VISIONING LOCAL FUTURES: THE DEVELOPMENT OF A COMPUTERIZED TOURISM PLANNING SUPPORT SYSTEM

SPATIAL KNOWLEDGE AND INFORMATION CANADA
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McGill

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Tourism in Nova Scotia

- Contributes $1.3 Billion to the Nova Scotia economy
- Directly employs 8% of provincial workforce
- Several planning challenges;
  - Distance to main markets
  - Highly seasonal
  - Weak transportation linkages

Nova Scotia Ports of Entry

Loss of Yarmouth Ferry

- What impact could this have on tourist visitation to Yarmouth?
  - Loss of main entry point for SW Nova Scotia
  - Access point for American market to Nova Scotia
- This is a variable rich, complex problem
  - Distance (willingness to travel)
  - Seasonality (ferry runs May to October)
  - Tourist awareness of destinations
  - Competition (interchangeable products)

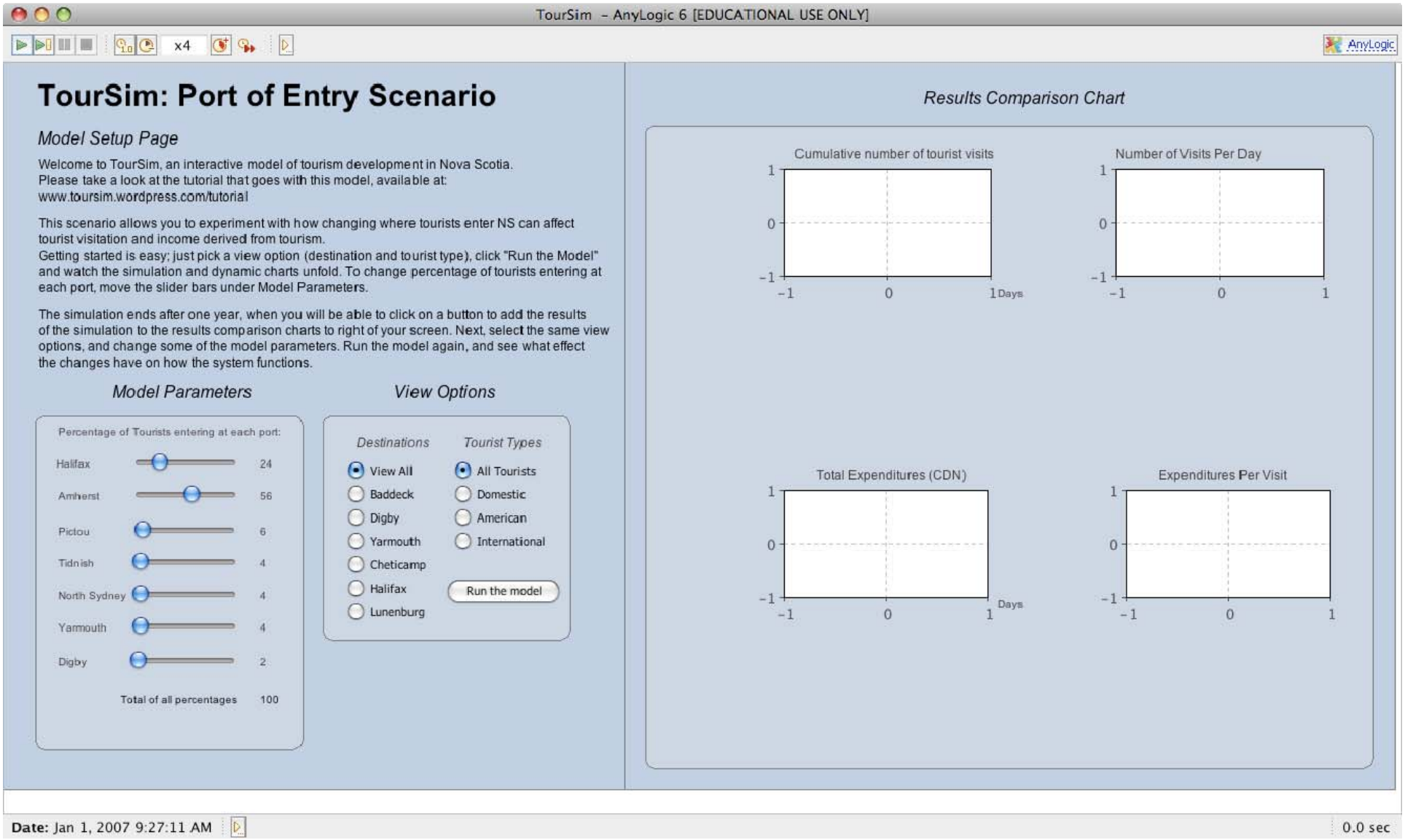
Agent Based Modeling (ABM)

- The use of ABM to provide planning support is an emerging research area (Bolte, Hulse, et al, 2006; Deadman & Gimblett, 1994; Ligmann-Zielinska & Jankowski, 2007)
- Uses computer 'agents' to represent real-life entities (tourists) and environments (destinations)
- Agents interact on a geo-referenced landscape, according to a series of rule-based behaviours
- Behaviours reflect tourist preferences (activity, accommodation, distance, awareness)

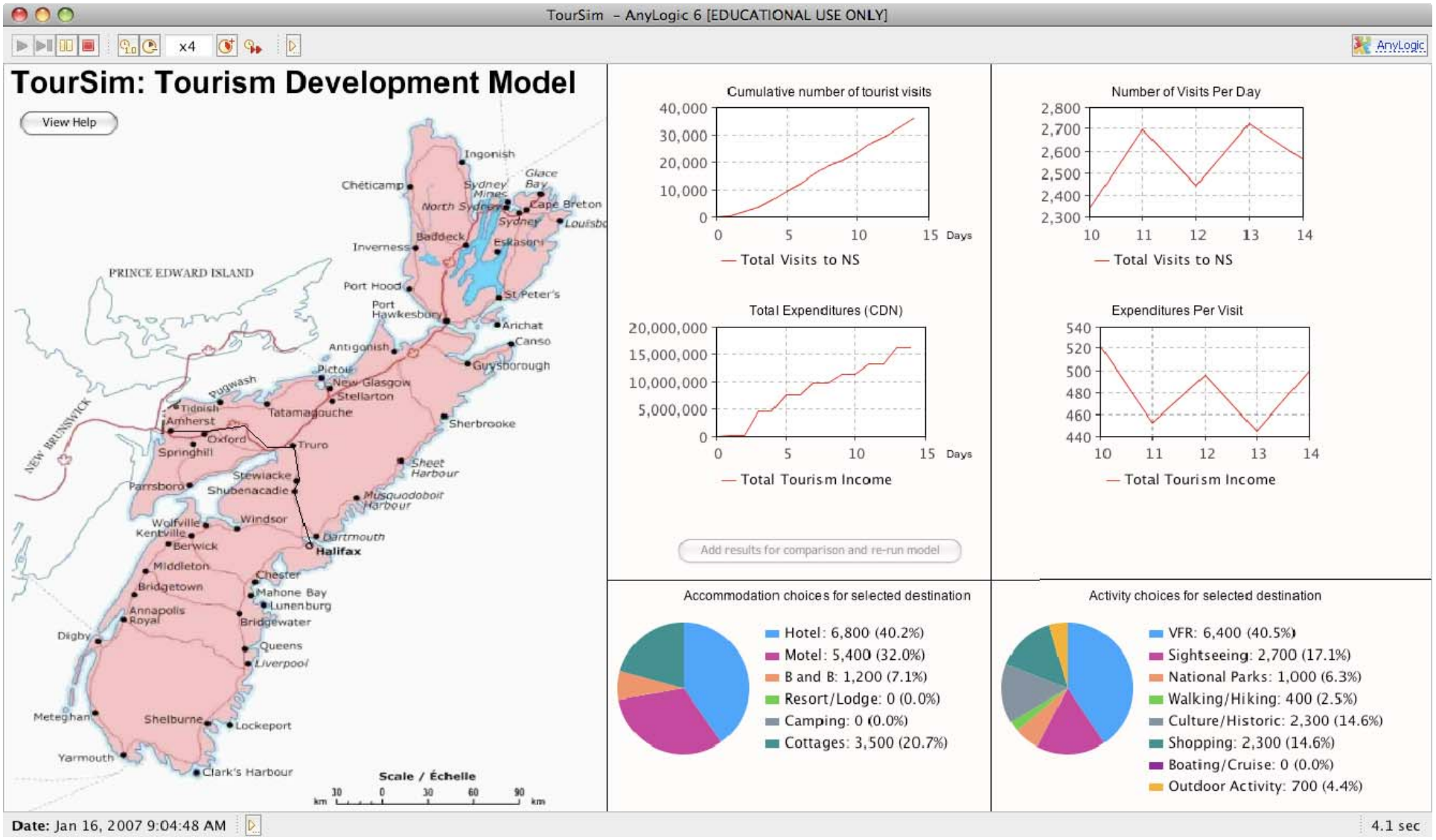
Port of Entry Scenario

- Alter tourist port of entry to explore possible effects on visitation
- Two scenarios: base (4%) and no ferry (0%) at Yarmouth
- Same total number of tourists, but allocated differently

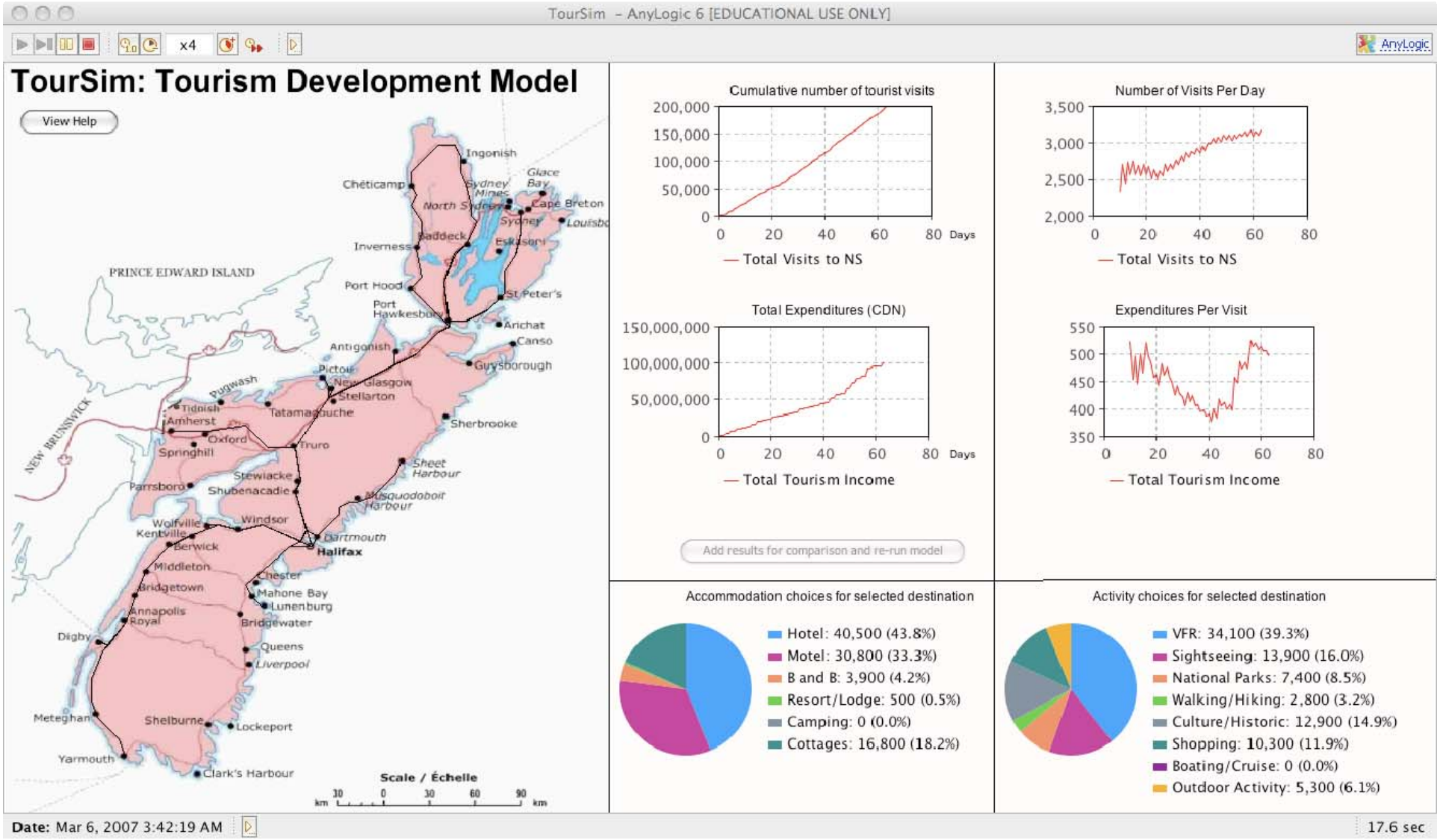
TourSim Model Setup Page



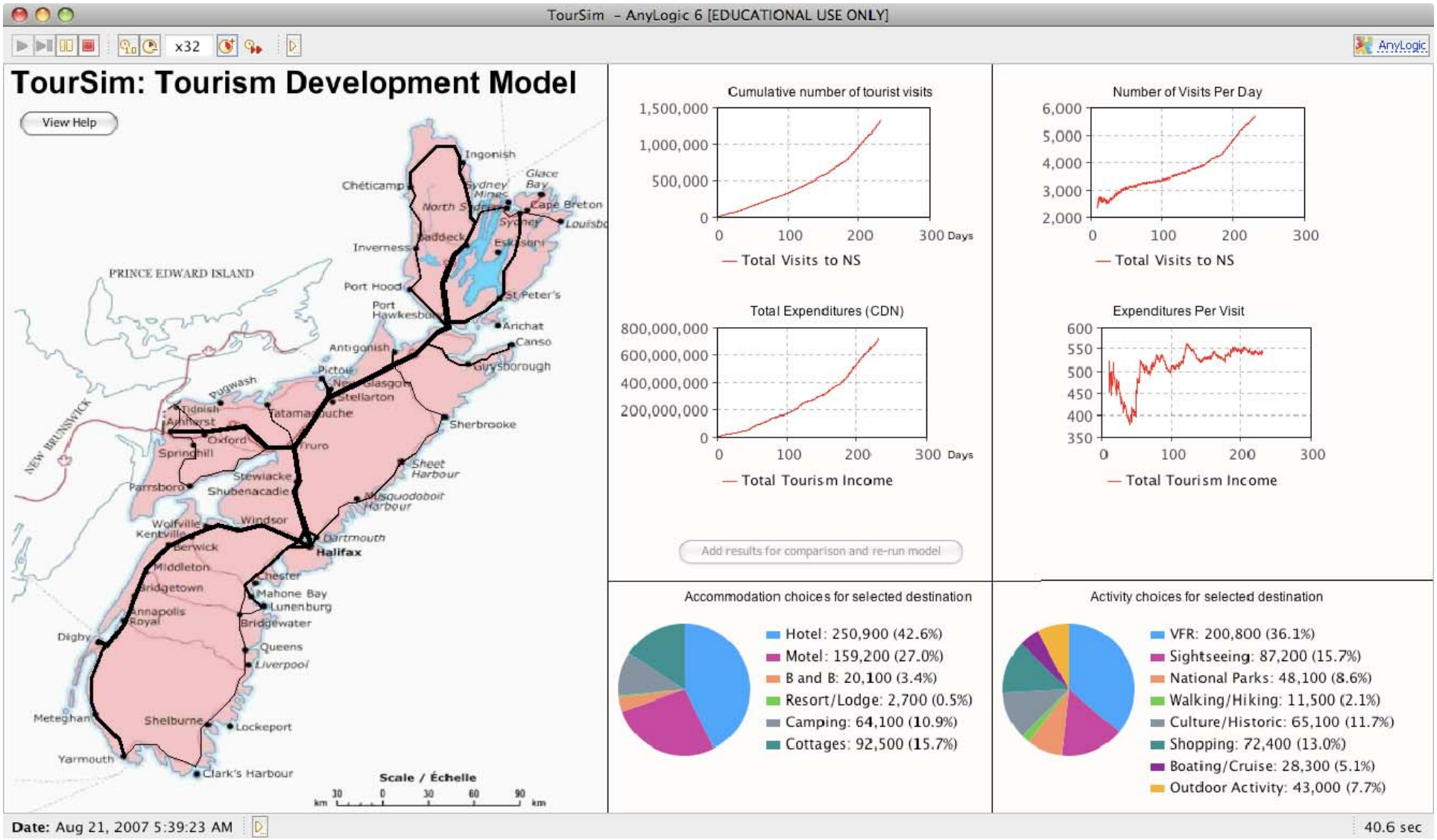
TourSim Scenario Running 1



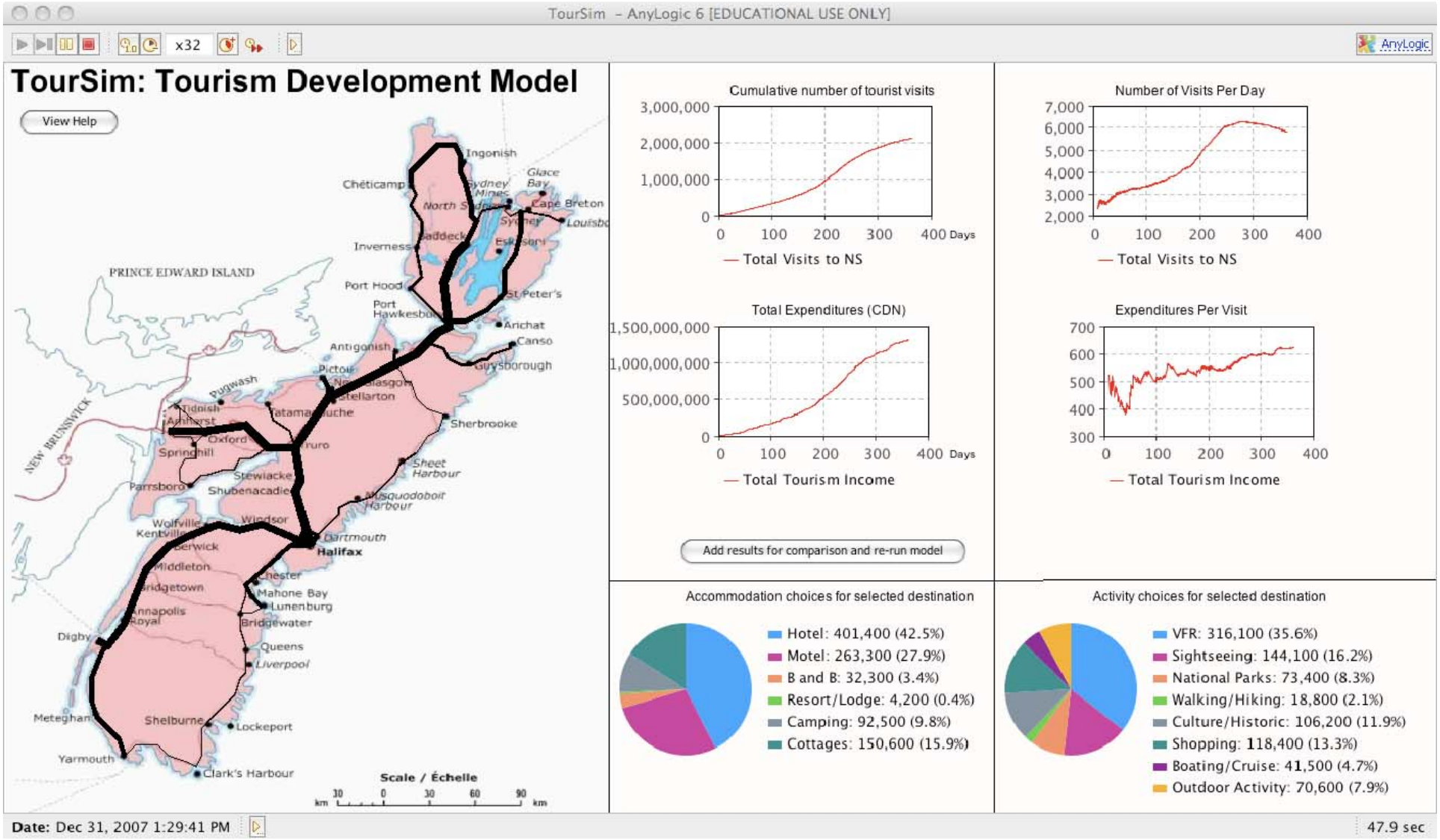
TourSim Scenario Running 2



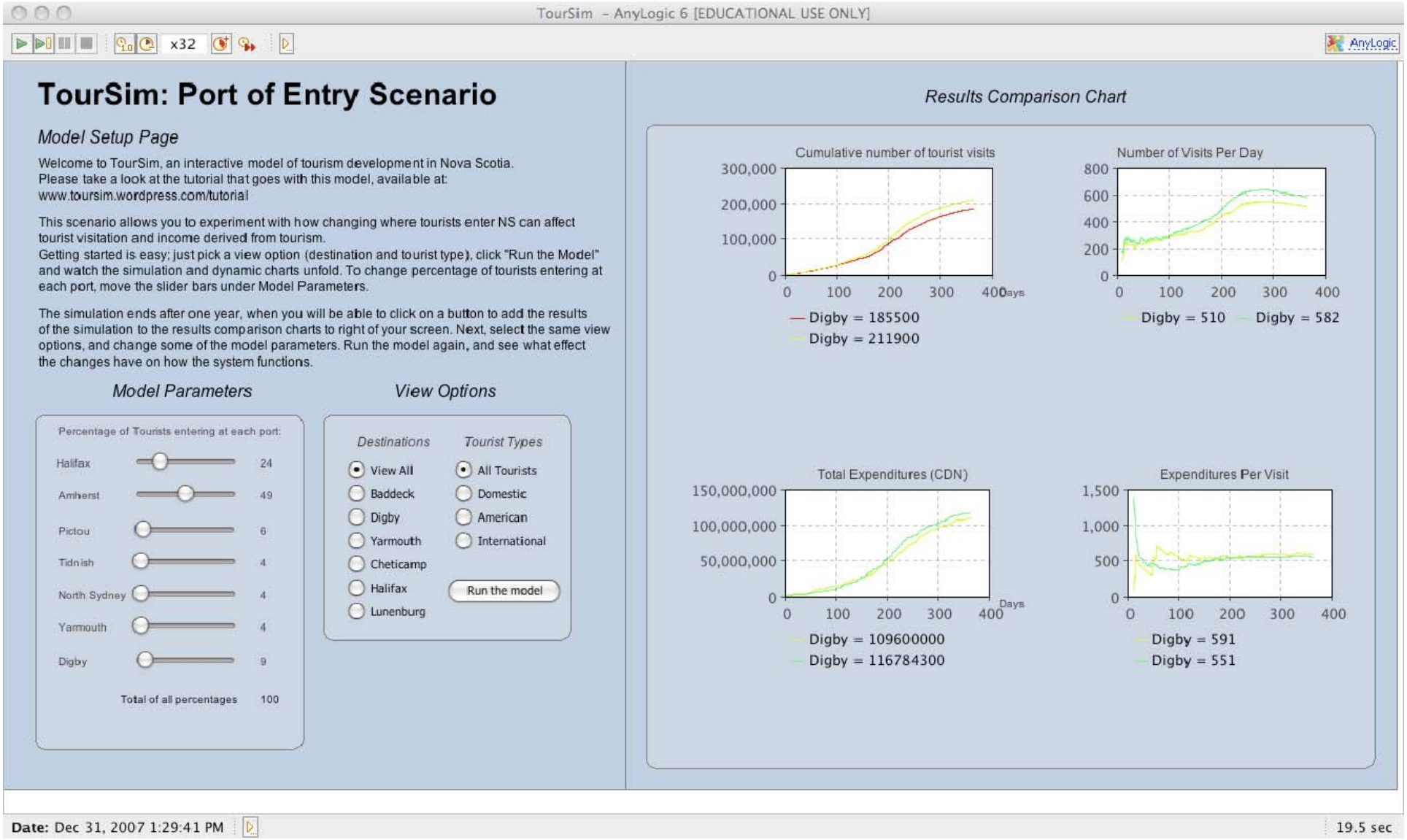
TourSim Scenario Running 3



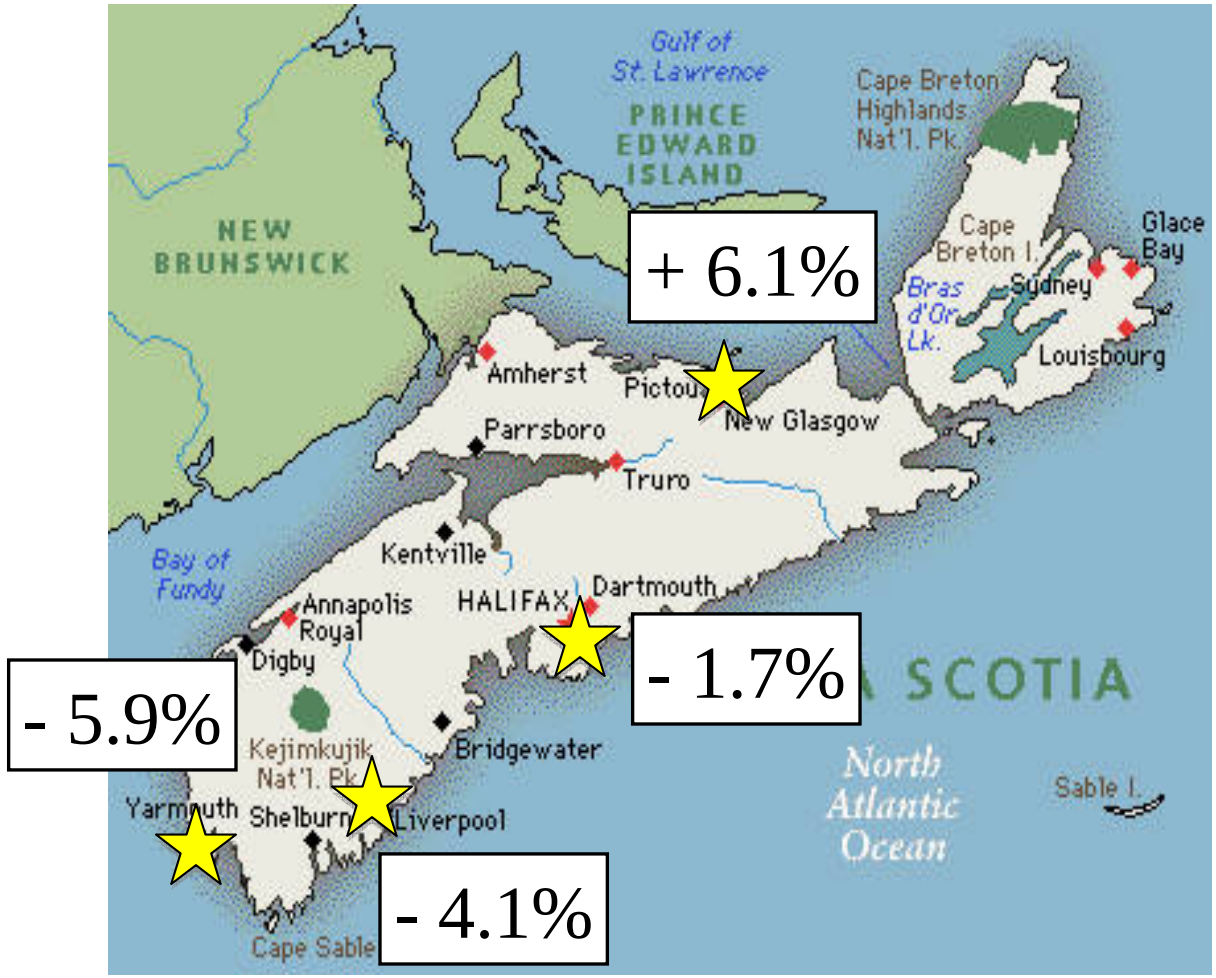
TourSim Scenario Running 4



Compare Model Results



Scenario Results



Research Goals

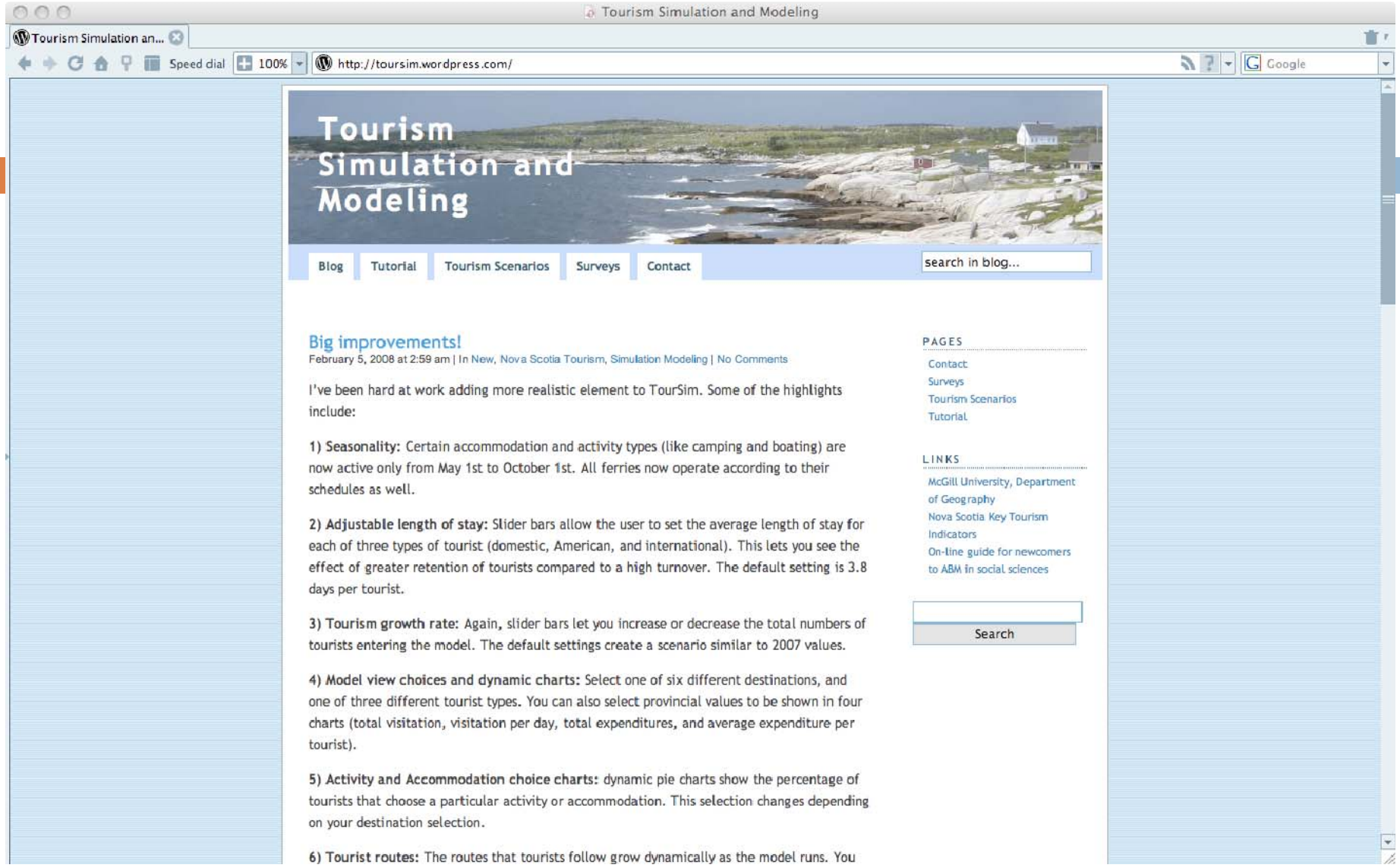
- Develop an agent-based Planning Support System (PSS) to represent tourism dynamics in Nova Scotia
- Test case for the application of ABM to real-world tourism planning use
- Work with tourism planners in Nova Scotia to determine:
  - where can this add value
  - what are barriers to adoption

Usability Evaluation

- Participants will evaluate a series of scenarios based on:
  - Technical constraints (interface, usability)
  - Applicability to tourism planning tasks (fit with current responsibilities)
  - Organizational constraints (role of simulation technology in the workplace, cost)

Future directions

- Possibilities for other scenarios
  - Product development at specific destinations
  - Managing seasonality: possibility for shoulder season development
- TourSim as a compliment to other tourism planning activities
  - Interactive visioning tool within a community consultation framework



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