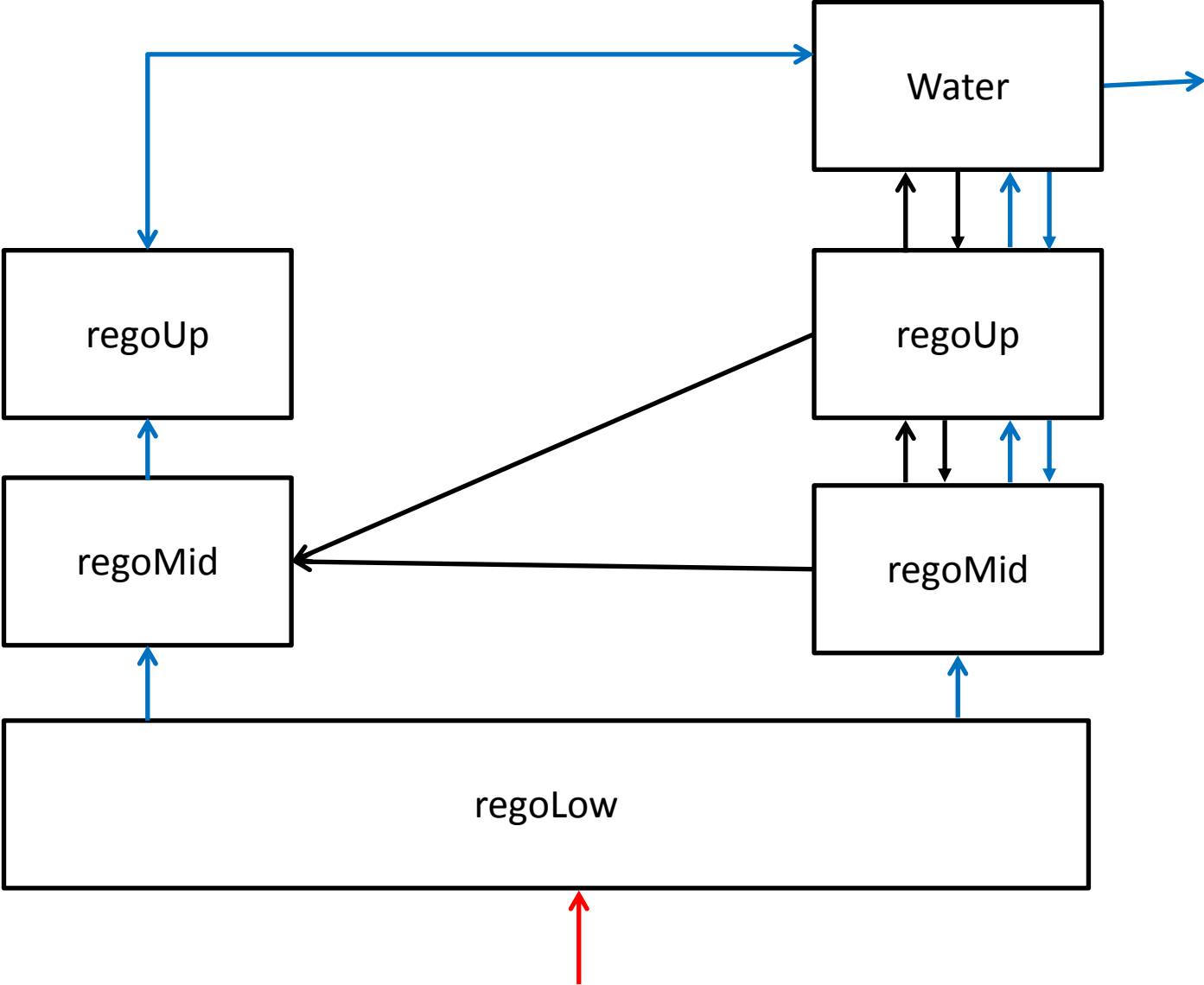
Mire model



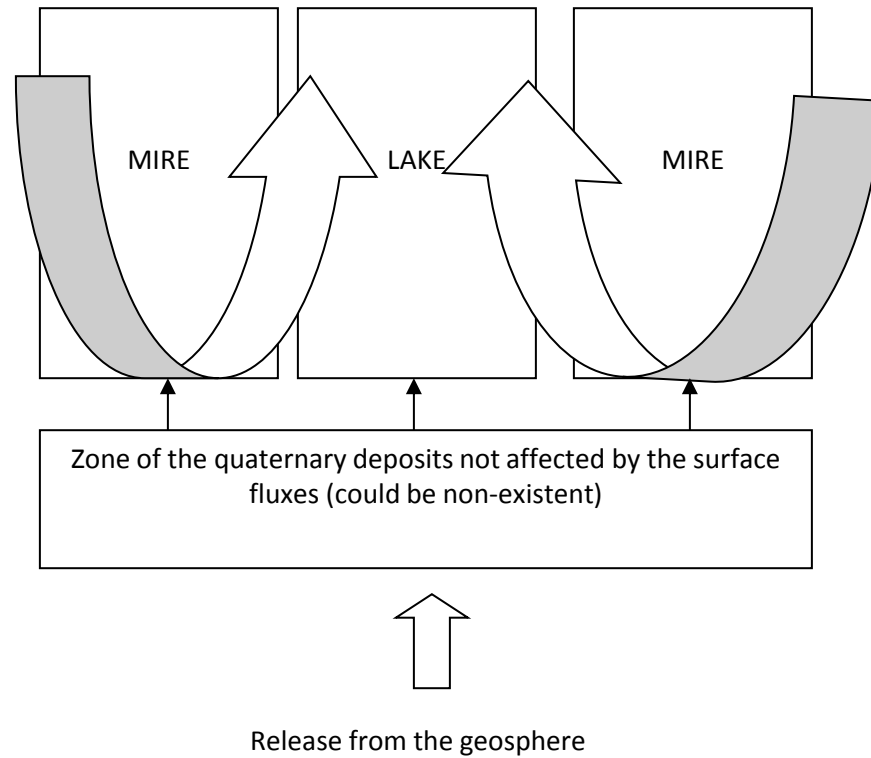
Lake model



Lake/Mire



Conceptual Model



Question

Compared to the water balance of the “average object” the flux map is simplified. What is the justification for this?

Answer

- MIKE SHE water balance was available only for year 5000 AD
- MIKE SHE water balance was not available for all biosphere objects
- The compartments in the Radionuclide and MIKE SHE models were not the same
- The conceptual model in the Radionuclide model for the advective transport is adequate for an object that consists only of a mire (end state) or a lake (direct after the object emerges from the sea). It allows taking into account variation between objects and variations in time.
- Total fluxes out from the object and between the aquatic and terrestrial parts are consistent between the Radionuclide and MIKE SHE models.
- The fluxes decrease with depth both in the Radionuclide and MIKE SHE models. The lateral fluxes in deeper layers are lower and anyway the mire growths “into” the lake – regoMid of the lake becomes regoMid of the mire.

Question

The derivation of parameters is given in TR-10-01, pages 341 – 345. We find the descriptions given too brief. Can SKB walk us through the derivation of the numerical values for each of these parameters? The derivation should be directly related to the numerical values in the mass balance for the “average object” and should show how the values are combined and what the mass balance considerations were that justified the choices of values.

Answer

Derivation explained in attached word document:

[advective fluxes in the model Version 4.docx](#)