COUPLED FLOW-TRANSPORT SIMULATION - MODEL SETUP

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SIMULATION CONFIGURATION

Simulation Name: Transport_Chloride
Start: 2024-05-01 00:00
End: 2024-05-10 00:00
Duration: 216.0 hours (9.0 days)
Time Step: 10800.0 seconds

Domain: 20.0 m × 5.0 m | Mesh: 80 × 40

Simulation duration (real time): 0:00:51.024548
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CONTAMINANT PROPERTIES

Contaminant: Chloride (Cl⁻)
Application Rate: 0.1 kg/m²/hr
Application Zone: Deicing zone (9-11m, surface)
Application Duration: 54.0 hours
Dispersivity (αL): 0.05 m
Bulk Density: 1600 kg/m³
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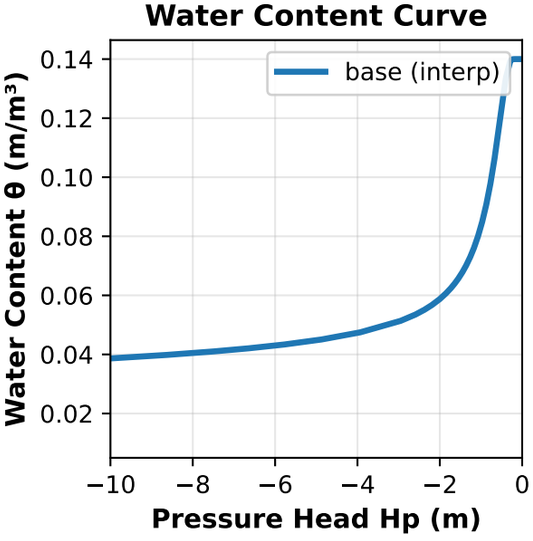
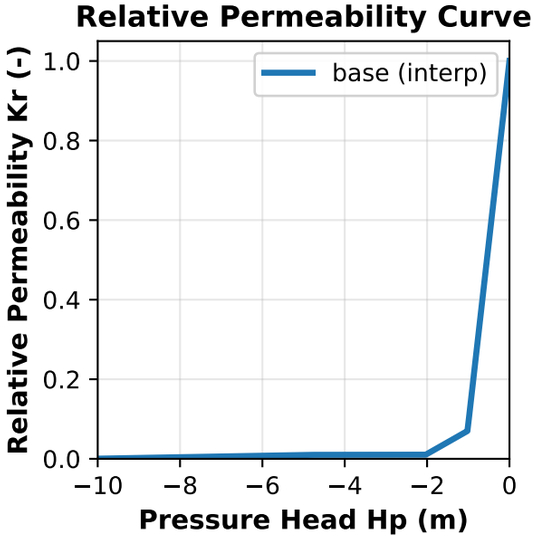
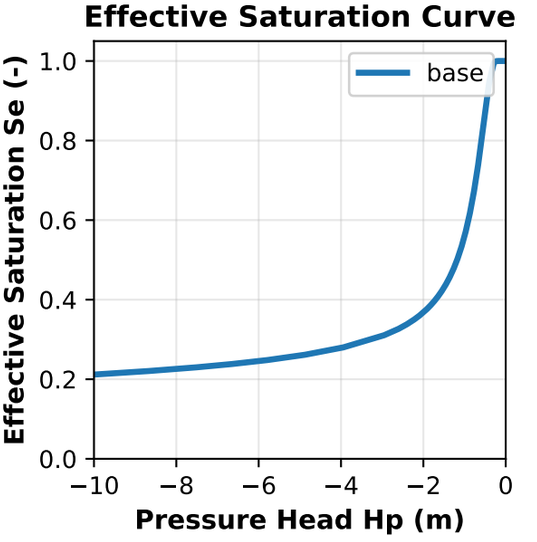
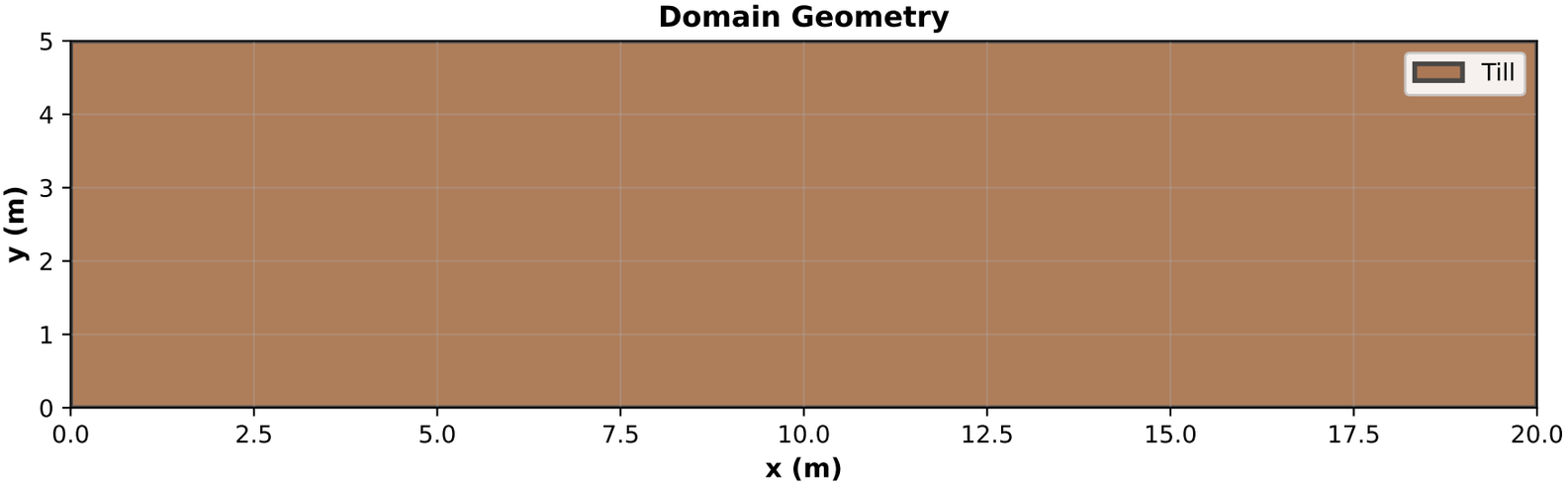
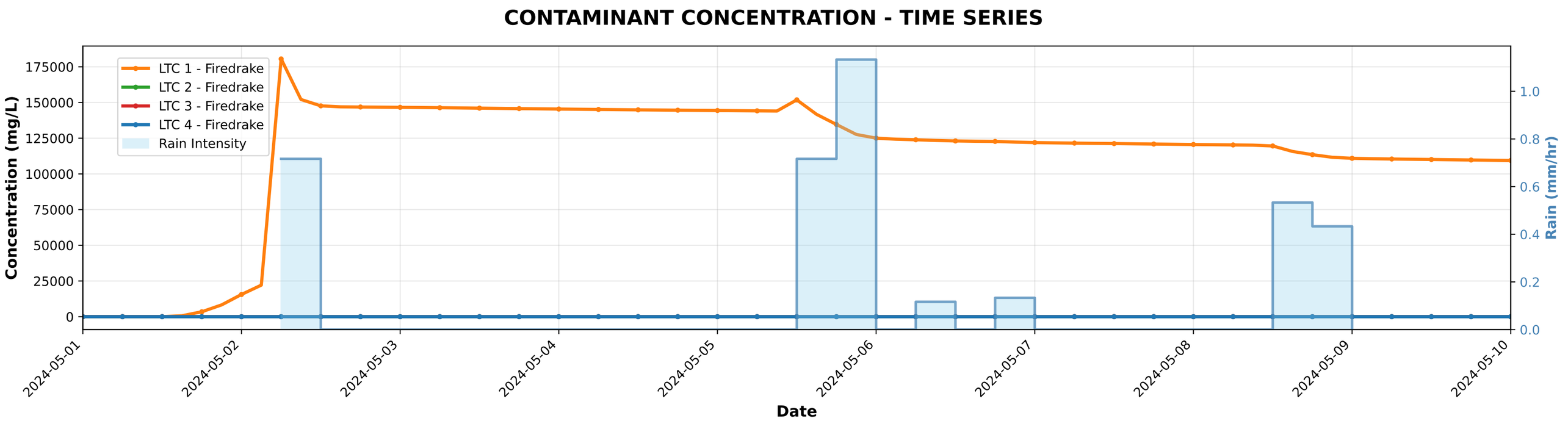


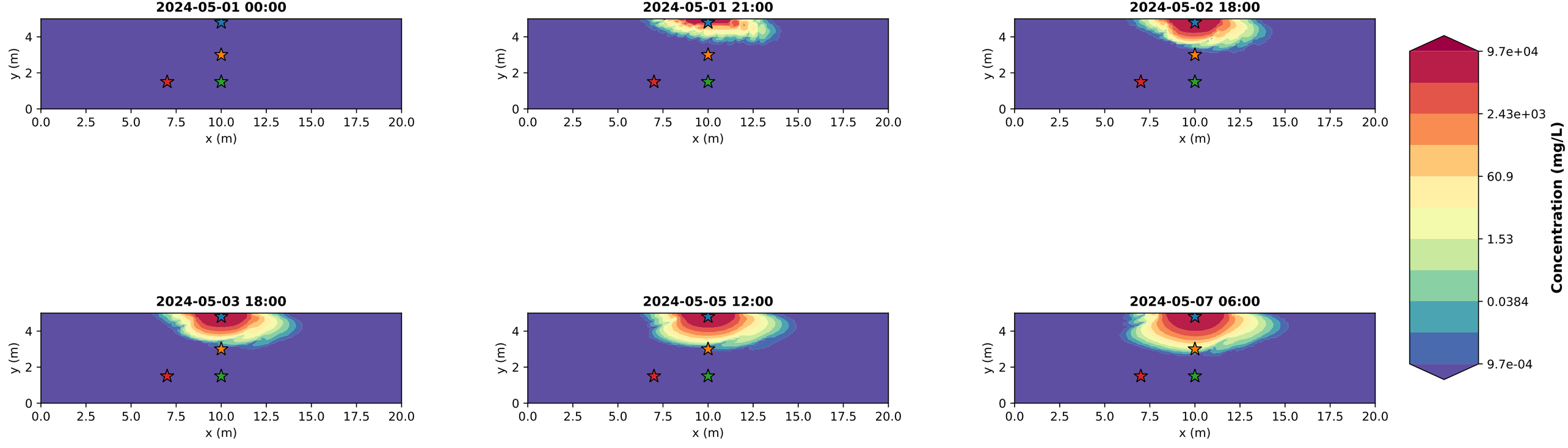


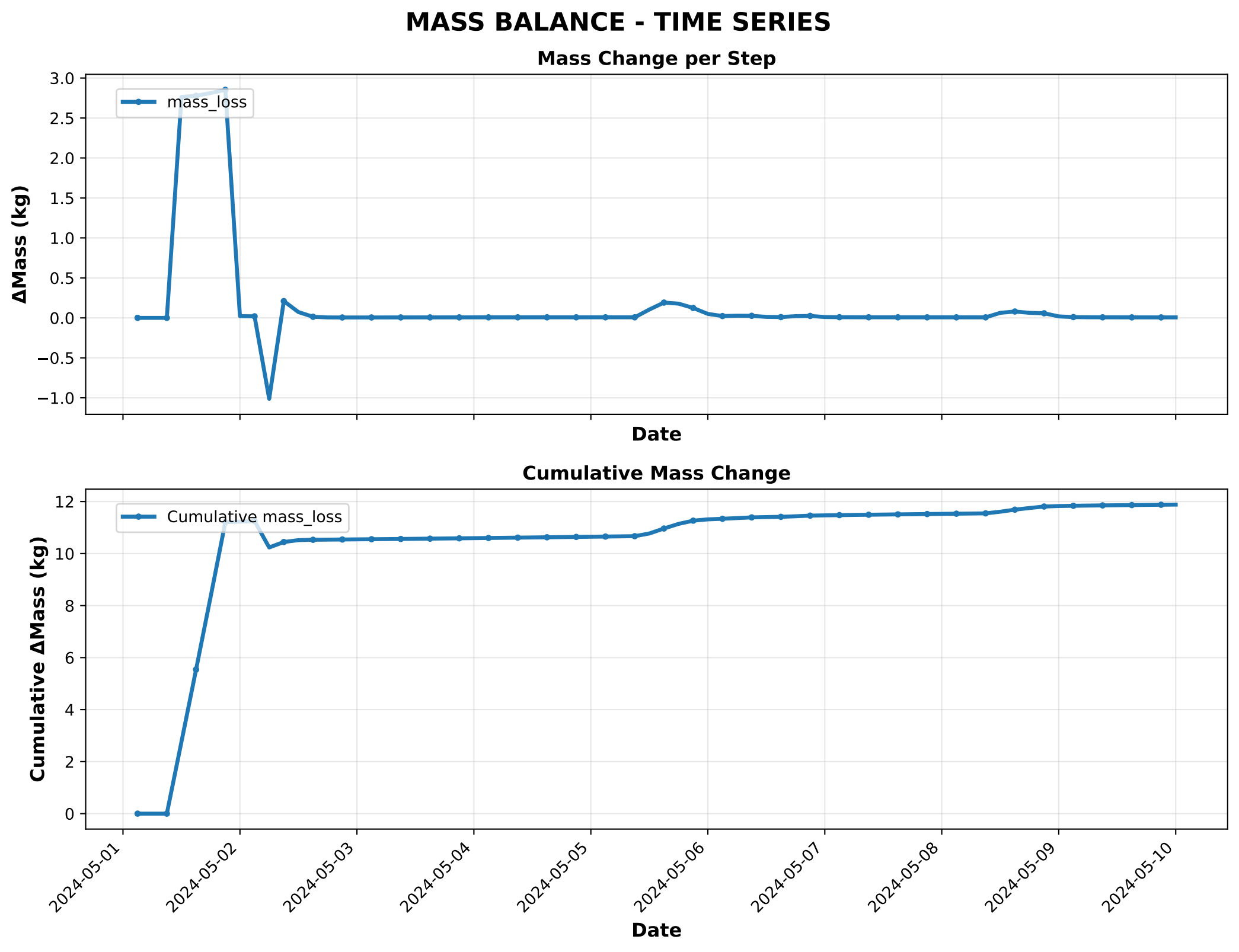





CONTAMINANT CONCENTRATION - TIME SERIES
LTC 1 - Firedrake
LTC 2 - Firedrake
LTC 3 - Firedrake
LTC 4 - Firedrake
Rain Intensity
Concentration (mg/L)
Rain (mm/hr)
Date
175000
150000
125000
100000
75000
50000
25000
0
1.0
0.8
0.6
0.4
0.2
0.0
2024-05-01
2024-05-02
2024-05-03
2024-05-04
2024-05-05
2024-05-06
2024-05-07
2024-05-08
2024-05-09
2024-05-10

CONTAMINANT CONCENTRATION - SPATIAL DISTRIBUTION




MASS BALANCE - TIME SERIES
Mass Change per Step
mass_loss
ΔMass (kg)
3.0
2.5
2.0
1.5
1.0
0.5
0.0
−0.5
−1.0
Date
Cumulative Mass Change
Cumulative mass_loss
Cumulative ΔMass (kg)
12
10
8
6
4
2
0
2024-05-01
2024-05-02
2024-05-03
2024-05-04
2024-05-05
2024-05-06
2024-05-07
2024-05-08
2024-05-09
2024-05-10
Date