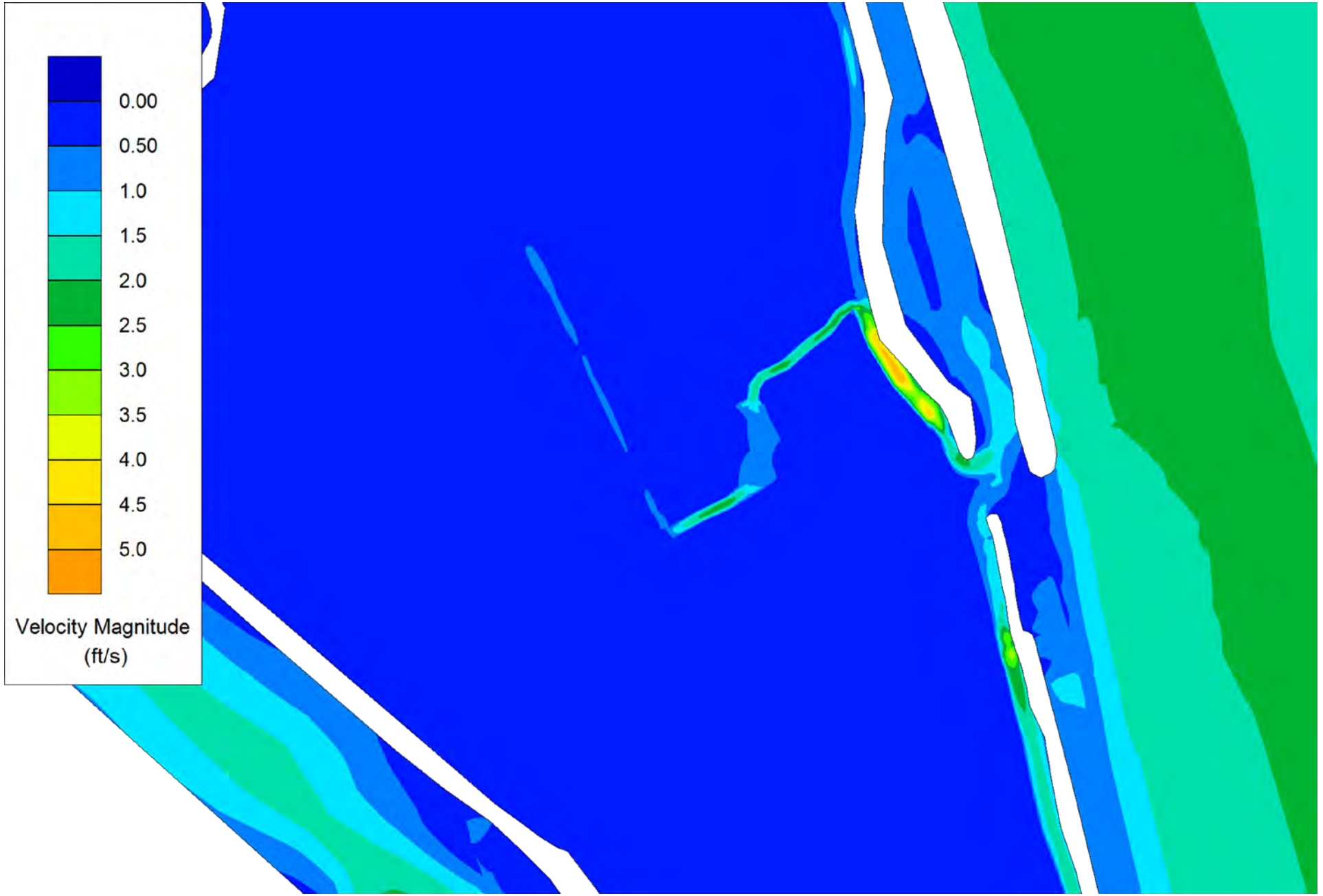
Winter Island Hydrodynamic and Particle Tracking Results June 16, 2017

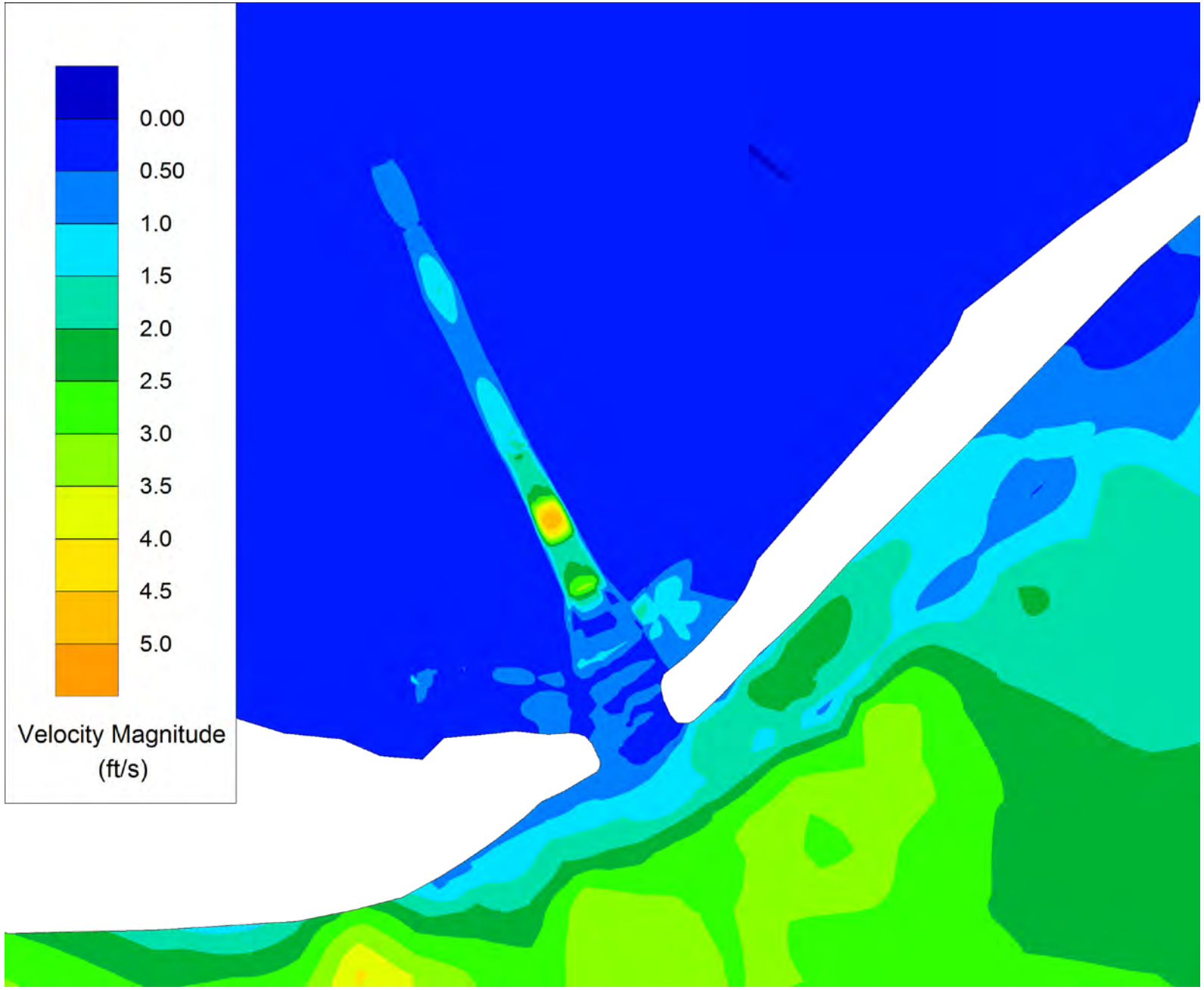
These slides show peak velocity and exposure time results for Alternatives 3 - 5

Peak Velocity Summary – all peaks for Jan-Dec 2009 simulation occur in January 2009

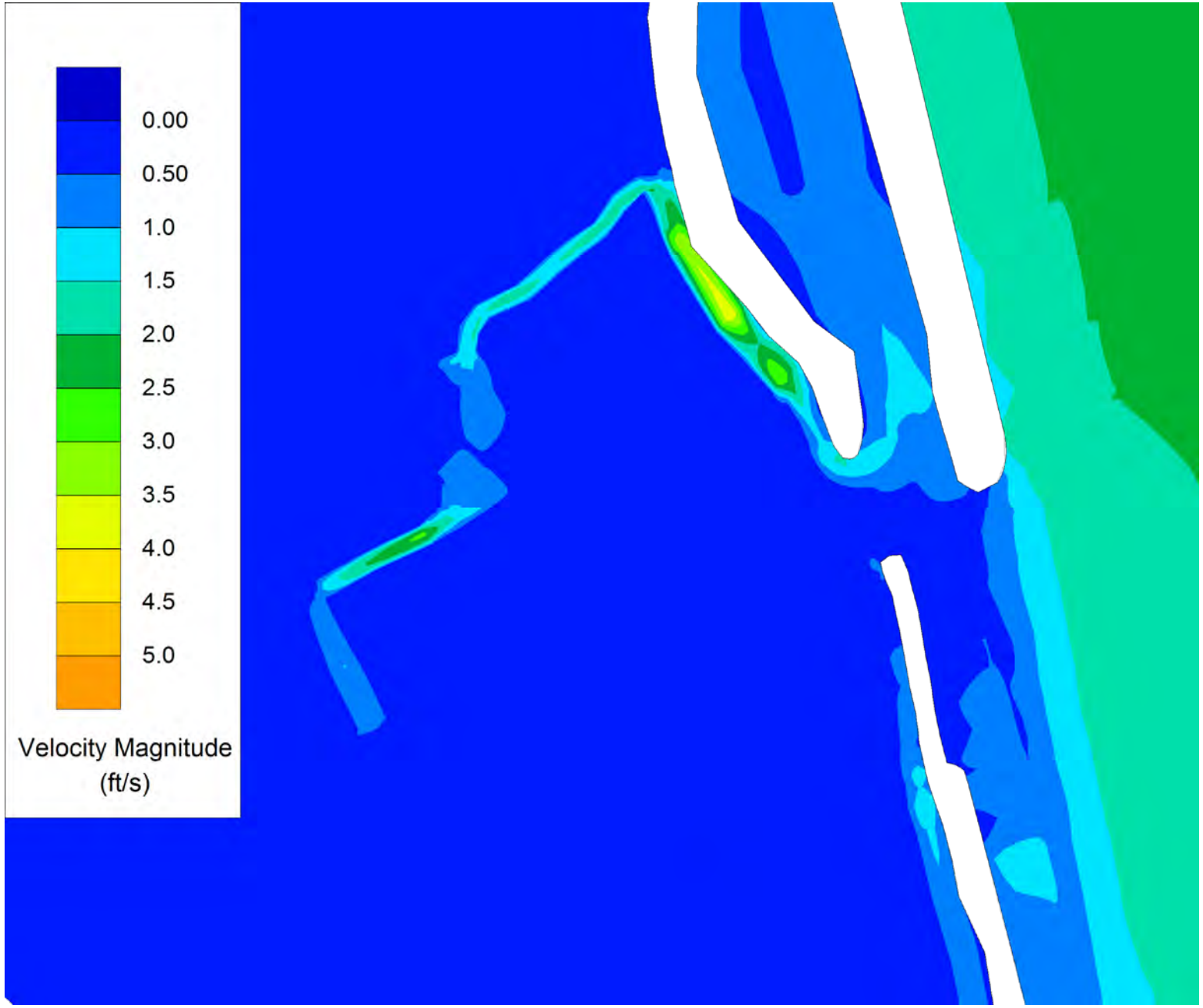
	Velocity in main channel near breach, ft/sec				
	West	North	East	South	South side channel
Alt 3	-	-	4.8	4.6	-
Alt 4	3.9	3.5	3.8	3.4	-
Alt 5	-	2.1	4.7	4.2	4.8



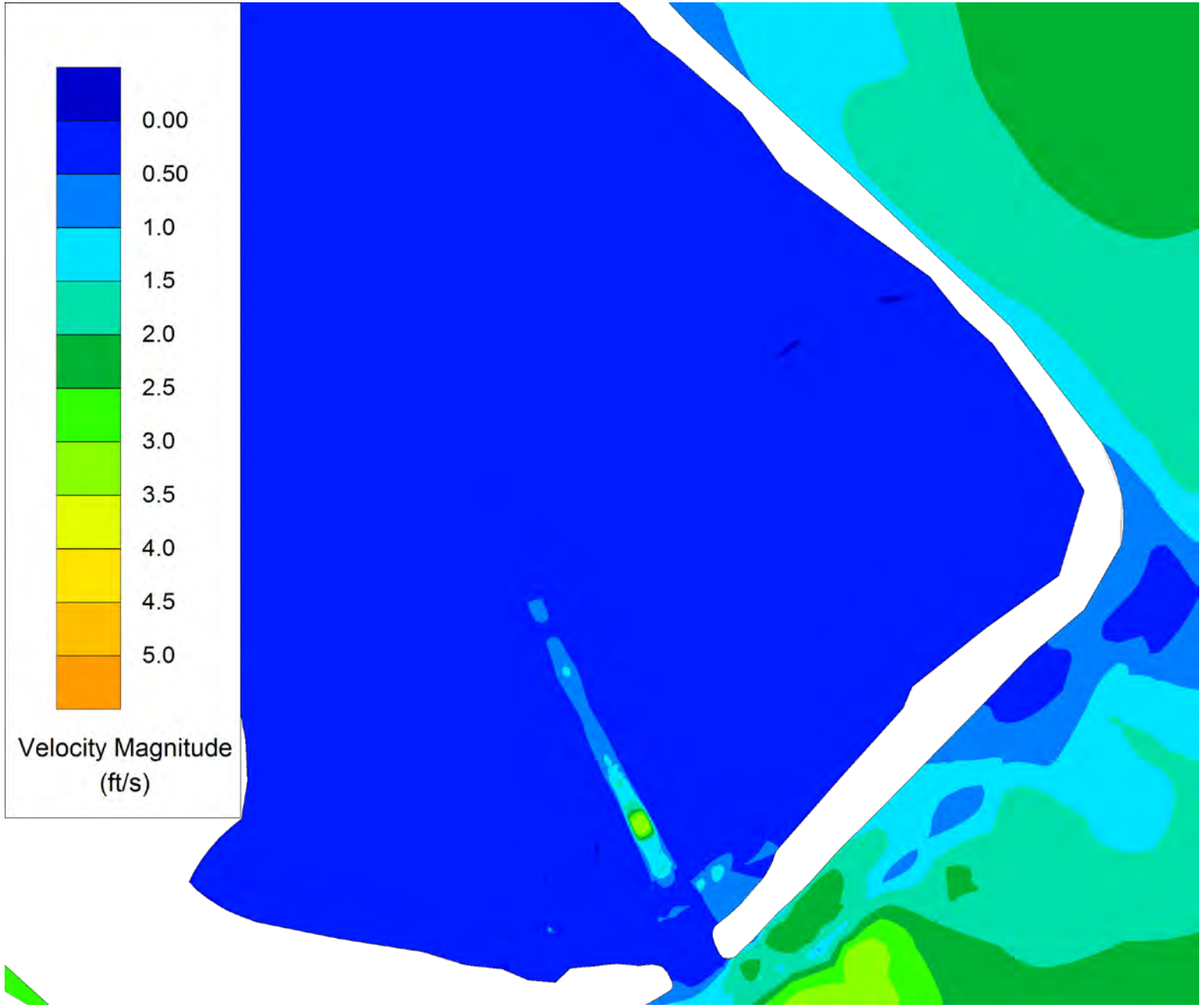
Alt3:
Peak Velocity ~4.8 ft/s in channel north of east breach, occurring in January 2009 (peak in channel south of east breach ~4.1 ft/s)



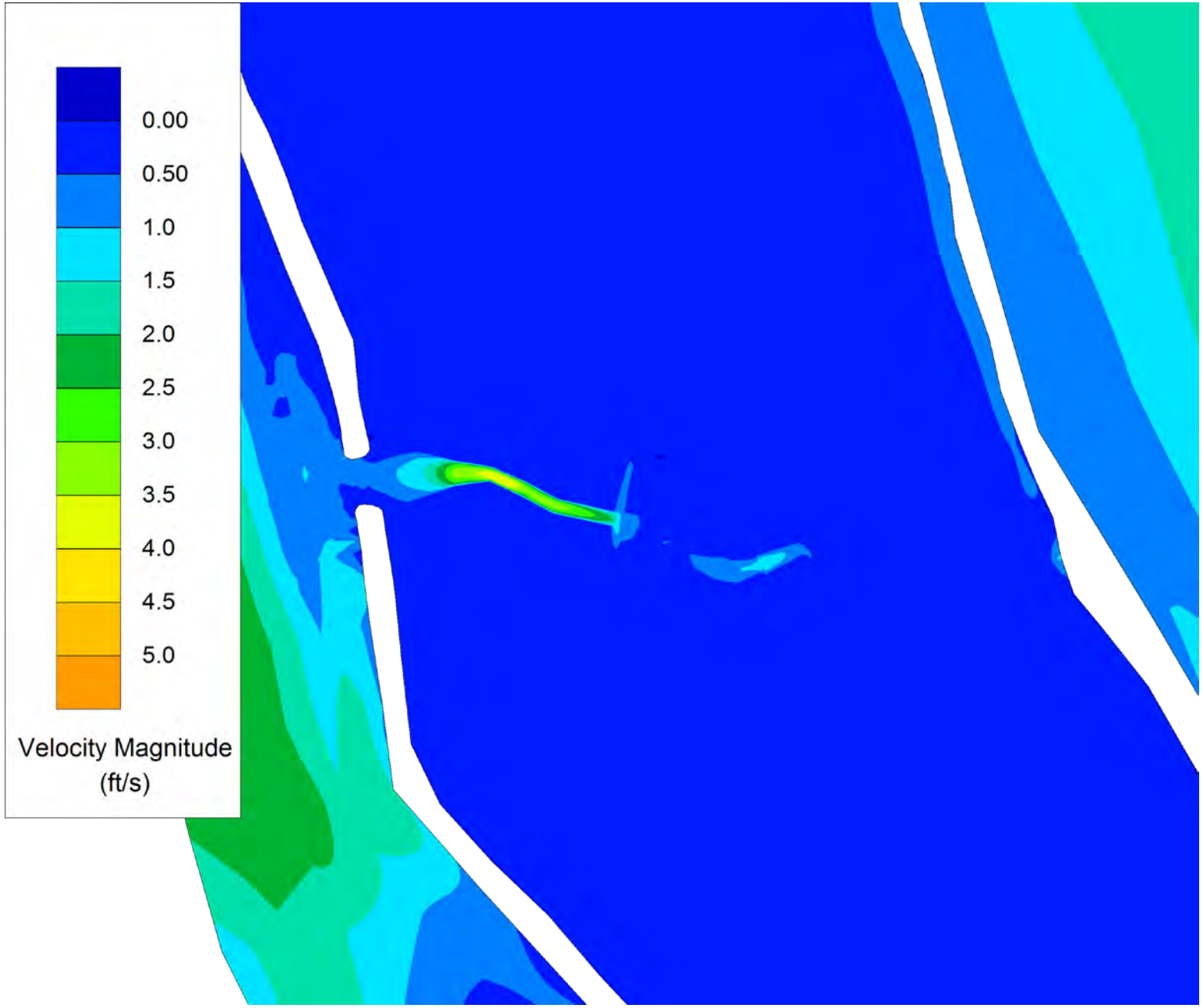
Alt3:
Peak Velocity ~4.6 ft/s in channel near south breach, occurring in January 2009



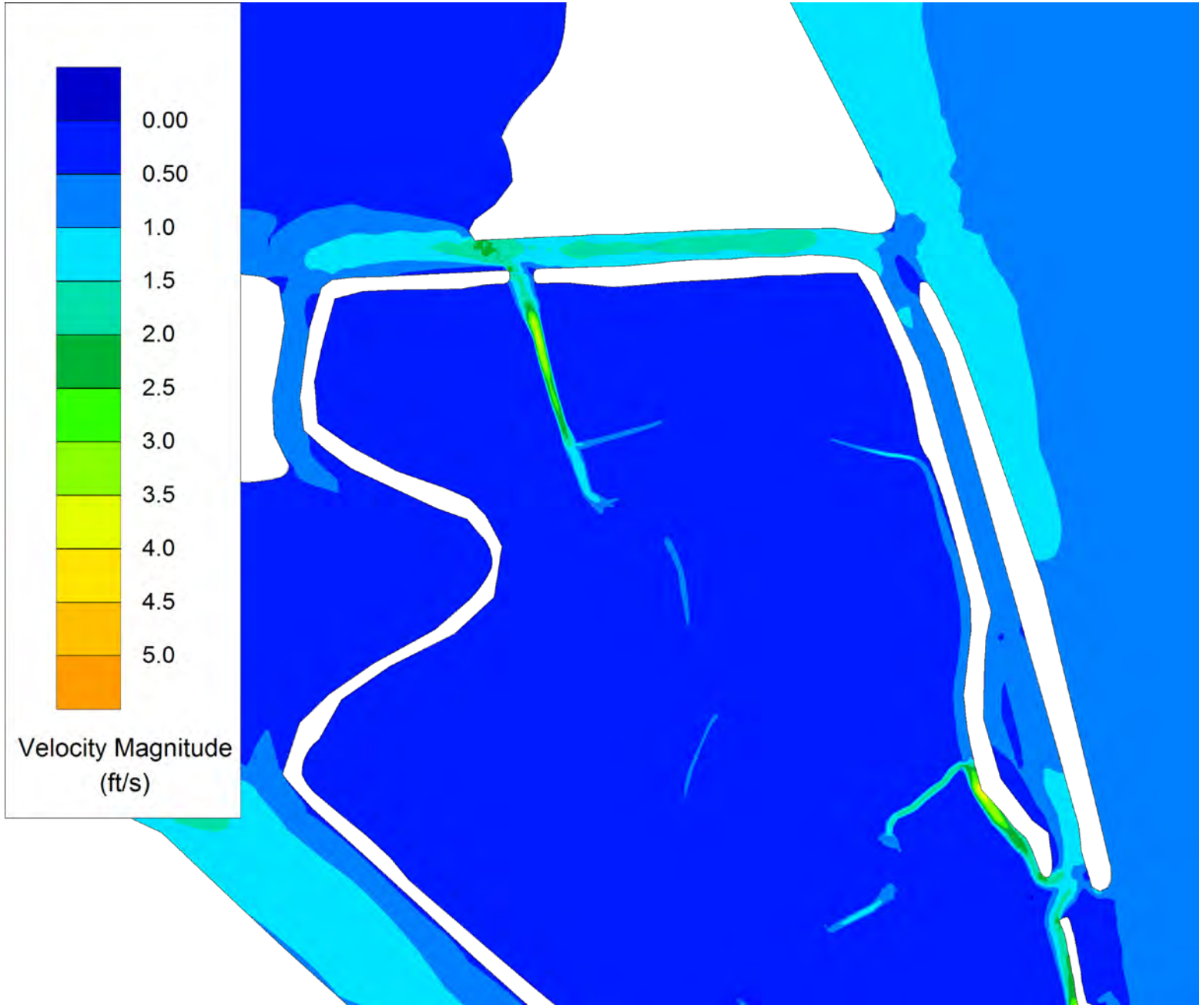
Alt4:
Peak Velocity ~3.8 ft/s in channel north of east breach, occurring in January 2009



Alt4:
Peak Velocity ~3.4 ft/s in channel near south breach, occurring in January 2009

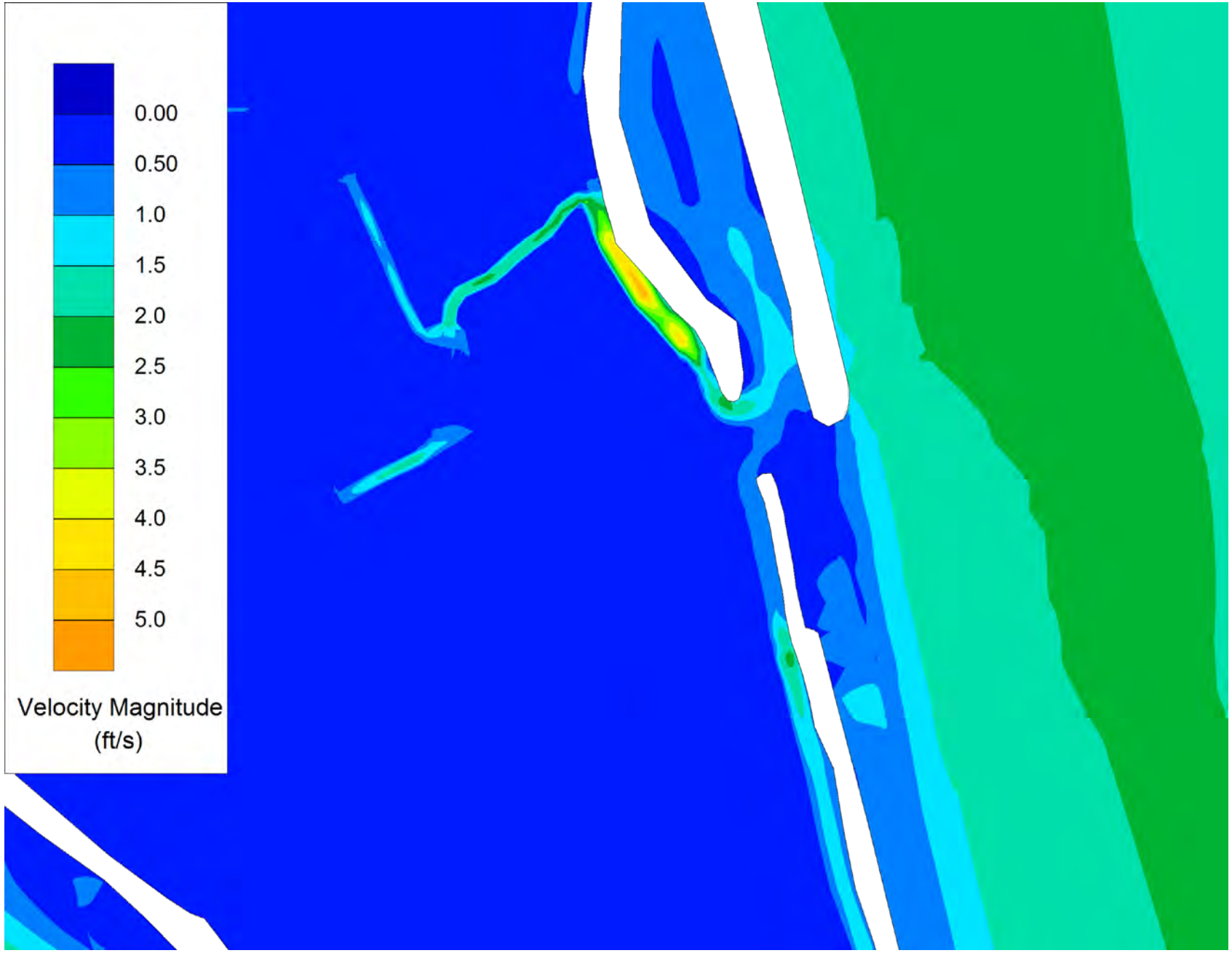


Alt4:
Peak Velocity ~3.9 ft/s in channel near west breach, occurring in January 2009

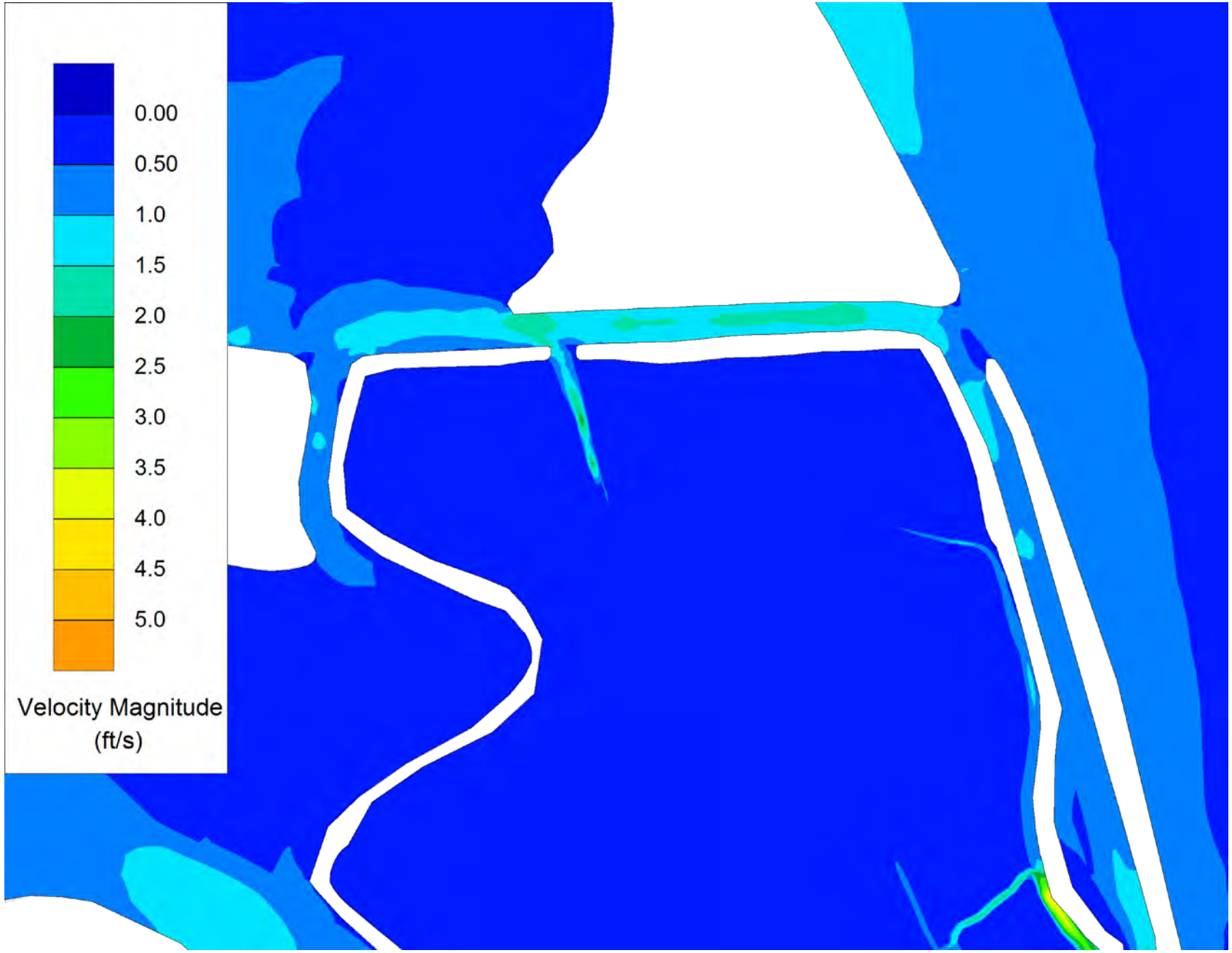


Alt 4:

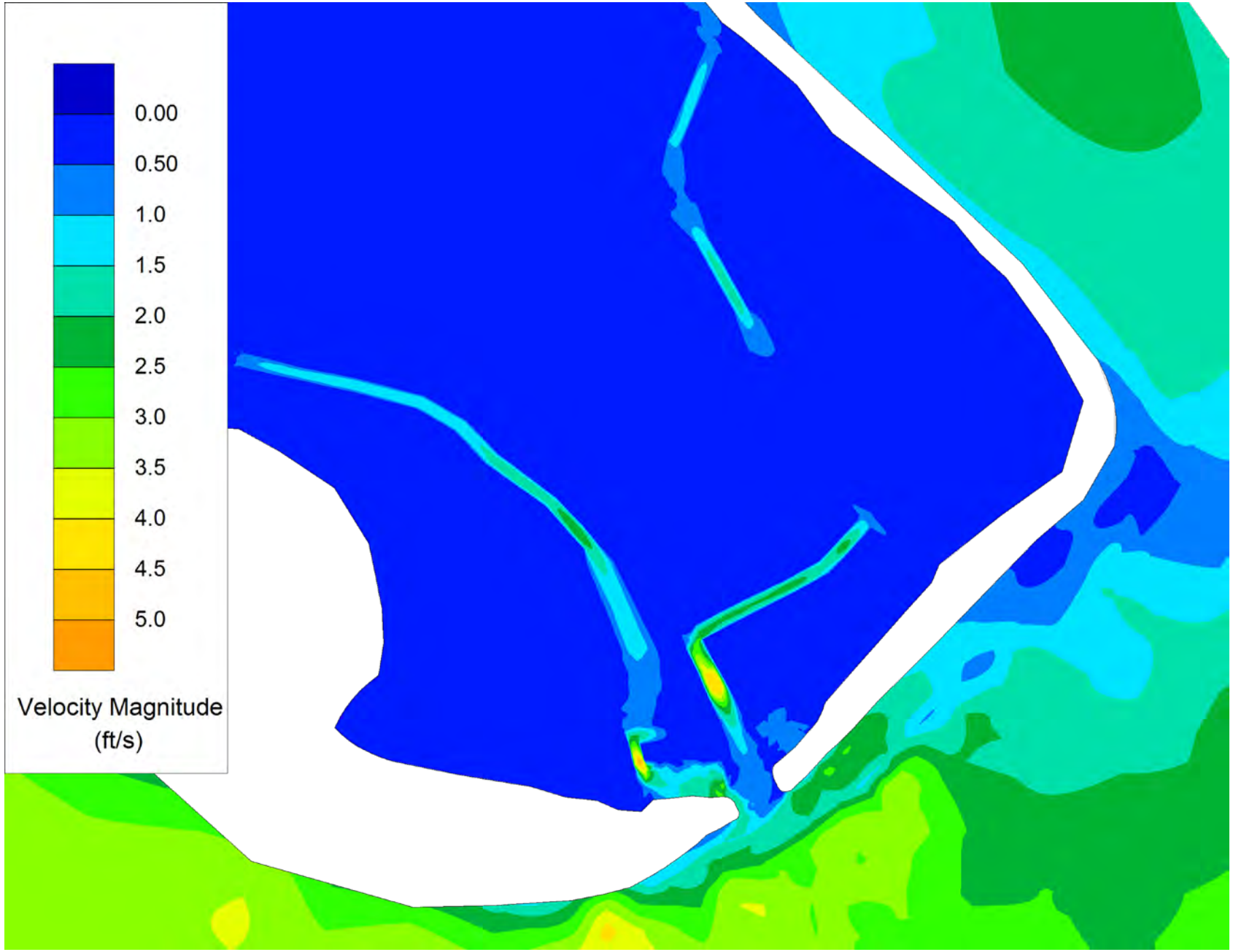
Peak Velocity ~3.5 ft/s in channel near north breach, occurring in January 2009



Alt5:
Peak Velocity ~4.7 ft/s in channel north of east breach, occurring in January 2009



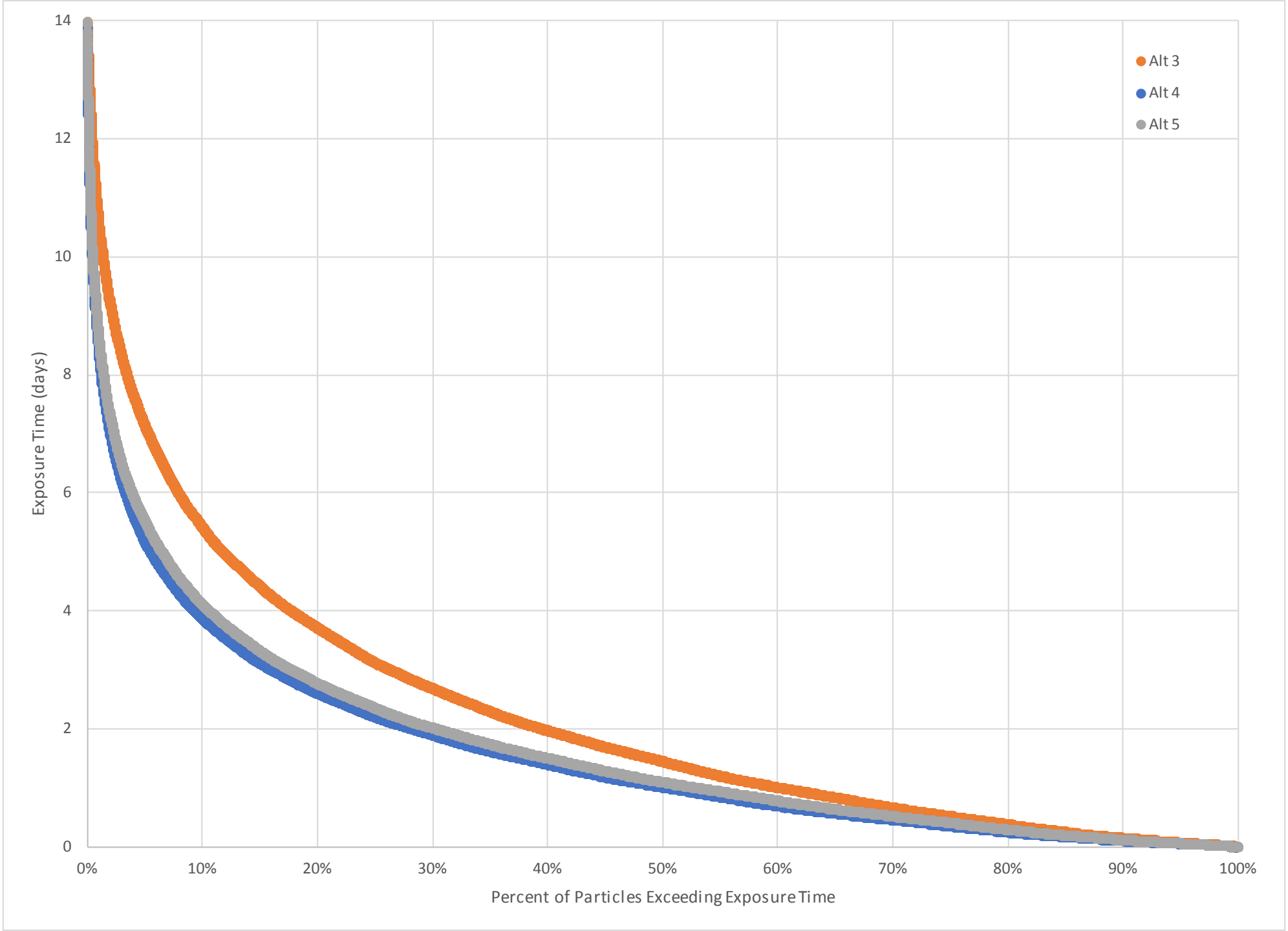
Alt5:
Peak Velocity ~2.1 ft/s in channel near north breach, occurring in January 2009



Alt5:
Peak Velocity ~4.2 ft/s in channel at south breach, occurring in January 2009 (peak in channel NW of south breach ~4.8 ft/s)

Exposure Time

- Particles are dropped every two hours for two weeks starting July 1, 2009
- Particle lifetime is set at two weeks
- Simulation is run for four weeks
- Exposure time results were sorted and plotted (see slide 13)
- Average exposure times:
  - Alt 3 = 2.2 days
  - Alt 4 = 1.6 days
  - Alt 5 = 1.7 days
- Average exposure times are mapped by particle drop location in slide 14


14
12
10
8
6
4
2
0
Exposure Time (days)
0%
10%
20%
30%
40%
50%
60%
70%
80%
90%
100%
Percent of Particles Exceeding Exposure Time
Alt 3
Alt 4
Alt 5

Average Exposure Time