

# Contaminant Transport

## *A Numerical Approach*

**...just the color figures for those who got the B&W printed book...**

**by D. James Benton**

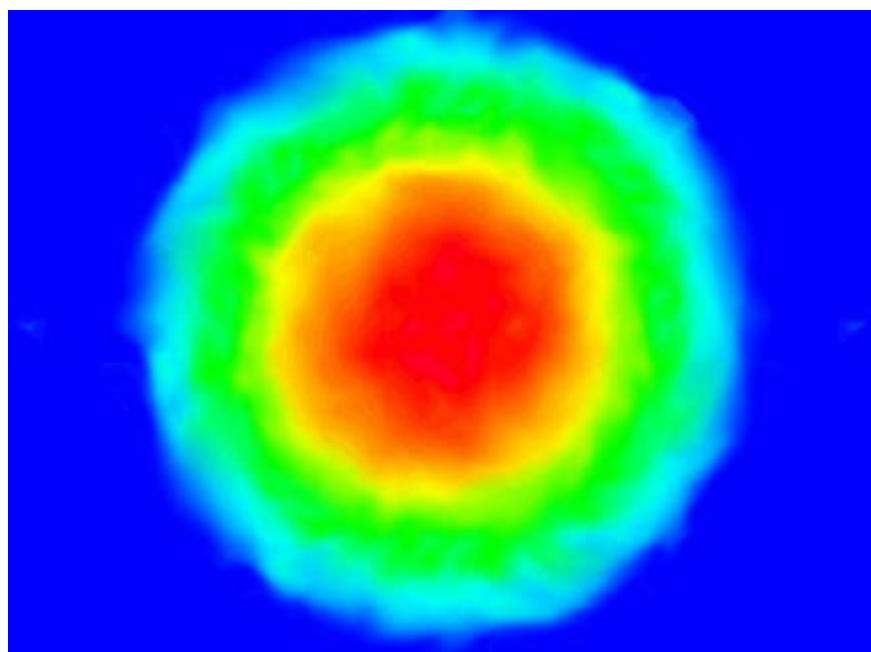
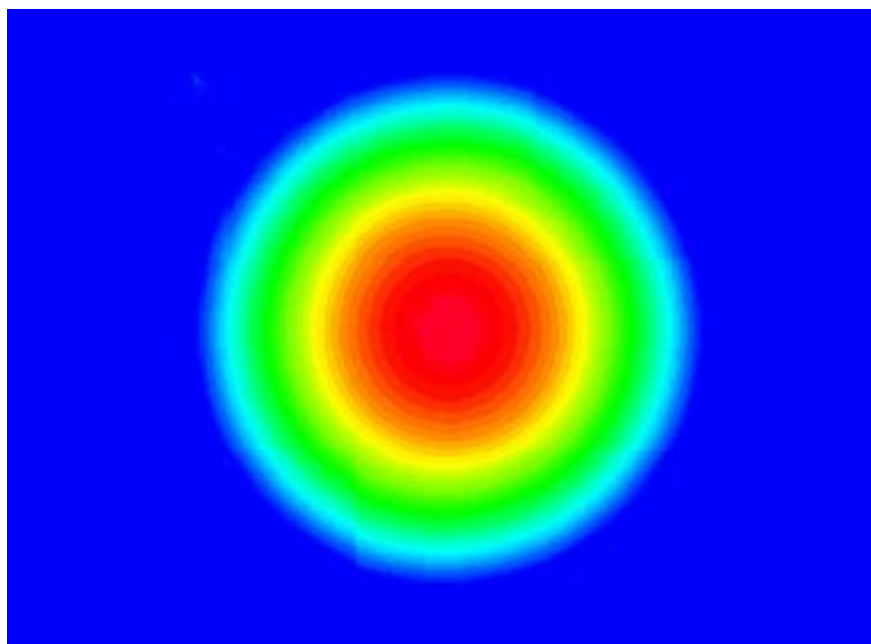
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### **Forward**

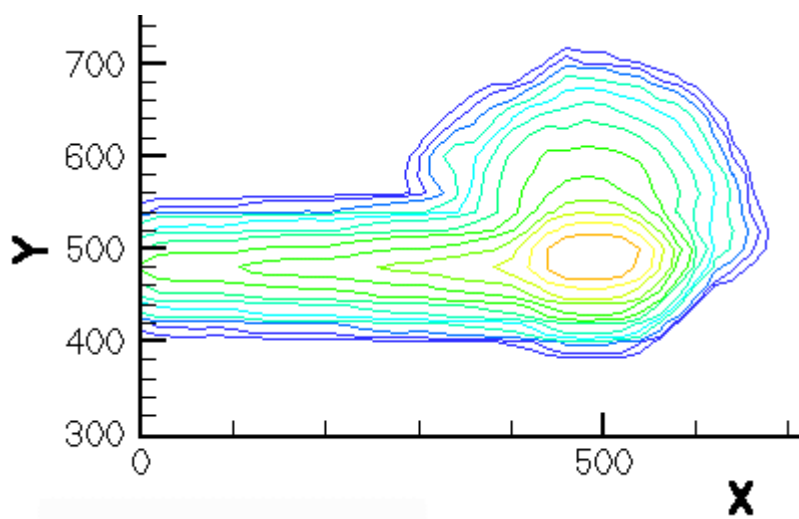
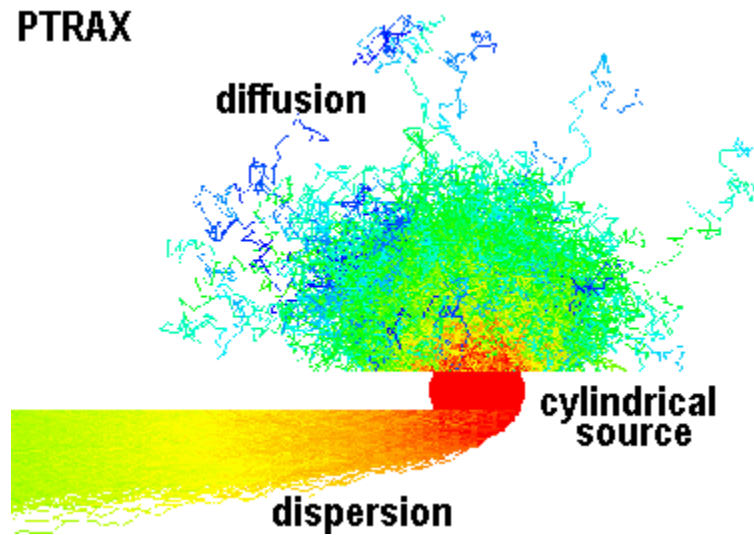
In previous texts we have covered *Computational Fluid Dynamics*, *Mass Transfer*, *Plumes*, and *Particle Tracking*. Contaminant Transport is a specific application, involving diffusion, dispersion, and advection. While movement of the transporting media (e.g. groundwater, surface water, or air) is important, this text will not cover those details in depth. The reader should be familiar with fluid flow and how it may be calculated before delving into the current subject matter. We cover passive as well as decaying substances. While this text does cover theory, it is primarily a compilation of examples based on actual remediation projects. Accurate modeling is essential for containment or capture, for we must know where the contaminant is going and when it will get there if we are ever to achieve effective remediation.

*All of the examples contained in this book,  
(as well as a lot of free programs) are available at...*

<http://www.dudleybenton.altervista.org/software/index.html>

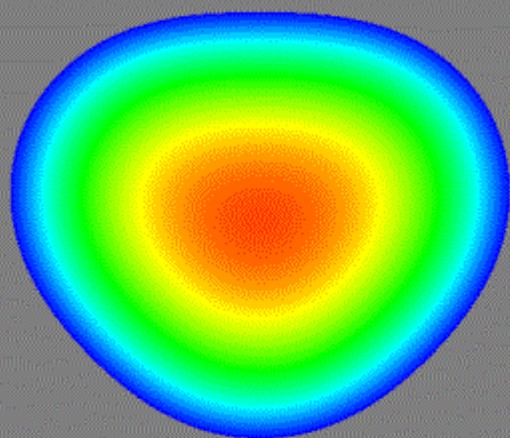


**PTRAX**

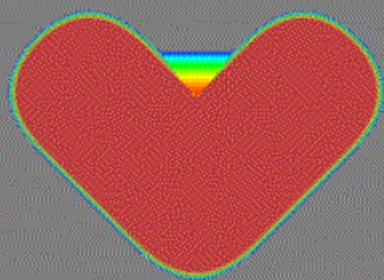




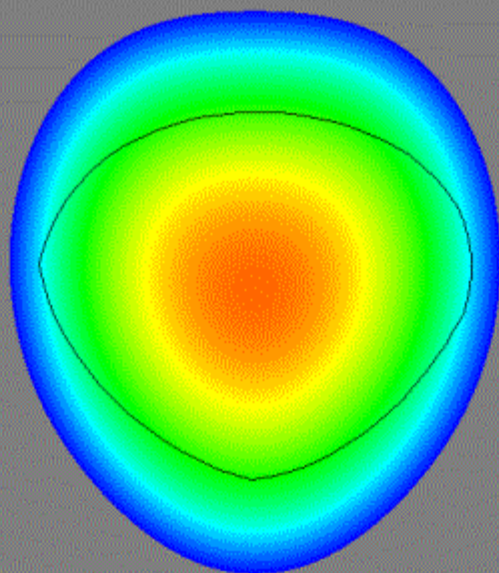
8 years



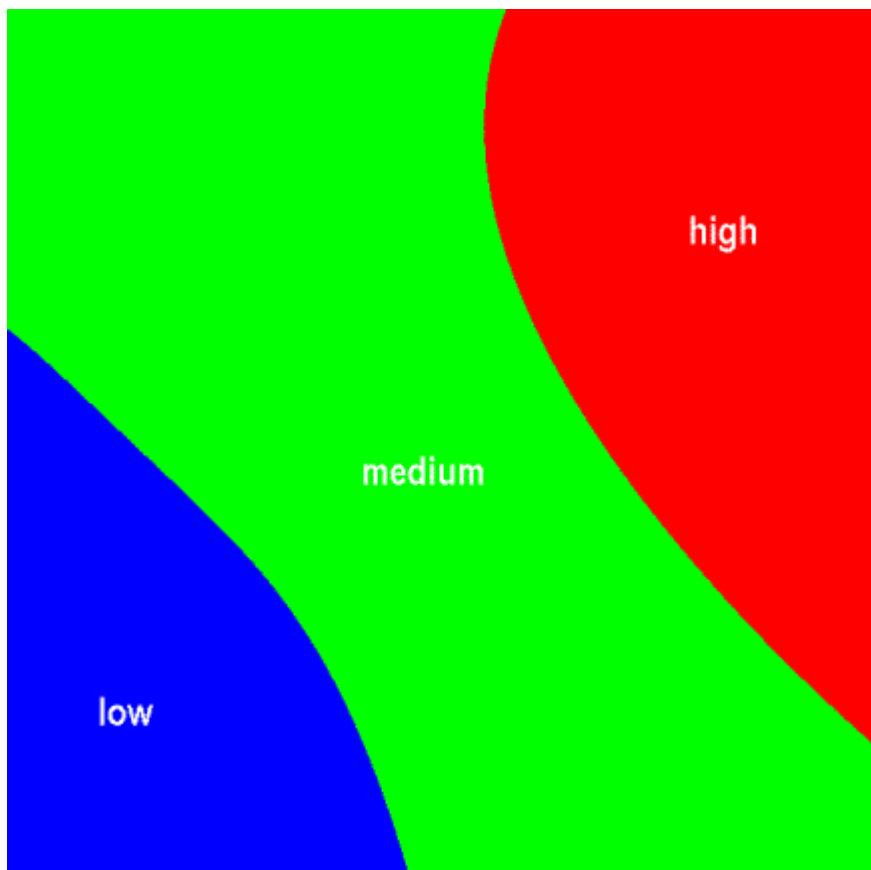
1800 years



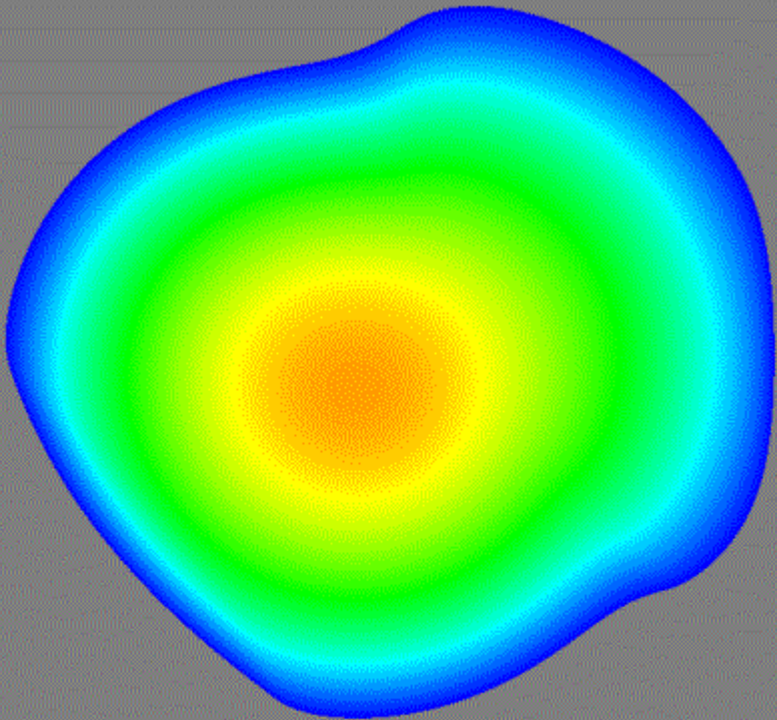
100 years



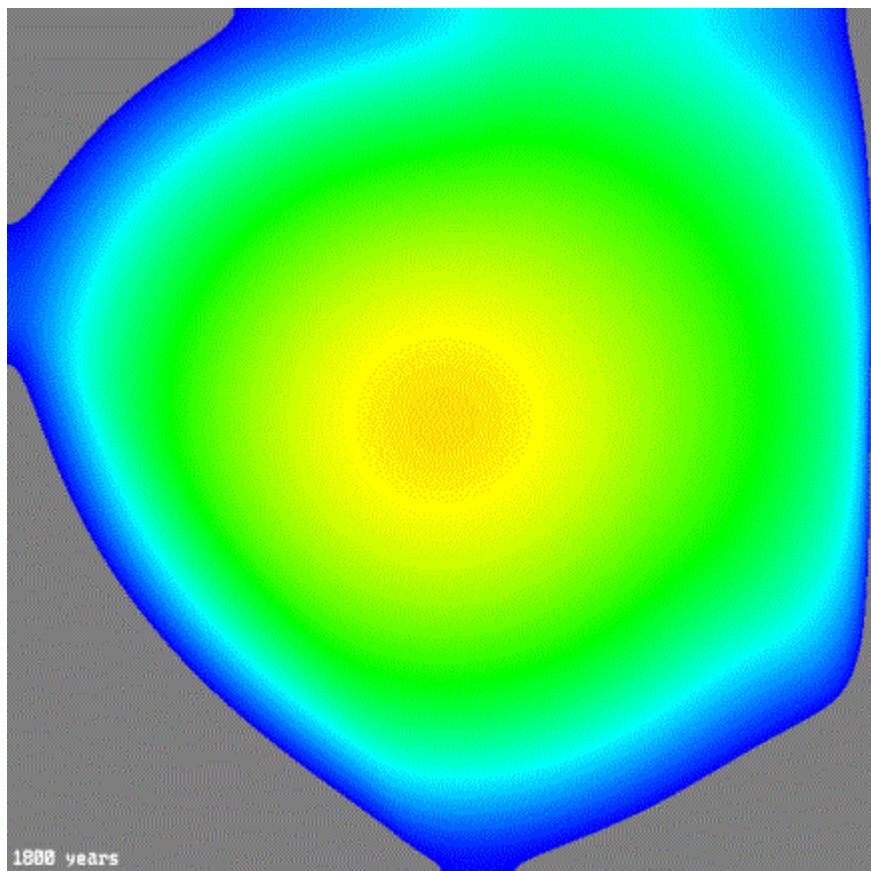
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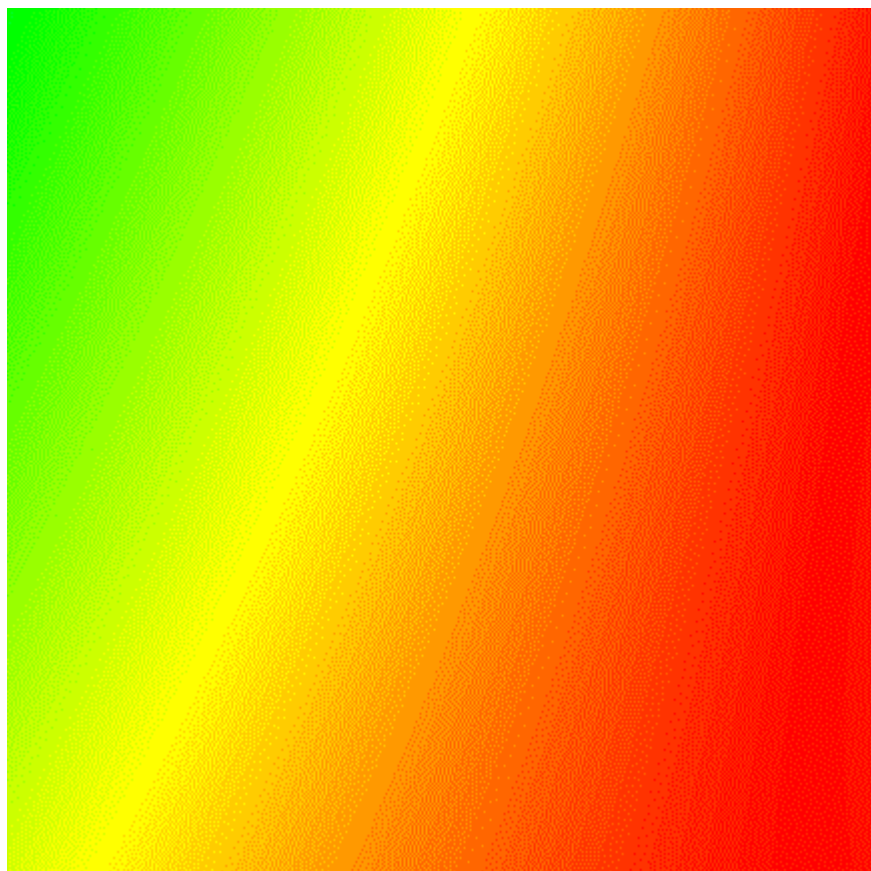


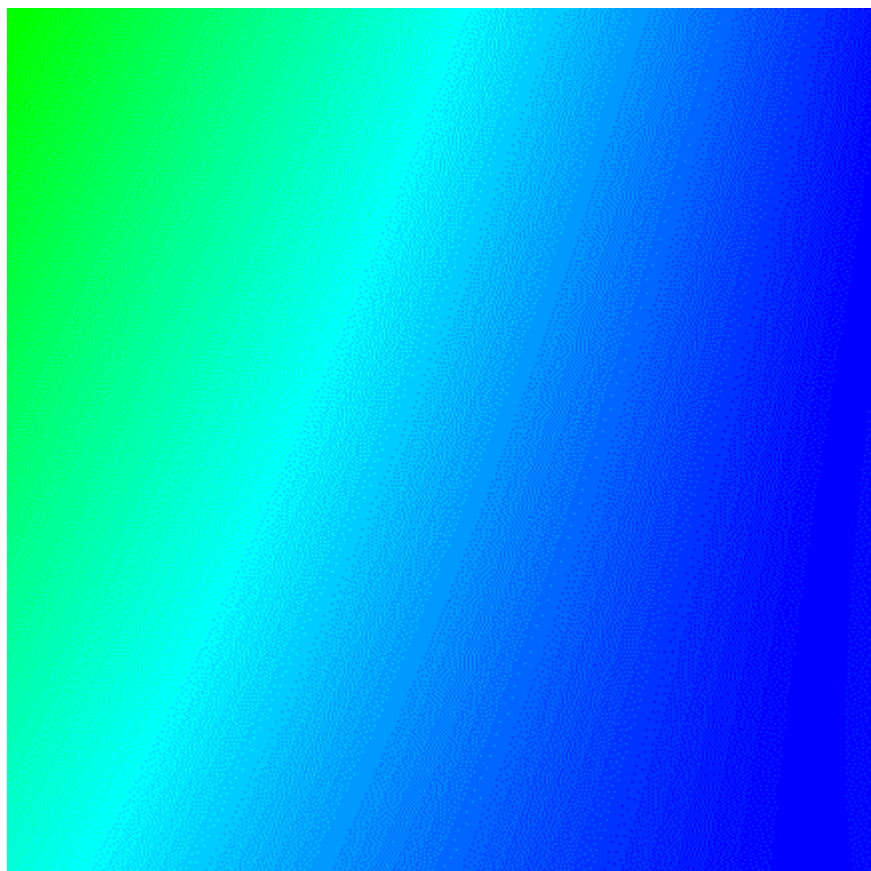
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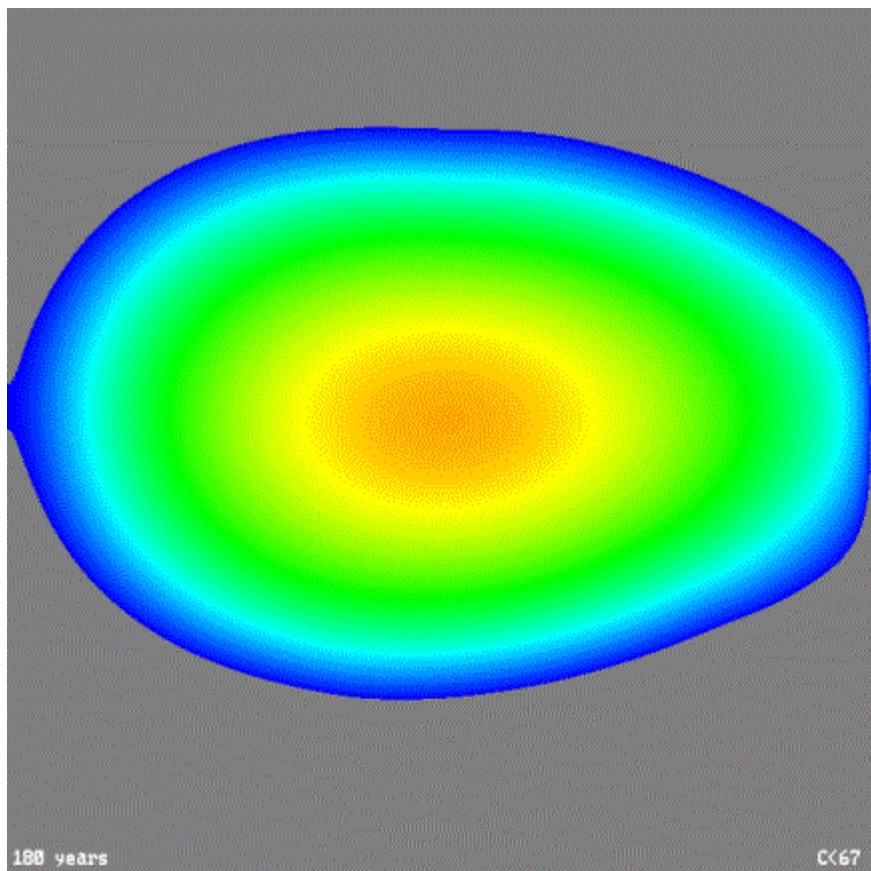




60 years



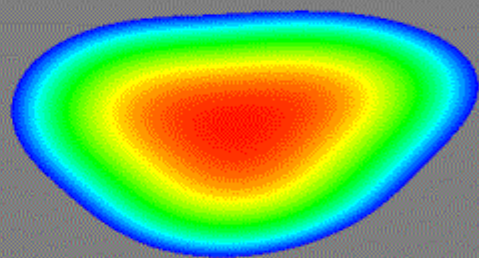




180 years

C67

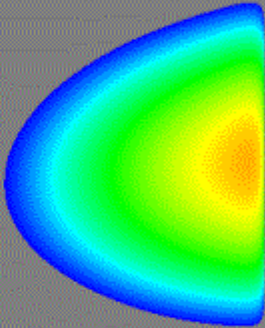




20 years

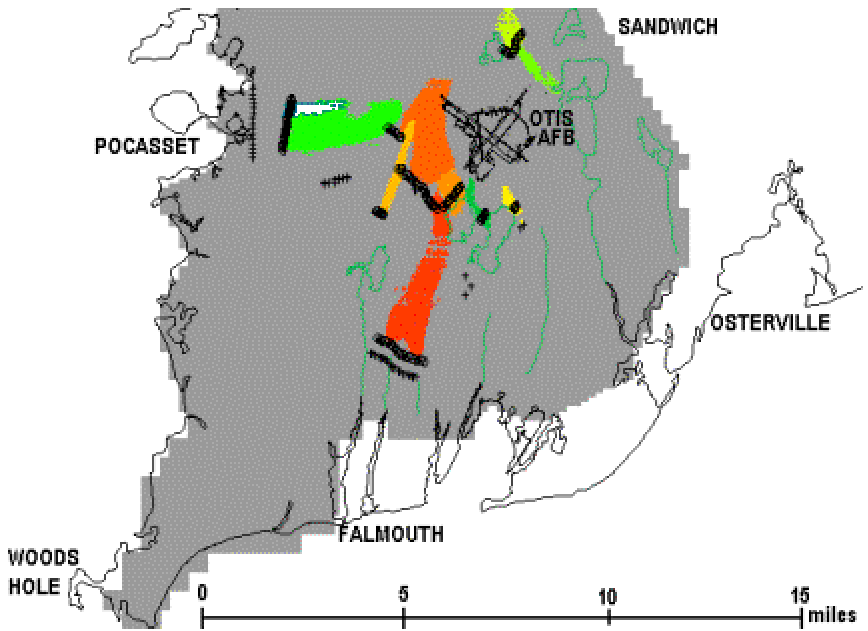
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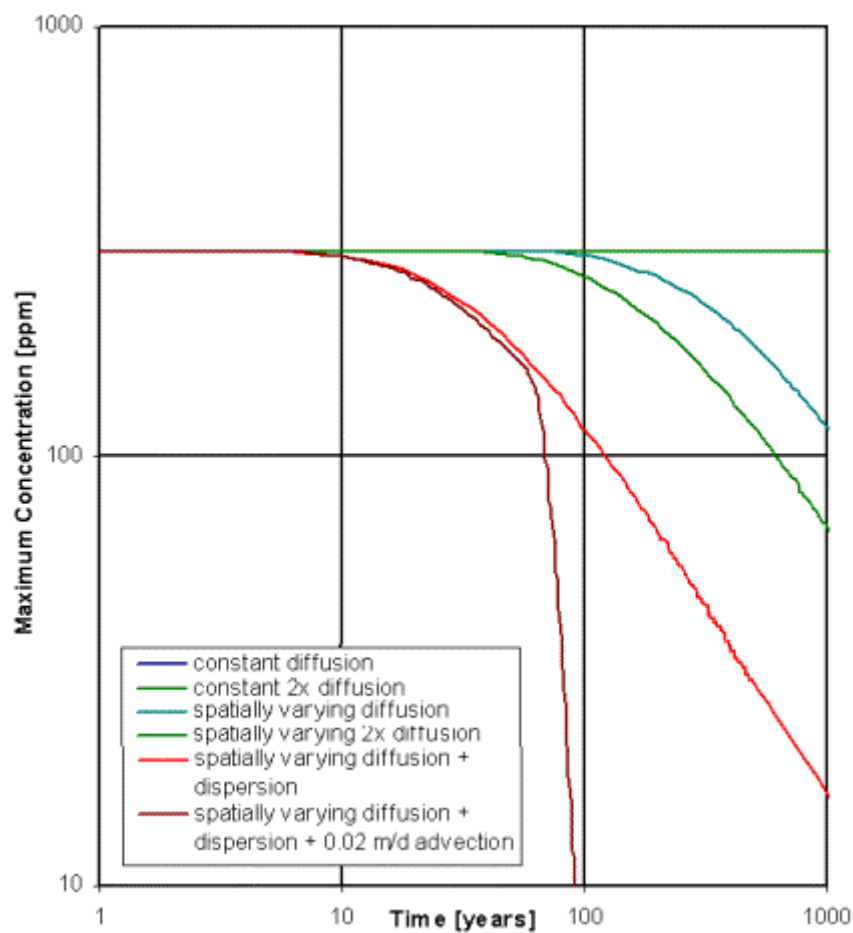


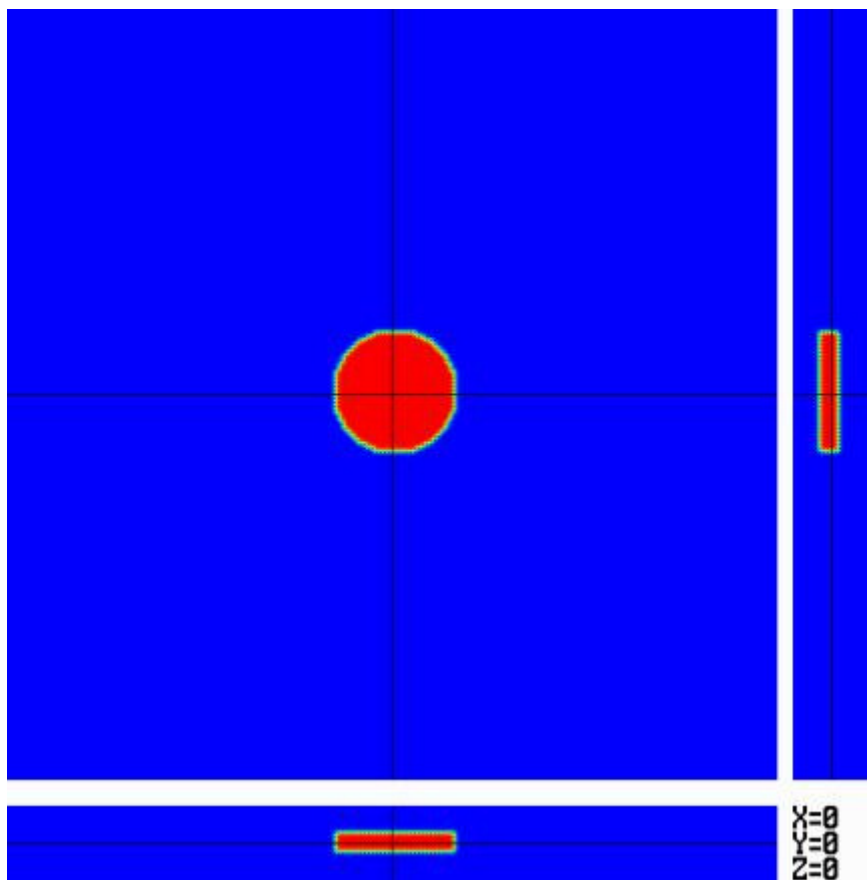


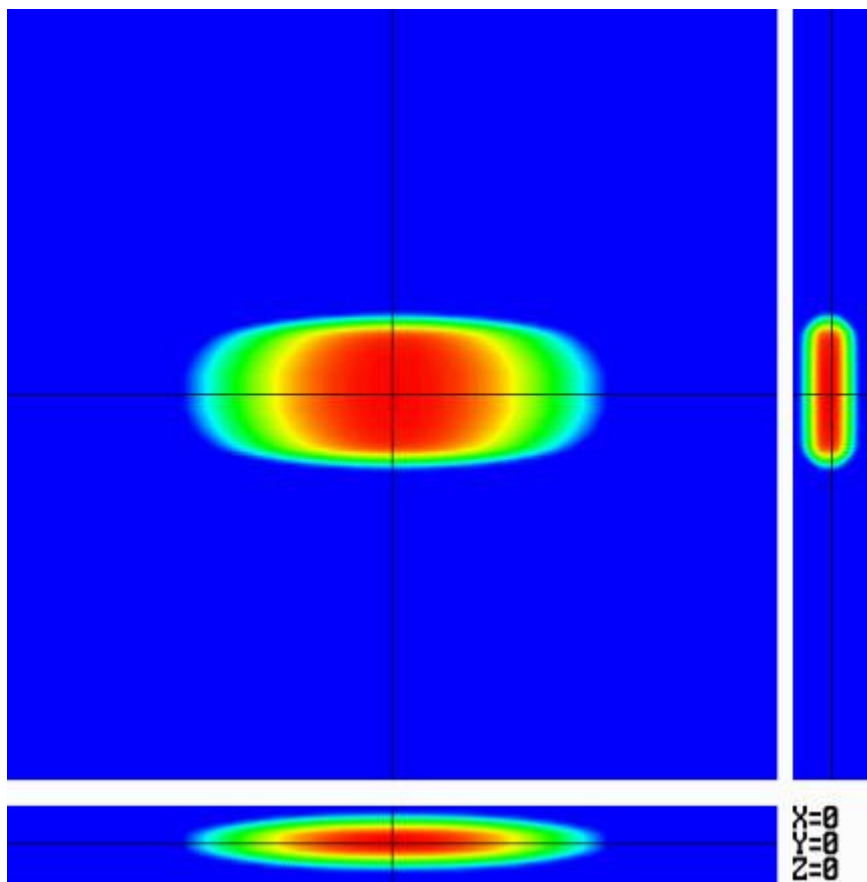
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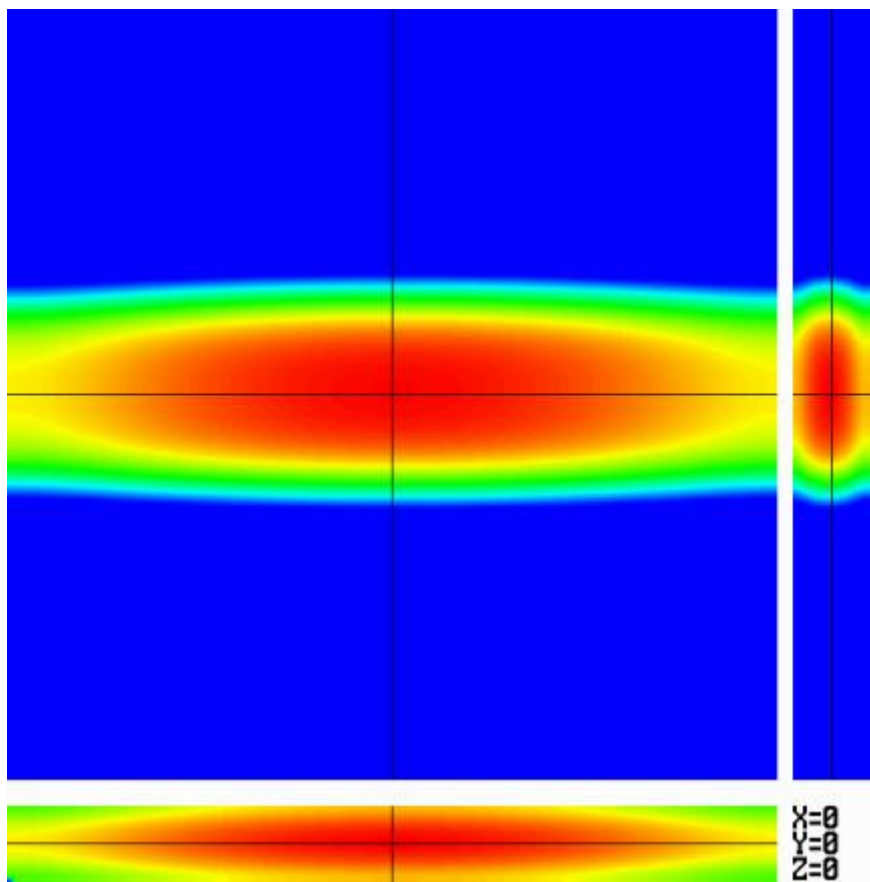
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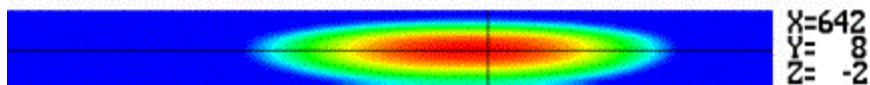
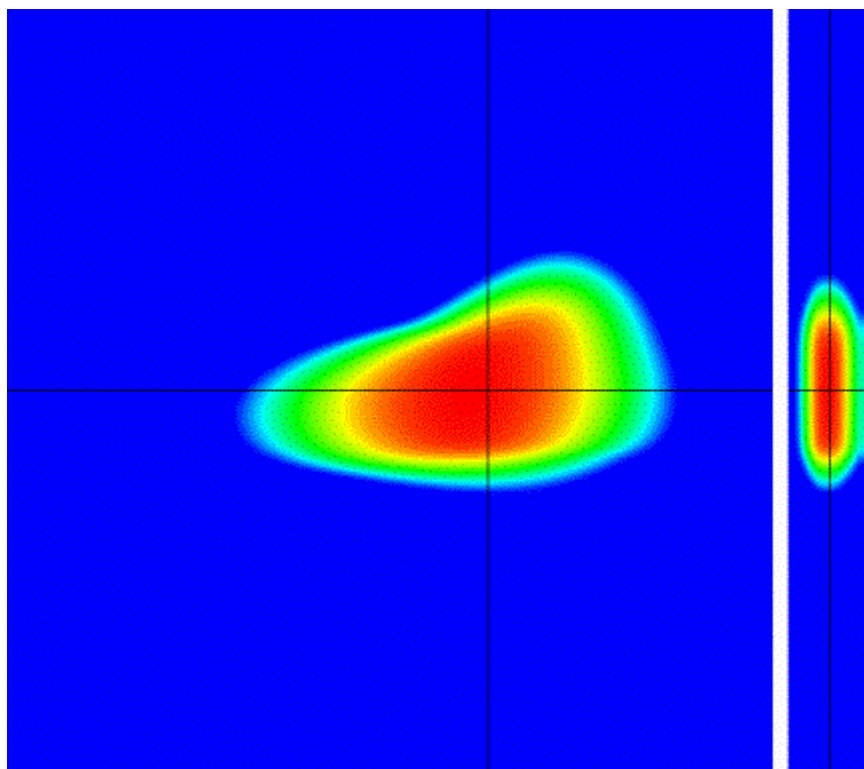




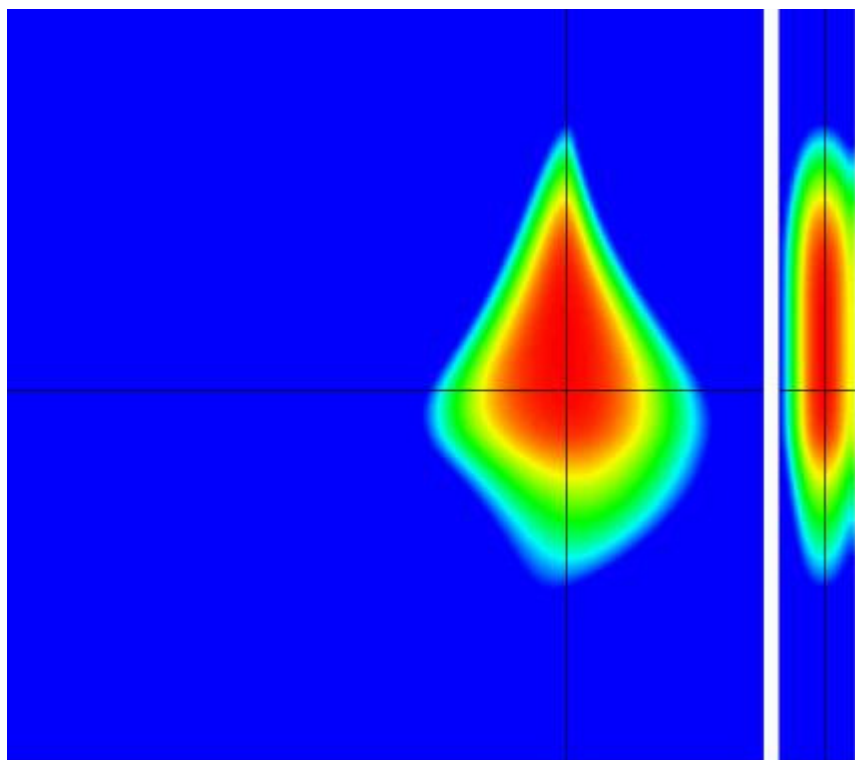






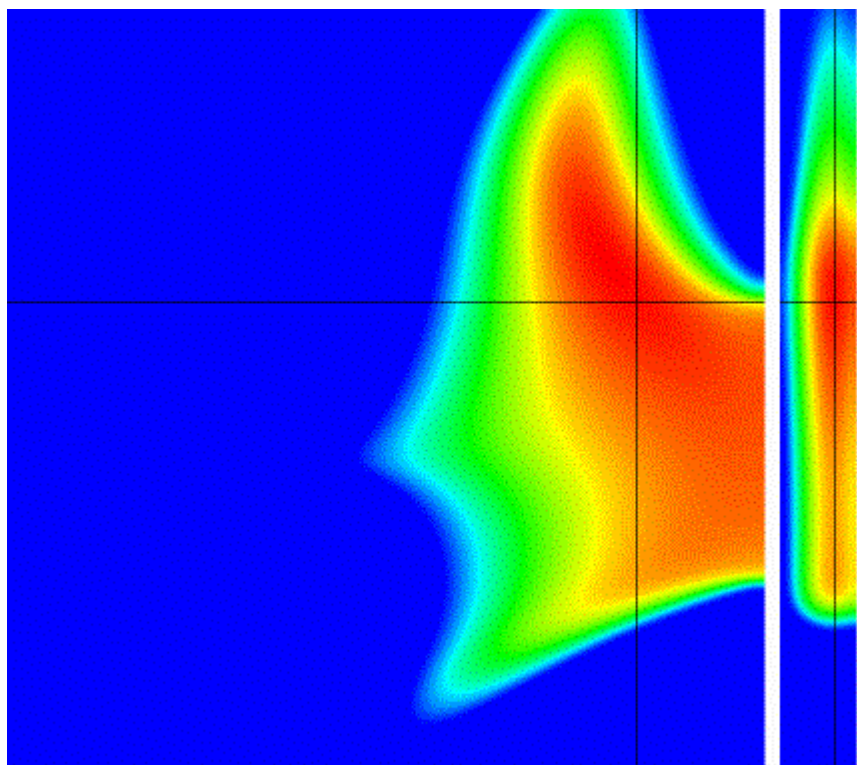


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Y=8  
Z=-2



X=1200  
Y=-25  
Z=-5





X=1658  
Y= 566  
Z= -10



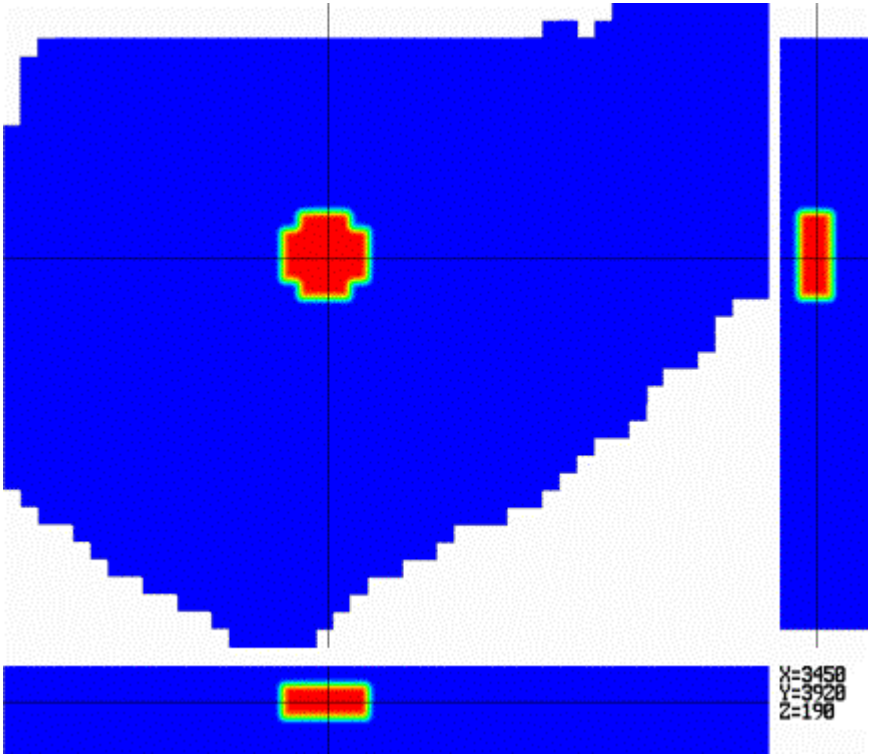


Figure 29. Initial Concentrations for WINE Example

