

The Operation Tillage Information System (OpTIS) Indiana Pilot data products

There are 40 tables produced as part of this project. The naming convention of the files is:

optis_IN_YYYY_SSSSS_summary_acres_pct.csv

where YYYY is the year, ranging from 2006 to 2015, and SSSSS is the spatial aggregation level, including HUC12, HUC10, HUC08, and county scales.

-999 and -999.9 are fill values used when no data are available for the cell.

Attributes (columns) are:

newid: unique identifier for each spatial unit (row).

name: common name of the HUC or county.

Cacres: Number of acres planted as corn within the spatial unit (HUC or county) according to the previous year's Cropland Data Layer map. Example: optis_IN_2015_huc12_summary_acres_ptc.csv shows that 1,819 acres of corn were grown in the 2014 growing year in Snyder Ditch-Saint Marys River watershed [newid = 1].

CconvAC: Number of corn acres within the spatial unit that were conventionally tilled (residue cover $\leq 15\%$). Example: optis_IN_2015_huc12_summary_acres_ptc.csv shows that 517 of the corn acres grown in 2014 were in the conventionally tilled category in the fall spring of 2015 in Snyder Ditch-Saint Marys River watershed [newid = 1].

CredAC: Number of corn acres within the spatial unit that were in the category of reduced till (residue cover $> 15\%$ and $\leq 30\%$). Example: optis_IN_2015_huc12_summary_acres_ptc.csv shows that 562 of the corn acres grown in 2014 were in the category of reduced tillage in the spring of 2015 in Snyder Ditch-Saint Marys River watershed [newid = 1].

CntllAC: Number of corn acres within the spatial unit that were in the category of no-till (residue cover $> 30\%$). Example: optis_IN_2015_huc12_summary_acres_ptc.csv shows that 739 of the corn acres grown in 2014 were in the not tilled category in the spring of 2015 in Snyder Ditch-Saint Marys River watershed [newid = 1].

CftllAC: Number of corn acres in the spatial unit that were tilled (either conventionally or reduced) in the fall of the preceding year. Example: optis_IN_2015_huc12_summary_acres_ptc.csv shows that 598 of the corn acres grown in 2014 were tilled (either conventionally or reduced) in the fall of 2014 in Snyder Ditch-Saint Marys River watershed [newid = 1]. This implies that 481 of the corn acres grown in 2014 were tilled only in the spring of 2015 and had not been tilled in the fall of 2014.

CccAC: Number of corn acres in the spatial unit that were in cover crop over the winter. Example: optis_IN_2015_huc12_summary_acres_ptc.csv shows that 19 of the corn acres grown in 2014 were subsequently covered by cover crops during the winter of 2014-2015 in Snyder Ditch-Saint Marys River watershed [newid = 1].

CconvPCT: Percentage of all corn acres within the spatial unit that were conventionally tilled (residue cover $\leq 15\%$). Example: `optis_IN_2015_huc12_summary_acres_ptc.csv` shows that 28% of the corn acres grown in 2014 were in the conventionally tilled category in the spring of 2015 in Snyder Ditch-Saint Marys River watershed [`newid = 1`].

CredPCT: Percentage of all corn acres within the spatial unit that were in the category of reduced till (residue cover $> 15\%$ and $\leq 30\%$). Example: `optis_IN_2015_huc12_summary_acres_ptc.csv` shows that 31% of the corn acres grown in 2014 were in the category of reduced tillage in the spring of 2015 in Snyder Ditch-Saint Marys River watershed [`newid = 1`].

CntilPCT: Percentage of all corn acres within the spatial unit that were in the category of no-till (residue cover $> 30\%$). Example: `optis_IN_2015_huc12_summary_acres_ptc.csv` shows that 41% of the corn acres grown in 2014 were in the not tilled category in the spring of 2015 in Snyder Ditch-Saint Marys River watershed [`newid = 1`].

CftilPCT: Percentage of all corn acres in the spatial unit that were tilled (either conventionally or reduced) in the fall of the preceding year. Example: `optis_IN_2015_huc12_summary_acres_ptc.csv` shows that 33% of the corn acres grown in 2014 were tilled (either conventionally or reduced) in the fall of 2014 in Snyder Ditch-Saint Marys River watershed [`newid = 1`]. This implies that 26% of the corn acres grown in 2014 were tilled only in the spring of 2015 and had not been tilled in the fall of 2014.

CccPCT: Percentage of corn acres in the spatial unit that were in cover crop over the winter. Example: `optis_IN_2015_huc12_summary_acres_ptc.csv` shows that 1% of the corn acres grown in 2014 were subsequently covered by cover crops during the winter of 2014-2015 in Snyder Ditch-Saint Marys River watershed [`newid = 1`].

CttCERT: Index indicating the relative level of certainty in the estimates provided for corn tillage category. In general, index values < 0.25 indicate low confidence, values between 0.25 and 0.4 indicate moderate confidence, and > 0.4 indicate high confidence. The index values are calculated from a) image availability and timing, b) consistency in residue cover estimates from multiple observations, and c) relative density of estimates falling near category boundaries. Example: `optis_IN_2015_huc12_summary_acres_ptc.csv` shows estimates of tillage practice in 2015 in Snyder Ditch-Saint Marys River watershed [`newid = 1`] had an index value of 0.33, indicating moderate confidence.

The remaining columns are repeated for soybeans (“B”; e.g. Bacres), small grains (“G”; e.g. Gacres), and specialty crops (“S”; e.g. Sacres).

For questions about these data products, please contact Stephen Hagen at shagen@appliedgeosolutions.com.