



KYSTVERKET

Historical AIS data – “Havbase”

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Havbase present

- Solution for ship traffic statistics for Sea Areas (North Sea, Norwegian Sea, Barents Sea and the Arctic)
- Solution for extracting aggregated operational discharge statistics from ships
- Havbase has tables on sailed distance (in nautical miles), estimated discharge to air, port calls, and ship count for ships passing so-called "pass lines".



Data sources₄

- Land based AIS base stations
- AIS satellite (Mainly relevant outside 40 40nm from the coast)
- Ship registers (IHS Fairplay and Shipinfo)
- DNV-GL (Ship technical data on ships, engine and bunkers)



How is discharge estimates done

- Speed
- Fuel consumption
- Ship type
- Engine measurement modification
- Conventional algorithms, but with improvements
 - CO₂
 - SO₂,
 - SO,
 - NO_x,
 - PM
- Operational discharges of oil (bilge water and wash water) also included, but not published



DEMO

<http://www.havbase.no>

http://www.havbase.no/havbase_arktis



Limitations

- Havbase is not suitable for analysis at the micro level, for example in relation to news measures in the fairway
- AIS is not flawless
- AIS coverage challenges (dead spots)
- Location Show error as a result of:
 - Technical failure in infrastructure
 - Installation Error on board vessels
 - Problems with data transfer
 - "Cheating" with AIS
- Etc.



Future development

- Probability module
 - Marine accident
 - Discharge to sea
- Transport planning module
- Improve modelling of emissions to air in ice conditions

