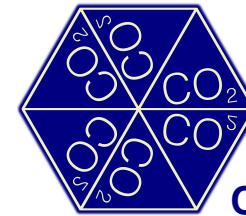


Global APO inversion

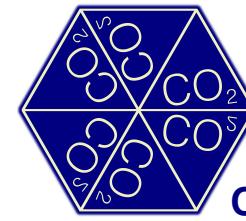


Jena
CarboScope

Global APO inversion

Aim:

Use **interannual** variations in APO flux
to understand oceanic **processes relevant for CO₂** exchange



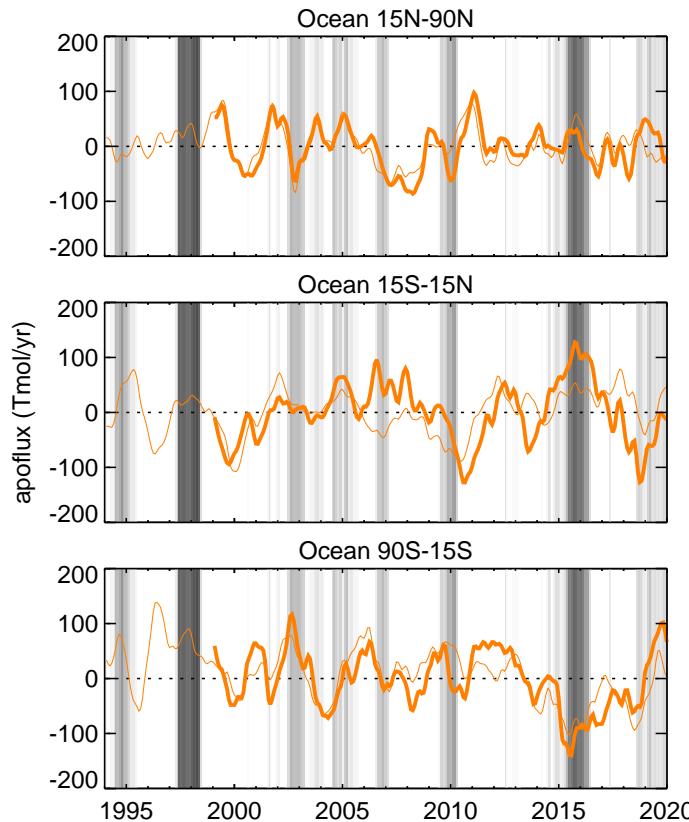
Jena
CarboScope

Global APO inversion

Aim:

Use **interannual** variations in APO flux
to understand oceanic **processes relevant for CO₂** exchange

Updated results:



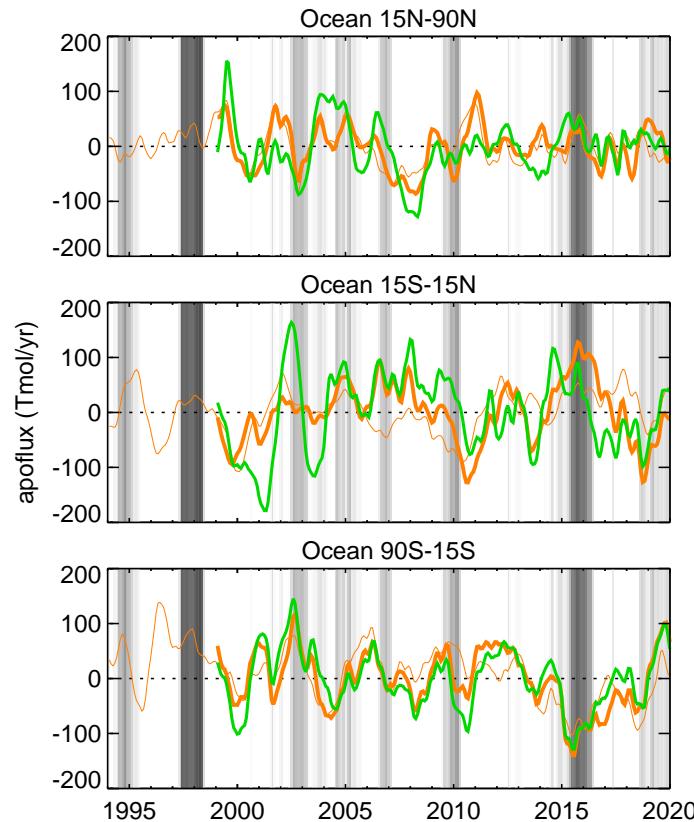
Jena
CarboScope

Global APO inversion

Aim:

Use **interannual** variations in APO flux
to understand oceanic **processes relevant for CO₂** exchange

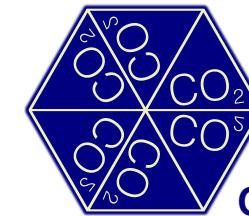
Updated results:



5 SIO stations

9 SIO stations

9 SIO + 2 NIES stations



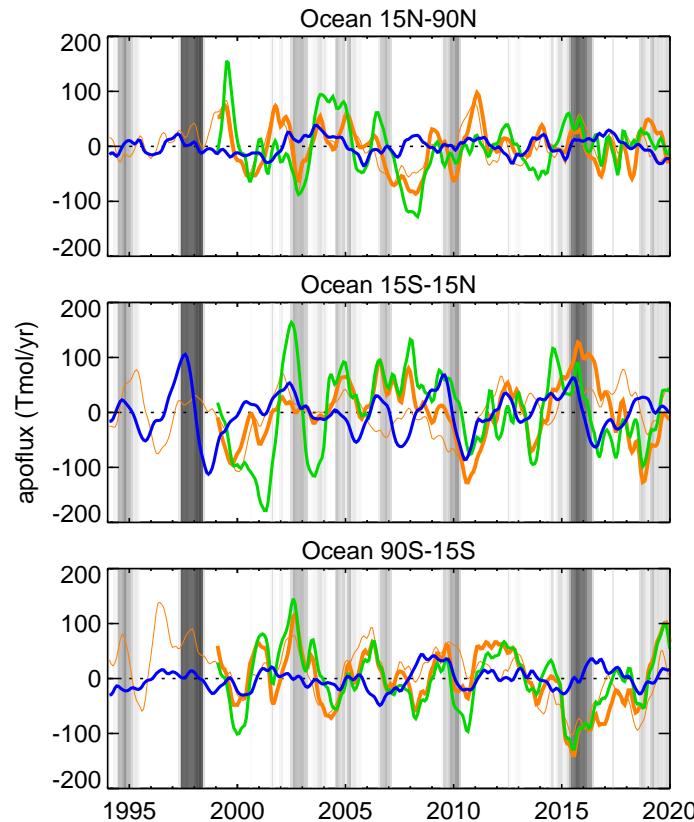
Jena
CarboScope

Global APO inversion

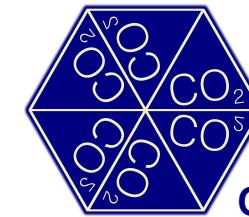
Aim:

Use **interannual** variations in APO flux
to understand oceanic **processes relevant for CO₂** exchange

Updated results:



5 SIO stations
9 SIO stations
9 SIO + 2 NIES stations
derived from *p*CO₂ interpolation



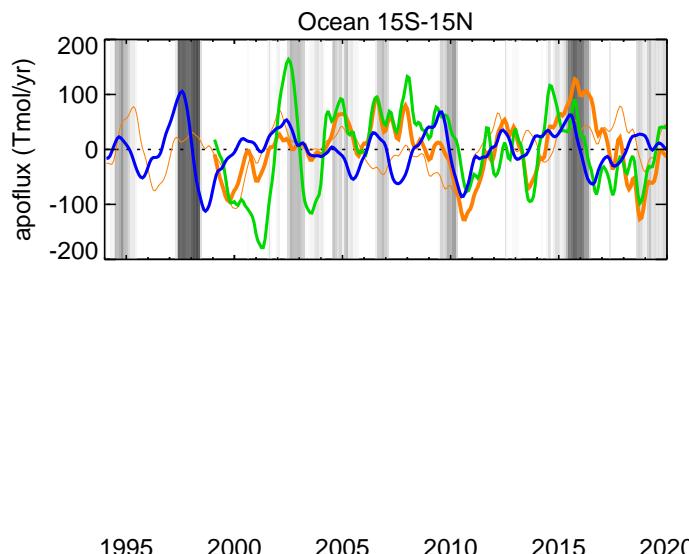
Jena
CarboScope

Global APO inversion

Aim:

Use **interannual** variations in APO flux
to understand oceanic **processes relevant for CO₂** exchange

Updated results:



Jena
CarboScope

5 SIO stations

9 SIO stations

9 SIO + 2 NIES stations

derived from *p*CO₂ interpolation

→ APO may 'see' ocean biogeochemistry

→ More stations ⇒ better correspondence

APO modelling activities

- **Global carbon budget** (land vs. ocean) from long-term O₂ and CO₂ trends
- **Ocean process understanding**
 - Compare process simulations with APO data (lat. gradient, seas. cycle)
 - Global APO inversion (IAV)
- APO-derived **fossil-fuel CO₂** estimates
 - Fossil-fuel CO₂ emissions from regional APO inversion
- **Land ecosystems: O₂:CO₂ ratio** (CANVEG, CLASS)
- ...

Discussion

- Is it time for coordinated APO modelling efforts?
- Which?