CF Controlled Vocabularies
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Air Potential Temperature

Potential temperature is the temperature a parcel of air or sea water would have if moved adiabatically to sea level pressure.

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.
CF standard names by science domain (V46)

2889 total

- Atmospheric chemistry (48%)
- Atmospheric dynamics (5%)
- Cloud (4.5%)
- Radiation (6%)
- Carbon cycle (16.5%)
- Hydrology (12%)
- Ocean Dynamics (5%)
- Sea surface waves (3%)
- Ocean Biogeochemistry (12%)
- Cryosphere (6.5%)
- Surface (18%)
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
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<td>&quot;Age of sea ice&quot; means the length of time elapsed since the ice formed.</td>
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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
surface_northward_sea_water_velocity

accepted

Proposer: Ute Brönner
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)

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

Proposer: Ute Brönner
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)

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

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)

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

Commenters:

- CMIP6

CF mailing list link: New standard names for OMIP biogeochemistry and chemistry

Units: mol m⁻³ (MLM3)
| phytoplankton || diatoms || diazotroph | Phytoplankton are algae that grow where there is sufficient light to support photosynthesis |
| miscellaneouphytoplankton | “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?