Table S1. Updates to ForC field implemented between releases of v3.0 and v4.0.

Table	Column	Description	Changes	Motivation
Sites	coordinates.precision	Precision of geographic coordinates, as reported by source or estimated from maps.	field added	allow identification of records with poor coordinate precision
Measurements	data.location.within.source	Location of data within the source listed in citation.ID.	field added	facilitate review, ensure traceability
	sd, se, lower95%CI, upper 95%CI	Standard deviation, standard error, and lower and upper 95 percent confidence intvervals, respectively.	replaces 'stat' and 'stat.name'	cleaner format; ability to handle assymetrical 95 percent confidence intervals
	mean.in.original.units, original.units	mean value and units presented in original publication	fields added	provide IPCC's EFDB with original units, reduce errors/improve reproducibility
	C.conversion.factor	Assumed/ measured C content of organic matter used to convert organic matter to C.	field added	track units conversion, allow back-calculation of OM if conversion factor deemed inappropriate
PFT	description	Definition of the pftcode at the community level. Differs from individual level in that properly describes mixed plant functional types.	field added	clarify PFT at community and individual levels
	description.individual	Definition of the pftcode at the individual plant level.	field name change (previously 'description')	clarify PFT at community and individual levels
Citations	citation.citation	Full citation. Most of these records are automatically generated in R based upon DOI lookup.	field added	field required by IPCC's EFDB
	citation.language	Language of original publication, automatically generated based on the title and abstract, with some manual entries and corrections.	field added	field required by IPCC's EFDB
	citation.url	URL of original publication, generally retrieved automatically via URL lookup.	field added	field required by IPCC's EFDB
	citation.abstract	Abstract, generally retrieved automatically via DOI lookup.	field added	field required by IPCC's EFDB
	source.type	citation source type	field added	field required by IPCC's EFDB
	pdf.in.repository	Indicates whether pdf of original study has been retrieved and saved in ForC's reference repository	field added	housekeeping

(continued)

Table	Column	Description	Changes	Motivation
	EFDB.ready	Indicates whether data have been checked for export to EFDB.	field added	housekeeping

Table S2. Mapping of ForC fields to EFDB. Details documented in the public GitHub repository associated with the project, IPCC-EFDB-integration repository within the ForC-db organization (file *ForC-EFDB_mapping.csv* available at https://github.com/forc-db/IPCC-EFDB-integration/blob/main/doc/ForC-EFDB_mapping/ForC-EFDB_mapping.csv).

ForC table	ForC field	EFDB field	Usage	Required*
Measurements	measurement.ID	Other Properties	direct mapping	(no)
	dominant.life.form	1996 Source/Sink Categories, 2006 Source/Sink Categories	used to determine land subcategories (see defining_land_subcategory.md)	yes
	stand.age	1996 Source/Sink Categories, 2006 Source/Sink Categories, Parameters/ Conditions	used to determine land subcategories (see defining_land_subcategory.md), directly listed in Parameters/ Conditions	(yes)
	dominant.veg, veg.notes, min.dbh	Parameters/ Conditions	direct mapping/ linking to dominant.veg description	no
	variable.name	-	link to variable info in ForC_variables table	yes
	date / start.date, end.date	Other Properties	direct mapping	no
	mean	Value	direct mapping	yes
	mean.in.original.units	Value in Common Units	direct mapping	yes
	original.units	Common Unit	direct mapping	yes
	lower95%CI, upper 95%CI, se, sd and n	Lower Confidence Limit, Upper Confidence Limit	direct or calculated	(yes)
	depth, covariate_1, cov_1.value, covariate_2, cov_2.value	Other Properties	direct mapping	no
	allometry_1, allometry_2	Comments from Data Provider	link to biomass allometry source, when provided	no
	data.location.within.source		confirm that data weren't digitized, facilitate finding data in original publication	yes
	ForC.investigator	Data Provider, Data Provider Contact	link to Data Provider, Data Provider Contact info	yes
Sites	site.ID, sites.sitename	Other Properties	direct mapping	(no)
	lat, lon	Region/Regional conditions	direct mapping; used to extract continent, Koeppen, and FAO.ecozone	(no)
	country, state, city, masl, mat, map	Region/Regional conditions	direct mapping	no
	continent, Koeppen	Region/Regional conditions	direct mapping	auto
	soil.texture, sand, silt, clay, soil.classification	Parameters/ Conditions	direct mapping	no
	FAO.ecozone	Parameters/ Conditions	direct mapping	auto
History	date, hist.cat, hist.type	1996 Source/Sink Categories, 2006 Source/Sink Categories, Abatement/Control technologies	used to determine distmrs.type for Source/Sink Categories, generate list of events for Abatement/Control technologies	most recent severe disturbance: (yes) / other history events: no

(continued)

ForC table	ForC field	EFDB field	Usage	Required*
	plot.area	Other Properties	direct mapping	no
Plots	plot.ID, plot.name	Other Properties	direct mapping	(no)
	distmrs.type	1996 Source/Sink Categories, 2006 Source/Sink Categories	used to determine land subcategories (see defining_land_subcategory.md)	auto
	distmrs.type, distmrs.year, regrowth.type, regrowth.year	Other Properties	direct mapping	auto
PFT	description	Parameters/ Conditions	direct mapping	auto
variables	variable.type	Gases	For stocks in unit of organic matter, gases include CO2, CO, CH4, NO, NO2, N2O. For increments, fluxes, and stocks in units of C, gases includes only CO2.	auto
	variable.name	C pool, Equation	link to C pool, Equation	auto
	description	Description	direct mapping	auto
	extended.description	Other Properties	direct mapping	auto
	units	Unit (ID)	link to IPCC units	auto
Citations	citation.citation	Full Technical Reference	direct mapping	yes/auto
	citation.language	Reference Language	direct mapping	yes/auto
	citation.url	URL	direct mapping	no/auto
	citation.abstract	Abstract in English	direct mapping	no/auto
	source.type	Source of Data	direct mapping	yes

* *Required* field indicates whether the field is required by EFDB: yes = value required; (yes) = input required, missing value acceptable if not reported; auto = present within ForC infrasructure, and therefore will always be exported to EFDB ; (no) = not required for EFDB, but required for ForC and therefore will always be exported to EFDB; no = not required, but exported to EFDB when a value is present.

Table S3. Numbers of ForC records and EFDB submissions by variable.

```
##
## Attaching package: 'flextable'
## The following objects are masked from 'package:kableExtra':
##
##     as_image, footnote
```

variable	n in ForC	n independent records in ForC	n reviewed	n submitted to EFDB
Biomass				
biomass	1094	850	95	50
delta.biomass	0	0	0	0
NPP_woody	136	93	0	0
woody.mortality	0	0	0	0
Aboveground biomass				
biomass_ag	9449	8148	1357	764
biomass_ag_woody	460	366	10	10
biomass_ag_foliage	601	520	73	45
delta.agb	166	150	145	123
ANPP_woody	299	242	0	0
ANPP_woody_stem	949	622	60	61
ANPP_woody_branch	243	200	4	4
woody.mortality_ag	112	75	47	50
stem_pC	9	0	0	0
Belowground biomass				
biomass_root	4629	4185	125	57
biomass_root_fine	930	595	18	18
biomass_root_coarse	599	413	12	7
delta.biomass_root	0	0	0	0
delta.biomass_root_coarse	0	0	0	0
delta.biomass_root_fine	0	0	0	0
woody.mortality_root	0	0	0	0
BNPP_root	577	416	0	0
BNPP_root_fine	488	331	0	0
BNPP_root.turnover_fine	91	56	0	0
BNPP_root_coarse	329	250	0	0
Dead wood				
deadwood	438	304	104	70

variable	n in ForC	n independent records in ForC	n reviewed	n submitted to EFDB
deadwood_standing	153	121	18	17
deadwood_down	425	369	52	28
delta.deadwood	0	0	0	0
delta.deadwood_standing	0	0	0	0
delta.deadwood_down	0	0	0	0
R_het_deadwood	0	0	0	0
Litter				
O.horizon	45	45	45	40
delta.O.horizon	4	4	4	4
litter	30	30	23	23
delta.litter	0	0	0	0
ANPP_litterfall	294	253	11	11
NPP_litter	94	70	0	0
R_het_litter	167	143	0	0
Total Ecosystem C (excl. soils)				
total.ecosystem_2	64	64	0	0
delta.total.ecosystem_2	0	0	0	0
Soil organic matter				
SOM / SOC	693	401	89	56
delta.SOM / delta.SOC	0	0	0	0
TOTAL	**23568**	**19316**	**2292**	**1438**