

# Occurrence data - template instructions

## Overview

Use this template to record occurrence data; that is, the presence or absence of an organism at a given locality at a given time.

Templates allow you to upload your data into the Biodiversity Data Repository. Not all types of data have been catered for in the available templates at this stage; if you are unable to find a suitable template, please contact [bdr-support@gaiaresources.com.au](mailto:bdr-support@gaiaresources.com.au) to make us aware of your needs.

## NEED TO KNOW:

For your data to be valid, your data file will need to:

- be in the correct **file format**,
- be an **exact match** to the template as downloaded (that is, with no fields added, removed, renamed or re-ordered),
- have correct **data types** in each field (for example dates for date fields),
- have values in **mandatory fields**,
- comply with **value constraints** (for example, geographic coordinates are consistent with one of four available [geodeticDatums](#) , and latitude and longitude values fall within Australia; see [Further Information](#) for details), and
- align with existing **controlled vocabularies** wherever possible (this is mandatory for geodeticDatum, but new terms may be submitted for consideration and will not cause a validation error).

## File format

The occurrence data template is a csv. Be sure to save as a csv after editing (if you have edited the file in Excel, choose one of the CSV options in the *Save as type* dropdown rather than using the default xlsx format. UTF8 only.).

## Template fields

The template contains the field names in the top row. Table 1 will assist you in transferring your data to the template.

Hyperlinks in *Field name* link to the [Darwin Core standard](#). Fields in red are mandatory. Vocabulary pick lists are provided for some fields – options are given in Table 2.

Table 1: Template fields

Field name	Description	Required	Format	Example / Vocabulary
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recordID	Any unique identifier allocated to this record by you (you may use this for linking the record to your own record-keeping system).	Optional	String	89T22FSJM J079c5cf
<a href="#">locality</a>	A description of the place.	Optional	String	Cowaramup Bay Road, Margaret River
<b><a href="#">decimalLatitude</a></b>	The latitude (in decimal degrees), using the spatial reference system given in geodeticDatum, of the geographic centre of a locality. Southern Hemisphere values must be negative. Values must fall within the bounds of Australia (see <a href="#">Further Information</a> ).	Mandatory	Float	-33.812314
<b><a href="#">decimalLongitude</a></b>	The geographic longitude (in decimal degrees), using the spatial reference system given in geodeticDatum, of the geographic centre of a Location. Australian values will be positive. Values must fall within the bounds of Australia (see <a href="#">Further Information</a> ).	Mandatory	Float	115.231512
<b><a href="#">geodeticDatum</a></b>	The ellipsoid, geodetic datum, or spatial reference system (SRS) upon which the geographic (non-projected) coordinates given in decimalLatitude and decimalLongitude are based.	Mandatory	String	WGS84  <a href="#">(Vocabulary link)</a>
<a href="#">coordinateUncertaintyInMeters</a>	The horizontal distance (in metres) from the given decimalLatitude and decimalLongitude describing the smallest circle containing the whole of the Location. Leave the value empty if uncertainty is unknown, cannot be estimated, or is not applicable (because there are no coordinates). Zero is not a valid value for this term.	Optional	Float	50
<a href="#">dataGeneralization</a>	Actions taken to make the	Optional	String	Coordinates

<a href="#">ns</a>	data less specific or complete than in its original form, due to restrictions around identifying locations of particular species. Suggests that alternative data of higher quality may be available on request.			rounded to the nearest 10 km for conservation concern
<b><a href="#">eventDate</a></b>	The date (DD/MM/YYYY or (YYYY-MM-DD are accepted) or date-time with zone (in <a href="#">ISO 8601</a> format for example 2022-05-20T0623+08 ) during which a species occurrence was observed. For occurrences, this is the date-time when the event was recorded. Not suitable for a time in a geological context.	Mandatory	Date	2019-09-24
<a href="#">samplingProtocol</a>	The sampling protocol is the method used to sample the locality to determine the presence (or absence) of the taxon referred to in this record at the indicated time. This may be a collecting method or a method to observe an organism without collection. Recommended best practice is to describe a species occurrence with no more than one sampling protocol. In the case of a summary, in which a specific protocol cannot be attributed to individual records, the recommended best practice is to repeat the property for each record.	Optional	String	Human observation
<a href="#">habitat</a>	A category or description of the habitat in which the event occurred.	Optional	String	Closed forest of Melaleuca lanceolata. White, grey or brown sand, sandy loam.
<a href="#">recordedBy</a>	A person, group, or organisation made the occurrence observation.	Optional	String	J. Doe
<a href="#">basisOfRecord</a>	The specific nature of the data	Optional	String	Preserved

	record.			Specimen ( <a href="#">Vocabulary link</a> )
<a href="#">occurrenceID</a>	An identifier for the occurrence (as opposed to a particular digital record of the occurrence). There are no constraints on how the identifier is named, except that it should be unique within the dataset.	Optional	String	S09-201909 24-02
<a href="#">occurrenceStatus</a>	The type of occurrence (currently limited to 'present' or 'absent').	Optional	String	Present ( <a href="#">Vocabulary link</a> )
<a href="#">establishmentMeans</a>	Statement about whether an organism or organisms have been introduced to a given place and time through the direct or indirect activity of modern humans.	Optional	String	Native ( <a href="#">Vocabulary link</a> )
<a href="#">organismRemarks</a>	Free-form comments or notes about the organism observation that are not covered by other fields.	Optional	String	good condition
<a href="#">individualCount</a>	The number of individuals present at the time of the observation.	Optional	Integer	1
<a href="#">lifeStage</a>	The age class or life stage of the observed organism(s) at the time the occurrence was recorded.	Optional	String	Mature ( <a href="#">Vocabulary link</a> )
<a href="#">sex</a>	The sex of the observed organism(s) recorded.	Optional	String	Unspecified ( <a href="#">Vocabulary link</a> )
<a href="#">reproductiveCondition</a>	The reproductive condition of the observed organism(s) recorded.	Optional	String	No breeding evident
<a href="#">preparations</a>	A list (concatenated and separated) of preparations and preservation methods for a specimen.	Optional	String	alcohol ( <a href="#">Vocabulary link</a> )
preparedDate	The date (DD/MM/YYYY or (YYYY-MM-DD are accepted)	Optional	Date	2019-09-24

	or date-time with zone (in <a href="#">ISO 8601</a> format for example 2022-05-20T0623+08) representing the date or date-time the specimen was prepared.			
<a href="#">institutionCode</a>	The name (or acronym) in use by the institution having custody of the object(s) or information referred to in the record.	Optional	String	MUS
<a href="#">collectionCode</a>	The name, acronym, coden, or initialism identifying the collection or data set from which the record was derived.	Optional	String	HERB
<a href="#">materialSampleID</a>	An identifier for the MaterialSample (as opposed to a particular digital record of the material sample). 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 materialSampleID globally unique	Optional	String	S07-06-01
<a href="#">associatedSequences</a>	A list (concatenated and separated) of identifiers (publication, global unique identifier, URI) of genetic sequence information associated with the occurrence.	Optional	String	<a href="https://www.ncbi.nlm.nih.gov/nuccore/MT766606.1">https://www.ncbi.nlm.nih.gov/nuccore/MT766606.1</a>
sequencingMethod	The method used to obtain sequence data (for example DNA, RNA, or protein from the sample).	Optional	String	Sanger-dideoxy-sequencing
<a href="#">verbatimIdentification</a>	A string representing the taxonomic identification as it appeared in the original record. This term is meant to allow the capture of an unaltered original identification/determination, including identification qualifiers, hybrid formulas, uncertainties, etc. This term is meant to be used in addition	Optional	String	<i>Caladenia ?excelsa</i>

	to scientificName (and identificationQualifier etc.), not instead of it.			
<a href="#">dateIdentified</a>	The date (DD/MM/YYYY or (YYYY-MM-DD are accepted) or date-time with zone (in <a href="#">ISO 8601</a> format for example 2022-05-20T0623+08 ) on which the subject was determined as representing the Taxon.	Optional	Date	2019-09-24
<a href="#">identifiedBy</a>	A list (concatenated and separated) of names of people, groups, or organisations who assigned the Taxon to the subject.	Optional	String	J. Doe   S. Smith
identificationMethod	Method used to associate the organism with the scientificName label.	Optional	String	DNA
<b><a href="#">scientificName</a></b>	The full scientific name, with authorship and date (zoology only) if known. When forming part of an Identification, this should be the name at lowest level taxonomic rank that can be determined. This term should not contain identification qualifiers, which should instead be supplied in the identificationQualifier column. NOTE: Phrase names such as Rhagodia sp. Hamersley (M.Trudgen 17794), Aname 'MYG462' are permitted in the scientificName field where those are in use.	Mandatory	String	Caladenia excelsa Hopper & A.P.Br.
<a href="#">identificationQualifier</a>	A brief phrase or a standard term ("cf.", "aff.") to express the determiner's doubts about the Identification.	Optional	String	Species incerta <a href="#">(Vocabulary link)</a>
<a href="#">identificationRemarks</a>	Comments or notes about the Identification.	Optional	String	DNA evidence may indicate a new species. Further

				analysis required.
<a href="#">acceptedNameUsage</a>	The full name, with authorship and date information if known, of the currently valid (zoology) or accepted (botany, mycology) taxon.	Optional	String	<i>Calaendia excelsa</i> Hopper & A.P.Br.
<b>kingdom</b>	The full scientific name of the kingdom in which the taxon is classified.	Mandatory	String	Plantae <a href="#">(Vocabulary link)</a>
<a href="#">taxonRank</a>	The taxonomic rank of the scientificName.	Optional	String	Species <a href="#">(Vocabulary link)</a>

## Vocabulary lists

These vocabularies are provided to encourage consistent and standardised language within the BDR. You may use terms other than those listed below if they are inadequate for your needs, but please use these wherever possible. Table 2 provides some suggested values from existing sources such as: [Biodiversity Information Standard \(TDWG\)](#), [EPSG.io Coordinate systems worldwide](#), the [Global Biodiversity Information Facility](#), and [Open Nomenclature in the biodiversity era](#).

Each term in the table has a preferred label and a definition to aid understanding of its meaning. Some terms also have acceptable alternative labels g.

Note: the value for geodeticDatum *must be* one of the four options in this table. Use of any other option will render the dataset invalid.

Table 2: Preferred terms for fields

Template field name	Preferred label	Definition	Alternate label
basisOfRecord	FossilSpecimen	A preserved specimen that is a fossil.	Fossil Specimen
basisOfRecord	HumanObservation	The result of a human observation process.	Human Observation
basisOfRecord	LivingSpecimen	A specimen that is alive.	Living Specimen
basisOfRecord	MachineObservation	An output of a machine observation process.	Machine Observation

basisOfRecord	MaterialSample	A physical result of a sampling (or subsampling) event. In biological collections, the material sample is typically collected, and either preserved or destructively processed.	Material Sample
basisOfRecord	Occurrence	An existence of an Organism (sensu <a href="http://rs.tdwg.org/dwc/terms/Organism">http://rs.tdwg.org/dwc/terms/Organism</a> ) at a particular place at a particular time.	
basisOfRecord	PreservedSpecimen	A specimen that has been preserved.	Preserved Specimen
establishmentMeans	introduced	Establishment of a taxon by human agency into an area that is not part of its natural range.	alien, exotic, non-native, nonindigenous
establishmentMeans	introducedAssistedColonisation	Establishment of a taxon with the specific intention of creating a self-sustaining wild population in an area that is not part of the taxon's natural range.	assisted colonisation
establishmentMeans	native	A taxon occurring within its natural range.	native (indigenous)
establishmentMeans	nativeReintroduced	A taxon re-established by direct introduction by human agency into an area that was once part of its natural range, but from where it had become extinct.	native: reintroduced
establishmentMeans	uncertain	The origin of the occurrence of the taxon in an area is	unknown, cryptogenic



		unknown.	
establishmentMeans	vagrant	The temporary occurrence of a taxon far outside its usual or migratory range.	casual
geodeticDatum	AGD84	Australian Geodetic Datum 1984	EPSG:4203
geodeticDatum	GDA2020	Geocentric Datum of Australia 2020	EPSG:7844
geodeticDatum	GDA94	Geocentric Datum of Australia 1994	EPSG:4283
geodeticDatum	WGS84	World Geodetic System 1984, used in GPS	EPSG:4326
identificationQualifier	animalia cetera	It groups all the unidentified specimens that are not listed as separate taxa. The term cetera (abbreviated c. or cet.) may be applied to a given high-rank taxon, meaning that identification at a lower taxonomic level has not been attempted (see also stetit) but explicitly not including subordinate taxa that may have been identified.	a.c., A.C.
identificationQualifier	confer	"Compare with". Specimens should be compared to reference material, since most of the diagnostic characters correspond to a given species but some are unclear. Also used in the sense of affinis and species incerta (these usages are	cf., cfr., conf., sp. cf.

		discouraged).	
identificationQualifier	ex grege	"Of the group including". The specimen has some affinity to a known species or it belongs to a species group or species complex; see also <i>affinis</i> and <i>species proxima</i> .	ex gr., gr.
identificationQualifier	familia genus species	The specimen has not been attributed to any known species nor family; see also <i>species</i> .	fam. gen. sp.
identificationQualifier	genus et species nova	The specimen is considered to belong to a new species and a new genus; for more details, see <i>species nova</i> .	gen. et sp. nov., gen. nov., sp.nov., nov. gen. et sp.
identificationQualifier	genus novum	The specimen is considered to belong to a new species and a new genus; for more details, see <i>species nova</i>	gen. nov., g. nov., gen. n., g. n., nov. gen.
identificationQualifier	genus species	The specimen has not been related to any known species nor genus; see also <i>species</i> .	gen. sp., g. sp.
identificationQualifier	species	The specimen has not been identified, nor it has been related to any known species; the uncertainty is potentially provisional: it could be due to the lack of suitable dichotomous keys, or to the occurrence of a species not	sp.

		previously described. Also used in the sense of species indeterminabilis and stetit (these usages are discouraged).	
identificationQualifier	species (pl.),	More than one species belonging to the same genus (or higher-rank taxon) are included.	spp., sp. pl.
identificationQualifier	species affinis	"Has affinity with". The specimen has some affinity to a known species but it is not identical to it; it generally implies distinction more than a possible identity, in contrast with the qualifier confer; see also species Proxima and ex grege. It is often used in combination with the ON qualifier species nova. Also used in the sense of confer (this usage is discouraged).	aff., sp. aff.
identificationQualifier	species incerta	The identification is uncertain; it usually indicates a higher reliability with respect to confer. The sign "sp. inc." is also used in the sense of species, species indeterminabilis and species inquirenda (these usages are discouraged).	?, sp. Inc
identificationQualifier	species indeterminabilis	The specimen is indeterminate beyond a certain taxonomic level due	indet., ind., sp. indet., sp. ind.

		to the deterioration or lack of diagnostic characters. Also used in the sense of species and stetit (these usages are discouraged).	
identificationQualifier	species nova	The specimen is considered to belong to a new, previously undescribed species. (1) When describing a new species, the use of the qualifier is required by the ICZN (1999) to explicitly indicate the taxa name as intentionally new. (2) Used as ON qualifier to refer to a new, still unnamed species before the formal publication of the description.	sp. nov., spec. nov., sp. n., nov. sp., nov. spec., n. sp.
identificationQualifier	species proxima	The specimen is near to a known species but it is not identical to it; see also affinis and ex grege.	prox., sp. prox., nr., sp. nr.
identificationQualifier	stetit	Identification at a lower taxonomic level has not been attempted, even if allowed by the sample conditions. It may also be used when more records with different ON qualifiers need to be merged at a safe taxonomic level.	stet., the intentional absence of qualifiers
identificationQualifier	subspecies	The only infraspecific rank regulated by the ICZN (1999). As ON qualifier, it indicates	ssp., subsp.

		that the specimen probably belongs to a subspecies but it has not been related to any known one; see also species.	
kingdom	Animalia	Kingdom Animalia	
kingdom	Fungi	Kingdom (taxonRank: Regnum) Fungi	
kingdom	Plantae	Kingdom (taxonRank: Regnum) Plantae	Plantae Haeckel
lifeStage	adult	An adult is a plant, animal, or person who has reached full growth or alternatively is capable of reproduction.	imago
lifeStage	embryo	An embryo is a multicellular diploid eukaryote in its earliest stage of development, from the time of first cell division until birth, hatching, or germination.	egg, seed
lifeStage	gamete	A gamete is a cell that fuses with another gamete during fertilization in organisms that reproduce sexually. In species that produce two morphologically distinct types of gametes, and in which each individual produces only one type, a female is any individual that produces the larger type of gamete — called an ovum (or egg) — and a male	ovum, sperm, pollen

		<p>produces the smaller tadpole-like type — called a sperm. This is an example of anisogamy or heterogamy, the condition wherein females and males produce gametes of different sizes. In contrast, isogamy is the state of gametes from both sexes being the same size and shape, and given arbitrary designators for mating type. Gametes carry half the genetic information of an individual, one chromosome of each type.</p>	
lifeStage	gametophyte	<p>In plants and algae that undergo alternation of generations, a gametophyte is the multicellular structure, or phase, that is haploid, containing a single set of chromosomes. The gametophyte produces male or female gametes (or both), by a process of cell division called mitosis. In mosses, liverworts and hornworts (bryophytes), the gametophyte is the commonly known phase of the plant. An early developmental stage in the</p>	gamont, protonema, pollen, ovule

		gametophyte of mosses (immediately following germination of the meiospore) is called the protonema. In most other land plants the gametophyte is very small (as in ferns and their relatives) or even reduced as in flowering plants (angiosperms), where the female gametophyte (ovule) is known as a megagametophyte and the male gametophyte (pollen) is called a microgametophyte.	
lifeStage	juvenile	A juvenile is an individual organism that has not yet reached its adult form, sexual maturity or size. Juveniles sometimes look very different from the adult form, particularly in terms of their colour. In many organisms the juvenile has a different name from the adult.	seedling, eft, calf, hatchling, infant, foal, kitten, kit, chick, nymph, fawn, whelp, pup, elver, fry
lifeStage	larva	A larva (Latin; plural larvae) is a young (juvenile) form of animal with indirect development, going through or undergoing metamorphosis (for example, insects, amphibians, or	larvae, tadpole, polliwog, pollywog, polliwig, polewig, polwig, planula, nauplius, zoea, nymph, caterpillar, grub, maggot, wriggler, trochophore, veliger, glochidium, ammocoete,

		cnidarians). The larva can look completely different from the adult form, for example, a caterpillar differs from a butterfly. Larvae often have special (larval) organs which do not occur in the adult form. The larvae of some species can become pubescent and not further develop into the adult form (for example, in some newts). This is a type of neoteny. It is a misunderstanding that the larval form always reflects the group's evolutionary history. It could be the case, but often the larval stage has evolved secondarily, as in insects. In these cases the larval form might differ more from the group's common origin than the adult form. The early life stages of most fish species are considerably different from juveniles and adults of their species and are called larvae.	leptocephalus, bipinnaria, caterpillar, grub, maggot
lifeStage	pupa	A pupa is the life stage of some insects undergoing transformation between immature and mature stages. The pupal stage is found only in holometabolous	puppe



		insects, those that undergo a complete metamorphosis, with four life stages: egg (-> embryo), larva, pupa, and imago (-> adult).	
lifeStage	spore	<p>A spore is a reproductive structure that is adapted for dispersal and surviving for extended periods of time in unfavorable conditions. Spores form part of the life cycles of many bacteria, plants, algae, fungi and some protozoans. A chief difference between spores and seeds as dispersal units is that spores have very little stored food resources compared with seeds. Spores are usually haploid and unicellular and are produced by meiosis in the sporangium by the sporophyte. Once conditions are favorable, the spore can develop into a new organism using mitotic division, producing a multicellular gametophyte, which eventually goes on to produce gametes. Many ferns, especially those adapted to dry conditions, produce</p>	

		diploid spores. In this case spores are the units of asexual reproduction, because a single spore develops into a new organism. By contrast, gametes are the units of sexual reproduction, as two gametes need to fuse to create a new organism.	
lifeStage	sporophyte	All land plants, and some algae, have life cycles in which a haploid gametophyte generation alternates with a diploid sporophyte, the generation of a plant or alga that has a double set of chromosomes. A multicellular sporophyte generation or phase is present in the life cycle of all land plants and in some green algae. For common flowering plants (Angiosperms), the sporophyte generation comprises almost their whole life cycle (that is whole green plant, roots etc), except phases of small reproductive structures (pollen and ovule).	agamont
lifeStage	zygote	A zygote (or zygocyte) describes the first stage of a new unique organism	blastomere

		when it consists of just a single cell. The term is also used more loosely to refer to the group of cells formed by the first few cell divisions, although this is properly referred to as a blastomere. A zygote is usually produced by a fertilisation event between two haploid cells - an ovum from a female and a sperm cell from a male - which combine to form the single diploid cell. Thus the zygote contains DNA originating from both mother and father and this provides all the genetic information necessary to form a new individual	
occurrenceStatus	absent	The occurrence was not present at the location and time of the observation.	
occurrenceStatus	present	The occurrence was present at the location and time of the observation.	
preparations	alcohol	Alcohol	
preparations	deepFrozen	Deep frozen	Deep frozen
preparations	dried	Dried	
preparations	driedAndPressed	Dried and pressed	Dried and pressed
preparations	formalin	Formalin	
preparations	freezeDried	Freeze-dried	Freeze-dried
preparations	glycerin	Glycerin	

preparations	gumArabic	Gum arabic	Gum arabic
preparations	microscopicPreparation	Microscopic preparation	Microscopic preparation
preparations	mounted	Mounted	
preparations	noTreatment	No treatment	No treatment
preparations	other	Other	unspecified
preparations	pinned	Pinned	
preparations	refrigerated	Refrigerated	
sex	female	Female (♀) is the sex of an organism, or a part of an organism, which produces mobile ova (egg cells).	F, ♀
sex	hermaphrodite	One organism having both male and female sexual characteristics and organs; at birth an unambiguous assignment of male or female cannot be made	Zwitter
sex	male	Male (♂) refers to the sex of an organism, or part of an organism, which produces small mobile gametes, called spermatozoa.	M, ♂
sex	undetermined	If the sex of an organism can't be determined for some reason.	Undet., unknown
taxonRank	class	class	
taxonRank	cultivar	The epithet is usually output in single quotes and may contain multiple words, see ICBN §28. Examples: <i>Taxus baccata</i> 'Variegata', <i>Juniperus ×pfitzeriana</i> 'Wilhelm	

		Pfitzer'; Magnolia 'Elizabeth' (= a hybrid, no species epithet).	
taxonRank	cultivarGroup	cultivar group	grex
taxonRank	family	family	
taxonRank	form	form	forma
taxonRank	genus	genus	
taxonRank	informal	informal	
taxonRank	infragenericname	Used for any other unspecific rank below genera and above species.	
taxonRank	infraorder	infraorder	
taxonRank	infraspecificname	Used for any other unspecific rank below genera and above species.	
taxonRank	infrasubspecificname	Used for any other unspecific rank below subspecies.	
taxonRank	kingdom	kingdom	regnum
taxonRank	order	order	alliance
taxonRank	phylum	phylum	division
taxonRank	section	Section within a genus. In Zoology a section sometimes refers to a group above family level, this is NOT meant	
taxonRank	series	Series within a genus	
taxonRank	species	species	
taxonRank	speciesAggregate	A loosely defined group of species. Zoology: 'Aggregate - a group of species, other than a subgenus, within a genus. An aggregate may be denoted by a group name interpolated in	aggregate, species group, species complex

		parentheses.' -- The Berlin/MoreTax model notes:'[these] aren't taxonomic ranks but circumscriptions because on the one hand they are necessary for the concatenation of the fullname and on the other hand they are necessary for distinguishing the aggregate or species group from the microspecies.' Compare subspecific aggregate for a group of subspecies within a species!	
taxonRank	subfamily	subfamily	
taxonRank	subform	subform	subforma
taxonRank	subgenus	subgenus	
taxonRank	suborder	suborder	
taxonRank	subsection	Subsection within a genus	
taxonRank	subseries	Subseries within a genus	
taxonRank	subspecies	subspecies	
taxonRank	subspecificAggregate	A loosely defined group of subspecies. Zoology:'Aggregate - a group of subspecies within a species. An aggregate may be denoted by a group name interpolated in parentheses.'	
taxonRank	subtribe	subtribe	
taxonRank	subvariety	subvariety	subvarietas
taxonRank	superfamily	superfamily	
taxonRank	supragenericname	Used for any other unspecific rank above	

		genera.	
taxonRank	tribe	tribe	
taxonRank	unranked	unranked	
taxonRank	variety	variety	varietas

## Further information

The valid latitude and longitude coordinates range in the BDR system is based on information from Geoscience Australia. The **Australian Continent** coordinate extremities can be found on this site:

<https://www.ga.gov.au/scientific-topics/national-location-information/dimensions/continental-extremities>

The coordinates range for the seven **Australian External and Offshore territories** can be found on these sites:

<https://d28rz98at9flks.cloudfront.net/70562/AustraliaAndExternalTerritories.pdf>

<https://www.ga.gov.au/scientific-topics/national-location-information/dimensions/remote-offshore-territories>)

In summary:

- **Australian continent**  
Latitude range: -10.689167 and -43.644444  
Longitude range: 153.637222 and 113.155000
- **Heard and McDonalds Island**  
Latitude range: -52.902770 and -53.195018  
Longitude range: 73.872715 and 72.577376
- **Lord Howe Island**  
Latitude range: -31.486129 and -31.787767  
Longitude range: 159.280368 and 159.036807
- **Macquarie Island**  
Latitude range: -54.355874 and -55.123198  
Longitude range: 158.998625 and 158.674929
- **Norfolk Island**  
Latitude range: -29.136568 and -28.994170  
Longitude range: 167.998035 and 167.913770
- **Ashmore and Cartier Islands**  
Latitude range: -12.184700 and -12.547300  
Longitude range: 123.581854 and 122.927010
- **Christmas Island**  
Latitude range: -10.412390 and -10.570559  
Longitude range: 105.712810 and 105.533149

- **Cocos Islands**  
Latitude range: -11.822133 and -12.211000  
Longitude range: 96.930763 and 96.815497
- **Coral Sea Islands**  
Latitude range: -15.721024 and -29.982747  
Longitude range: 159.140729 and 147.839456
- **Australian Antarctic Territory**  
Latitude range: -64.928558 to -90.000026  
Longitude range: 167.724334 to 45.000000

For assistance, please contact: [bdr-support@gaiaresources.com.au](mailto:bdr-support@gaiaresources.com.au)