

EML - Bug #1634

units not in eml-unitDictionary

07/09/2004 05:44 PM - Margaret O'Brien

Status:	New	Start date:	07/09/2004
Priority:	Normal	Due date:	
Assignee:	Matt Jones	% Done:	0%
Category:	eml - general bugs	Estimated time:	0.00 hour
Target version:	EML2.2.0	Spent time:	0.00 hour
Bugzilla-Id:	1634		

Description

As requested, here is the list of customUnits used by sbclter (to date). The current version of this list can be found at the url above. Several of these units need additional attributes or definition. These are commonly-used units in oceanography and limnology.

```
<unit id="reciprocalMeter" name="reciprocalMeter" unitType="lengthReciprocal"
abbreviation="m-1" parentSI="meter" multiplierToSI="1">
<description>per meter, describes optical properties</description>
</unit>
```

```
<unit id="reciprocalMetersPerSteradian" name="reciprocalMetersPerSteradian"
unitType="lengthReciprocal" abbreviation="m-1*sr-1" parentSI="meter"
multiplierToSI="">
<description>describes directional optical measurements</description>
</unit>
```

```
<unit id="microwattsPerSquareCentimeterPerNanometer"
name="microwattsPerSquareCentimeterPerNanometer" unitType="power" parentSI="joule">
<description>irradiance unit</description>
</unit>
```

```
<unit id="microwattsPerSquareCentimeterPerNanometerPerSteradian"
name="microwattsPerSquareCentimeterPerNanometerPerSteradian" unitType="power"
parentSI="joule">
<description>directional irradiance unit</description>
</unit>
```

```
<unit id="microeinsteinsPerSquareMeterPerSecond"
name="microeinsteinsPerSquareMeterPerSecond" unitType="energy" parentSI="joule">
<description>
PAR irradiance unit, Seabird 911. 1Ein = energy of 1 mole photons
</description>
</unit>
```

```
<unit id="microeinsteinsPerSquareCentimeterPerSecond"
name="microeinsteinsPerSquareCentimeterPerSecond" unitType="energy"
parentSI="joule">
<description>
PAR Scalar irradiance unit. 1Ein = energy of 1 mole photons
</description>
</unit>
```

```
<unit id="decibar" name="decibar" unitType="pressure" abbreviation="dbar"
parentSI="pascal" multiplierToSI="10,000">
<description>pressure, oceanography</description>
</unit>
```

```
<unit id="hectoPascal" name="hectoPascal" unitType="pressure" abbreviation="hPa"
parentSI="pascal" multiplierToSI="100">
<description>
```

SI unit for atmospheric pressure, equivalent in magnitude to millibar

</description>

</unit>

-

<unit id="percent" name="percent" unitType="massPerMass" abbreviation="o/o" parentSI="gramsPerGram" multiplierToSI=".01">

<description>parts per hundred</description>

</unit>

<unit id="permil" name="permil" unitType="massPerMass" abbreviation="o/oo" parentSI="gramsPerGram">

<description>

parts per thousand relative to a std composition. UC-delta used for isotope enrichment = $(R_x / R_s - 1) \cdot 1000$. o/oo used for salinity

</description>

</unit>

<unit id="sigma_unit" name="sigma_unit" unitType="massDensity" parentSI="kilogramsPerCubicMeter" constantToSI="1000" multiplierToSI="1">

<description>seawater density = kg/m³ - 1000</description>

</unit>

<unit id="millimolesPerCubicMeter" name="millimolesPerCubicMeter" unitType="amountOfSubstanceConcentration" abbreviation="mmol*m-3" parentSI="molesPerCubicMeter" multiplierToSI=".001">

<description>concentration unit</description>

</unit>

<unit id="micromolesPerLiter" name="micromolesPerLiter" unitType="amountOfSubstanceConcentration" parentSI="molesPerCubicMeter" multiplierToSI=".001">

<description>

concentration, same magnitude as micromolar (for a dissolved constituent)

</description>

</unit>

<unit id="microequivalentsPerLiter" name="microequivalentsPerLiter" unitType="amountOfSubstanceConcentration" parentSI="molesPerCubicMeter" multiplierToSI="">

<description>

concentration of charge (on dissolved ions). A single multiplier to SI is not possible, since conversion includes valence of ion.

</description>

</unit>

<unit id="siemensPerMeter" name="siemensPerMeter" unitType="conductance" abbreviation="S*m-1" parentSI="siemen" multiplierToSI="1">

<description>conductivity unit, seawater</description>

</unit>

<unit id="microsiemensPerCentimeter" name="microsiemensPerCentimeter" unitType="conductance" parentSI="siemen" multiplierToSI=".0001">

<description>conductivity unit, freshwater</description>

</unit>

<unit id="milligramsPerSquareMeterPerDay" name="milligramsPerSquareMeterPerDay" unitType="areaMassDensityRate" abbreviation="mg*m-2*d-1" parentSI="kilogramsPerSquareMeterPerSecond" multiplierToSI="8.64E10">

<description>areal primary production rate, often in mg Carbon for an integrated water column

</description>

</unit>

<unit id="kilogramsPerSquareMeterPerDay" name="kilogramsPerSquareMeterPerDay" unitType="areaMassDensityRate" abbreviation="kg*m-2*d-1" parentSI="kilogramsPerSquareMeterPerSecond" multiplierToSI="86400">

<description>

</description>

areal primary production rate, may be kg-DW, Carbon or nitrogen for kelp

</description>

</unit>

<unit id="milligramsPerCubicMeterPerDay" name="milligramsPerCubicMeterPerDay"

unitType="volumetricMassDensityRate" abbreviation="mg*m-3*d-1" parentSI=""

multiplierToSI="">

<description>

volumetric primary production rate, in a parcel of water

</description>

</unit>

History

#1 - 09/02/2004 09:38 AM - Matt Jones

Changing QA contact to the list for all current EML bugs so that people can track what is happening.

#2 - 03/27/2013 02:17 PM - Redmine Admin

Original Bugzilla ID was 1634