

S-100WG

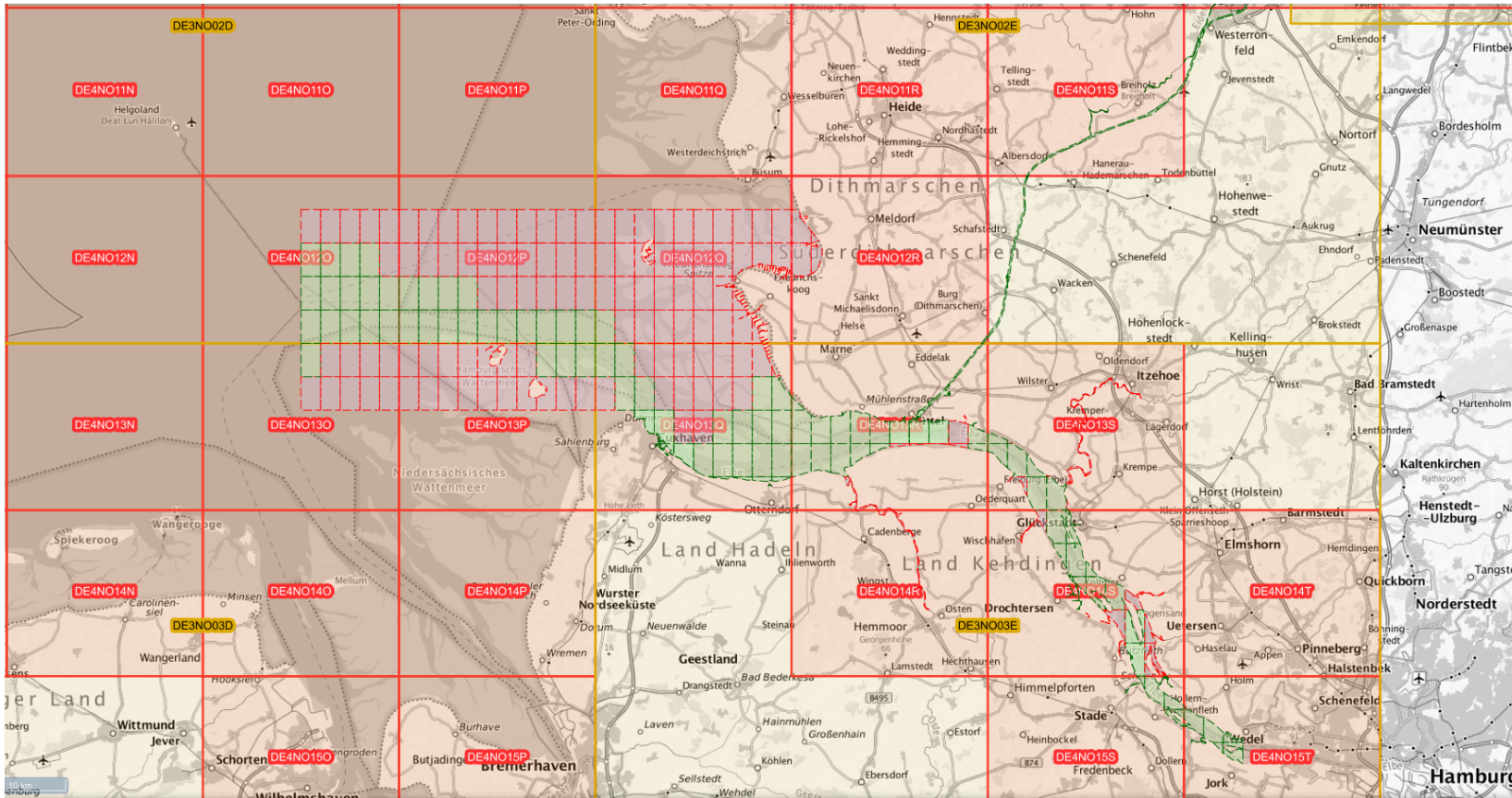
Storing feature oriented discrete coverage in HDF5



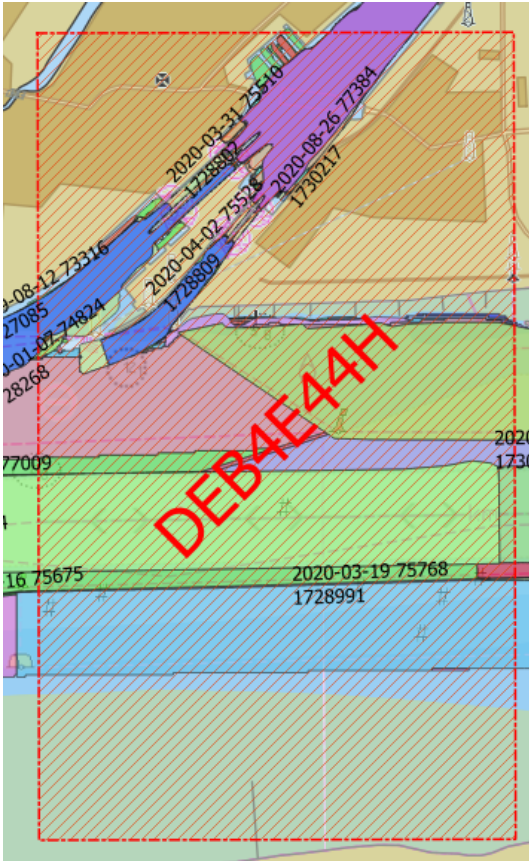
BSH Product Scheme



BUNDESAMT FÜR
SEESCHIFFFAHRT
UND
HYDROGRAPHIE

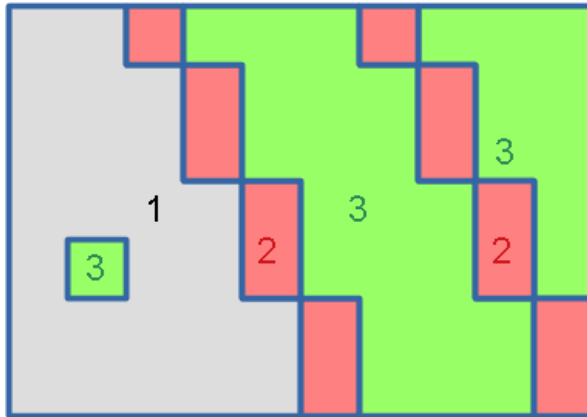


bENC / S-102 - Product



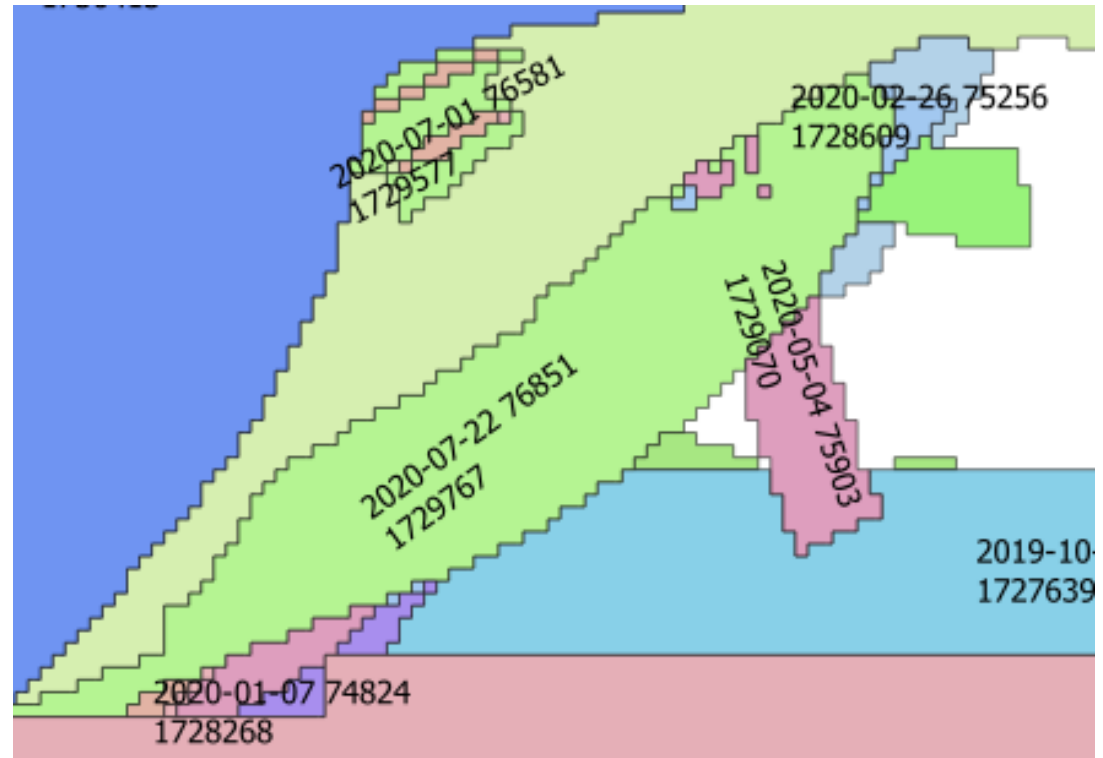
- Multiple Surveys in one product cell (blended/merged to one coverage)
- Information for each survey needed
 - e.g. survey date
- Link to our data source is required

Solution in S-100 Version 4.0.0 (GML)



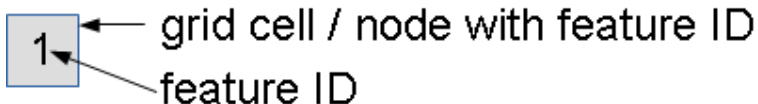
1 ← area geometry
1 ← feature ID and attributes

- 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



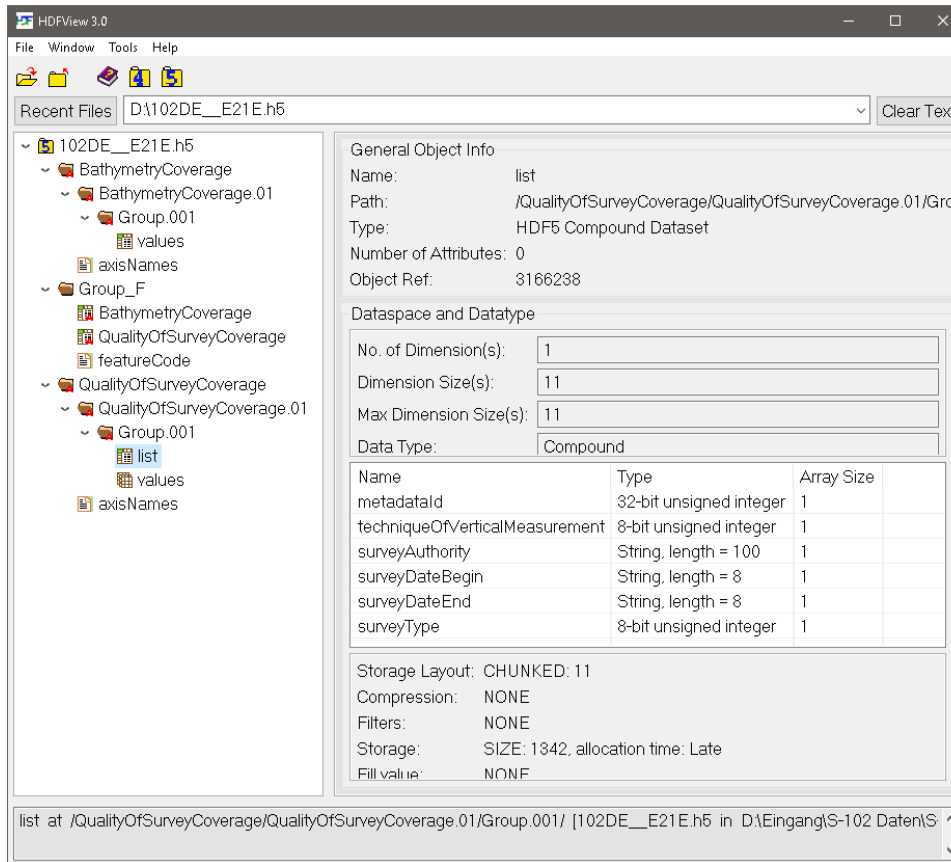
- Part 3 and Part 8 describes this mechanism, but we found no implementation in Part 10c
- using a separate regular grid within the HDF5 file
- grid cell/node contains feature ID
- attribute table links the attribute values with the feature ID

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

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



HDFView 3.0

Recent Files: D:\102DE__E21E.h5

General Object Info

Name: list

Path: /QualityOfSurveyCoverage/QualityOfSurveyCoverage.01/Group.001

Type: HDF5 Compound Dataset

Number of Attributes: 0

Object Ref: 3166238

Dataspace and Datatype

No. of Dimension(s): 1

Dimension Size(s): 11

Max Dimension Size(s): 11

Data Type: Compound

Name	Type	Array Size
metadataId	32-bit unsigned integer	1
techniqueOfVerticalMeasurement	8-bit unsigned integer	1
surveyAuthority	String, length = 100	1
surveyDateBegin	String, length = 8	1
surveyDateEnd	String, length = 8	1
surveyType	8-bit unsigned integer	1

Storage Layout: CHUNKED: 11

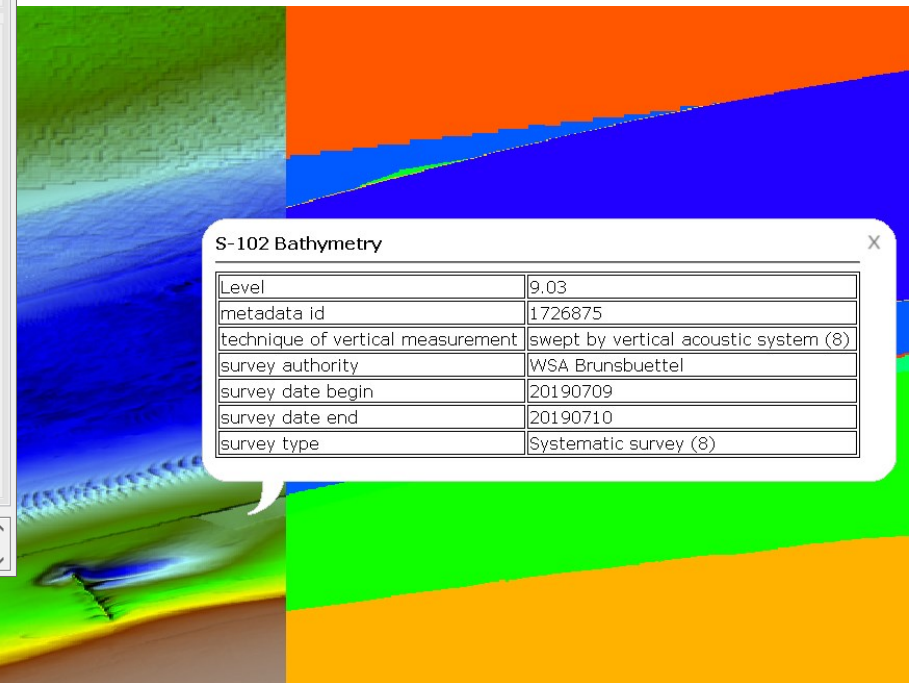
Compression: NONE

Filters: NONE

Storage: SIZE: 1342, allocation time: Late

Fill value: NONE

list at /QualityOfSurveyCoverage/QualityOfSurveyCoverage.01/Group.001/ [102DE__E21E.h5 in D:\Eingang\S-102 Daten\S



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!



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