

FINITE ELEMENT METHODS AND HIGH-PERFORMANCE COMPUTING FOR ENVIRONMENTAL FLUID MECHANICS

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ABSTRACT

Many flow and transport problems in environmental fluid mechanics exhibit a wide range of scales and must be solved over large, geometrically complex spatial domains for long periods of time. Unstructured mesh methods and high-performance computing are ideally suited for the solution of such problems. This mini-symposium will examine the latest developments in solving geophysical and environmental fluid mechanics problems using unstructured mesh methods in a high-performance computing environment.

Topics of interest include:

- Model development and application.
- Coupling of flow and transport processes and models.
- High-performance computing and parallelization strategies.
- Error analysis, verification and validation.
- Unstructured mesh generation algorithms and criteria.