# Catchment Scale Land Use of Australia – Commodities – Update December 2018 version 2

## Description of contents of the data package

This document describes the GIS data, supporting files and GIS dataset attributes published in the data package for *Catchment Scale Land Use of Australia – Commodities –Update December 2018 version 2*. This data package is referred to as CLUMCv2 in this document. Land use and commodities are classified according to the *Australian Land Use and Management (ALUM) Classification version 8*. All spatial data were produced using ESRI ArcGIS Pro 2.2. This data package complements the *Catchment Scale Land Use of Australia – Update December 2018* data package.

Not all commodities are captured consistently across Australia. Attribution depends on whether the land use mapper was able to capture the commodity accurately. Commodities which are captured consistently include avocados, bananas, cotton, dairy cattle, grapes, mangoes, macadamias, olives, sandalwood, sugar cane, pigs and poultry (primarily chickens).

Table 1 describes the principal file components of the data package. Table 2 is a data dictionary for the attributes of the CLUMCv2 vector dataset. Table 3 is a summary of the commodities in the CLUMCv2 dataset. Major changes between the CLUMC dataset released in December 2018 and the CLUMCv2 dataset are:

* Removal of cattle meat features where it is not clear whether feedlots are cattle or sheep feedlots.
* Removal of broad aquaculture class and consistency applied to aquaculture commodities so that marron and yabbies are now classed as crustaceans and abalone as molluscs.
* An increase in the number of polygons in the Australian Capital Territory and Western Australia. Polygons for each commodity in these jurisdictions were combined as multi-part features rather than single part features leading an underestimation of the number of polygons at both the state and national levels.
* Inclusion of extra animal, grapes and olives features based on ALUM and Valuer General codes for South Australia, New South Wales, the Northern Territory and Victoria.
* Inclusion of alkaloid poppies in Tasmania based on ALUM codes.
* Inclusion of missing sugar features in New South Wales based on ALUM codes.
* Inclusion of missing vegetables and herbs features for Western Australia.
* Corrections where commodities have been assigned the wrong broad type (e.g. pistachios assigned to nuts) or commodity names were incorrect (e.g. pecan nuts to pecans).
* Removal of slithers and overlapping polygons.

Table 1: Brief description of the contents of this data package.

| File name | File description |
| --- | --- |
| CLUM\_Commodities\_2018\_v2.shp | CLUMCv2 vector dataset of commodities as at December 2018. ESRI shapefile, coordinate system GDA94 / Geographic. |
| DescriptiveMetadata\_CLUMC\_December2018version2.pdf | Descriptive metadata for the *Catchment Scale Land Use of Australia – Commodities –Update December 2018 version 2* dataset. |
| DatasetDescription\_CLUMC\_December2018version2.pdf | This document, which describes the GIS data, supporting files and GIS dataset attributes published in this data package. |
| CLUMC\_map\_December2018\_v2\_Broad\_Type.pdf | Land use map showing the CLUMCv2 dataset, based on broad commodity types. Map produced in landscape format, at A0 size (1189 millimetres by 841 millimetres), and suitable for printing at A3 size (420 millimetres by 297 millimetres). |
| CLUMC\_map\_December2018\_v2\_Currency.pdf | Land use map showing the currency of the CLUMCv2 dataset. Map produced in landscape format, at A0 size (1189 millimetres by 841 millimetres), and suitable for printing at A3 size (420 millimetres by 297 millimetres). |

Table 2: Data dictionary for the attributes of the CLUMCv2 vector dataset

| Field name | Field description | Code values |
| --- | --- | --- |
| FID | Internal feature number that uniquely identifies each polygon | Integer numeric value |
| Shape | Internal feature geometry (“polygon”) | Geometry |
| Commod\_dsc | Commodity description as a string. Examples: “bananas”, “chickens”, “bauxite” | Text, width 50 |
| Broad\_type | Broad classification of commodities as a string – “Animals”, “Cereals”, “Flowers and bulbs”, “Forest”, “Fruits”, “Mines”, “Nuts”, “Oilseeds”, “Other crops”, “Pasture”, “Pulses”, “Vegetables and herbs”. | Text, width 50 |
| Source\_yr | Year of mapping as an integer. Source\_yr is equivalent to date in CLUM supporting polygon shapefile | Short integer |
| State | State abbreviation as a string  | Text, width 5 |
| Area\_ha | Area of polygon in hectares  | Float numeric value  |
| LU\_CODEV8N | ALUM v8 code as a three digit integer. First digit is primary code, second digit is secondary code, and third digit is tertiary code.Examples:341 (3 “Production from dryland agriculture and plantations”, 3.4 “Perennial Horticulture”, 3.4.1 “Tree fruits”)523 (5 “Intensive uses”, 5.2 Intensive animal production”, 5.2.3 “Poultry farms”)581 (5 “Intensive uses”. 5.8 “Mining”, 5.8.1 “Mines”)LU\_CODEV8N is equivalent to VALUE in CLUM raster dataset. | Integer numeric valueRange: 100 to 663 |
| Tertiary | ALUM tertiary code and description as a string. Examples:“1.1.1 Strict nature reserves”“6.6.3 Estuary/coastal waters – intensive use”TERTIARY\_V8 is equivalent to TERTIARY\_V8 in CLUM raster dataset | Text, width 50 |  |

*Note:* all ALUM codes refer to the Australian Land Use and Management Classification, version 8.

Table 3: Summary of CLUMCv2 data by broad type and commodity

| Broad type | Commodity | Number of polygons  |  Area of polygons (ha)  |
| --- | --- | --- | --- |
| Animals |  |  **61,191**  |  **58,361,348.38**  |
|  | algae |  1  |  634.96  |
|  | alpacas |  88  |  727.47  |
|  | bees |  25  |  648.76  |
|  | buffalo |  2  |  79.30  |
|  | camels |  1  |  4.40  |
|  | cattle |  5,818  |  56,706,965.63  |
|  | cattle dairy |  29,240  |  895,986.36  |
|  | cattle meat |  12,047  |  377,534.73  |
|  | cattle stud |  17  |  182.83  |
|  | chickens |  1,389  |  8,536.76  |
|  | chickens eggs |  91  |  1,266.38  |
|  | chickens meat |  537  |  13,268.93  |
|  | crocodiles |  10  |  110.12  |
|  | crustaceans |  259  |  1,270.53  |
|  | deer |  13  |  136.24  |
|  | ducks |  1  |  3.91  |
|  | emus |  2  |  4.71  |
|  | finfish |  17  |  167.73  |
|  | geese |  1  |  0.39  |
|  | goats |  22  |  171.82  |
|  | goats dairy |  2  |  9.55  |
|  | horses |  3,119  |  51,205.67  |
|  | molluscs |  57  |  2,815.56  |
|  | ostriches |  3  |  47.77  |
|  | pigs |  1,218  |  22,085.06  |
|  | sheep |  7,061  |  273,762.81  |
|  | sheep dairy |  3  |  18.05  |
|  | sheep meat |  80  |  952.36  |
|  | sheep stud |  5  |  89.89  |
|  | sheep wool |  57  |  2,621.08  |
|  | spirulina |  1  |  11.08  |
|  | turkeys |  4  |  27.56  |
| Cereals |  |  **1,545**  |  **66,603.21**  |
|  | barley |  383  |  18,305.72  |
|  | maize |  97  |  1,084.15  |
|  | oats |  390  |  9,744.43  |
|  | rice |  12  |  3,247.51  |
|  | rye cereal |  18  |  311.65  |
|  | sorghum |  3  |  37.14  |
|  | triticale |  12  |  143.52  |
|  | wheat |  630  |  33,729.09  |
| Flowers and bulbs |  |  **675**  |  **7,219.75**  |
|  | australian native flowers |  1  |  1.36  |
|  | bulbs |  2  |  0.43  |
|  | cycads |  13  |  27.31  |
|  | flowers and bulbs |  254  |  895.97  |
|  | flowers and foliage |  16  |  10.69  |
|  | lavender |  3  |  6.83  |
|  | orchids |  2  |  6.13  |
|  | palms |  25  |  26.31  |
|  | pongamia pinnata |  1  |  0.13  |
|  | roses |  14  |  60.71  |
|  | sunflower |  1  |  0.12  |
|  | tropical flowers |  3  |  1.50  |
|  | tulips |  3  |  77.03  |
|  | turf |  337  |  6,105.23  |
| Forest |  |  **630**  |  **20,920.66**  |
|  | bamboo |  3  |  2.17  |
|  | blue gum |  5  |  45.45  |
|  | christmas trees |  12  |  118.31  |
|  | eucalyptus oil |  19  |  902.59  |
|  | jojoba |  7  |  224.65  |
|  | lemon myrtle |  11  |  26.27  |
|  | mahogany |  4  |  17.29  |
|  | oil mallee |  57  |  3,021.69  |
|  | sandalwood |  312  |  9,651.01  |
|  | sawlogs |  5  |  411.68  |
|  | tea tree |  195  |  6,499.55  |
| Fruits |  |  **58,392**  |  **334,488.78**  |
|  | apples |  2,218  |  3,685.18  |
|  | apricots |  649  |  565.86  |
|  | avocados |  797  |  4,579.61  |
|  | babacos |  1  |  0.26  |
|  | bananas |  1,518  |  17,098.67  |
|  | belimbings |  1  |  0.51  |
|  | blackberries |  1  |  2.02  |
|  | blueberries |  381  |  2,289.90  |
|  | caimitos |  6  |  20.29  |
|  | carambolas |  1  |  1.12  |
|  | cherries |  319  |  1,669.27  |
|  | cupuacus |  1  |  0.48  |
|  | custard apples |  19  |  41.71  |
|  | dates |  28  |  37.11  |
|  | davidson plums |  1  |  1.93  |
|  | dragon fruit |  19  |  12.66  |
|  | durians |  1  |  20.64  |
|  | figs |  32  |  45.29  |
|  | finger limes |  5  |  5.03  |
|  | grapefruit |  46  |  86.93  |
|  | grapes |  15,201  |  180,153.50  |
|  | grapes dried |  3,275  |  3,425.22  |
|  | grapes table |  6,982  |  8,475.27  |
|  | grapes wine |  11,170  |  52,968.56  |
|  | guavas |  5  |  20.64  |
|  | hogg plums |  3  |  1.18  |
|  | jackfruit |  37  |  48.93  |
|  | jujubes |  1  |  1.11  |
|  | kiwifruit |  22  |  114.38  |
|  | lemons |  103  |  339.41  |
|  | limes |  38  |  62.69  |
|  | longans |  1  |  0.20  |
|  | lychees |  2  |  1.56  |
|  | mandarins |  530  |  841.63  |
|  | mangoes |  2,850  |  15,330.48  |
|  | melons |  108  |  2,013.92  |
|  | moringa |  2  |  0.91  |
|  | mulberries |  1  |  1.50  |
|  | nashi pears |  55  |  115.60  |
|  | nectarines |  795  |  882.57  |
|  | olives |  2,712  |  27,814.58  |
|  | oranges |  2,189  |  3,232.67  |
|  | passionfruit |  61  |  126.52  |
|  | pawpaws |  34  |  16.07  |
|  | peaches |  1,584  |  2,087.55  |
|  | pears |  3,390  |  3,422.17  |
|  | persimmons |  61  |  75.02  |
|  | pineapples |  15  |  218.60  |
|  | plumcots |  5  |  4.65  |
|  | plums |  769  |  883.03  |
|  | pluots |  33  |  44.52  |
|  | pomegranate |  37  |  193.17  |
|  | quinces |  7  |  16.14  |
|  | rambutans |  34  |  40.13  |
|  | raspberries |  3  |  0.80  |
|  | sapodillas |  1  |  0.14  |
|  | stone fruit |  64  |  320.47  |
|  | strawberries |  135  |  475.09  |
|  | tahitian limes |  1  |  2.63  |
|  | tamarillo |  8  |  38.77  |
|  | watermelons |  23  |  510.93  |
|  | wax apples |  1  |  1.38  |
| Mines |  |  **126**  |  **17,646.40**  |
|  | bauxite |  40  |  4,721.63  |
|  | copper |  1  |  50.28  |
|  | diamonds |  1  |  983.55  |
|  | gas |  1  |  17.93  |
|  | gold |  6  |  3,010.87  |
|  | ilmenite |  1  |  20.74  |
|  | iron ore |  4  |  3,077.89  |
|  | manganese |  69  |  4,388.09  |
|  | uranium |  1  |  1,319.53  |
|  | zinc |  1  |  12.84  |
|  | zircon |  1  |  43.05  |
| Nuts |  |  **4,965**  |  **47,744.55**  |
|  | almonds |  2,903  |  26,207.35  |
|  | chestnuts |  7  |  64.31  |
|  | hazelnuts |  10  |  2,425.37  |
|  | macadamias |  1,615  |  14,190.09  |
|  | pecans |  229  |  1,652.80  |
|  | pistachios |  113  |  704.71  |
|  | walnuts |  87  |  2,489.38  |
|  | water chestnuts |  1  |  10.55  |
| Oilseeds |  |  **107**  |  **3,504.20**  |
|  | canola |  72  |  2,291.87  |
|  | chia |  32  |  1,212.02  |
|  | jojoba |  1  |  0.08  |
|  | oil palms |  1  |  0.12  |
|  | safflower |  1  |  0.10  |
| Other crops |  |  **5,350**  |  **929,646.00**  |
|  | alkaloid poppies |  45  |  1,305.83  |
|  | cocoa |  1  |  0.13  |
|  | coffee |  91  |  270.84  |
|  | cotton |  1,288  |  339,762.49  |
|  | hops |  3  |  53.16  |
|  | pyrethrum |  153  |  1,623.14  |
|  | sugar cane |  3,763  |  586,594.40  |
|  | tea |  6  |  36.00  |
| Pasture |  |  **439**  |  **2,512.88**  |
|  | alto panicum and mekong grass |  1  |  28.04  |
|  | cavalcade |  1  |  31.32  |
|  | legumes |  8  |  36.32  |
|  | lucerne |  423  |  2,281.44  |
|  | pangola |  2  |  20.63  |
|  | panicum |  2  |  3.35  |
|  | rhodes grass |  1  |  85.42  |
|  | sorghum |  1  |  26.37  |
| Pulses |  |  **271**  |  **16,855.58**  |
|  | chickpeas |  20  |  635.21  |
|  | field beans |  25  |  917.45  |
|  | field peas |  35  |  1,438.10  |
|  | lentils |  151  |  12,879.23  |
|  | lupins |  21  |  604.95  |
|  | vetches |  19  |  380.65  |
| Vegetables and herbs |  |  **4,208**  |  **26,101.62**  |
|  | artichokes |  1  |  1.07  |
|  | asparagus |  179  |  442.76  |
|  | beans |  117  |  2,432.62  |
|  | bitter melons |  1  |  5.62  |
|  | broccoli |  2  |  6.44  |
|  | cabbages |  4  |  9.26  |
|  | capsicums |  9  |  10.66  |
|  | carrots |  266  |  3,517.99  |
|  | cauliflowers |  9  |  51.83  |
|  | chicory |  7  |  53.36  |
|  | chillies |  19  |  18.00  |
|  | chinese cabbages |  1  |  2.18  |
|  | cucumbers |  26  |  26.75  |
|  | cucurbits |  306  |  656.52  |
|  | curcuma |  3  |  0.05  |
|  | eggplants |  6  |  16.07  |
|  | garlic |  1  |  0.74  |
|  | herbs |  2  |  3.14  |
|  | leeks |  5  |  6.08  |
|  | lemongrass |  2  |  1.24  |
|  | lettuces |  6  |  22.81  |
|  | mushrooms |  9  |  35.34  |
|  | okra |  66  |  93.10  |
|  | onions |  6  |  111.19  |
|  | parsnips |  3  |  8.16  |
|  | peas |  77  |  3,174.24  |
|  | potatoes |  266  |  2,990.39  |
|  | pumpkins |  12  |  110.16  |
|  | rhubarb |  2  |  3.96  |
|  | spring onions |  2  |  4.71  |
|  | sweet corn |  2  |  2.33  |
|  | sweet potatoes |  3  |  4.41  |
|  | taro |  1  |  1.32  |
|  | tomatoes |  309  |  816.33  |
|  | truffles |  14  |  162.70  |
|  | vegetable seeds |  1  |  3.07  |
|  | vegetables |  703  |  1,315.68  |
|  | vegetables and herbs |  1,751  |  9,957.26  |
|  | zucchini |  9  |  22.08  |
| Grand Total |  |  **137,899**  |  **59,834,592.03**  |

*Note:* This data should not be used as national statistics for the commodities listed.