ENVIFUSION

环境地学数据融合平台线上直播课

工程模板应用指南（十）

GMS地下水模拟项目的导入

2022年9月

北水国际 BEIJING WATER INTERNATIONAL

项目背景

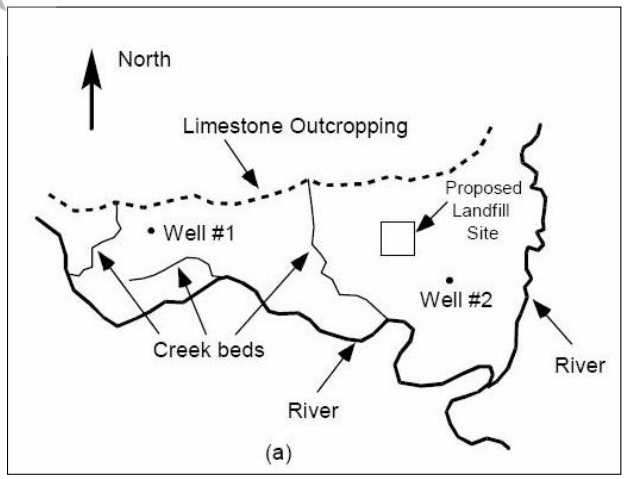
模拟目标

模拟规划中的垃圾填埋场，垃圾渗漏液对地下含水层中的污染情况。

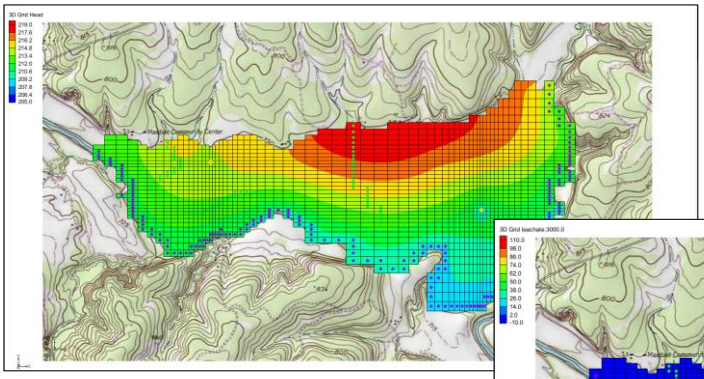
模拟方法

MODFLOW水流模型

MT3DMS溶质运移模型

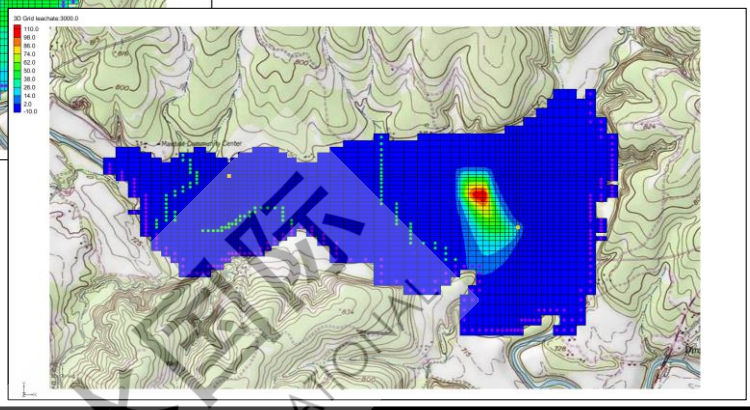


GMS模拟结果

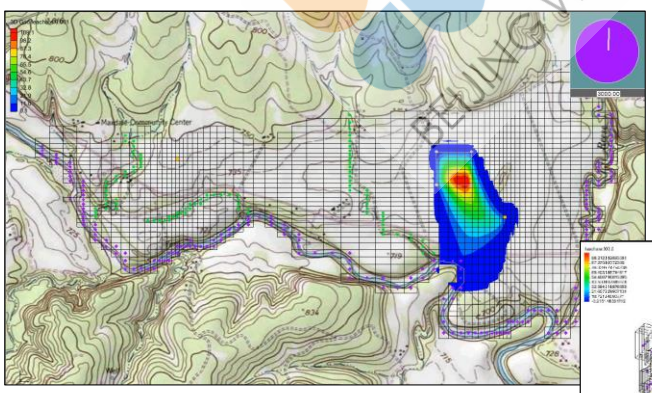


MODFLOW模拟结果

MT3DMS模拟结果

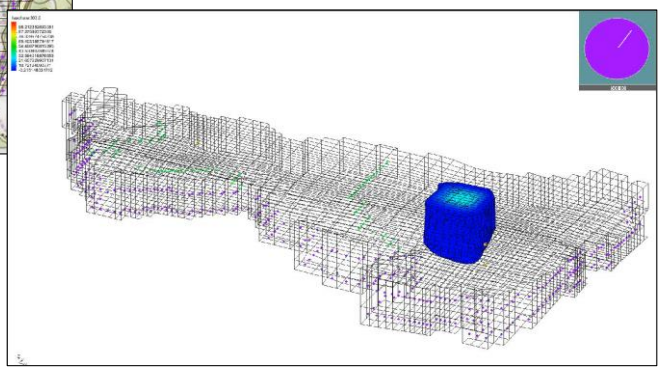


GMS模拟结果



污染物运移二维展示

污染物运移三维展示



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GMS模拟结果

- landfill.ba6
- landfill.ccf
- landfill.chd
- landfill.chob
- landfill.dis
- landfill.drn
- landfill.drob
- landfill.glo
- landfill.h5
- landfill.hed
- landfill.hff
- landfill.lmt
- landfill.lpf
- landfill.mfn
- landfill.mfr
- landfill.mfs
- landfill.mfw
- landfill.obs
- landfill.oc
- landfill.out
- landfill.pcg
- landfill.prj
- landfill.rch
- landfill.wel

mfn文件内容

```
# MF2K NAME file
#
# Output Files
GLOBAL      701 "landfill.glo"
LIST        702 "landfill.out"
DATA(BINARY)  730 "landfill.hed"
DATA(BINARY)  740 "landfill.ccf"
LMT6        718 "landfill.lmt"
#
# Obs-Sen-Pes Process Input Files
OBS         750 "landfill.obs"
DROB        754 "landfill.drob"
CHOB        755 "landfill.chob"
#
# Global Input Files
DIS         719 "landfill.dis"
#
# Flow Process Input Files
BAS6        703 "landfill.ba6"
LPF         704 "landfill.lpf"
OC          715 "landfill.oc"
RCH         716 "landfill.rch"
WEL         709 "landfill.wel"
DRN         710 "landfill.drn"
CHD         713 "landfill.chd"
PCG         714 "landfill.pcg"
```

名称

- landfill.adv
- landfill.btn
- landfill.dsp
- landfill.gcg
- landfill.mf
- landfill.mt
- landfill.mt
- landfill.ou
- landfill.pst
- landfill.ssr
- landfill.tob
- MT3D.CNF
- MT3D001.UCN
- MT3D001.MTW

CNF文件内容

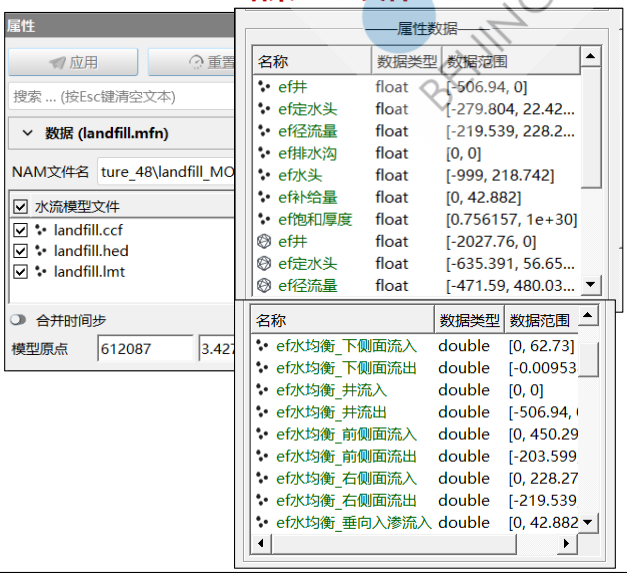
每个网格中的溶质浓度

2 44 70

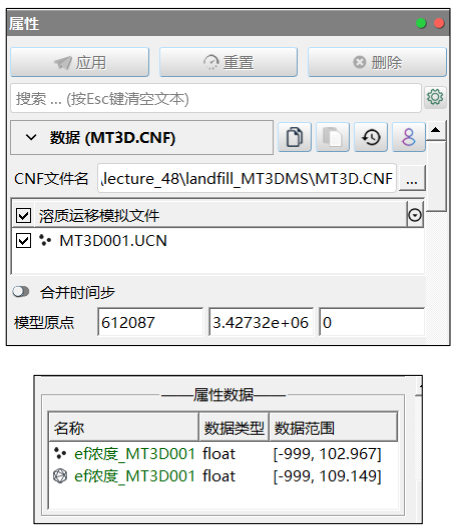
95.54699	95.54699	95.54699	95.54699	94.93745
86.30678	78.46071	71.32792	64.84356	58.94869
53.58972	48.71793	44.28902	40.26275	36.60250
33.27500	30.25000	27.50000	25.00000	27.50000
30.25000	33.27500	36.60250	40.26275	44.28902
48.71793	53.58972	58.94869	64.84356	71.32792
78.46071	86.30678	94.93745	104.4312	114.8743
120.8824	120.8824	114.8743	104.4312	94.93745
86.30678	78.46071	71.32792	64.84356	58.94869
53.58972	48.71793	44.28902	40.26275	36.60250
33.27500	30.25000	27.50000	25.00000	27.50000
30.25000	33.27500	36.60250	40.26275	44.28902
48.71793	53.58972	58.94869	64.84356	71.32792
78.46071	86.30678	87.04180	87.04180	87.04180
74.81430	74.81430	74.81430	71.32792	64.84356
58.94869	53.58972	48.71793	44.28902	40.26275
36.60250	33.27500	30.25000	27.50000	25.00000
27.50000	30.25000	32.18750	32.18750	32.18750
32.18750	32.18750	32.18750	32.18750	32.18750
30.25000	27.50000	25.00000	27.50000	30.25000
33.27500	36.60250	40.26275	44.28902	48.71793
53.58972	58.94869	64.84356	71.32792	78.28858

GMS模拟结果在EnviFusion中的导入

MODFLOW结果-mfn文件



MT3DMS结果-CNF文件



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EnviFusion中GMS模拟结果后处理

MODFLOW模拟结果

水流模型流场

水流模型部分边界条件

等水位线

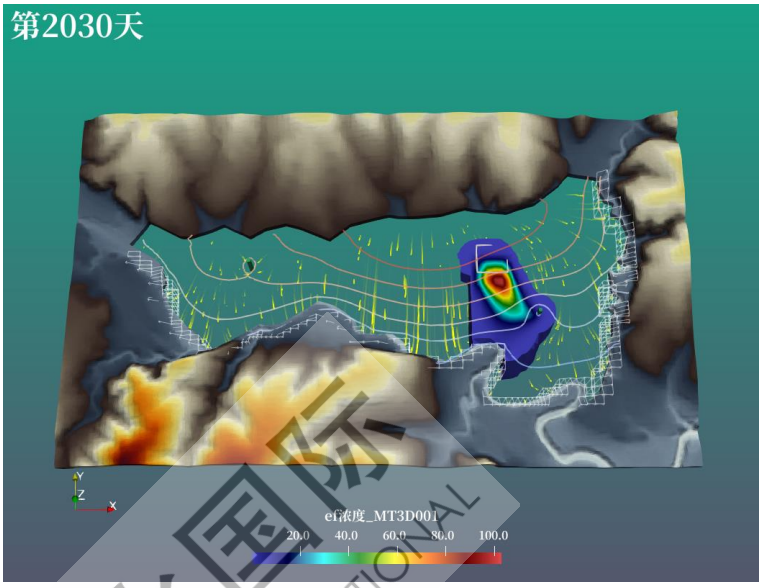
MT3DMS模拟结果

垃圾渗漏液污染烟羽

其他展示要素

研究区域高程

研究区与垃圾填埋场位置



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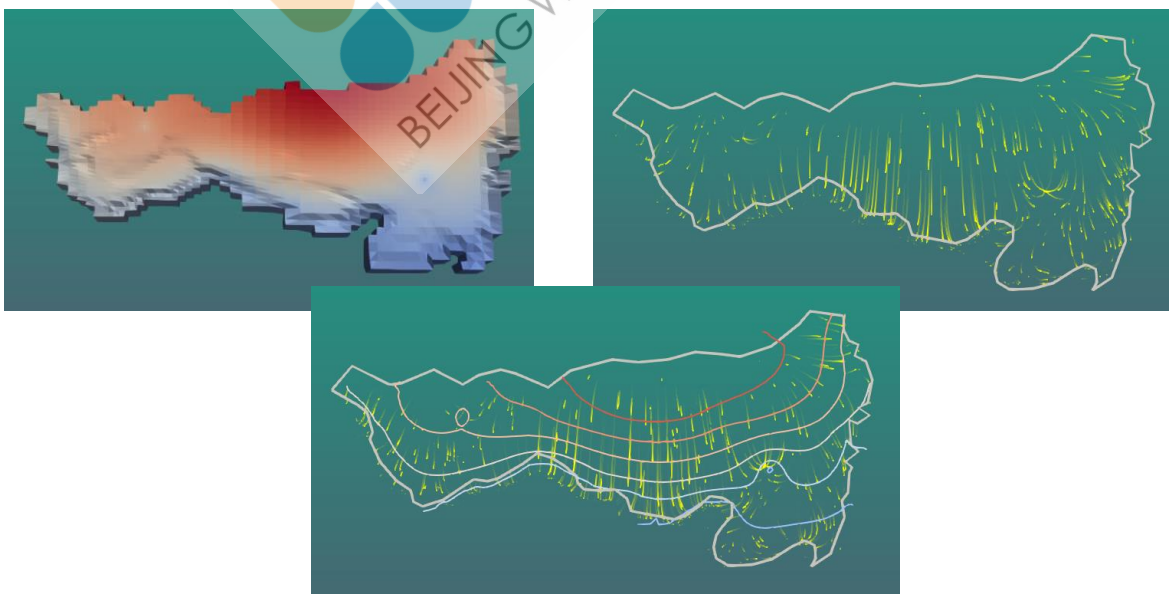
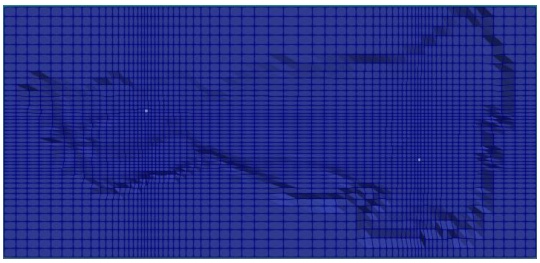
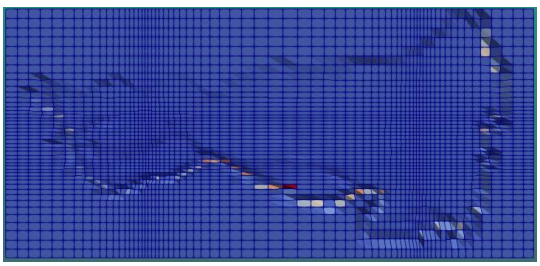
MODFLOW模型结果——水位



MODFLOW模型结果——边界条件

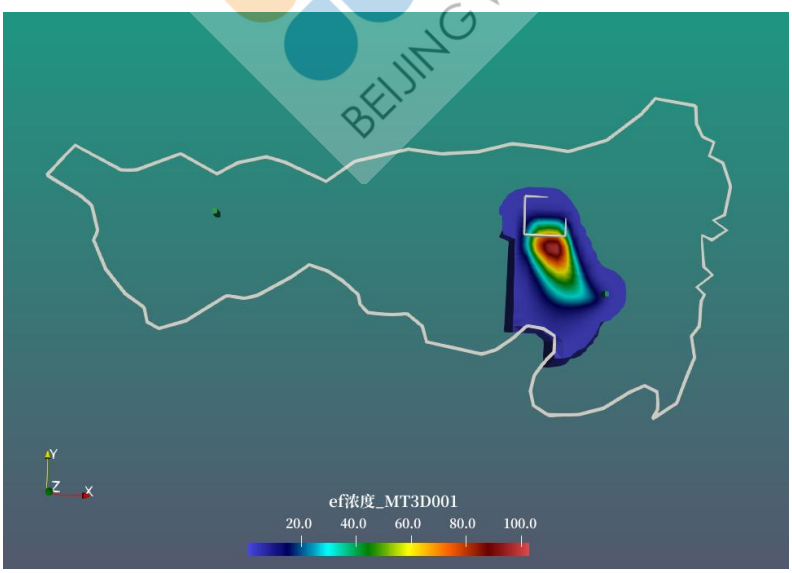




井、定水头边界条件

阈值裁切工具

MT3DMS模拟结果



时间插值

等维裁切

动画设置

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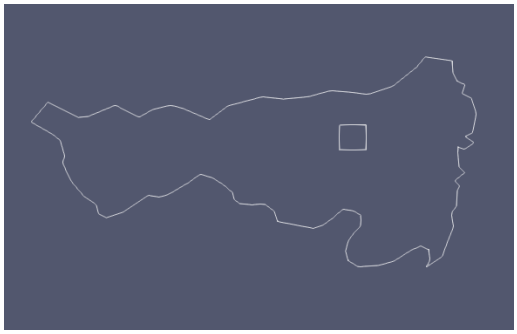
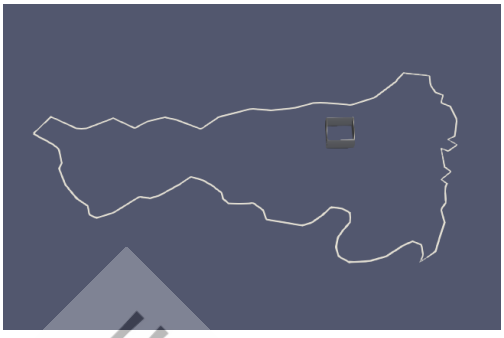
研究区与垃圾填埋场





shp文件可视化：折线->圆柱、折线->飘带

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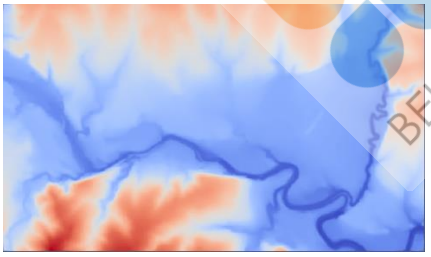
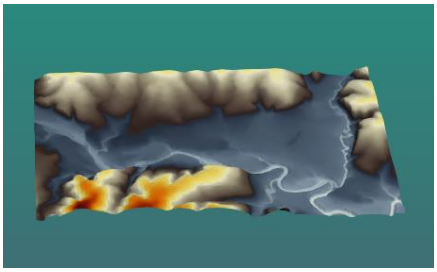
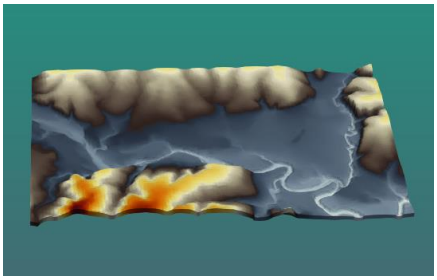
3D高程图



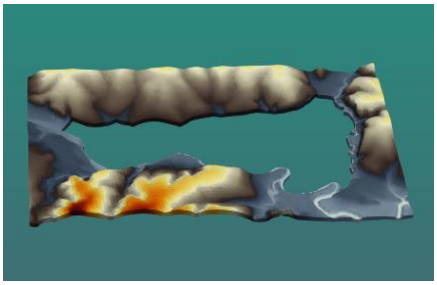
图像输入



标量扭曲



升维拉伸



折线裁切