Publication details

Title:

MCAS-S DATA PACK – UPDATE 2022

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December 2022

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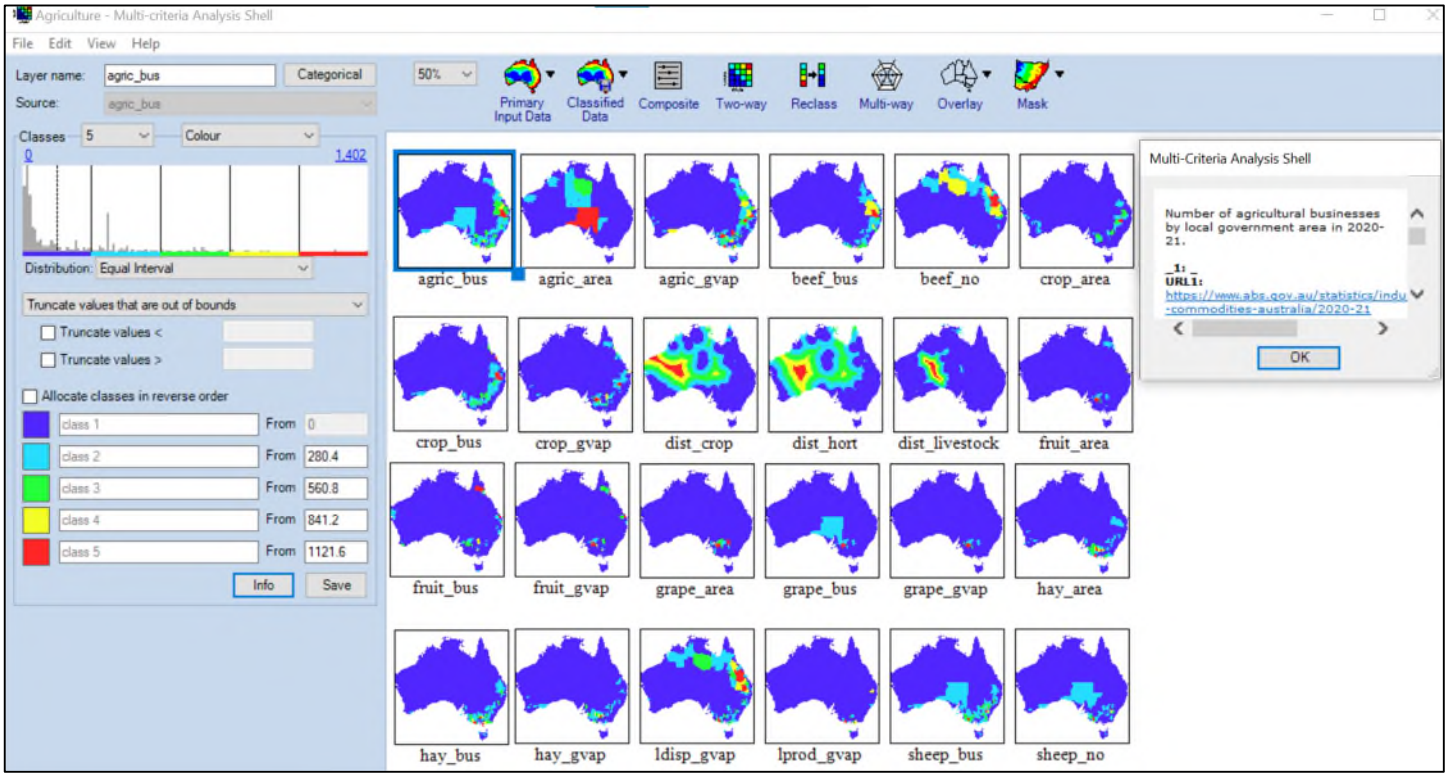
November 2022

Preview:



Abstract:

The *MCAS-S data pack – update 2022* supports the Multi-Criteria Analysis Shell for Spatial Decision Support (MCAS-S) software tool. This package of nationally consistent Australian spatial layers at one-kilometre resolution contains publicly available national data for use with MCAS-S up until December 2022. It replaces the 2014, 2011 and 2009 MCAS-S data packs.

The downloadable zip file (1GB unzips to 4GB) contains a sample MCAS-S project alongside a data folder. Within the data folder are 290 layers in four sub-folders: Primary (raster data in GeoTIFF format for analysis) ~269 layers, Mask (raster data in GeoTIFF format for reporting and restricting the view) ~13 layers (note that categorical primary layers can now be used as masks by modifying the .tip file), Overlay (vector data in shapefile format – point, line, or polygons for context) ~17 layers, and Classified (empty folder for storage of layers created by using MCAS-S).

The layers in the Data pack are listed in the Microsoft Excel spreadsheet MCAS-S-datapack2022-contents.xlsx.

To use this data pack

- Save the entire folder in a location with read/write access.
- Open the MCAS-S project to access the data. The structure of this data folder (Primary, Mask, Overlay, and Classified) must be maintained, and data should not be moved without the use of a GIS program.
- Users should also read the software user guide.

The map layers cover a broad scope of interests including:

- Biophysical (vegetation, soil, terrain, water, climate)
- Social (household, community and population characteristics)
- Economic (land use, agricultural commodity, income, land value, rate of return).

Citation

This publication (and any material sourced from it) should be attributed as: ABARES 2022, Multi-Criteria Analysis Shell for Spatial Decision Support MCAS-S Data pack – update 2022, Australian Bureau of Agricultural and Resource Economics and Sciences, Canberra, December 2022 CC BY 4.0. DOI: https://doi.org/10.25814/jp8z-et06

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Web: www.agriculture.gov.au/abares/mcass

Authors and acknowledgements

The *MCAS-S data pack – update 2022* is a product of the MCAS-S Development Partnership (MDP) including ABARES, Barry Consulting, New South Wales Department of Primary Industries, Planning and Environment, the National Environmental Research Plan Landscapes and Policy Hub, and the Australian Collaborative Land Use and Management Program. More information on MDP is available at www.agriculture.gov.au/abares/mcass.

Acknowledgements:
The *MCAS-S Data pack – update 2022* has been prepared for use in MCAS-S by the Australian Bureau of Agricultural and Resource Economics and Sciences (ABARES) within the Australian Government Department of Agriculture, Fisheries and Forestry as part of the MCAS-S Development Partnership.

Source data was provided as at 2022 by:
Australian Bureau of Agricultural and Resource Economics and Sciences (ABARES)
Australian Bureau of Statistics (ABS)
Australian Customs and Border Protection Service
Australian Electoral Commission (AEC)
Australian National University (ANU)
Bureau of Meteorology (BOM)
Centre for Invasive Animal Solutions
Commonwealth Scientific and Industrial Research Organisation (CSIRO)
Department of Agriculture, Water, and Environment (now Department of Agriculture, Fisheries and Forestry and Department of Climate Change, Energy, the Environment and Water)
Environmental Systems Research Hub
Geoscience Australia
New South Wales government

Constraints

LEGAL CONSTRAINTS ASSOCIATED WITH USE OF THE MATERIAL

Disclaimer:
The Australian Government acting through ABARES has exercised due care and skill in the preparation and compilation of the information and data set out in this publication. Notwithstanding, ABARES, its employees and advisers disclaim all liability, including liability for negligence, for any loss, damage, injury, expense or cost incurred by any person as a result of accessing, using or relying upon any of the information or data set out in this publication to the maximum extent permitted by law.

Additional information about this material

Purpose for which the material was obtained:
This *MCAS-S data pack – update 2022* provides nationally consistent Australian spatial layers at one-kilometre resolution for use with the Multi-Criteria Analysis Shell for Spatial Decision Support (MCAS-S) software tool that were publicly available and

provided to ABARES as at November 2022. The Data pack is prepared for use by the Department of Agriculture, Fisheries and Forestry, state agencies and regional natural resource management groups to address issues such as agricultural productivity and sustainability, biodiversity conservation, biosecurity, land use planning, natural disaster management and natural resource monitoring and investment. Users should be aware that input data vary in format, currency (1991 to 2022), resolution, and projection. Users should read the .tip files for the metadata associated with each data layer.

Progress status of this material: Completed
Maintenance and Update Frequency: As needed

KEYWORD(S)

ANZLIC Search Words:

AGRICULTURE
AGRICULTURE Crops
AGRICULTURE Livestock
BOUNDARIES
CLIMATE AND WEATHER
FAUNA
FAUNA Exotic
FLORA
FLORA Exotic
FORESTS
HUMAN ENVIRONMENT
LAND
LAND Use
SOIL
VEGETATION
WATER

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)

Description of spatial extent:
Australian Land
Spatial bounding box included in:
North: -8.20 degrees; South: -44.37 degrees; East: 157.23 degrees; West: 109.49 degrees.
Spatial area included in:
Australian Mainland. Australia excluding external territories

Projection:
EPSG:3577

Coordinate reference details:

```
PROJCS["GDA94 / Australian Albers",
GEOGCS["GDA94",
        DATUM["D_GDA_1994",
        SPHEROID["GRS_1980",6378137,298.257222101]],
        PRIMEM["Greenwich",0],
```

UNIT["Degree",0.0174532925199433295]],
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]]

The data has been projected into Australian Albers for the Australian continent with coordinates of -1009920.49089, -1887433.3058, 2121566.6942, -4846920.49089.

RESPONSIBILITY FOR THIS MATERIAL

Custodian:

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PROCESS USED TO GENERATE THIS MATERIAL

Lineage:

ABARES has produced these data layers by converting the raster and vector data into 1 km GeoTiffs using ESRI ArcMap 10.8 and 10.6 software. Details of the data conversion are found in the metadata for each layer.

Common functions used in data conversion include:

Vector to raster – feature to raster tool in ArcMap 10.8 and 10.6

Raster in different projection – project raster tool in ArcMap 10.8 and 10.6

Desired field is not primary (value field) – Lookup in ArcMap 10.8 and 10.6

Positional Accuracy:

The resolution and scale of the source data varies (e.g., 25 m to 50 km). See metadata for individual layers for information about the source data resolution and accuracy.

Attribute Accuracy:

Data was used from authoritative sources and are reliant on the logical consistency of input dataset. See metadata for

individual layers for information about the source data resolution and accuracy.

Logical Consistency:

Data was used from authoritative sources and are reliant on the logical consistency of input dataset.

Completeness:

NODATA has been carried across from input data and when within the Australian coastline recoded as -9999. Values outside of the Australian coastline have been removed using the clip command. Please see the MCAS-S user guide for assistance with NODATA in MCAS-S.

Additional references

A list of data layers is available as a Microsoft Excel spreadsheet MCAS-S-Datapack 2022-contents.xlsx

Additional metadata is included as .tip files within the data folders. These files can be accessed within the MCAS-S software, once a data layer is open and selected in the viewer window, using the Info button. The .tip files can also be opened using a text editor such as WordPad.

Software and user guide can be found at https://www.agriculture.gov.au/abares/aclump/multi-criteria-analysis/mcas-s-tool

More information can be found at www.agriculture.gov.au/mcass