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## **Aria of the Dutch North Sea**

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# **Chapter 2   MODELING THE UNDERWATER ACOUSTIC PROPAGATION IN THE DUTCH NORTH SEA**

This chapter explains the propagation model developed to generate shallow water sound maps. In Chapter 2.1, well-known propagation methods are compared for the selected test cases. It is shown that

- mode theory can generate accurate results
- flux theory can provide fast analytical solutions.

These advantages are merged in the proposed hybrid propagation approach. First, this approach is derived for the range independent shallow water waveguides [Chapter 2.2]. Then, it is extended to range dependent waveguides and obtained results are investigated with multimodel comparisons [Chapter 2.3].

