



SeaDataCloud

Data flow to SeaDataNet –
How SeaDataNet changed
SYKE data management methods

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Seppo Kaitala (until 31.8.2020)

Finnish Environment Institute – SYKE



SEADATACLOUD, FINAL MEETING WEB MEETING, 29-30 OCTOBER, 2020

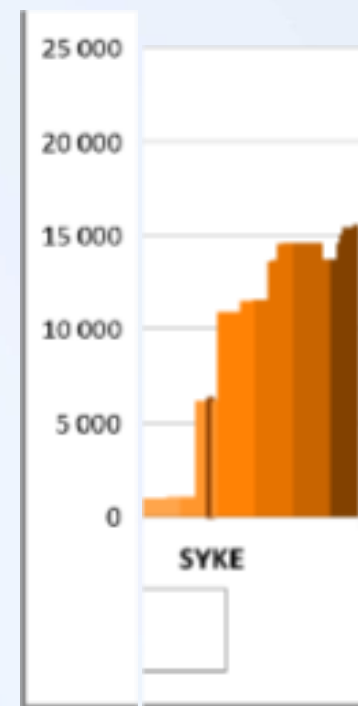
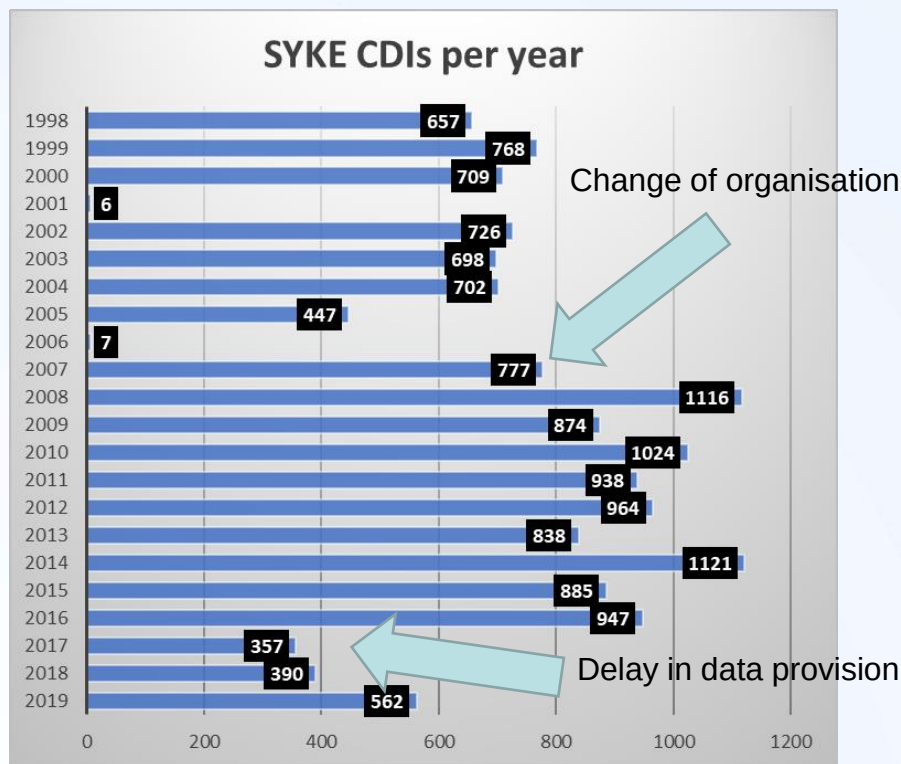
sdn-userdesk@seadatanet.org – www.seadatanet.org

REVIEW of SYKE CDI's:

ACCUMULATION OF CDIs

SYKE acts as point of contact for 15513 CDIs

TEMPORAL COVERAGE OF DATA



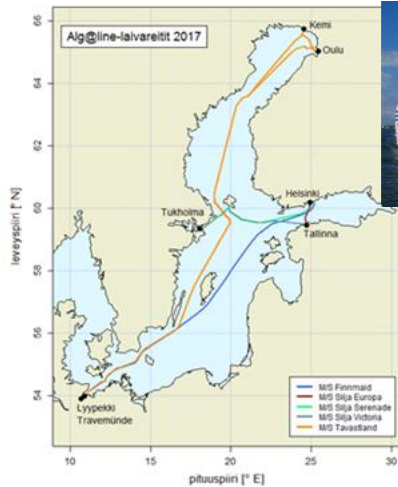
- Initial burst of CDIs at the onset of SDC.
- Saturation, as not many new data sources included
- Some delay in the delivery during recent years

SYKE Data sources at various supplementary scales



Ferrybox monitoring

- High spatio-temporal coverage
- No vertical dimension
- Low amount of parameters



R/V cruises

- Low spatio-temporal coverage
- Vertical dimension included
- High amount of parameters



Fixed platforms, Autonomous platforms,

- Point for future development

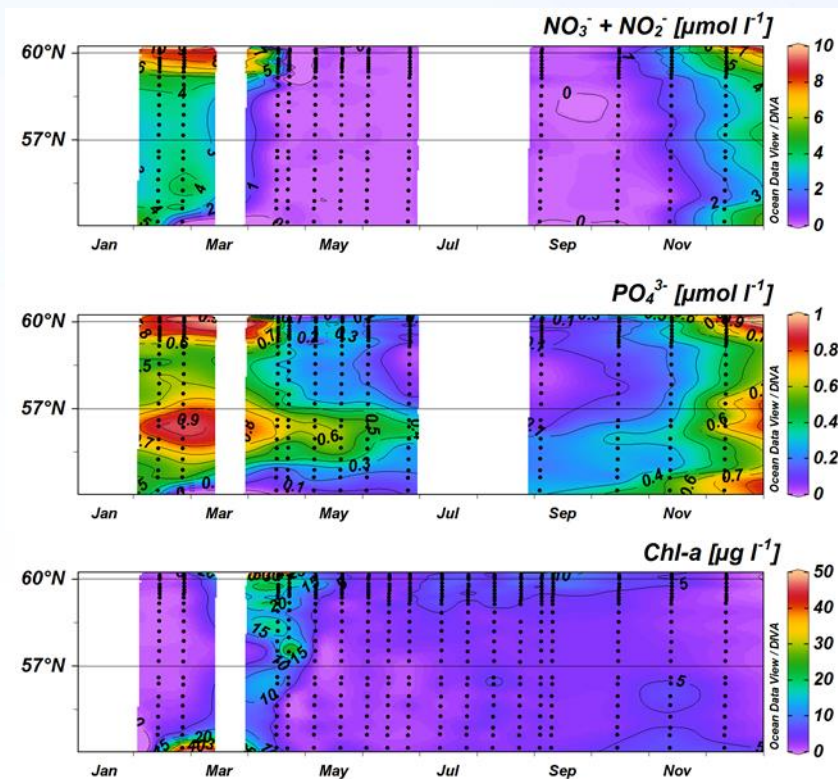
Coastal monitoring, River discharges

- Less frequent, less parameters

REVIEW of SYKE CDI's:

Ferrybox monitoring

- Only bottle data, no flow-through data
- Parameters (CHL-a, nutrients, temperature, salinity)
- 13389 CDIs , i.e. 86% of total

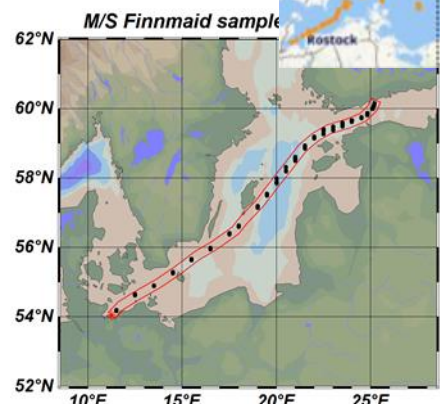
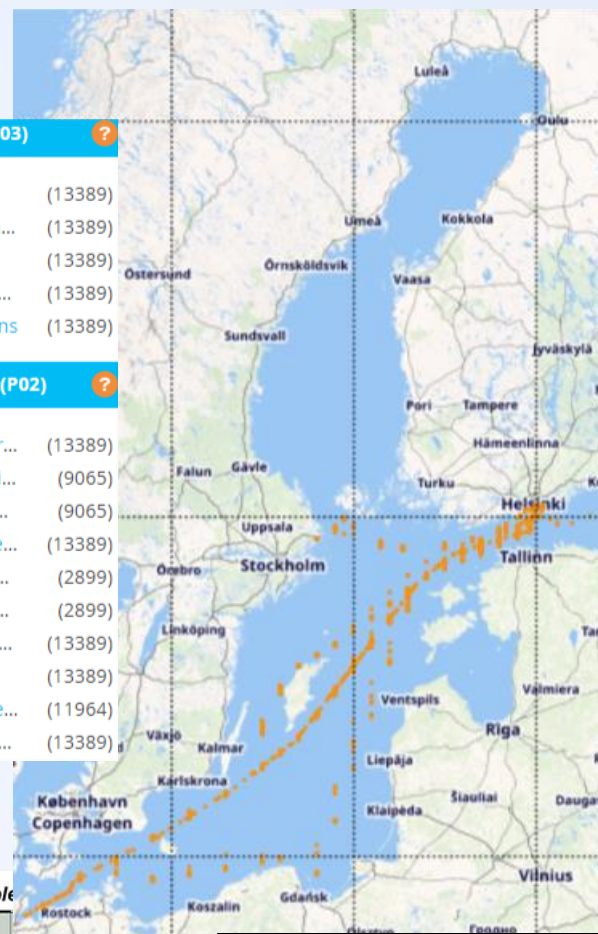


PARAMETER GROUP (P03)

Pigments	(13389)
Carbon, nitrogen and phosph...	(13389)
Nutrients	(13389)
Water column temperature a...	(13389)
Administration and dimensions	(13389)

DISCOVERY PARAMETER (P02)

Chlorophyll pigment concentr...	(13389)
Dissolved total and organic ni...	(9065)
Dissolved total or organic ph...	(9065)
Nitrate concentration parame...	(13389)
Particulate total and organic ...	(2899)
Particulate total and organic ...	(2899)
Phosphate concentration par...	(13389)
Salinity of the water column	(13389)
Silicate concentration parame...	(11964)
Temperature of the water col...	(13389)

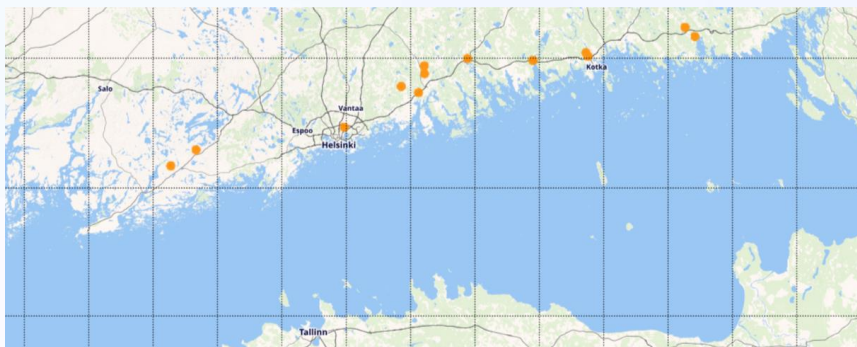


- Overall coverage good
- Some ships/years missing, -> TODO

REVIEW of SYKE CDI's:

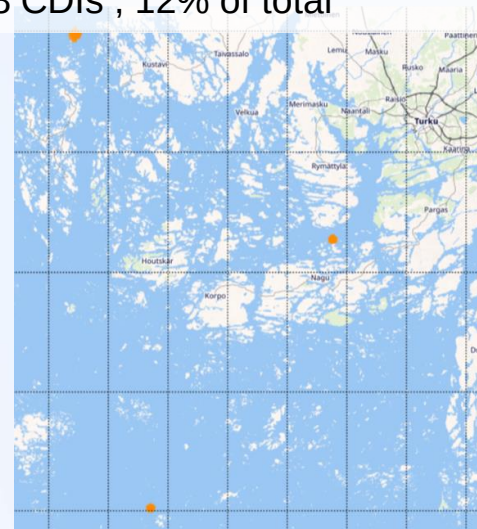
River stations

- Riverine fluxes of nutrients (15 rivers, 2010-16)
- 105 CDIs , <1% of total



Coastal monitoring

- Regional monitoring, water quality (2010-18)
- 1918 CDIs , 12% of total



Pelagic trawl net samples

- Heavy metals in fish (15 rivers, 2000-2013, 3-8 stations per year)
- 81 CDIs , <1% of total

PARAMETER GROUP (P03) ?	
Biota composition	(81)
Metal and metalloid concentr...	(81)
Pollution	(81)
DISCOVERY PARAMETER (P02) ?	
Trace metalloid concentration...	(81)

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- **Good start**
- **...but needs update after gap analysis**

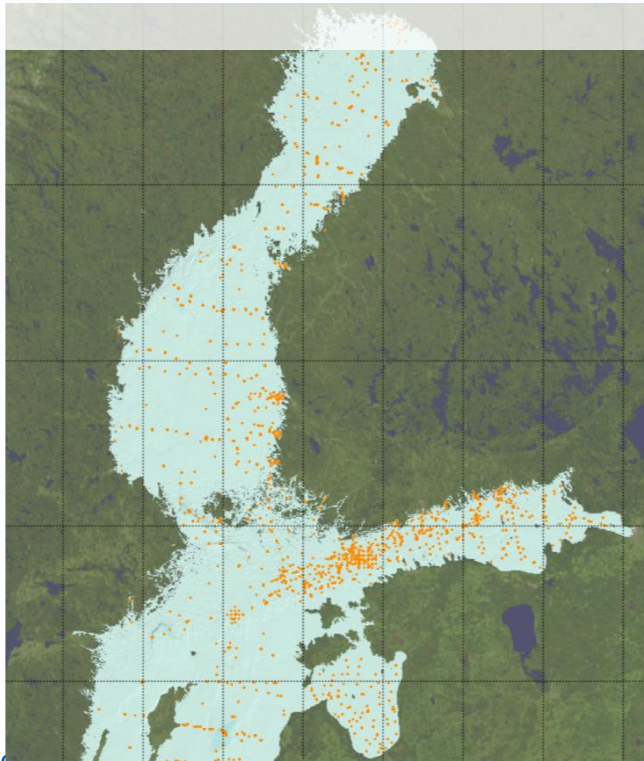
REVIEW of SYKE CDI's:



RV-cruise data ???

Some Finnish biogeochem data is provided through Finnish Meteorological Institute, though SYKE is responsible for chemical and biological monitoring. [Common history !]

- Example of ammonia data 1968-2015, with 8397 CDIs

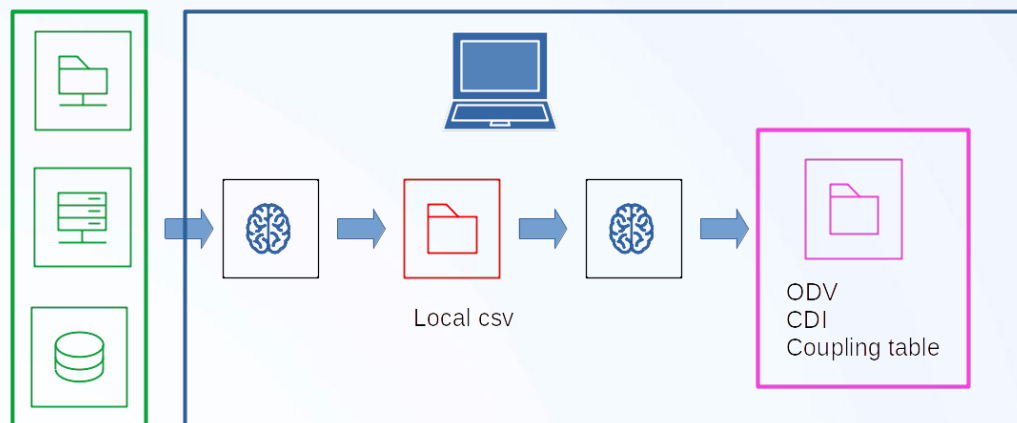


SYKE conclusions so far:

- **SDC was mainly used to distribute of Ferrybox bottle data. Lessons learned distributed inhouse, some other data types experimented.**
- **Importance of EU-wide data-aggregation highlighted inhouse (sometimes in contradiction with national DBs or ICT practices).**
- **Operationality of uploads need to be improved, especially for certain platforms.**
- **New data types need to be included (litter, continuous measures, biology)**
- **Potential of SDC has not been untapped for data analysis.**

Status before September 2020

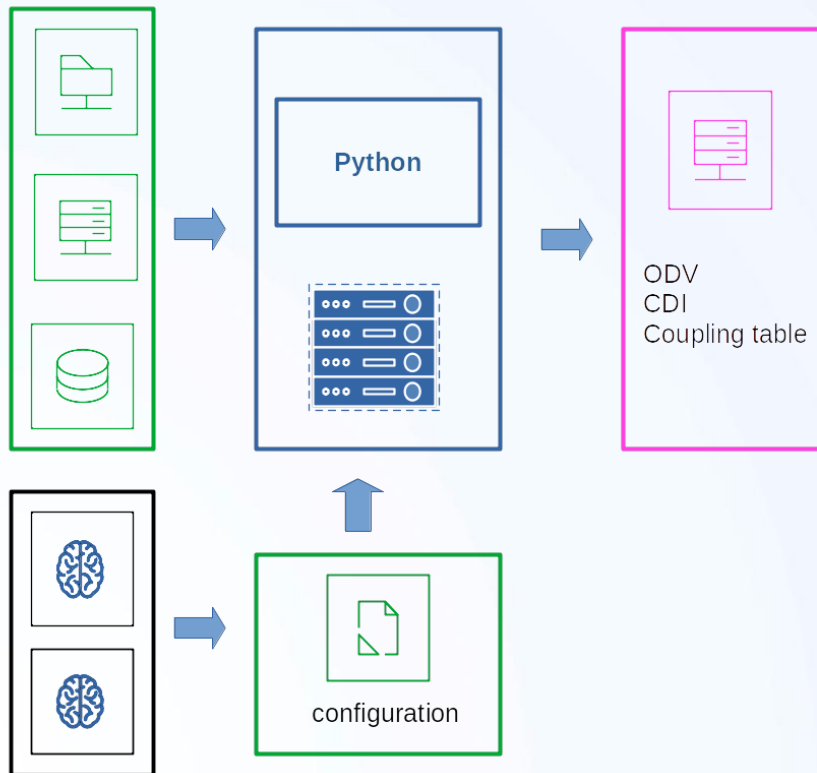
Simplified flow chart



- Data on personal computer
- Human interaction
 - While processing
 - In several steps
 - 1 brain involved (several times)

Development goals

Development goal flow chart



- Human interaction:
 - configuration file
 - 2 brain principle
 - P01 and P06
- Process on server

-- Thank you --