

Semantically-enhanced Aggregation of SeaDataNet Data

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- SeaDataNet now has a stock of around 1.3 million data files in ODV format.
- Any user can fill a basket with a customised subset of these files through the CDI interface

But...

- Most users don't want a basket full of files, they want something they can handle easily
- Many users want graphical visualisations of the data, not files at all

– ODV and the DIVA aggregation developed during SeaDataNet into an effective solution for the multiple files issue.

– Some use was made of the semantic information (P01 and P06 URNs) carried by ODV files

But...

- Granularity and issues such as P01 code duplication were not fully addressed.
- The full potential of the semantic information was not realised.

| Latitude | Longitude | PSALCC01 | PSALCC02 | PSALBRBR | PSALBSTX | PSALMC01 | PSALPRO1 | PSALPRO2 |
|----------|-----------|----------|----------|----------|----------|----------|----------|----------|
| 55.5 | 0 | 34.501 | | | | | | |
| 55.51 | 0 | 34.502 | | | | | | |
| 55.52 | 0 | 34.503 | | | | | | |
| 55.53 | 0 | | 34.501 | | | | | |
| 55.54 | 0 | | 34.502 | | | | | |
| 55.55 | 0 | | 34.503 | | | | | |
| 55.56 | 0 | | | 34.501 | | | | |
| 55.57 | 0 | | | 34.502 | | | | |
| 55.58 | 0 | | | 34.503 | | | | |
| 55.59 | 0 | | | | 34.501 | | | |
| 55.6 | 0 | | | | 34.502 | | | |
| 55.61 | 0 | | | | 34.503 | | | |
| 55.62 | 0 | | | | | 34.501 | | |
| 55.63 | 0 | | | | | 34.502 | | |
| 55.64 | 0 | | | | | 34.503 | | |
| 55.65 | 0 | | | | | | | |
| 55.66 | 0 | | | | | | 34.502 | |
| 55.67 | 0 | | | | | | 34.503 | |
| 55.68 | 0 | | | | | | | 34.501 |
| 55.69 | 0 | | | | | | | 34.502 |

| Latitude | Longitude | Salinity |
|----------|-----------|----------|
| 55.5 | 0 | 34.501 |
| 55.51 | 0 | 34.502 |
| 55.52 | 0 | 34.503 |
| 55.53 | 0 | 34.501 |
| 55.54 | 0 | 34.502 |
| 55.55 | 0 | 34.503 |
| 55.56 | 0 | 34.501 |
| 55.57 | 0 | 34.502 |
| 55.58 | 0 | 34.503 |


```

<skos:member>
  <skos:Concept rdf:about="http://vocab.nerc.ac.uk/collection/P25/current/SALIN/">
    <dc:identifier>SDN:P25::SALIN</dc:identifier>
    <skos:notation>SDN:P25::SALIN</skos:notation>
    <skos:prefLabel xml:lang="en">Water salinity</skos:prefLabel>
    <skos:altLabel/>
    <skos:definition xml:lang="en">
      The amount (mass or quantity of matter) of salt per amount (volume or mass) of a body of water
    </skos:definition>
    <owl:versionInfo>2</owl:versionInfo>
    <dc:date>2011-11-24 11:34:12.0</dc:date>
    <skos:note xml:lang="en">accepted</skos:note>
    <owl:deprecated>false</owl:deprecated>
    <skos:narrower rdf:resource="http://vocab.nerc.ac.uk/collection/P07/current/CFNS0376/">
    <skos:narrower rdf:resource="http://vocab.nerc.ac.uk/collection/P01/current/PSALM01/">
    <skos:narrower rdf:resource="http://vocab.nerc.ac.uk/collection/P01/current/PSLZZ01/">
    <skos:narrower rdf:resource="http://vocab.nerc.ac.uk/collection/P07/current/CFNS0331/">
    <skos:narrower rdf:resource="http://vocab.nerc.ac.uk/collection/P01/current/PSALZXX/">
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    <skos:narrower rdf:resource="http://vocab.nerc.ac.uk/collection/P01/current/SSALAGT1/">
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```

“Swiss Cheese” aggregation

“Flat” aggregation combining P01 terms as “Salinity”

SKOS “driver” file

A NERC Vocabulary Server solution (<http://vocab.nerc.ac.uk/>)

- The full version of the example file is always universally accessible from NVS by URL
- Application software could either call the URL in realtime or cache the XML documents
- Governance simply needs to supply BODC with agreed aggregation names and the mappings to P01
- BODC would need to keep governance informed of additions to P01 so mappings can be kept up to date.

