2019 Statewide Crop Mapping GIS Shapefile

URL: https://data.cnra.ca.gov/dataset/6c3d65e3-35bb-49e1-a51e-4…

The 2019 Crop Mapping dataset has been updated as of August 2022 and includes the following changes: - Slightly shifted Urban polygons were relocated to their original correct positions. - The following new rule has been included for 'X' Unclassified Fallow: "Unclassified Fallow is also used when indicating the planting of Alfalfa & Alfalfa Mixtures or Miscellaneous Grasses. In these scenarios Unclassified fallow would be Crop1, and Alfalfa & Alfalfa Mixtures or Miscellaneous Grasses would be Crop2." - Some UniqueID's that were accidentally duplicated have been corrected back to their original UniqueID's.

Land use data is critically important to the work of the Department of Water Resources (DWR) and other California agencies. Understanding the impacts of land use, crop location, acreage, and management practices on environmental attributes and resource management is an integral step in the ability of Groundwater Sustainability Agencies (GSAs) to produce Groundwater Sustainability Plans (GSPs) and implement projects to attain sustainability. Land IQ was contracted by DWR to develop a comprehensive and accurate spatial land use database for the 2019 water year (WY 2019). The primary objective of this effort was to produce a spatial land use database with accuracies exceeding 95% using remote sensing, statistical, and temporal analysis methods. This project is an extension of the 2014, 2016, and 2018 land use mapping, which classified over 14 million acres of land into irrigated agriculture and urban area. Unlike the 2014 and 2016 datasets, the WY 2018 and 2019 datasets include multi-cropping and incorporates DWR ground-truth data from Siskiyou, Modoc, Lassen and Shasta counties. Land IQ integrated crop production knowledge with detailed ground truth information and multiple satellite and aerial image resources to conduct remote sensing land use analysis at the field scale. Individual fields (boundaries of homogeneous crop types representing cropped area, rather than legal parcel boundaries) were classified using a crop category legend and a more specific crop type legend. A supervised classification algorithm using a random forest approach was used to classify delineated fields and was carried out county by county where training samples were available. Random forest approaches are currently some of the highest performing methods for data classification and regression. To determine frequency and seasonality of multiple-cropped fields, peak growth dates were determined for annual crops. Fields were attributed with DWR crop categories and included citrus/subtropical, deciduous fruits and nuts, field crops, grain and hay, idle, pasture, rice, truck crops, urban, vineyards, and young perennials. These categories represent aggregated groups of specific crop types in the Land IQ dataset. Accuracy was calculated for the crop mapping using both DWR and Land IQ crop legends. The overall accuracy result for the crop mapping statewide was 96.9% using the Land IQ legend and 98.1% using the DWR legend. Accuracy and error results varied among crop types. In particular, some less extensive crops that have very few validation samples may have a skewed accuracy result depending on the number and nature of validation sample points. DWR revised crops and conditions from the

Land IQ classification were encoded using standard DWR land use codes added to feature attributes, and each modified classification is indicated by the value 'r' in the 'DWR_REVISE' data field. Polygons drawn by DWR, not included in Land IQ dataset receive the 'n' code for new. Boundary change (i.e. DWR changed the boundary that LIQ delivered could be split boundary) indicated by 'b'. Each polygon classification is consistent with DWR attribute standards, however some of DWR's traditional attribute definitions are modified and extended to accommodate unavoidable constraints within remote-sensing classifications, or to make data more specific for DWR's water balance computation needs. The original Land IQ classifications reported for each polygon are preserved for comparison, and are also expressed as DWR standard attributes. Comments, problems, improvements, updates, or suggestions about local conditions or revisions in the final data set should be forwarded to the appropriate Regional Office Senior Land Use Supervisor. Revisions were made if: - DWR corrected the original crop classification based on local knowledge and analysis, -PARTIALLY IRRIGATED CROPS Crops irrigated for only part of their normal irrigation season were given the special condition of 'X', -In certain areas, DWR changed the irrigation status to irrigated or non-irrigated. Among those areas the special condition may have been changed to 'Partially Irrigated' based on image analysis and local knowledge, - young versus mature stages of perennial orchards and vineyards were identified (DWR added 'Young' to Special Condition attributes), - DWR determined that a field originally classified 'Idle' was actually cropped one or more times during the year, - the percent of cropped area was changed from the original acres reported by Land IQ (values indicated in DWR 'Percent' column), - DWR determined that the field boundary should have been split to better reflect separate crops within the same polygon and identified by a 'b' in the DWR_REVISED column, - The 'Mixed' was added to the MULTIUSE column refers to no boundary change, but percent of field is changed where more than one crop is found, - DWR identified a distinct early or late crop on the field before the main season crop ('Double' was added to the MULTIUSE column); if the 1st and 2nd sequential crops occupied different portions of the total field acreage, the area percentages were indicated for each crop). This dataset includes multicropped fields. If the field was determined to have more than one crop during the course of the water year, the order of the crops is sequential, beginning with Class 1. All single cropped fields will be placed in Class 2, so every polygon will have a crop in the Class 2 and CropType2 columns. In the case that a permanent crop was removed during the water year, the Class 2 crop will be the permanent crop followed by 'X' – Unclassified fallow in the Class 3 column. In the case of Intercropping, the main crop will be placed in the Class 2 column with the partial crop in the Class 3 column. A new column for the 2019 dataset is called 'MAIN_CROP'. This column indicates which field Land IQ identified as the main season crop for the water year representing the crop grown during the dominant growing season for each county. The column 'MAIN_CROP_DATE', another addition to the 2019 dataset, indicates the NDVI peak date for this main season crop. Asterisks (*or* *) in attribute table indicates no data have been collected for that specific attribute.

There are no views created for this resource yet.

Additional Information

FIELD	VALUE
LAST UPDATED	August 17, 2022

FIELD	VALUE
CREATED	July 19, 2022
FORMAT	ZIP
DATA STANDARD	DWR Spatial Data Standards Version 3.3
ATTRIBUTE	

Resources

PROVISIONAL - 2021 ... (/dataset/statewide-crop-mapping/resource/5cab9dde-5b20-4d2a-9e0c-993856e0898e?inner_span=True)

PROVISIONAL - 2021 ... (/dataset/statewide-crop-mapping/resource/eebd40ab-35a3-4e62-a625-0275b2849531?inner_span=True)

PROVISIONAL - 2021 ... (/dataset/statewide-crop-mapping/resource/cd1ce211-ac75-44b4-9ea4-345ce2fd0548?inner_span=True)

2020 Statewide Crop ... (/dataset/statewide-crop-mapping/resource/0024f4bc-a761-4ecc-8679-adf7b6d9c2a9?inner_span=True)

2020 Statewide Crop ... (/dataset/statewide-crop-mapping/resource/11dde2fe-dc07-4b10-b54e-ede2b4ce5fe6?inner_span=True)

2020 Statewide Crop ... (/dataset/statewide-crop-mapping/resource/44c1bde8-7ac4-4582-b8de-d09264e180fb?inner_span=True)

2019 Statewide Crop ... (/dataset/statewide-crop-mapping/resource/cd2c5b1b-f20c-468e-8801-0fd819859da9?inner_span=True)

2019 Statewide Crop ... (/dataset/statewide-crop-mapping/resource/1da7b37a-dd97-4b69-a86a-fe824a252eaf?inner_span=True)

2019 Statewide Crop ... (/dataset/statewide-crop-mapping/resource/519a6ac2-77f5-4da6-85f3-ada74d7eddee?inner_span=True)

2018 Statewide Crop ... (/dataset/statewide-crop-mapping/resource/898a116e-53ae-4d71-b17e-2d8b0146f143?inner_span=True)

2018 Statewide Crop ... (/dataset/statewide-crop-mapping/resource/2dde4303-5c83-4980-a1af-4f321abefe95?inner_span=True)

2018 Statewide Crop ... (/dataset/statewide-crop-mapping/resource/05dc698d-9587-453a-a494-a07beadbbe62?inner_span=True)

2016 Statewide Crop ... (/dataset/statewide-crop-mapping/resource/653de2ff-d734-4a9a-b7a5-417c45ed83b5?inner_span=True)

2016 Statewide Crop ... (/dataset/statewide-crop-mapping/resource/3b57898b-f013-487a-b472-17f54311edb5?inner_span=True)

2016 Statewide Crop ... (/dataset/statewide-crop-mapping/resource/489d7ab8-f68a-45b4-8113-bb89bc4d9a9c?inner_span=True)

2014 Statewide Crop ... (/dataset/statewide-crop-mapping/resource/b75329ce-5718-44d8-8831-c49055f8a216?inner_span=True)

2014 Statewide Crop ... (/dataset/statewide-crop-mapping/resource/3bba74e2-a992-48db-a9ed-19e6fabb8052?inner_span=True)

2014 Statewide Crop ... (/dataset/statewide-crop-mapping/resource/04f89c79-59d1-4981-a3ab-853fdbc79d37?inner_span=True)

CADWR Land Use Viewer (/dataset/statewide-crop-mapping/resource/2ade780c-3c39-47ef-b0e3-9dcf64504c3a?inner_span=True)

DWR's SGMA Data Viewer (/dataset/statewide-crop-mapping/resource/415fd34b-b972-4e9b-a5bc-e7b5d05e2b8c?inner_span=True)

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