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South African National Biodiversity Institute

Primary Biodiversity Data Standards

What is Simple Darwin Core?

The *Simple Darwin Core* is a predefined subset of the terms that have common use across a wide variety of biodiversity applications. The terms used in the *Simple Darwin Core* are those that are found at the cross-section of taxonomic names, places, and events that document biological occurrences on the planet. The two driving principles are simplicity and flexibility.

Are there any rules?

There are just a few general guiding principles on how to make the best use of the *Simple Darwin Core*:

- Any Darwin Core term name can be used as a field name.
- No field name may be repeated in a record.
- Do not use a *Class* ([Occurrence](#), [Event](#), [Location](#), [GeologicalContext](#), [Identification](#), [Taxon](#)) as a field.
- Provide data in as many fields as you can.
- Use the [dcterms:type](#) field to say what Dublin Core type (PhysicalObject, StillImage, MovingImage, Sound) the record represents, if possible.
- Use the [basisOfRecord](#) field to say what Darwin Core type (PreservedSpecimen, FossilSpecimen, LivingSpecimen, HumanObservation, MachineObservation, NomenclaturalChecklist, Taxon, Occurrence, Location, Event) the record represents.
- Populate fields with data that match the definition of the field.
- Use the controlled vocabulary for the values of fields that recommend them.
- If data are withheld, use [informationWithheld](#) to say so.
- If data are shared in lower quality than the original, use [dataGeneralizations](#) to say so.

Here is where you can get more information about the Simple Darwin Core terms and definitions:

<http://rs.tdwg.org/dwc/index.htm> Home Page for the Standard

<http://rs.tdwg.org/dwc/2009-07-06/terms/simple/index.htm> Home page for Simple Darwin core

<http://rs.tdwg.org/dwc/terms/index.htm> Term Definition For the terms used in Simple Darwin Core

Darwin Core Terms: A quick reference guide		
To be Digitized	Term Name	Definition
	Occurrence	The category of information pertaining to evidence of an occurrence in nature, in a collection, or in a dataset (specimen, observation, etc.).
	Event	The category of information pertaining to an event (an action that occurs at a place and during a period of time).
	Location	A spatial region or named place. For Darwin Core, a set of terms describing a place, whether named or not.
	GeologicalContext	The category of information pertaining to a location within a geological context, such as stratigraphy.
	Identification	The category of information pertaining to taxonomic determinations (the assignment of a scientific name).
	Taxon	The category of information pertaining to taxonomic names, taxon name usages, or taxon concepts.
	ResourceRelationship	The category of information pertaining to relationships between resources (instances of data records, such as Occurrences, Taxa, Locations, Events).
	MeasurementOrFact	The category of information pertaining to measurements, facts, characteristics, or assertions about a resource (instance of data record, such as Occurrence, Taxon, Location, Event).
	Type	The nature or genre of the resource. For Darwin Core, recommended best practice is to use the name of the class that defines the root of the record.
	Modified	The most recent date-time on which the resource was changed. For Darwin Core, recommended best practice is to use an encoding scheme, such as ISO 8601:2004(E).
	Language	A language of the resource. Recommended best practice is to use a controlled vocabulary such as RFC 4646 [RFC4646].
	Rights	Information about rights held in and over the resource. Typically, rights information includes a statement about various property rights associated with the resource, including intellectual property rights.
	RightsHolder	A person or organization owning or managing rights over the resource.
	AccessRights	Information about who can access the resource or an indication of its security status. Access Rights may include information regarding access or restrictions based on privacy, security, or other policies.
	BibliographicCitation	A bibliographic reference for the resource as a statement indicating how this record should be cited (attributed) when used. Recommended practice is to include sufficient bibliographic detail to identify the resource as unambiguously as possible.
	InstitutionCode	The name (or acronym) in use by the institution having custody of the object(s) or information referred to in the record.
	CollectionCode	The name, acronym, coden, or initialism identifying the collection or data set from which the record was derived.
	DatasetName	The name identifying the data set from which the record was derived.
	OwnerInstitutionCode	The name (or acronym) in use by the institution having ownership of the object(s) or information referred to in the record.
	BasisOfRecord	The specific nature of the data record - a subtype of the dcterms:type. Recommended best practice is to use a controlled vocabulary such as the Darwin Core Type Vocabulary (http://rs.tdwg.org/dwc/terms/type-vocabulary/index.htm).
	InformationWithheld	Additional information that exists, but that has not been shared in the given record.
	DataGeneralizations	Actions taken to make the shared data less specific or complete than in its original form. Suggests that alternative data of higher quality may be available on request.
	DynamicProperties	A list (concatenated and separated) of additional measurements, facts, characteristics, or assertions about the record. Meant to provide a mechanism for structured content such as key-value pairs.
	OccurrenceID	An identifier for the Occurrence (as opposed to a particular digital record of the occurrence). In the absence of a persistent global unique identifier, construct one from a combination of identifiers in the record that will most closely make the occurrenceID globally unique.
	CatalogNumber	An identifier (preferably unique) for the record within the data set or collection.
	OccurrenceDetails	A reference (publication, URI) to the most detailed information available about the Occurrence.
	OccurrenceRemarks	Comments or notes about the Occurrence.
	RecordNumber	An identifier given to the Occurrence at the time it was recorded. Often serves as a link between field notes and an Occurrence record, such as a specimen collector's number.
	RecordedBy	A list (concatenated and separated) of names of people, groups, or organizations responsible for recording the original Occurrence. The

		primary collector or observer, especially one who applies a personal identifier (recordNumber), should be listed first.
	IndividualCount	The number of individuals represented present at the time of the Occurrence.
	Sex	The sex of the biological individual(s) represented in the Occurrence. Recommended best practice is to use a controlled vocabulary.
	LifeStage	The age class or life stage of the biological individual(s) at the time the Occurrence was recorded. Recommended best practice is to use a controlled vocabulary.
	ReproductiveCondition	The reproductive condition of the biological individual(s) represented in the Occurrence. Recommended best practice is to use a controlled vocabulary.
	Behavior	A description of the behavior shown by the subject at the time the Occurrence was recorded. Recommended best practice is to use a controlled vocabulary.
	EstablishmentMeans	The process by which the biological individual(s) represented in the Occurrence became established at the location. Recommended best practice is to use a controlled vocabulary.
	OccurrenceStatus	A statement about the presence or absence of a Taxon at a Location. Recommended best practice is to use a controlled vocabulary.
	Preparations	A list (concatenated and separated) of preparations and preservation methods for a specimen.
	Disposition	The current state of a specimen with respect to the collection identified in collectionCode or collectionID. Recommended best practice is to use a controlled vocabulary.
	OtherCatalogNumbers	A list (concatenated and separated) of previous or alternate fully qualified catalog numbers or other human-used identifiers for the same Occurrence, whether in the current or any other data set or collection.
	PreviousIdentifications	A list (concatenated and separated) of previous assignments of names to the Occurrence.
	AssociatedMedia	A list (concatenated and separated) of identifiers (publication, global unique identifier, URI) of media associated with the Occurrence.
	AssociatedReferences	A list (concatenated and separated) of identifiers (publication, bibliographic reference, global unique identifier, URI) of literature associated with the Occurrence.
	AssociatedOccurrences	A list (concatenated and separated) of identifiers of other Occurrence records and their associations to this Occurrence.
	AssociatedSequences	A list (concatenated and separated) of identifiers (publication, global unique identifier, URI) of genetic sequence information associated with the Occurrence.
	AssociatedTaxa	A list (concatenated and separated) of identifiers or names of taxa and their associations with the Occurrence.
	SamplingProtocol	The name of, reference to, or description of the method or protocol used during an Event.
	SamplingEffort	The amount of effort expended during an Event.
	EventDate	The date-time or interval during which an Event occurred. For occurrences, this is the date-time when the event was recorded. Not suitable for a time in a geological context. Recommended best practice is to use an encoding scheme, such as ISO 8601:2004(E).
	EventTime	The time or interval during which an Event occurred. Recommended best practice is to use an encoding scheme, such as ISO 8601:2004(E).
	StartDayOfYear	The earliest ordinal day of the year on which the Event occurred (1 for January 1, 365 for December 31, except in a leap year, in which case it is 366).
	EndDayOfYear	The latest ordinal day of the year on which the Event occurred (1 for January 1, 365 for December 31, except in a leap year, in which case it is 366).
	Year	The four-digit year in which the Event occurred, according to the Common Era Calendar.
	Month	The ordinal month in which the Event occurred.
	Day	The integer day of the month on which the Event occurred.
	VerbatimEventDate	The verbatim original representation of the date and time information for an Event.
	Habitat	A category or description of the habitat in which the Event occurred.
	FieldNumber	An identifier given to the event in the field. Often serves as a link between field notes and the Event.
	FieldNotes	One of a) an indicator of the existence of, b) a reference to (publication, URI), or c) the text of notes taken in the field about the Event.
	EventRemarks	Comments or notes about the Event.
	HigherGeography	A list (concatenated and separated) of geographic names less specific than the information captured in the locality term.
	Continent	The name of the continent in which the Location occurs. Recommended best practice is to use a controlled vocabulary such as the Getty

		Thesaurus of Geographic Names or the ISO 3166 Continent code.
	WaterBody	The name of the water body in which the Location occurs. Recommended best practice is to use a controlled vocabulary such as the Getty Thesaurus of Geographic Names.
	IslandGroup	The name of the island group in which the Location occurs. Recommended best practice is to use a controlled vocabulary such as the Getty Thesaurus of Geographic Names.
	Island	The name of the island on or near which the Location occurs. Recommended best practice is to use a controlled vocabulary such as the Getty Thesaurus of Geographic Names.
	Country	The name of the country or major administrative unit in which the Location occurs. Recommended best practice is to use a controlled vocabulary such as the Getty Thesaurus of Geographic Names.
	CountryCode	The standard code for the country in which the Location occurs. Recommended best practice is to use ISO 3166-1-alpha-2 country codes.
	StateProvince	The name of the next smaller administrative region than country (state, province, canton, department, region, etc.) in which the Location occurs.
	County	The full, unabbreviated name of the next smaller administrative region than stateProvince (county, shire, department, etc.) in which the Location occurs.
	Municipality	The full, unabbreviated name of the next smaller administrative region than county (city, municipality, etc.) in which the Location occurs. Do not use this term for a nearby named place that does not contain the actual location.
	Locality	The specific description of the place. Less specific geographic information can be provided in other geographic terms (higherGeography, continent, country, stateProvince, county, municipality, waterBody, island, islandGroup). This term may contain information modified from the original to correct perceived errors or standardize the description.
	VerbatimLocality	The original textual description of the place.
	VerbatimElevation	The original description of the elevation (altitude, usually above sea level) of the Location.
	MinimumElevationInMeters	The lower limit of the range of elevation (altitude, usually above sea level), in meters.
	MaximumElevationInMeters	The upper limit of the range of elevation (altitude, usually above sea level), in meters.
	VerbatimDepth	The original description of the depth below the local surface.
	MinimumDepthInMeters	The lesser depth of a range of depth below the local surface, in meters.
	MaximumDepthInMeters	The greater depth of a range of depth below the local surface, in meters.
	MinimumDistanceAboveSurfaceInMeters	The lesser distance in a range of distance from a reference surface in the vertical direction, in meters. Use positive values for locations above the surface, negative values for locations below. If depth measures are given, the reference surface is the location given by the depth, otherwise the reference surface is the location given by the elevation.
	MaximumDistanceAboveSurfaceInMeters	The greater distance in a range of distance from a reference surface in the vertical direction, in meters. Use positive values for locations above the surface, negative values for locations below. If depth measures are given, the reference surface is the location given by the depth, otherwise the reference surface is the location given by the elevation.
	LocationAccordingTo	Information about the source of this Location information. Could be a publication (gazetteer), institution, or team of individuals.
	LocationRemarks	Comments or notes about the Location.
	VerbatimCoordinates	The verbatim original spatial coordinates of the Location. The coordinate ellipsoid, geodeticDatum, or full Spatial Reference System (SRS) for these coordinates should be stored in verbatimSRS and the coordinate system should be stored in verbatimCoordinateSystem.
	VerbatimLatitude	The verbatim original latitude of the Location. The coordinate ellipsoid, geodeticDatum, or full Spatial Reference System (SRS) for these coordinates should be stored in verbatimSRS and the coordinate system should be stored in verbatimCoordinateSystem.
	VerbatimLongitude	The verbatim original longitude of the Location. The coordinate ellipsoid, geodeticDatum, or full Spatial Reference System (SRS) for these coordinates should be stored in verbatimSRS and the coordinate system should be stored in verbatimCoordinateSystem.
	VerbatimCoordinateSystem	The spatial coordinate system for the verbatimLatitude and verbatimLongitude or the verbatimCoordinates of the Location. Recommended best practice is to use a controlled vocabulary.
	VerbatimSRS	The ellipsoid, geodetic datum, or spatial reference system (SRS) upon which coordinates given in verbatimLatitude and

		verbatimLongitude, or verbatimCoordinates are based. Recommended best practice is use the EPSG code as a controlled vocabulary to provide an SRS, if known. Otherwise use a controlled vocabulary for the name or code of the geodetic datum, if known. Otherwise use a controlled vocabulary for the name or code of the ellipsoid, if known. If none of these is known, use the value "unknown".
	DecimalLatitude	The geographic latitude (in decimal degrees, using the spatial reference system given in geodeticDatum) of the geographic center of a Location. Positive values are north of the Equator, negative values are south of it. Legal values lie between -90 and 90, inclusive.
	DecimalLongitude	The geographic longitude (in decimal degrees, using the spatial reference system given in geodeticDatum) of the geographic center of a Location. Positive values are east of the Greenwich Meridian, negative values are west of it. Legal values lie between -180 and 180, inclusive.
	GeodeticDatum	The ellipsoid, geodetic datum, or spatial reference system (SRS) upon which the geographic coordinates given in decimalLatitude and decimalLongitude as based. Recommended best practice is use the EPSG code as a controlled vocabulary to provide an SRS, if known. Otherwise use a controlled vocabulary for the name or code of the geodetic datum, if known. Otherwise use a controlled vocabulary for the name or code of the ellipsoid, if known. If none of these is known, use the value "unknown".
	CoordinateUncertaintyInMeters	The horizontal distance (in meters) from the given decimalLatitude and decimalLongitude describing the smallest circle containing the whole of the Location. Leave the value empty if the uncertainty is unknown, cannot be estimated, or is not applicable (because there are no coordinates). Zero is not a valid value for this term.
	CoordinatePrecision	A decimal representation of the precision of the coordinates given in the decimalLatitude and decimalLongitude.
	PointRadiusSpatialFit	The ratio of the area of the point-radius (decimalLatitude, decimalLongitude, coordinateUncertaintyInMeters) to the area of the true (original, or most specific) spatial representation of the Location. Legal values are 0, greater than or equal to 1, or undefined. A value of 1 is an exact match or 100% overlap. A value of 0 should be used if the given point-radius does not completely contain the original representation. The pointRadiusSpatialFit is undefined (and should be left blank) if the original representation is a point without uncertainty and the given georeference is not that same point (without uncertainty). If both the original and the given georeference are the same point, the pointRadiusSpatialFit is 1.
	FootprintWKT	A Well-Known Text (WKT) representation of the shape (footprint, geometry) that defines the Location. A Location may have both a point-radius representation (see decimalLatitude) and a footprint representation, and they may differ from each other.
	FootprintSRS	A Well-Known Text (WKT) representation of the Spatial Reference System (SRS) for the footprintWKT of the Location. Do not use this term to describe the SRS of the decimalLatitude and decimalLongitude, even if it is the same as for the footprintWKT - use the geodeticDatum instead.
	FootprintSpatialFit	The ratio of the area of the footprint (footprintWKT) to the area of the true (original, or most specific) spatial representation of the Location. Legal values are 0, greater than or equal to 1, or undefined. A value of 1 is an exact match or 100% overlap. A value of 0 should be used if the given footprint does not completely contain the original representation. The footprintSpatialFit is undefined (and should be left blank) if the original representation is a point and the given georeference is not that same point. If both the original and the given georeference are the same point, the footprintSpatialFit is 1.
	GeoreferencedBy	A list (concatenated and separated) of names of people, groups, or organizations who determined the georeference (spatial representation) the Location.
	GeoreferenceProtocol	A description or reference to the methods used to determine the spatial footprint, coordinates, and uncertainties.
	GeoreferenceSources	A list (concatenated and separated) of maps, gazetteers, or other resources used to georeference the Location, described specifically enough to allow anyone in the future to use the same resources.
	GeoreferenceVerificationStatus	A categorical description of the extent to which the georeference has been verified to represent the best possible spatial description. Recommended best practice is to use a controlled vocabulary.
	GeoreferenceRemarks	Notes or comments about the spatial description determination, explaining assumptions made in addition or opposition to the those formalized in the method referred to in georeferenceProtocol.
	EarliestEonOrLowestEonothem	The full name of the earliest possible geochronologic eon or lowest chrono-stratigraphic eonothem or the informal name ("Precambrian") attributable to the stratigraphic horizon from which the cataloged item was collected.
	LatestEonOrHighestEonothem	The full name of the latest possible geochronologic eon or highest chrono-stratigraphic eonothem or the informal name ("Precambrian") attributable to the stratigraphic horizon from which the cataloged item was collected.
	EarliestEraOrLowestErathem	The full name of the earliest possible geochronologic era or lowest chronostratigraphic erathem attributable to the stratigraphic horizon

		from which the cataloged item was collected.
	LatestEraOrHighestErathem	The full name of the latest possible geochronologic era or highest chronostratigraphic erathem attributable to the stratigraphic horizon from which the cataloged item was collected.
	EarliestPeriodOrLowestSystem	The full name of the earliest possible geochronologic period or lowest chronostratigraphic system attributable to the stratigraphic horizon from which the cataloged item was collected.
	LatestPeriodOrHighestSystem	The full name of the latest possible geochronologic period or highest chronostratigraphic system attributable to the stratigraphic horizon from which the cataloged item was collected.
	EarliestEpochOrLowestSeries	The full name of the earliest possible geochronologic epoch or lowest chronostratigraphic series attributable to the stratigraphic horizon from which the cataloged item was collected.
	LatestEpochOrHighestSeries	The full name of the latest possible geochronologic epoch or highest chronostratigraphic series attributable to the stratigraphic horizon from which the cataloged item was collected.
	EarliestAgeOrLowestStage	The full name of the earliest possible geochronologic age or lowest chronostratigraphic stage attributable to the stratigraphic horizon from which the cataloged item was collected.
	LatestAgeOrHighestStage	The full name of the latest possible geochronologic age or highest chronostratigraphic stage attributable to the stratigraphic horizon from which the cataloged item was collected.
	LowestBiostratigraphicZone	The full name of the lowest possible geological biostratigraphic zone of the stratigraphic horizon from which the cataloged item was collected.
	HighestBiostratigraphicZone	The full name of the highest possible geological biostratigraphic zone of the stratigraphic horizon from which the cataloged item was collected.
	LithostratigraphicTerms	The combination of all litho-stratigraphic names for the rock from which the cataloged item was collected.
	Group	The full name of the lithostratigraphic group from which the cataloged item was collected.
	Formation	The full name of the lithostratigraphic formation from which the cataloged item was collected.
	Member	The full name of the lithostratigraphic member from which the cataloged item was collected.
	Bed	The full name of the lithostratigraphic bed from which the cataloged item was collected.
	IdentifiedBy	A list (concatenated and separated) of names of people, groups, or organizations who assigned the Taxon to the subject.
	DateIdentified	The date on which the subject was identified as representing the Taxon. Recommended best practice is to use an encoding scheme, such as ISO 8601:2004(E).
	IdentificationReferences	A list (concatenated and separated) of references (publication, global unique identifier, URI) used in the Identification.
	IdentificationRemarks	Comments or notes about the Identification.
	IdentificationQualifier	A brief phrase or a standard term ("cf.", "aff.") to express the determiner's doubts about the Identification.
	TypeStatus	A list (concatenated and separated) of nomenclatural types (type status, typified scientific name, publication) applied to the subject.
	ScientificName	The full scientific name, with authorship and date information if known. When forming part of an Identification, this should be the name in lowest level taxonomic rank that can be determined. This term should not contain identification qualifications, which should instead be supplied in the IdentificationQualifier term.
	AcceptedNameUsage	The full name, with authorship and date information if known, of the currently valid (zoological) or accepted (botanical) taxon.
	ParentNameUsage	The full name, with authorship and date information if known, of the direct, most proximate higher-rank parent taxon (in a classification) of the most specific element of the scientificName.
	OriginalNameUsage	The taxon name, with authorship and date information if known, as it originally appeared when first established under the rules of the associated nomenclaturalCode. The basionym (botany) or basonym (bacteriology) of the scientificName or the senior/earlier homonym for replaced names.
	NameAccordingTo	The reference to the source in which the specific taxon concept circumscription is defined or implied - traditionally signified by the Latin "sensu" or "sec." (from secundum, meaning "according to"). For taxa that result from identifications, a reference to the keys, monographs, experts and other sources should be given.
	NamePublishedIn	A reference for the publication in which the scientificName was originally established under the rules of the associated nomenclaturalCode.

	HigherClassification	A list (concatenated and separated) of taxa names terminating at the rank immediately superior to the taxon referenced in the taxon record. Recommended best practice is to order the list starting with the highest rank and separating the names for each rank with a semi-colon (;).
	Kingdom	The full scientific name of the kingdom in which the taxon is classified.
	Phylum	The full scientific name of the phylum or division in which the taxon is classified.
	Class	The full scientific name of the class in which the taxon is classified.
	Order	The full scientific name of the order in which the taxon is classified.
	Family	The full scientific name of the family in which the taxon is classified.
	Genus	The full scientific name of the genus in which the taxon is classified.
	Subgenus	The full scientific name of the subgenus in which the taxon is classified. Values should include the genus to avoid homonym confusion.
	SpecificEpithet	The name of the first or species epithet of the scientificName.
	InfraspecificEpithet	The name of the lowest or terminal infraspecific epithet of the scientificName, excluding any rank designation.
	TaxonRank	The taxonomic rank of the most specific name in the scientificName. Recommended best practice is to use a controlled vocabulary.
	VerbatimTaxonRank	The taxonomic rank of the most specific name in the scientificName as it appears in the original record.
	ScientificNameAuthorship	The authorship information for the scientificName formatted according to the conventions of the applicable nomenclaturalCode.
	VernacularName	A common or vernacular name.
	NomenclaturalCode	The nomenclatural code (or codes in the case of an ambiregnal name) under which the scientificName is constructed. Recommended best practice is to use a controlled vocabulary.
	TaxonomicStatus	The status of the use of the scientificName as a label for a taxon. Requires taxonomic opinion to define the scope of a taxon. Rules of priority then are used to define the taxonomic status of the nomenclature contained in that scope, combined with the experts opinion. It must be linked to a specific taxonomic reference that defines the concept. Recommended best practice is to use a controlled vocabulary.
	NomenclaturalStatus	The status related to the original publication of the name and its conformance to the relevant rules of nomenclature. It is based essentially on an algorithm according to the business rules of the code. It requires no taxonomic opinion.
	TaxonRemarks	Comments or notes about the taxon or name.
	RelationshipOfResource	The relationship of the resource identified by relatedResourceID to the subject (optionally identified by the resourceID). Recommended best practice is to use a controlled vocabulary.
	RelationshipAccordingTo	The source (person, organization, publication, reference) establishing the relationship between the two resources.
	RelationshipEstablishedDate	The date-time on which the relationship between the two resources was established. Recommended best practice is to use an encoding scheme, such as ISO 8601:2004(E).
	RelationshipRemarks	Comments or notes about the relationship between the two resources.
	MeasurementType	The nature of the measurement, fact, characteristic, or assertion. Recommended best practice is to use a controlled vocabulary.
	MeasurementValue	The value of the measurement, fact, characteristic, or assertion.
	MeasurementAccuracy	The description of the potential error associated with the measurementValue.
	MeasurementUnit	The units associated with the measurementValue. Recommended best practice is to use the International System of Units (SI).
	MeasurementDeterminedDate	The date on which the MeasurementOrFact was made. Recommended best practice is to use an encoding scheme, such as ISO 8601:2004(E).
	MeasurementDeterminedBy	A list (concatenated and separated) of names of people, groups, or organizations who determined the value of the MeasurementOrFact.
	MeasurementMethod	A description of or reference to (publication, URI) the method or protocol used to determine the measurement, fact, characteristic, or assertion.
	MeasurementRemarks	Comments or notes accompanying the MeasurementOrFact.