S-100WG

Storing feature oriented discrete coverage in HDF5
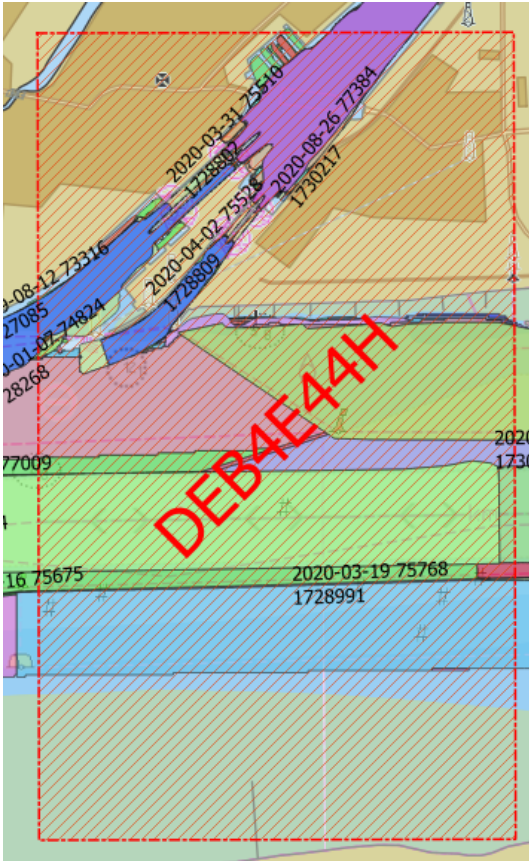
Federal Maritime and Hydrographic Agency of Germany
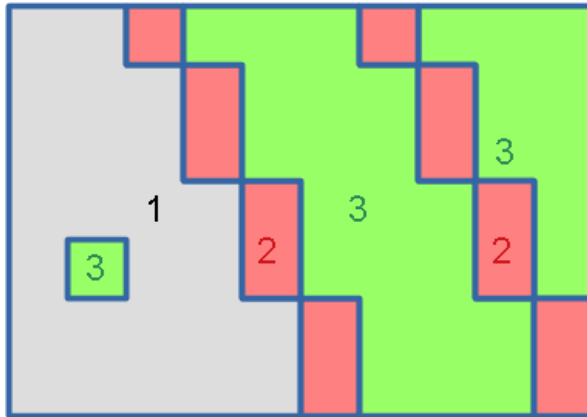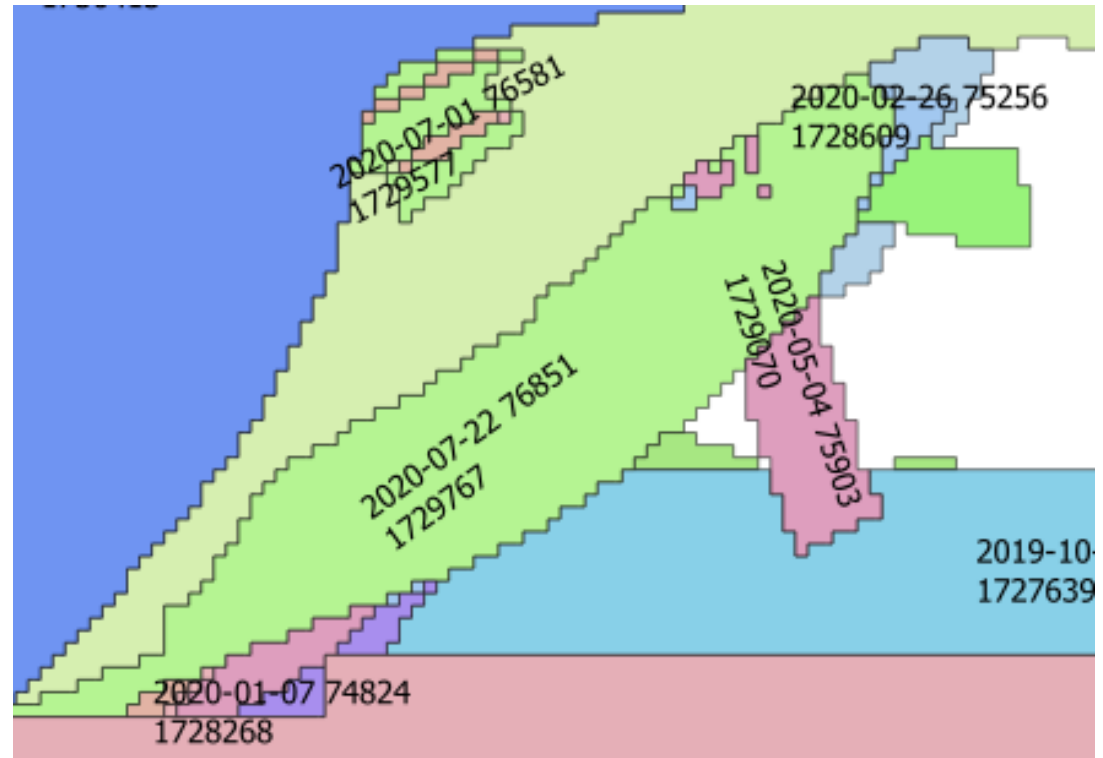
BSH Product Scheme
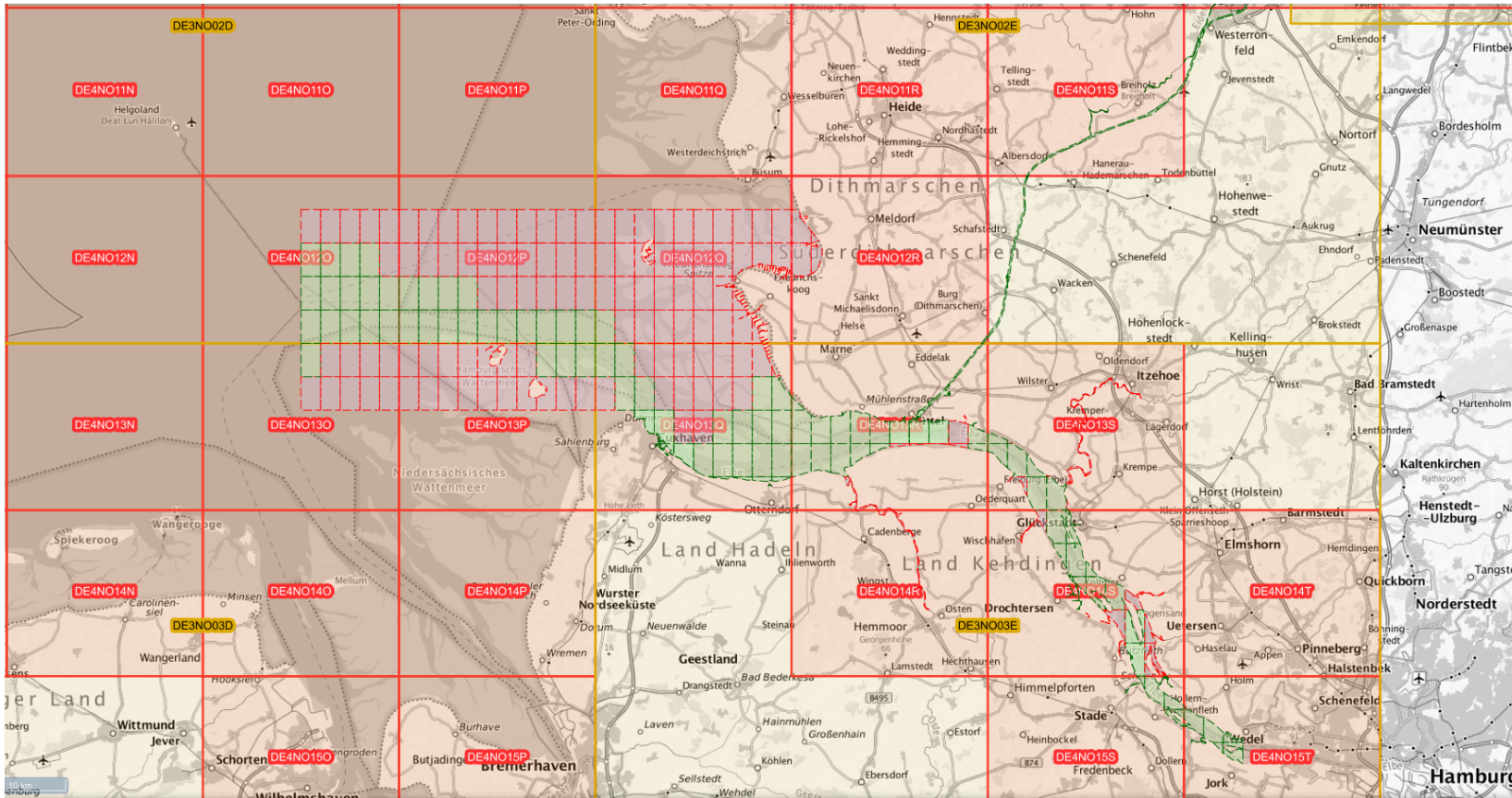
bENC / S-102 - Product

- Multiple Surveys in one product cell (blended/merged to one coverage)
- Information for each survey needed
    - e.g. survey date
- Link to our data source is required
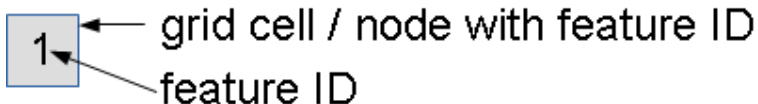
Solution in S-100 Version 4.0.0 (GML)

area geometry
feature ID and attributes

- Data consistency

- Potential source of errors

- Data size

- Complexity of the GML

Feature oriented discrete coverage (HDF5)

1	1	2	3	3	3	2	3	3	3
1	1	1	2	3	3	3	2	3	3
1	1	1	2	3	3	3	2	3	3
1	1	1	1	2	3	3	3	2	3
1	3	1	1	2	3	3	3	2	3
1	1	1	1	1	2	3	3	3	2
1	1	1	1	1	2	3	3	3	2

1 ← grid cell / node with feature ID
└ feature ID

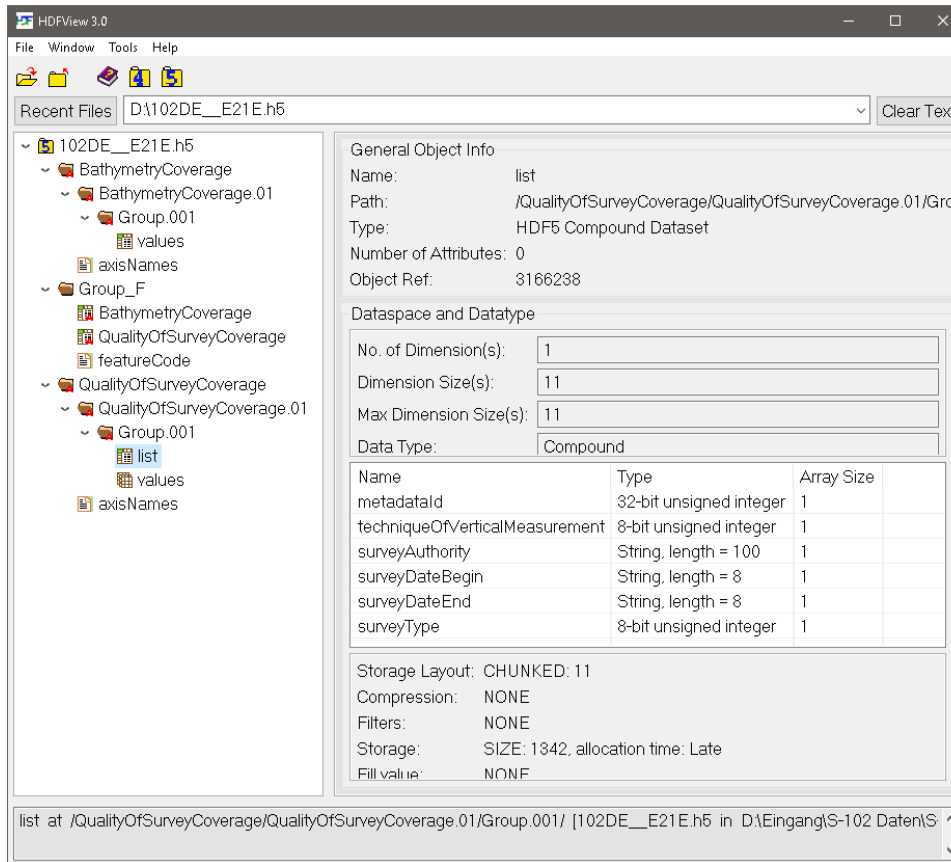| feature ID	attribute_1	attribute_2	attribute_3
1	17	5.3	text value A
2	6	14.7	text value B
3	10	5.3	text value C

- Part 3 an Part 8 describes this mechanism, but we found no implementation in Part 10c

- using a separate regular grid within the HDF5 file

- grid cell/node contains feature ID

- attribute table links the attribute values with the feature ID

HDF5 vs. GML

	HDF 5	GML
Description S-100 Part 10c	❌	❌
Data consistency	✅	❌
Geometry complexity	✅	❌
File size (growth total / %)	65 kByte / **2.1%**	547 kByte / **17.9%**

Extension in HDF5

Actions required

- Endorse the extension

- Review S-100 Part 3 & Part 8

- Review S-100 Part 10c

  - Add new DataCodingFormat

  - Add attribute table as CompoundDataSet

- Identify any issues regarding this paper

Thank you!