



S-101PT12 – 13-15 February 2024 – VTC

## **Scales Sub-Group Update**

Sub-Group Lead – Christian Mouden

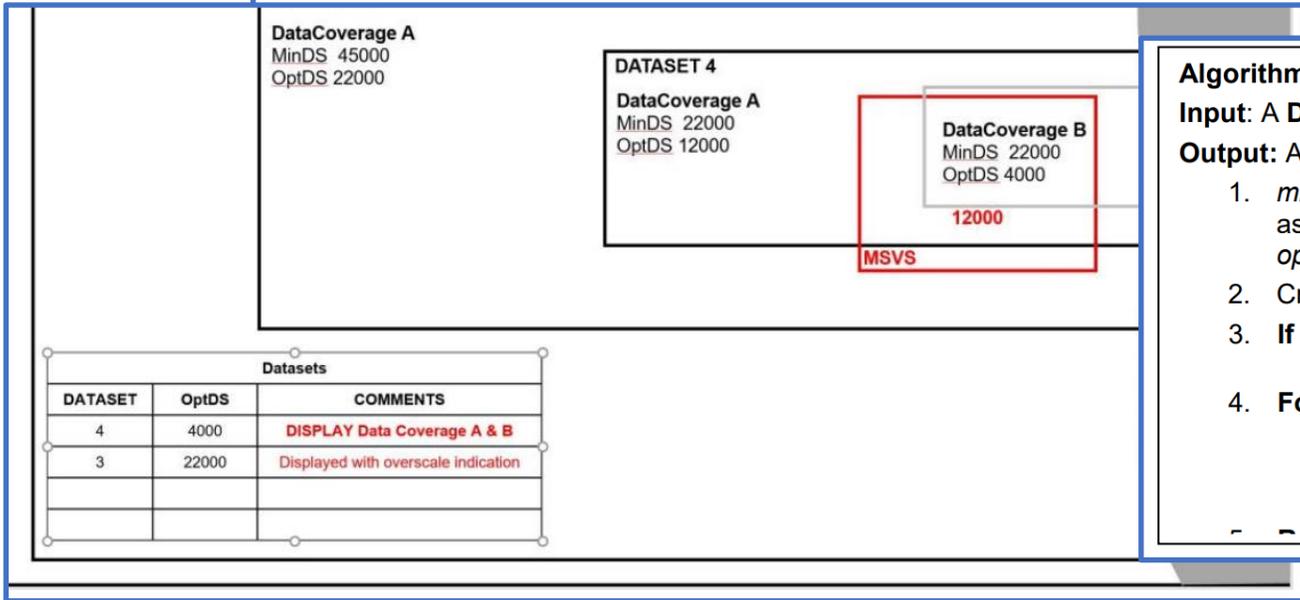
**S-101PT12-05.5**



# Background: S-101 PT11 decisions

- Inclusion of mandatory attribute **optimumDisplayScale** for implementation and testing in Edition 1.2.0 – **Completed** – Refer to paper S-101PT12-06.23;

The mandatory attribute **maximum-optimum display scale** is used to indicate the largest intended viewing scale for the data. This may be considered by the Data Producer to be the compilation scale for the data, and is also used as the reference for the overscale indication. The mandatory attribute **minimum display scale** is used to indicate the smallest intended viewing scale for the data. The mandatory attribute **maximum display scale** is used to indicate the value considered by the Data Producer to be the maximum (largest) scale at which the data is to be displayed before it can be considered to be “grossly overscaled”.[TS15]



**Algorithm** *scaleBands(dataCoverage)*  
**Input:** A Data Coverage  
**Output:** A set of associated scale band indices S

- minimumDisplayScale* – The minimum display scale of the coverage (if not defined it is assumed that the scale is 1:∞ -> 0)  
*optimumDisplayScale* – The optimum display scale of the coverage
- Create an empty set S
- If *minimumDisplayScale* < *optimumScale*[1]
  - S = S ∪ 1
- For index = 2 to 15
  - If *opt*(*minimumDisplayScale*, *minimumScale*[index]) < *min*(*optimumDisplayScale*, *optimumScale*[index])
    - S = S ∪ index



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# Background: S-101 PT11 decisions

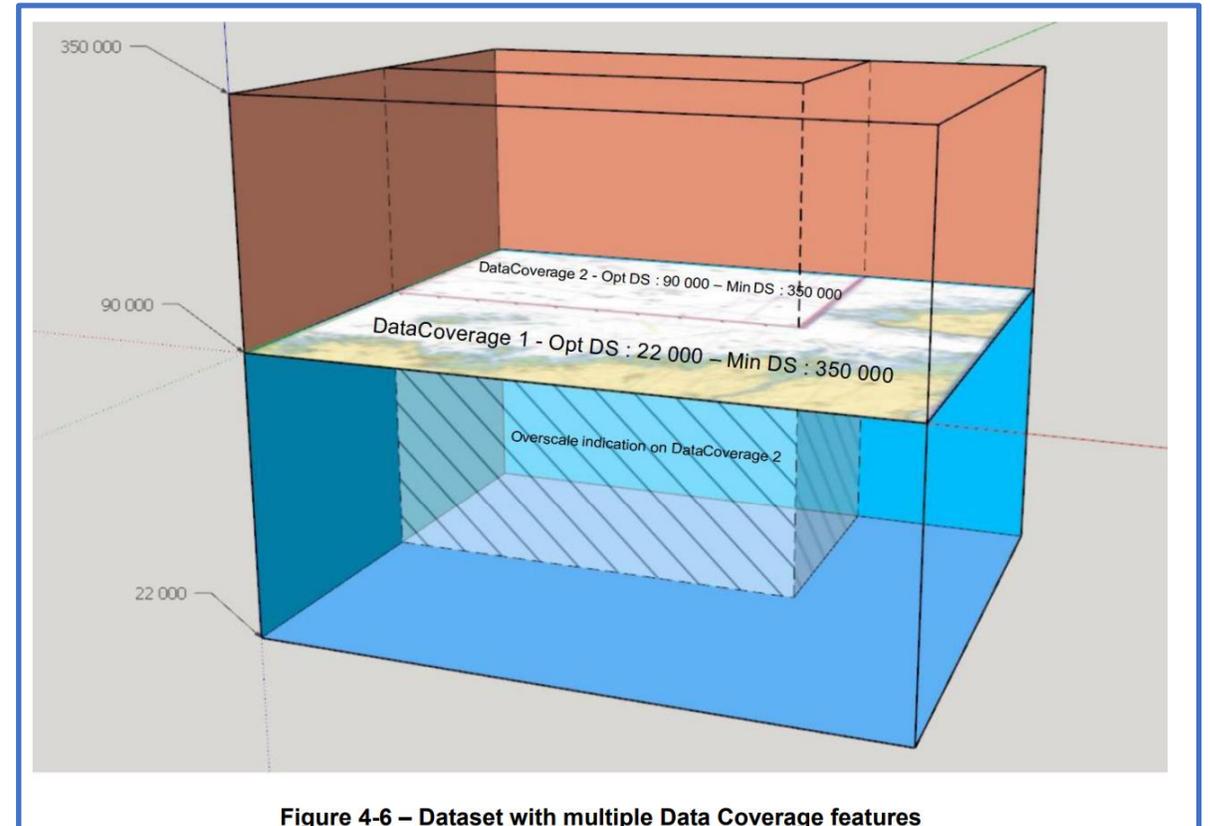
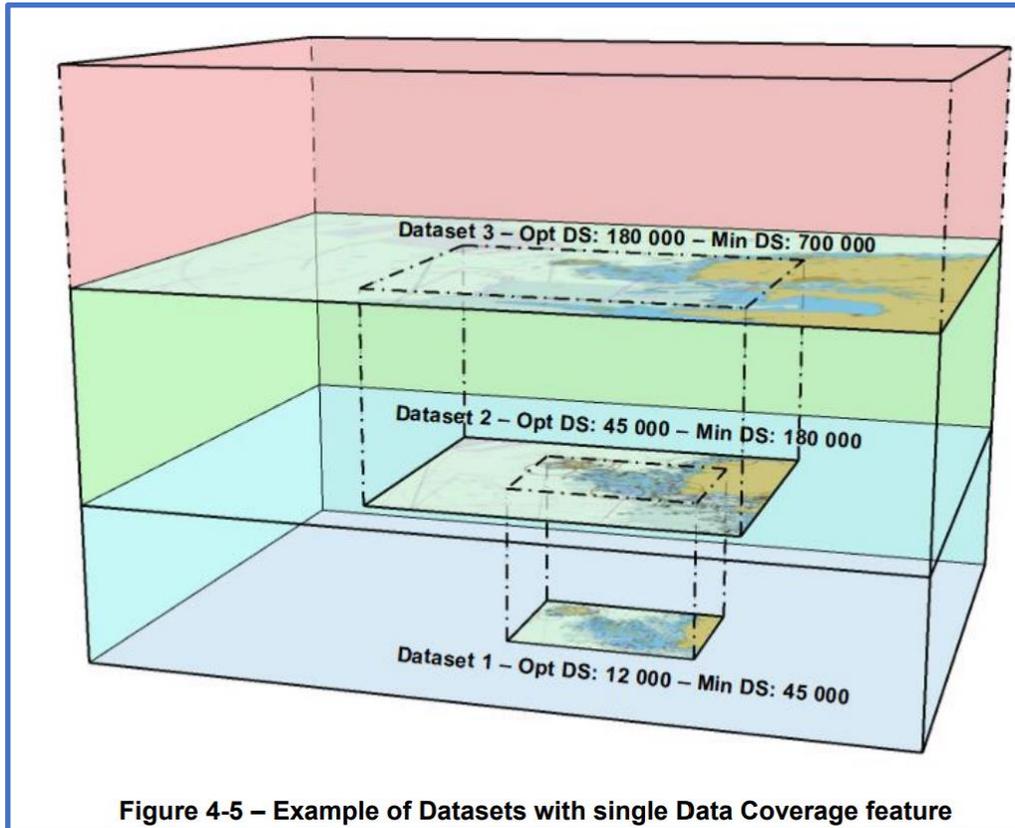
- Inclusion of more extensive fundamental guidance (figures/diagrams) on display and loading pending development of a more consolidated solution – **No progress** (no testing since S-101PT11);



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# Background: S-101 PT11 decisions

- A few figures amended as proposed – **Completed;**





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# Background: S-101 PT11 decisions

- **Scales Sub-Group** to develop a proposal for the inclusion of a data display (rendering) algorithm in S-101 Edition 2.0.0 – [Completed – Refer to paper S-101PT12-06.11.](#)

## The Algorithm RenderLayer

This algorithm describes how the datasets of one layer i.e. those that have the same minimum display scales are rendered.

### **Algorithm:** RenderLayer

**Input:** A set of datasets *dataSets* that have the same minimum display scale  
A drawing device

1. For each display priority *displayPriority* starting with the smallest
  - a. Collect the drawing instructions (except text instructions) from each dataset's display instructions that are assigned to *displayPriority*
  - b. Render the area instructions from that collection
  - c. Render the line instructions from that collection
  - d. Render the point instructions from that collection
2. For each display priority *displayPriority* starting with the largest
  - a. Collect the text instructions from each dataset's display instructions that are assigned to *displayPriority*
  - b. Render the text instructions

### Notes:

- 1b, 1c, 1d, and 2b:  
Rendering must take the *viewingGroup*, *scaleMinimum*, and *scaleMaximum* properties of the display instruction into account. (See S-100 9-11.2)
- 2b:  
Optionally, an implementation may check if the text to be rendered will overlap any text already drawn. In that case the text will not be drawn. With the reversed order of the display priorities texts with a higher priority will be visible. Drawing both texts will make them unreadable.



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# Way forward

- Need to be implemented and tested
  - The loading algorithm
  - The Display rendering algorithm
  - The concept of Optimum Display Scale

## Timeline

- S-101PT13: 17-19 June 2024
- Consensus on the issues above must be reached prior to the meeting

Members and implementers are encouraged to carry on testing and share their findings on the Github (<https://github.com/iho-ohi/S-101-Documentation-and-FC>)



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**ANY QUESTIONS?**

**THANK YOU**