

### Title:

## Catchment Scale Land Use Mapping for the Australian Capital Territory 2012

### Alternate title:

ACT 2012 land use dataset

### Date published:

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### Abstract:

This dataset is a digital land use map of the Australian Capital Territory. As nearly as possible it shows land use in 2012. The dataset is a product of the Australian Collaborative Land Use and Management Program (ACLUMP) and was produced by ABARES. The dataset comprises an ESRI vector shapefile at a nominal scale of 1:25,000.

The dataset has been produced using nationally agreed land use mapping principles and procedures as part of the Catchment scale land use data was produced by combining:

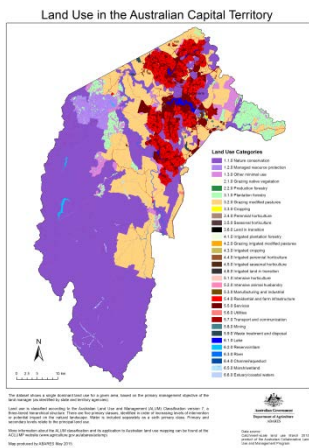
- ACT Territory Plan dataset (ACTPLA 2008), Agricultural areas were derived from unpublished land use map for the ACT produced by the Bureau of Rural Science in 2009.
- Sewerage and quarries were sourced from the ACT Territory Plan data (2008)
- Water bodies were sourced from the ACT Territory Plan data (2008)
- Roads were sourced from the ACT Territory Plan data (2008)
- Forest areas were extracted from the State of the Forests of Australia (2013), published by ABARES
- Defence cadastre 2012 - Department of Defence
- Hydrological features – GeoFabric 2.0.1 2011 – Bureau of Meteorology
- Railways – GEODATA TOPO 2006 – Geoscience Australia
- Collaborative Australian Protected Areas (CAPAD) 2012 – Department of Environment

The ACT Territory Plan data was interpreted first and then updated to a date of 2012 using the forest, defence, hydrological, railways and protected areas datasets together with fine-scale satellite data and information collected in the field.

The dataset shows a single dominant land use for a given area, based on the primary management objective of the land manager (as identified by state and territory agencies). Land use is classified according to the Australian Land Use and Management (ALUM) Classification version 7, a three-tiered hierarchical structure. There are five primary classes, identified in order of increasing levels of intervention or potential impact on the natural landscape. Water is included separately as a sixth primary class. Primary and secondary levels relate to the principal land use. Tertiary classes may include additional information on commodity groups, specific commodities, land management practices or vegetation information. The primary, secondary and tertiary codes work together to provide increasing levels of detail about the land use. Land may be subject to a number of concurrent land uses. For example, while the main management objective of a multiple-use production forest may be timber production, it may also provide conservation, recreation, grazing and water catchment land uses. In these cases, production forestry is commonly identified in the ALUM code as the prime land use.

The primary classes of land use in the ALUM Classification are:

1. Conservation and natural environments—land used primarily for conservation purposes, based on maintaining the essentially natural ecosystems present;
2. Production from relatively natural environments—land used mainly for primary production with limited change to the native vegetation;
3. Production from dryland agriculture and plantations—land used mainly for primary production based on dryland farming systems;
4. Production from irrigated agriculture and plantations—land used mostly for primary production based on irrigated farming;
5. Intensive uses—land subject to extensive modification, generally in association with closer residential settlement, commercial or industrial uses;
6. Water—water features (water is regarded as an essential aspect of the classification, even though it is primarily a land cover type, not a land use).



## Descriptive information

**Author(s)  
and/or Stakeholder(s):**

ABARES

**Acknowledgements:** This dataset is part of a national catchment scale land use mapping project coordinated by ABARES as part of ACLUMP, a consortium of Australian Government, and state and territory government partners that promotes the development of nationally consistent land use, land cover and land management practice information for Australia.

## Constraints

### LEGAL CONSTRAINTS ASSOCIATED WITH THE MATERIAL

**Limitation on the use of the material:**

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**Constraints on using the material:**

copyright

**Other constraints:**

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## Additional information about this material

**Purpose for which the material was obtained:**

Land use information is critical to developing sustainable long-term solutions for natural resource management, and is used to underpin investment decisions. Users include local government, catchment authorities, emergency services, quarantine and pest management authorities, industry and community groups. Landscape processes involving soils and water generally operate at catchment scale. Land use information at catchment scale therefore has an important role to play in developing effective solutions to Australia's natural resource management issues.

**Progress status of this material:**

Completed

**Maintenance and Update Frequency:**

as needed

### KEYWORD(S)

**ANZLIC Search Words:**

AGRICULTURE  
AGRICULTURE mapping  
LAND  
LAND survey  
LAND Use  
LAND Use maps  
LAND Use classification

**General Keywords:**

Australian Collaborative Land Use and Management Program (ACLUMP)

## TOPICS

**ABARES Topic categories:**

Agriculture  
Land Use  
Environment and Natural Resource Management  
Models, Risk, Spatial Data and Datasets

**ISO topic categories:**

farming  
environment  
biota

## SPATIAL EXTENT(S)

### Extent

**Description of spatial extent:**

Australian Capital Territory

**Spatial bounding box included in:**

North: -35.10 degrees; South: -35.95 degrees; East: 148.75 degrees; West: 148.40 degrees.

### Extent

**Description of spatial extent:**

Australian Capital Territory

**Spatial area included in:**

Australian Capital Territory

**Projection:**

EPSG::3577

**Coordinate reference details: Well-Known Text:**

```
PROJCS["GDA94 / Australian  
Albers",GEOGCS["GDA94",DATUM["D_GDA_1994",SPHEROID["GRS_1980",6378137,298.257222101]],PRIMEM["Greenwich",0],UNIT["Degree",0.017453292519943295]],PROJECTION["Albers"],PARAMETER["standard_parallel_1",-18],PARAMETER["standard_parallel_2",-36],PARAMETER["latitude_of_origin",0],PARAMETER["central_meridian",132],PARAMETER["false_easting",0],PARAMETER["false_northing",0],UNIT["Meter",1]]
```

## RESPONSIBILITY FOR THIS MATERIAL

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## PROCESS USED TO GENERATE THIS MATERIAL

### Lineage Statement

#### Lineage:

Input datasets:

1. Zones from the ACT Land Use Zones Layer and ACT Policy Overlay from the 2008 ACT Territory Plan dataset (ACTPLA 2008) were interpreted into ALUM classes as at 2012 based on the zone objectives.
2. Agricultural areas were derived from unpublished land use map for the ACT produced by the Bureau of Rural Science in 2009.
3. Sewerage and quarries were sourced from the ACT Territory Plan data (2008) and assigned an ALUM code
4. Forest areas were extracted from the State of the Forests of Australia (2013), published by ABARES. This is a 100 m raster dataset.
5. Water bodies were sourced from the ACT Territory Plan data (2008) and assigned an ALUM code
6. Roads were sourced from the ACT Territory Plan data (2008) and assigned an ALUM code

These datasets were then combined in the order above so that roads had the highest priority and the land use zones had the lowest priority to produce a draft land use dataset.

Edits were then made to this dataset based on authoritative national datasets, field checking and interpretation of high resolution ortho-photography and Google Maps. The authoritative national datasets included:

- Defence cadastre 2012 - Department of Defence
- Hydrological features – GeoFabric 2.0.1 2011 – Bureau of Meteorology
- Railways (buffered to 25m) – GEODATA TOPO 2006 – Geoscience Australia
- Collaborative Australian Protected Areas (CAPAD) 2012 – Department of Environment

Where these datasets disagreed with the draft ACT land use data, the land use was updated to reflect the authoritative dataset (with the exception of roads, dams and reservoirs). Areas visited in the field (January 2015) were corrected where necessary based on field interpretation, ortho-photography and Google Maps. These were predominantly agricultural areas and included areas zoned as residential that were still being used for grazing, areas assigned cropping that were now grazing, areas of grapes and quarries.

The final dataset was cleaned to remove any sliver polygons and dissolved to merge land uses of the same class.

#### **Positional Accuracy:**

Positional accuracy varies and is largely dependent on the source datasets.

#### **Attribute Accuracy:**

Delineation of land use polygons was based on ancillary data sets containing land use information as well as visual interpretation of high-res Ortho photography, field observations and expert knowledge. The methods for mapping and classifying land use adhere to the standards outlined in the document 'Guidelines for land use mapping in Australia: principles, procedures and definitions, Edition 4', published by the ABARES. Specifically, the attributes adhere to the ALUM classification, version 7.

#### **Logical Consistency:**

All input polygon datasets were checked for topological consistency.

#### **Completeness:**

Complete. Spatial and attribute data are complete for the entire dataset. Completeness of classification: Land use features were captured from a range of source data. Mapping from satellite imagery was generally undertaken to the smallest discrete unit able to be visually interpreted using the visual cues of colour, texture and pattern (approximately

one hectare). Land use information from ancillary datasets was captured at the scale of the source data. The resulting land use dataset therefore contains features at a range of scales and resolutions. Land use classes were assigned according to the Australian Land Use and Management Classification Version 7, May 2010 (Australian Bureau of Agriculture and Resource Economics and Sciences, 2011).

## Information about the product description

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## Additional Metadata

### References

ABARES 2010a, *The Australian Land Use and Management (ALUM) Classification Version 7, Summary*, Australian Bureau of Agricultural and Resource Economics and Sciences, Canberra, available at [daff.gov.au/ABARES/aclump/Documents/ALUM\\_Classification\\_V7\\_May\\_2010\\_summary.pdf](http://daff.gov.au/ABARES/aclump/Documents/ALUM_Classification_V7_May_2010_summary.pdf), accessed April 2014.

ABARES 2010b, *The Australian Land Use and Management (ALUM) Classification Version 7, Detailed*, Australian Bureau of Agricultural and Resource Economics and Sciences, Canberra, available at [daff.gov.au/ABARES/aclump/Documents/ALUM\\_Classification\\_V7\\_May\\_2010\\_detailed.pdf](http://daff.gov.au/ABARES/aclump/Documents/ALUM_Classification_V7_May_2010_detailed.pdf), accessed April 2014.

ABARES 2011, *Guidelines for land use mapping in Australia: principles, procedures and definitions*, A technical handbook supporting the Australian Collaborative Land Use and Management Program, 4th edition, Australian Bureau of Agricultural and Resource Economics and Sciences, Canberra, available at [data.daff.gov.au/data/warehouse/pe\\_abares99001806/GuidelinesLandUseMappingLowRes2011.pdf](http://data.daff.gov.au/data/warehouse/pe_abares99001806/GuidelinesLandUseMappingLowRes2011.pdf), accessed April 2014.

ABARES 2014, *Land Use Data Download*, Australian Bureau of Agricultural and Resource Economics and Sciences, Canberra, available at <http://www.daff.gov.au/abares/aclump/pages/land-use/data-download.aspx>, accessed April 2014.

CAPAD 2012 data - <http://www.environment.gov.au/fed/catalog/main/home.page>

GeoFabric data - <http://www.bom.gov.au/water/geofabric/download.shtml>

GEODATA TOPO data - [http://www.ga.gov.au/metadata-gateway/metadata/record/qcat\\_63999](http://www.ga.gov.au/metadata-gateway/metadata/record/qcat_63999)