Comments from Public Consultation on ECV Requirements 13/01 – 13/03 2020 for:

# Subsurface salinity

## ECV Product: Interior salinity

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Name** | Interior salinity | | | | |
| **Definition** | Salinity of seawater, at or near the surface - Salinity is unitless, and is expressed with the suffix psu (practical salinity unit, PSS-78). | | | | |
| **Unit** |  | | | | |
| **Note** |  | | | | |
| **Requirements** | | | | | |
| **Item needed** | **Unit** | **Metric** | **[1]** | **Value** | **Derivation and References and Standards** |
| **Horizontal Resolution** | km |  | G | 1 |  |
| B |  |  |
| T | 10 |  |
| **Vertical Resolution** |  |  | G |  |  |
| B |  |  |
| T |  |  |
| **Temporal Resolution** |  |  | G | daily |  |
| B |  |  |
| T | monthly |  |
| **Timeliness** |  |  | G |  |  |
| B |  |  |
| T |  |  |
| **Required Measurement Uncertainty** |  |  | G |  |  |
| B |  |  |
| T | 0.1 |  |
| **Stability** |  |  | G |  |  |
| B |  |  |
| T |  |  |
| **Standards and References** |  | | | | |
| **Adaptation and Extremes** | | | | | |
|  | Relevant? (Yes/No) | Sugg. Req. sufficient? (Yes/No) | Explanation | | |
| **Adaptation[2]** |  |  |  | | |
| **Extremes[3]** |  |  |  | | |

[1]Goal (G); Breakthrough (B)(not mandatory, more as one possible); Threshold (T), for definitions see [Guidelines](http://tiny.cc/ecv-review)

[2] Is the ECV Product directly relevant to support Climate Adaptation?

[3] Can the ECV Product be used to monitor climate extremes or aspects of extremes?

### Comment 1

|  |  |
| --- | --- |
| Author: Rachel Killick | Email: rachelewarren91@gmail.com |
| Unit = 1 if practical salinity to be CF compliant (http://cfconventions.org/Data/cf-standard-names/72/build/cf-standard-name-table.html)  Most of these comments are based on answers from a recent user requirements survey for the Met Office Hadley Centre EN4 database and relate to both subsurface temperature and subsurface salinity:  Timeliness: Less than one month lag is good for allowing validation of NRT products. Providing preliminary files even before the month is complete has been asked for by a few users.  Over 25% of users use the monthly updates for either sea\_water\_potential\_temperature or salinity.  No users expressed concern with the monthly resolution of the dataset, although the profile data themselves are higher resolution.  Temporal resolution: When asked if they wanted very high resolution data averaged (typically data reporting at a frequency greater than one value per hour at the exact location e.g. from a buoy) the majority of users said yes (37 out of 56), of the 37, 21 wanted daily averages/sub-samples with fewer wanting 6-hourly or hourly averages.  Horizontal resolution (for gridded analyses): currently these are served in 1 by 1 degree grid boxes, only 12 respondents said this had prevented them working with the data, of these, 8 said that a 0.25 degree resolution would be better and this is still larger than the threshold 10km resolution given here.  Vertical resolution: It is beneficial to have high resolution near the surface where data change more rapidly. (e.g. measurements every 1m).  Uncertainties: 28 people were unsure if they would use measurement uncertainties provided with profile data, but a further 38 answered that they would be very likely or quite likely to use them, with only 10 answering quite unlikely or very unlikely. The most common reasons given for using these uncertainties were for use in explaining scientific results and to enable users to propagate uncertainties in averages and other derived quantities. | |

### Comment 2

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| --- | --- |
| Author: ECMWF | Email: ecresgcosreqs@gmail.com |
| See below Table | |

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| **Item needed** | **Unit** | **Metric** | **[1]** | **Value** | **Derivation and References and Standards** |
| **Horizontal Resolution** | km |  | G | 10 |  |
| B |  |  |
| T | 100 |  |
| **Vertical Resolution** | m |  | G | 1 (upper ocean) 10 (deep ocean) |  |
| B |  |  |
| T | 10 (upper ocean) 100 (deep ocean) |  |
| **Temporal Resolution** |  |  | G | daily |  |
| B |  |  |
| T | monthly |  |
| **Timeliness** |  |  | G | daily |  |
| B |  |  |
| T | monthly |  |
| **Required Measurement Uncertainty** | psu |  | G | 0.05 (upper ocean) 0.02 (deep ocean) |  |
| B |  |  |
| T | 0.1 (upper ocean) 0.05 (deep ocean) |  |
| **Stability** |  |  | G |  |  |
| B |  |  |
| T |  |  |
| **Standards and References** |  | | | | |
| **Adaptation and Extremes** | | | | | |
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