NOOS Meeting on 'Exchange of transports'

8 March 2013, BSH Hamburg

BUNDESAMT FÜR SEESCHIFFFAHRT UND HYDROGRAPHIE

NOOS

North West European Shelf Operational Oceanographic System

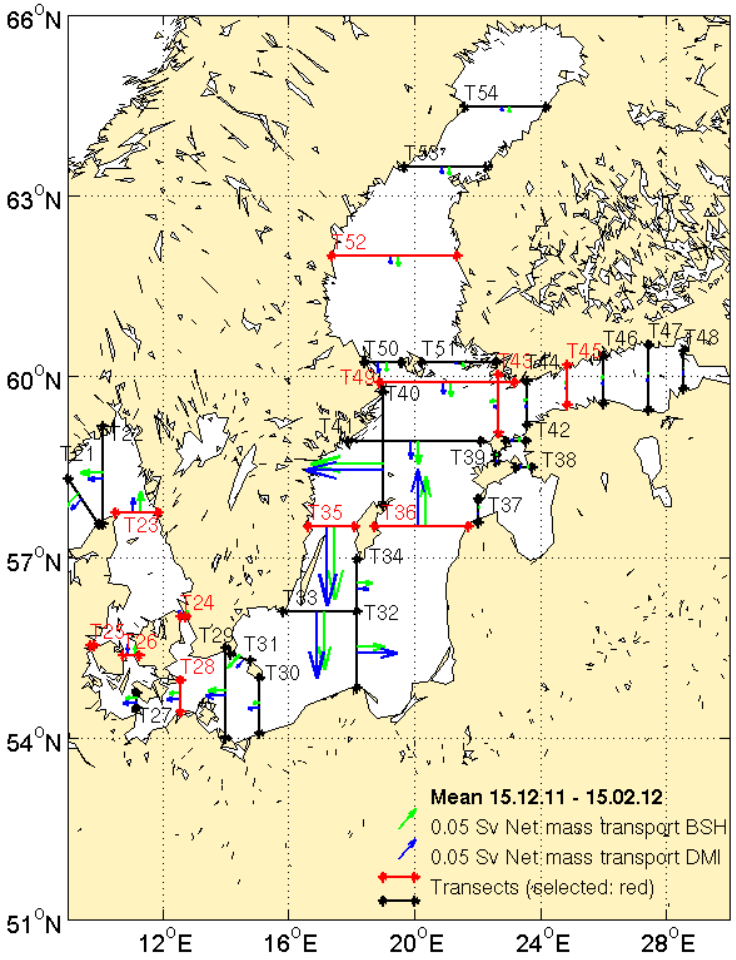
3. Evaluation and developments within MyOcean/MyOcean2

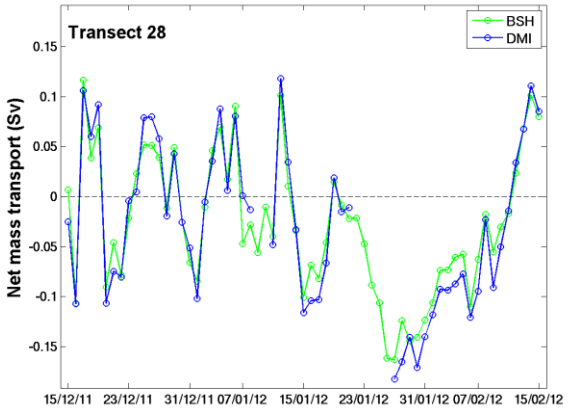
Inga Golbeck (BSH)

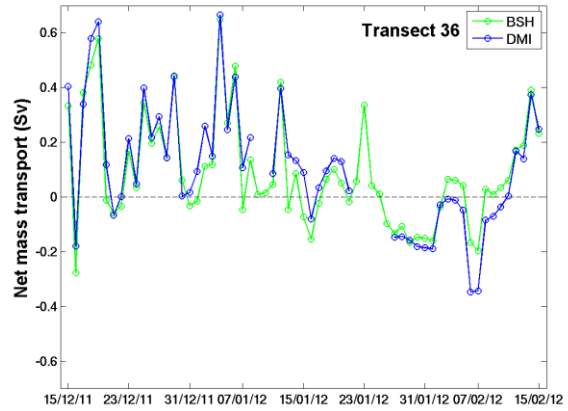
NOOS transports

MyOcean ScVR

- WP7 BAL MFC
- HBM V2 of BSH and DMI
- 15.12.11 - 15.02.12
- **mass**, heat, salinity transport
- → reflecting main circulation pattern
- Time series





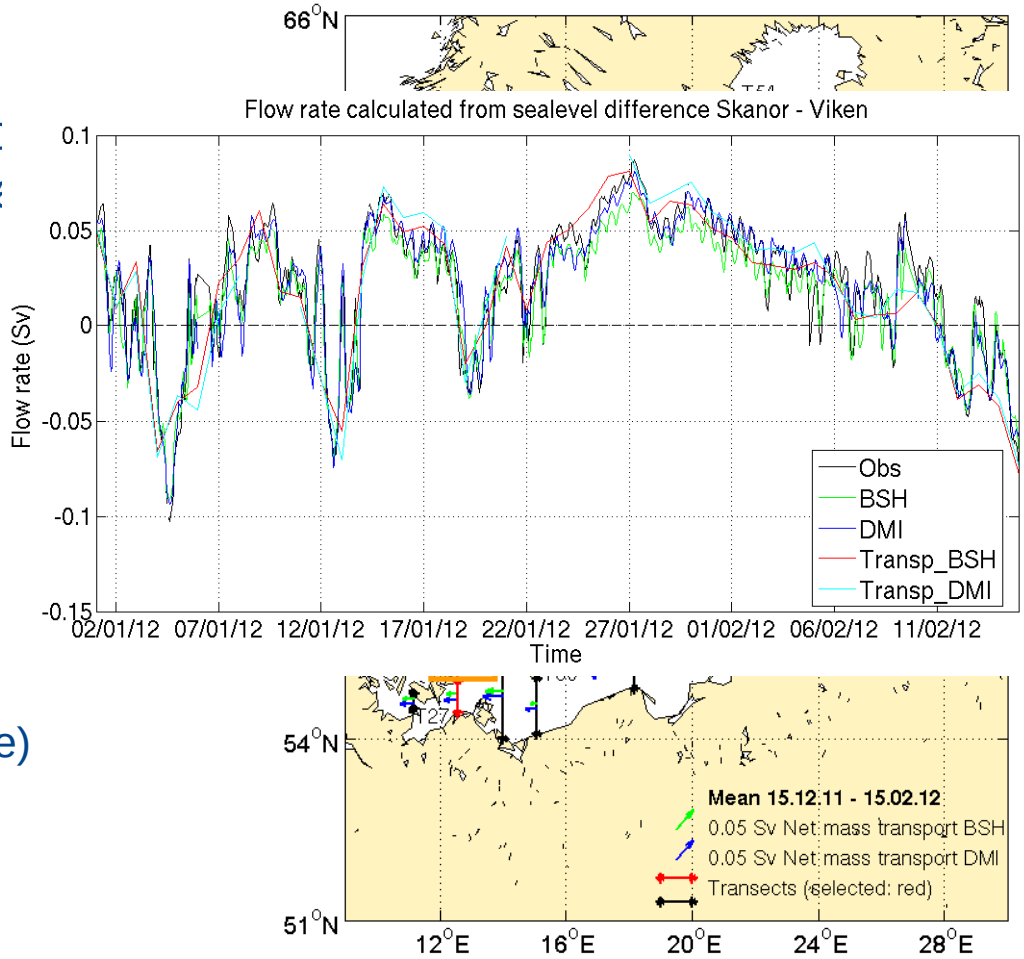


NOOS transports

MyOcean ScVR V2

- Empirical formula (Mattsson 1996) b
  differences in sea level between Ska
  Viken to estimate flow rate

- Transect 24 (Öresund)
- Calculation of flow rate using
  - sea level data (DMI model, blue)
  - sea level data (BSH model, green)
  - sea level data (observations, black)
- Comparison with
  - transport data (DMI model, light blue)
  - transport data (BSH model, red)



NOOS transports

- **Multi-model ensemble → Uncertainty estimates**
- WP7, WP8, WP17; Partners of NOOS, BOOS, HIROMB community
- Parameters: Sea surface temperature, salinity, currents and Transports

- Transport data for MME: BSH (cmod & HBM), DCOO,DMI, Met Office, MUMM
- **V0**: ensemble mean of vertically integrated mass transports (daily)
- Calculation of variation coefficient (i.e. Brown, 1999):
- Three classes: CV≤1; 1<CV≤3; CV>3
- CV > 3 → problems in data (Brown, 1999)

$$CV = \frac{\sigma}{\mu}$$

- Problem: μ → 0

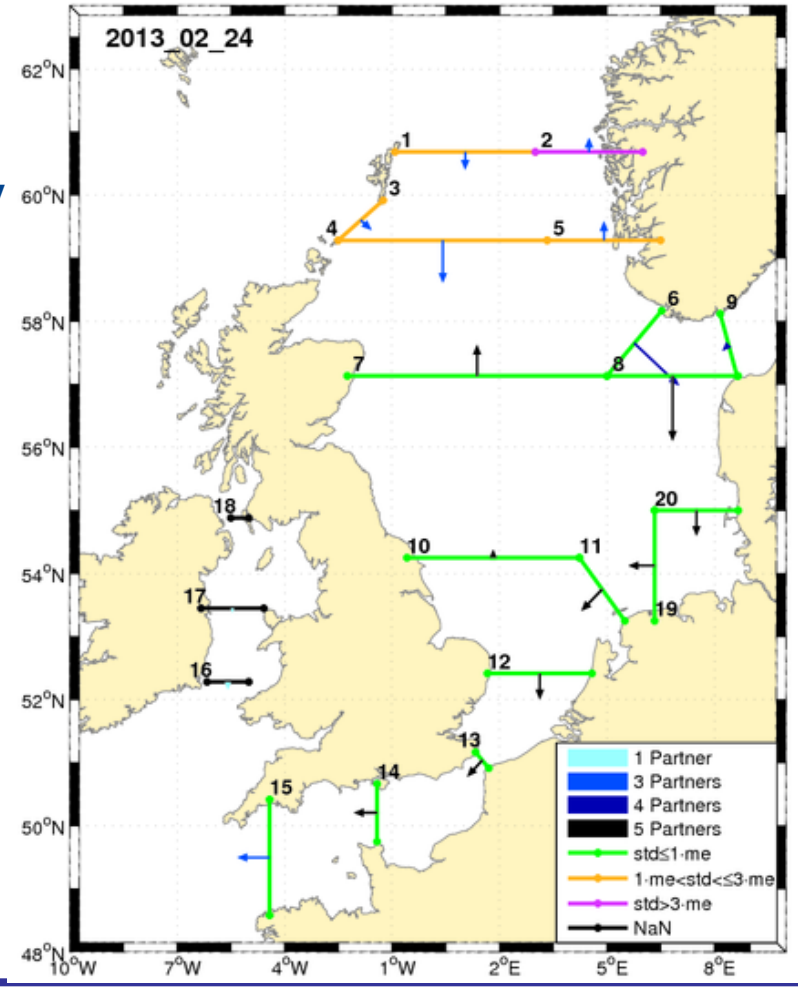
NOOS transports

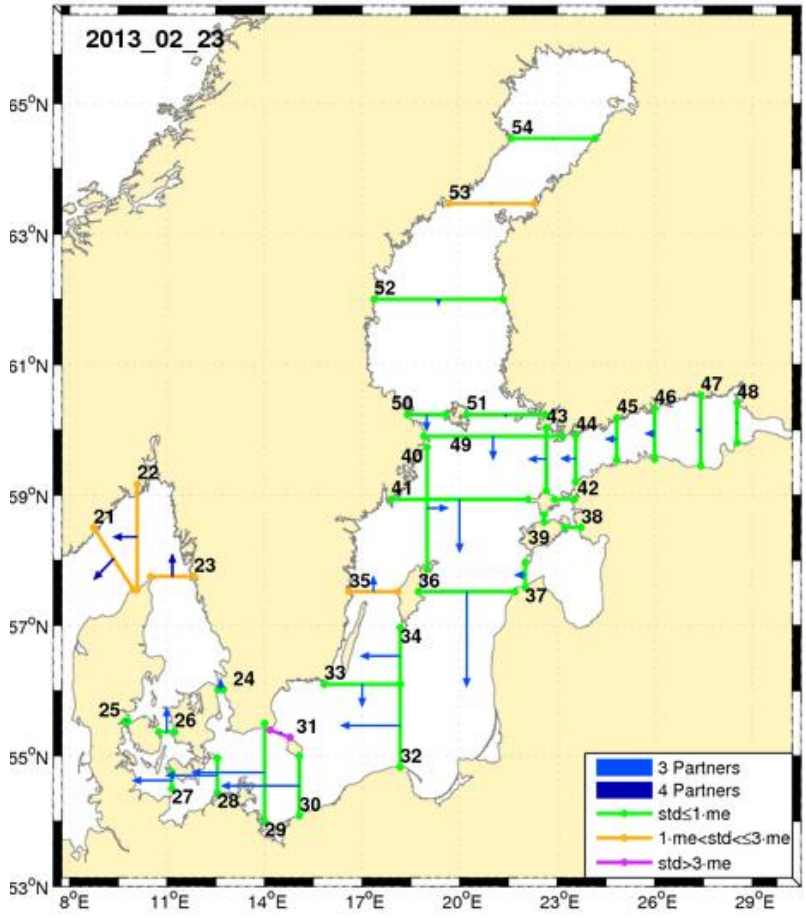
Measure for consistency of models: CV

Colour of arrows = No. of models

Colour of transects = CV

Note: Different scaling of arrows for NWS & BAL

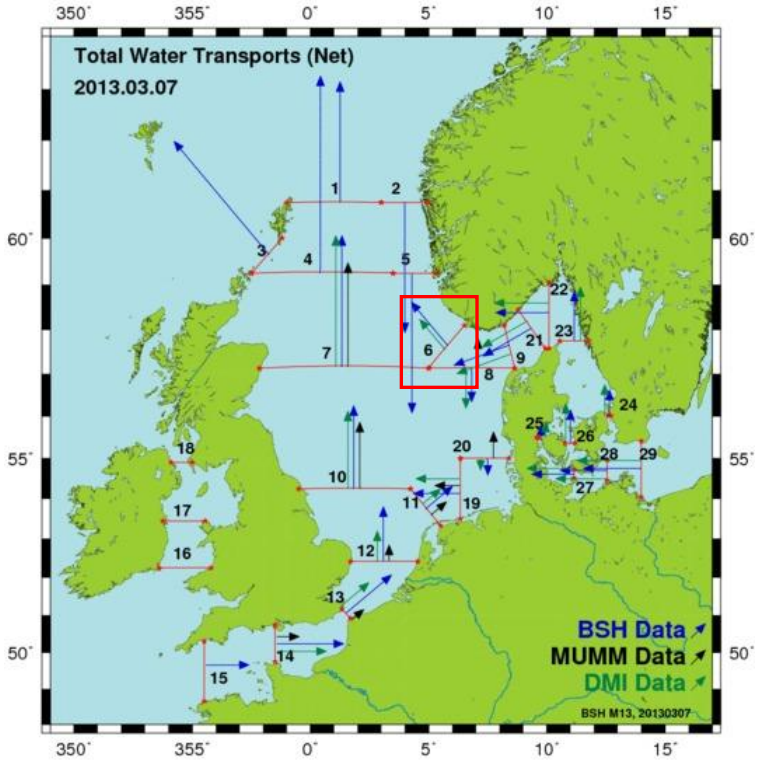


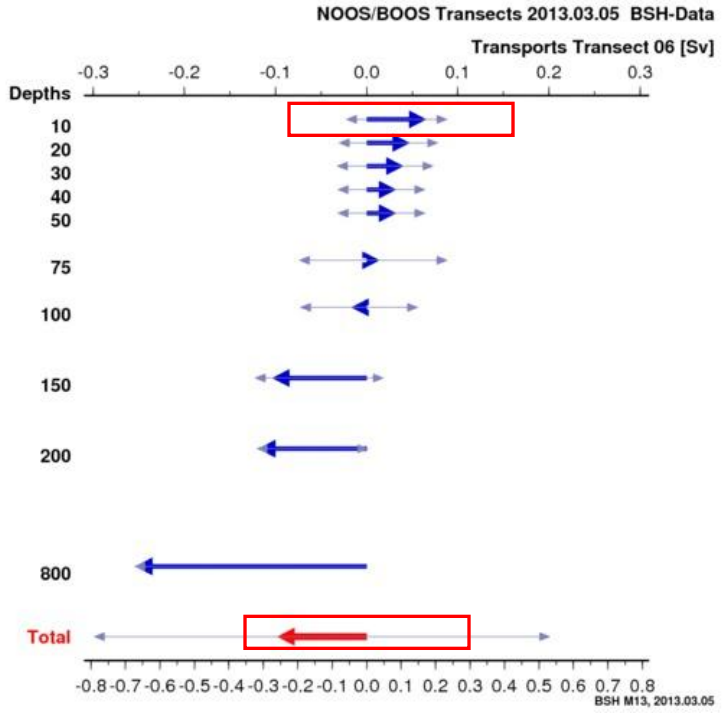


NOOS transports

Plans for advanced versions

- Still need to be specified
- Surface transports → Compare to sea surface currents (SSC)

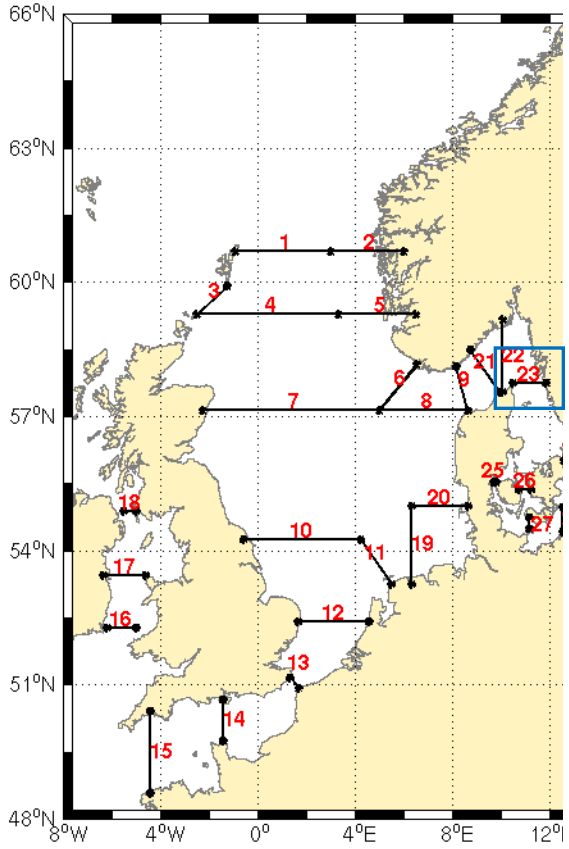


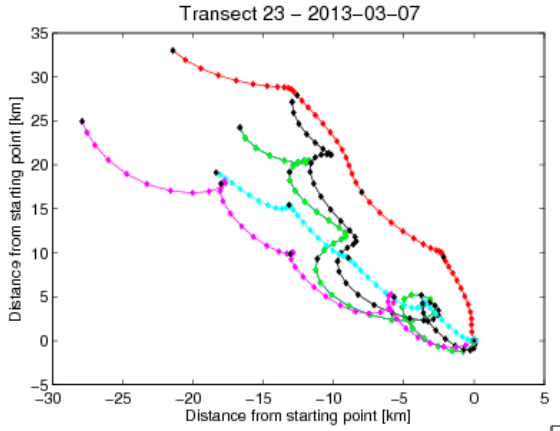


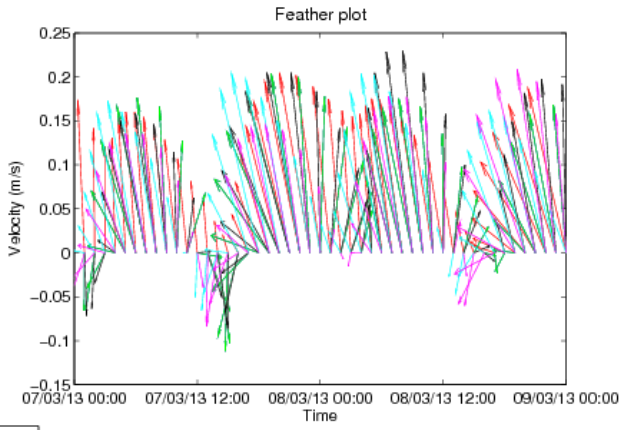
NOOS transports

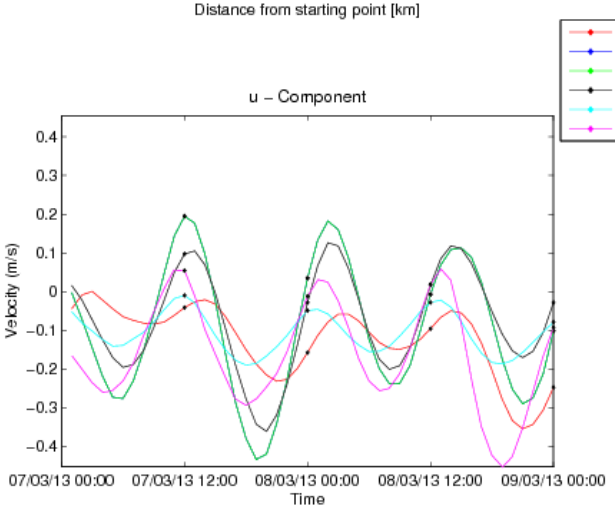
Sea surface currents – Progressive vector diagrams

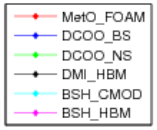
- Extract SSC data at middle of NOOS/BOOS transects for 48h-forecast

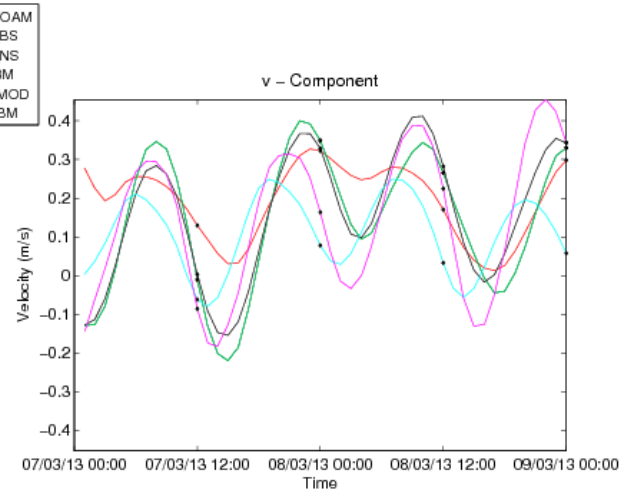












NOOS transports

Sea surface currents – 2D surface fields

- Calculate ensemble mean and standard deviation
- Problem: different model areas and grids