

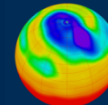


CF Controlled Vocabularies

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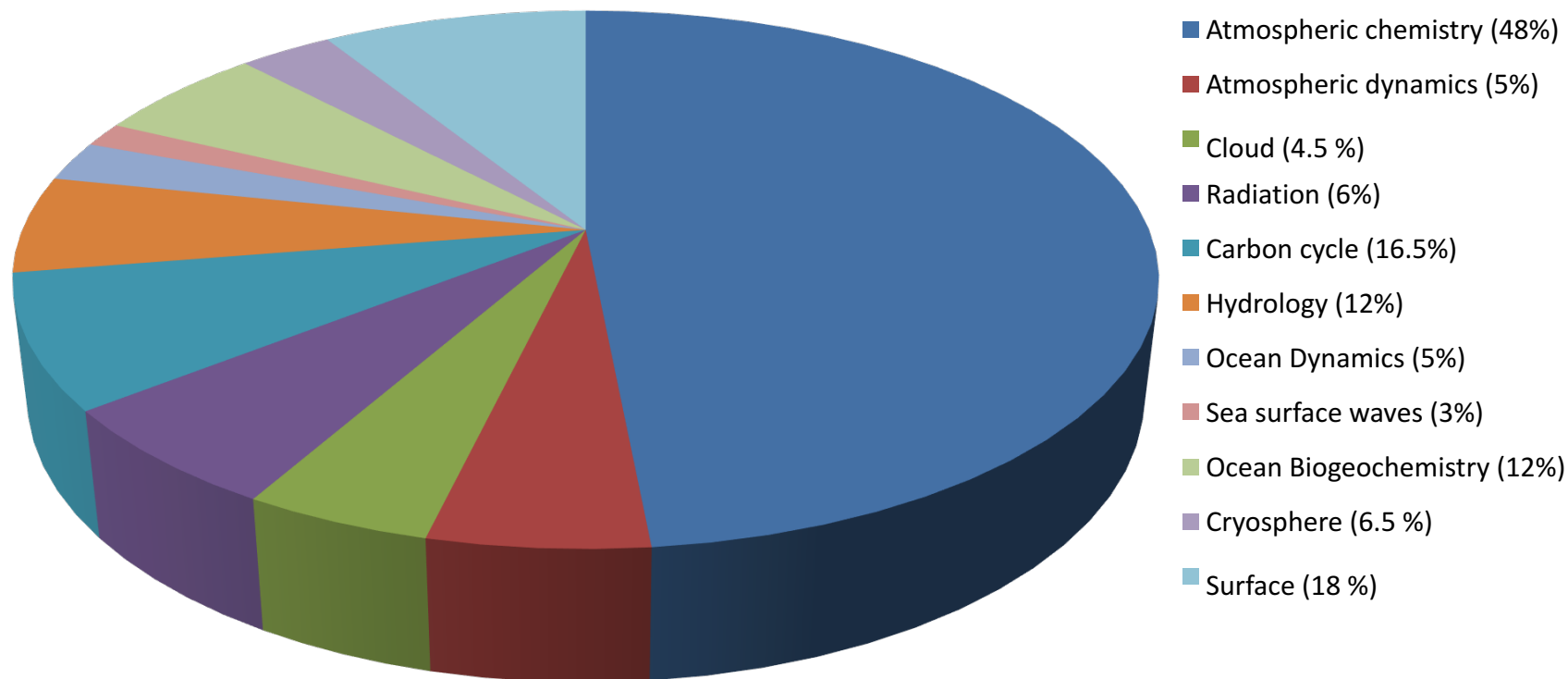
Why standard names?

- *Geophysical* parameter names
- Can two quantities be compared?

Standard Name	Canonical Units
<p>air_potential_temperature Potential temperature is the temperature a parcel of air or sea water would have if moved adiabatically to sea level pressure.</p>	K
<p>surface_upward_latent_heat_flux The surface latent heat flux is the exchange of heat between the surface and the air on account of evaporation (including sublimation). In accordance with common usage in geophysical disciplines, "flux" implies per unit area, called "flux density" in physics.</p>	K

CF standard names by science domain (V46)

2889 total





Area Types and Standardized Region List

Area_type table

- Lists acceptable values for standard name area_type
- Used with cell_methods attribute to describe statistics over portion(s) of grid cell
- Version 6: 39 entries

Standardized Region List

- Names regions, e.g. north_america, southern_ocean
- Complex boundaries
- Not individual countries
- Version 2: 68 entries



Managing CF Vocabularies

- New terms must be proposed on CF mailing list:
 - <http://mailman.cgd.ucar.edu/pipermail/cf-metadata/>
 - Include name, unit, definition
- All list members may comment on proposals
- Aim is to achieve community consensus
- CF governance committee can be asked to vote if consensus cannot be achieved



Publishing CF Vocabularies

- CF website:

<http://cfconventions.org/>

- XML (used by CF checker)
- HTML

- NERC vocabulary server

- CF standard names

<http://vocab.nerc.ac.uk/collection/P07/current>



NERC Vocabulary Server

↑ -- age_of_sea_ice --

URI	http://vocab.nerc.ac.uk/collection/P07/current/CFV16A1/
Identifier ()	SDN:P07::CFV16A1
Preferred label (en)	age_of_sea_ice
Alternative label ()	
Definition (en)	"Age of sea ice" means the length of time elapsed since the ice formed.
Version Info ()	1
Deprecated()	false
Same as	http://mmisw.org/ont/cf/parameter/age_of_sea_ice
Broader	http://vocab.nerc.ac.uk/collection/P02/current/IAGE/
Related	http://vocab.nerc.ac.uk/collection/P06/current/UYRS/
Date ()	2010-10-11 13:13:32.0

NERC Vocabulary Server

CF area_type list: P29

CF standardized region list: P30

CF cell_methods list: P15

CF calendars: P37

CF vertical coverages: P38

Access methods: URLs, SOAP, SPARQL endpoint

CEDA Standard Names Editor

surface_northward_sea_water_velocity

accepted

[View](#)

Proposer: Ute Brönnner

Proposed Date: May 30, 2017

Comments: Remove unnecessary sentence from definition: "Water" means water in all phases, including frozen i.e. ice and snow. This is not appropriate for sea water names.

CF mailing list link: [standard names under ice velocity of water](#)

Units: m s⁻¹ (UVAA)

[Updated term description](#)

The surface called "surface" means the lower boundary of the atmosphere. A velocity is a vector quantity. "Northward" indicates a vector component which is positive when directed northward (negative southward).

surface_eastward_sea_water_velocity

accepted

[View](#)

Proposer: Ute Brönnner

Proposed Date: May 30, 2017

Comments: Remove unnecessary sentence from definition: "Water" means water in all phases, including frozen i.e. ice and snow. This is not appropriate for sea water names.

CF mailing list link: [standard names under ice velocity of water](#)

Units: m s⁻¹ (UVAA)

[Updated term description](#)

The surface called "surface" means the lower boundary of the atmosphere. A velocity is a vector quantity. "Eastward" indicates a vector component which is positive when directed eastward (negative westward).

mass_fraction_of_chloride_dry_aerosol_particles_in_air

under discussion

[View](#)

Proposer: Daniel Neumann

Proposed Date: May 18, 2017

Comments:

CF mailing list link: [New standard names for atmospheric sea salt and for nitrogen deposition](#)

Units: 1 (UUUU)

[New Term](#)

<http://cfeditor.ceda.ac.uk/proposals/1>

CEDA Standard Names Editor

surface_mole_concentration_of_carbonate_abiotic_analogue_expressed_as_carbon_in_sea_water

rejected

View

Proposer: Paul Durack

Proposed Date: Sept. 28, 2016

Comments: CMIP6 - OMIP Proposal added to rejected list after agreement to use existing name

mole concentration of carbonate abiotic analogue expressed as carbon in sea water

CF mailing list link: [New standard names for OMIP biogeochemistry and chemistry](#)

Units: mol m⁻³ (MLM3)

New Term

The surface called "surface" means the lower boundary of the atmosphere. Mole concentration means number of moles per unit volume, also called "molarity", and is used in the construction "mole_concentration_of_X_in_Y", where X is a material constituent of Y. A chemical or biological species denoted by X may be described by a single term such as "nitrogen" or a phrase such as "nox_expressed_as_nitrogen". In ocean biogeochemistry models, an "abiotic analogue" is used to simulate the effect on a modelled variable when biological effects on ocean carbon concentration and alkalinity are ignored. The phrase "expressed_as" is used in the construction A_expressed_as_B, where B is a chemical constituent of A. It means that the quantity indicated by the standard name is calculated solely with respect to the B contained in A, neglecting all other chemical constituents of A. The chemical formula of the carbonate anion is CO₃ with an electrical charge of minus two.

Comments: CMIP6 – OMIP Proposal added to rejected list after agreement to use existing name

mole_concentration_of_carbonate_abiotic_analogue_expressed_as_carbon_in_sea_water



CEDA Standard Names Editor

phytoplankton diatoms diazotroph	Phytoplankton are algae that grow where there is sufficient light to support photosynthesis
miscellaneous_phytoplankton	“Miscellaneous phytoplankton” are all those phytoplankton that are not diatoms, diazotrophs, calcareous phytoplankton, picophytoplankton or other separately named components of the phytoplankton population.
picophytoplankton	Picophytoplankton are phytoplankton that produce calcite.
diazotroph	In ocean modelling, diazotrophs are phytoplankton of the phylum cyanobacteria distinct from other phytoplankton groups in their ability to fix nitrogen gas in addition to nitrate and ammonium.
diatoms	Diatoms are phytoplankton with an external skeleton made of silica.



CF mailing list or GitHub?

Vocabulary discussions should continue on CF mailing list because:

- The people proposing new names are often scientists, not developers, and are often new to CF
- We need to make it easy for such people to engage with the CF process
- Past discussions all in one place – mailing list archives
- We shouldn't require a CF user to learn about GitHub to propose one or two standard names
- Moving discussion to GitHub will not make the process of publishing new names more efficient



What Next?

- Continue with monthly updates to published vocabularies
- Finish publishing CMIP6 standard names
- Document use of CEDA standard names editor – opportunity to train another member of staff in CF processes and to perform vocabulary updates
- Users need training in ‘correct’ use of CF: NCAS “Introduction to Scientific Computing” course is one example
- CEDA will prepare example data files with accompanying code as part of our Help documentation: CF-NetCDF will be first use case



Any questions?

