



Numerical Modelling of Thermohaline Convection in the North-East German Basin: Results of Finite Volume Simulations.

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We introduce a numerical model for the thermohaline convection in sedimental basin structures which is based on the Voronoi Box centered finite volume method and the use of Newton's method for the solution of the discretized equations. It has been implemented on top of the pdelib2 tool box of the Weierstrass Institute.

This model is applied to the situation in the North-East German Basin, where sporadic upcomings of salty waters to the surface have been reported. The results obtained by the model confirm the hypothesis that density differences due to the temperature gradient are the driving force behind this phenomenon.

We will compare the results of the finite volume model to those obtained at GFZ using the finite element software FEFLOW of the WASY GmbH, Berlin. Both codes agree on the qualitative behaviour, confirming the hypothesis that density differences can be the cause of the salt water upcomings.

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