Layer Name: Isohyets_ann_inch, Isohyets_ann_mm

Layer Type: Polyline

Status: Complete

Geog. Extent: Islands of Hawai‘i, Kaho‘olawe, Kaua‘i, Lāna‘i, Maui, Moloka‘i and O‘ahu

Projection: UTM Zone 4, Meters, NAD 83 HARN
(Statewide GIS projected original data from Geographic Coordinate System, WGS84 to UTM)

Description: Mean Annual Rainfall Isohyets for the Islands of Hawai‘i, Kaho‘olawe, Kaua‘i, Lāna‘i, Maui, Moloka‘i and O‘ahu. Statewide GIS program staff downloaded data from UH Geography Department, Rainfall Atlas of Hawaii website, February, 2019. Annual and monthly isohyets of the mean rainfall were available for download; the Statewide GIS program makes available only the annual layer – both the monthly layer and the original annual layers are available from the Rainfall Atlas of Hawai‘i (see link below). Both sets of isohyets (inches and mm) were created at appropriate intervals for their units, and therefore are not direct conversions of each other, though they are derived from the same data.

Note that Moloka‘I data/maps were updated in 2014.

Source: 2011 Rainfall Atlas of Hawai‘i, http://rainfall.geography.hawaii.edu/

History: The original Rainfall Atlas of Hawai‘i was created in 1986 by Giambelluca et al. The main outputs of the project were monthly and annual isohyets (lines of equal rainfall) of the mean rainfall patterns for the six major islands of Hawai‘i in millimeters using a 68 year base period*. The maps were created using the isohyetal method along with expert knowledge of the patterns.

The 2011 Rainfall Atlas of Hawai‘i uses a 30 year base period of 1978-2007 (a 30 year period is a standard climatological averaging period), and the main outputs are continuous spatial grid coverages of seven major islands of Hawai‘i (Kaho‘olawe has been included) of the mean rainfall in inches and mm, and accompanying uncertainty grids (also in inches and mm). From the rainfall grid layers, isohyet layers were also created (using the Contour List tool in ArcGIS). The 2011 maps were created using a Bayesian Data Fusion method, which incorporates secondary predictor variables.

For complete methodology, please see the final report and appendix:
http://rainfall.geography.hawaii.edu/downloads.html

**With the exception of Moloka‘i, which used a 53 year base period.*

Attributes: CONTOUR Isohyet label (units in inches or mm, corresponding to the name of file)

Please see original metadata on the following pages.

Contact: Hawaii Statewide GIS Program
Office of Planning, State of Hawaii
PO Box 2359, Honolulu HI 96804
Phone: (808) 587-2846; email: gis@hawaii.gov

Layer Name: Isohyets

Layer Type: Polyline (shapefile)

Status: Complete

Geog. Extent: Islands of Hawai‘i, Kaho‘olawe, Kaua‘i, Lāna‘i, Maui, Moloka‘i and O‘ahu
(Coverage extent for a particular layer is stated in download table)

Projection: Geographic Coordinate System

Datum: World Geodetic System 1984 (WGS84)

Description: Each zipped file contains 13 shapefiles: 1 annual and 12 monthly isohyets of the mean rainfall. Layers are available in inches or millimeters (mm). Both sets of isohyets (inches and mm) were created at appropriate intervals for their units, and therefore are not direct conversions of each other, though they are derived from the same data.

Source: 2011 Rainfall Atlas of Hawai‘i, http://rainfall.geography.hawaii.edu/

History: The original Rainfall Atlas of Hawai‘i was created in 1986 by Giambelluca et al. The main outputs of the project were monthly and annual isohyets (lines of equal rainfall) of the mean rainfall patterns for the six major islands of Hawai‘i in millimeters using a 68 year base period*. The maps were created using the isohyetal method along with expert knowledge of the patterns.

The 2011 Rainfall Atlas of Hawai‘i uses a 30 year base period of 1978-2007 (a 30 year period is a standard climatological averaging period), and the main outputs are continuous spatial grid coverages of seven major islands of Hawai‘i (Kaho‘olawe has been included) of the mean rainfall in inches and mm, and accompanying uncertainty grids (also in inches and mm). From the rainfall grid layers, isohyet layers were also created (using the Contour List tool in ArcGIS). The 2011 maps were created using a Bayesian Data Fusion method, which incorporates secondary predictor variables.

For complete methodology, please see the final report and appendix:
http://rainfall.geography.hawaii.edu/downloads.html

**With the exception of Moloka‘i, which used a 53 year base period.*

Attributes: Polylines

CONTOUR Isohyet label (units in inches or mm, corresponding to the name of file)

Contact: Rainfall Atlas of Hawai‘i
University of Hawai‘i at Mānoa, Department of Geography
rainfall@hawaii.edu
http://rainfall.geography.hawaii.edu/