Unit Dictionary

Below are the accepted units in the FSDB organized by unit type.
Please select the 'unit code' to use in the attribute table when submitting data.

Unit Type	Unit Code	Unit Description
amountOfSubstance		
	umol	micromoles
	mmol	millimoles
	mol	moles of substance
	nmol	nanomoles
amountOfSubstanceConcentration		
	umol/l	micromoles per liter
amountOfSubstanceWeight		
	umol/g	micromoles per gram
	meq/100g	milliequivalents per 100 grams
amountOfSubstanceWeightFlux		
	umol/g*day	micromoles per gram per day
	umol/g*hr	micromoles per g per hour
	nmol/g*day	nanomoles per g per day
	nmol/g*hr	nanomoles per gram per hour
Angle		
	deg angle	360 degrees comprise a unit circle; degrees used for angle and slope
Area		
	ha	hectares; 1 hectare is 10^4 square meters
	cm2	square centimeters

km2	square kilometers
m2	square meters
mm2	square millimeters

arealAmountOfSubstanceConcentrationRate

umol/m2*sec	micromoles per square meter per second
mol/m2*day	moles per m2 per day

arealDensity

number/acre	number or count per acre
number/ha	number or count per hectare
number/m2	number or count per square meter

arealDensityRate

number/ha*year	number or count per hectare per year
number/m2*day	number or count per square meter per day
m2/ha*year	square meters per hectare per year

arealMassDensity

g/cm2	grams per square centimeter
g/m2	grams per square meter
kg/ha	kilograms per hectare
kg/m2	kilograms per square meter
megag/ha	megagrams per hectare
mg/m2	milligrams per square meter
tons/acre	tons per acre

arealMassDensityRate

g/ha*sec	grams per hectare per second
g/m2*day	grams per square meter per day

	megag/ha*year	Megagrams per hectare per year
areaPerArea		
	m2/ha	square meters per hectare
azimuth		
	deg az	degrees azimuth (0-360)
datetime		
	YYYY-MM-DD	date as date type, eml-compliant
	YYYY-MM-DD hh:mm:ss	date as datetime type, eml-compliant
	mmdd	date as month, day (4 characters and numbers only - no commas, blanks, slashes, etc)
	mmddyy	date as month, day, year (6 characters and numbers only - no commas, blanks, slashes, etc)
	YYYYMMDD	date as year, month, day (8 characters and numbers only - no commas, blanks, slashes, etc)
	day	day of month
	julian day	day of year (julian day)
	month	month of year (MM)
	hh:mm:ss	time as datetime type
	HHMM	Hours and minutes with hh as military hours and mm as minutes
	YYYY	year (4 character) portion of date
	YYYY-MM	year and month as date type
dimensionless		
	number	dimensionless number, i.e., ratio, count
	%	percent; a number
	sequential	a number; sequential numbering

illuminance

molQ/m2*day	moles quanta (moles of photons or Einsteins) per square meter per day

latitudeLongitude

deg dec lat-lon	decimal degrees; latitude (parallel) or longitude (meridian)
deg lat-lon	degrees; latitude (parallel) or longitude (meridian)
minutes	the sixtieth part of a degree
seconds	number of seconds (sixtieth part of a minute of a degree)

length

cm	centimeters; .01 meters
dm	decimeters; .1 meters
ft	feet; 12 inches
in	inches; an imperial measure of length
m	meter; SI unit of length
mm	millimeters; .001 meters
yard	yard

mass

g	grams; 0.001 kilogram
kg	kilograms; SI unit of mass
ug	micrograms
mg	milligrams

massDensity

g/cm3	grams per cubic centimeter
g/ml	grams per milliliter
megag/m3	megagrams per cubic meter

	ug/m3	micorgrams per cubic meter
	ug/dl	micrograms per deciliter
	ug/l	micrograms per liter
	mg/m3	milligrams per cubic meter
	mg/l	milligrams per liter
	mg/ml	milligrams per milliliter
	ppm	parts per million
massFlux		
	ug/sec	micrograms per second
	mg/day	milligrams per day
massPerMass		
	g/g	grams per gram (often in terms of dry weight)
	ug/g	micrograms per gram
	mg/g	milligrams per gram
	mg/kg	milligrams per kilograms
	o/oo	parts per thousand, relative to a standard. for isotopes. Isotope data uses LC-delta=(Rx/Rs-1)*1000
massPerMassRate		
	ug/g*day	micrograms per gram per day
	ug/g*hour	micrograms per gram per hour
	ug/g*week	micrograms per gram per week
	ng/g*hr	nanograms/gram*hour
powerDenisityFlux		
	langleys	1 langley= 4.187 Joules per square centimeter; langley per day=0.4846 W per square meter; (W=1 Joule per sec)

	megaJ/m2	megaJoule per meter squared
powerDensity		
	langleys/min	1 langley= 4.187 Joules per square centimeter; langley per minute=697.8 W per square meter; (W=1 Joule per sec)
	megaJ/cm2*year	megaJoule per square centimeter per year
	W/m2	watt per meter squared
pressure		
	atm	pressure in bars
	mbar	The standard unit of measurement for atmospheric pressure used by the National Weather Service. One millibar is equivalent to 100 newtons per square meter.
	bar	1 bar = 100000 pascals; =0.9869 atmospheres; =0.1 megapascal (MPa); =100 kilopascals (kPa)
specific conductance		
	uS/cm	micro Siemens per centimeter
	mS/cm	milli Siemens per centimeter
specific ultra violet absorbance		
	SUVA[254nm] l/mg*m	Specific Ultra Violet Absorbance (liter per milligram per meter)
specificActivity		
	mmol/hr*g	millimol per hour per gram
speed		
	ft/sec	feet per second
	in/hr	inches per hour
	m/day	meters per day
	m/sec	meters per second

temperature

deg c	Degrees Celsius; a common unit of temperature; constantToSI=273.18
deg f	Degrees Fahrenheit; an obsolescent unit of temperature still used in popular meteorology; constantToSI= -255.402

time

days	one day excluding leap seconds, 86400 seconds
hours	one hour excluding leap seconds, 3600 seconds
min	one minute excluding leap seconds, 60 seconds; the sixtieth part of an hour of time
sec	SI unit of time; sixtieth part of a minute of time
years	one year excluding leap seconds and leap days, 31536000 seconds (often used for age in years)

Undefined

Ntu	nephelometric turbidity unit
ph	Scale used for pH measurements

volume

acre-foot	acre foot
cm3	cubic centimeters
ft3	cubic feet
m3	cubic meters
l	liters; 1000 cm^3
ml	milliliters; 1/1000 of a liter

volumePerVolume

m3/m3	cubic meters per cubic meter
ml/cm3	milliliters per cubic centimeter; also cubic centimeters per cubic centimeter

volumetricArea

m3/ha	cubic meters per hectare
m3/m2	cubic meters per square meter
l/m2	liters per square meter

volumetricAreaRate

cfsm	cubic feet per second per square mile

volumetricDensity

cfu/100ml	Colony Forming Units (CFU)/100ml of Water

volumetricDensityRate

m3/ha*year	cubic meters per hectare per year

volumetricRate

cfs	cubic feet per second
l/sec	liters per second
ml/min	milliliter per minute