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Evaluation modeling methods for calculating Time-Difference of Arrivals (TDOA) for humpback whale calls

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Purpose:

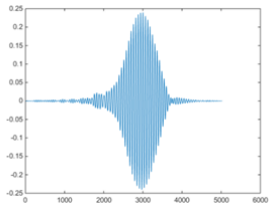
- Utilize a Parabolic Equation (PE) Acoustic Model to simulate a whale call propagated through the environment
  - Waveform input (Broadband frequency components)
  - Range dependent sound speeds and integrated environmental database
  - Multipath propagation

- Compare TDOA modeling methods
  - PE Model
  - Ray Trace
  - Constant Sound Speed (1500 m/s)

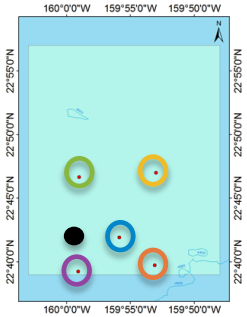
→ **Improve localizations in shallow water for humpback whale detections using the GPL detector with the TDOA method.**

Methods and Results

▼ Methods

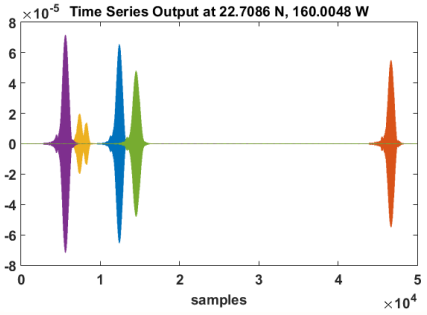


Pre-Process Signal



PE Model

Post Process-Process Signal



▼ TDOA Comparisons (for one pair)