Illinois Crop Yield Database

With this program, the user can access and analyze historic crop yields from 1972 to 2002 for corn, soybeans, and wheat at the county level, state level, or by NASS crop-reporting district.

**Required Input**

**Location**
Any combination of locations may be selected for an individual search. Options include: state total, individual NASS Crop Reporting Districts, and individual counties. To remove a location from the search, simply re-click on the location or click located directly below the location list.

**Crop**
Using the drop-down menu, select one of the following crops: corn, soybeans, or wheat.

**Time Period**
Select the beginning and ending search dates from 1972 through 2002 by using the drop-down menus.

**Detrend**
“To Remove Yield Trend Due to Time,” click on the. By doing so, data are shown on a common baseline that represents yields adjusted to their current equivalent values. Data can be “detrended” using either a “State” or “County” level estimate of the general rate of increase in yields through time.

**Lookup**
Once inputs are selected, click to generate the result.
**Outputs**

**Graph**
Yield data is graphed automatically and is available to print. Click [Print Graph] to do so.

**Data**
Yield data and detrended data are provided in a table format. For each year selected, the actual NASS yield and detrended yield are provided for each location, as are the mean, median and standard deviation for the selected years. The data may be highlighted and copied for use in other applications, as well as printed by clicking [Print Data].

The following report shows corn yields for Boone, Calhoun, Champaign and Clay counties from 1988 through 2002 based on their county-level estimates of increases through time.

**Other Utilities**

**County Reports**
For each county selected in the analysis, an individual report can be generated. To do so, click [County Report] in the third column of the input section.

To generate a report, select the location using the drop-down menu and click [Go]. A graph of yields over time, a table of historic data for the years in the analysis, and a summary of descriptive characteristics for the county will be
displayed. To print the report, click [Print Report]. An example of a county report for Champaign County is below.

**County Report for Champaign County, Illinois, 1972-2002.**

<table>
<thead>
<tr>
<th>Year</th>
<th>Actual Yield</th>
<th>Detrended Yield</th>
<th>Summary Descriptors:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1972</td>
<td>129.00</td>
<td>159.28</td>
<td>Crop: Corn</td>
</tr>
<tr>
<td>1973</td>
<td>123.20</td>
<td>152.47</td>
<td>Location: Champaign</td>
</tr>
<tr>
<td>1974</td>
<td>94.00</td>
<td>122.26</td>
<td><strong>raw data bu/acre</strong></td>
</tr>
<tr>
<td>1975</td>
<td>137.10</td>
<td>164.35</td>
<td>mean 131.85</td>
</tr>
<tr>
<td>1976</td>
<td>128.40</td>
<td>154.64</td>
<td>median 138.00</td>
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<tr>
<td>1977</td>
<td>118.50</td>
<td>143.73</td>
<td>std. dev. 23.90</td>
</tr>
<tr>
<td>1978</td>
<td>132.20</td>
<td>156.42</td>
<td></td>
</tr>
<tr>
<td>1979</td>
<td>143.40</td>
<td>166.61</td>
<td></td>
</tr>
<tr>
<td>1980</td>
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<td></td>
</tr>
<tr>
<td>1981</td>
<td>132.80</td>
<td>154.00</td>
<td><strong>detrended to 2002</strong></td>
</tr>
<tr>
<td>1982</td>
<td>143.90</td>
<td>164.09</td>
<td>mean 146.99</td>
</tr>
<tr>
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<td>89.30</td>
<td>108.48</td>
<td>median 152.47</td>
</tr>
<tr>
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<td>126.00</td>
<td>146.17</td>
<td>std. dev. 22.16</td>
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<tr>
<td>1985</td>
<td>154.00</td>
<td>171.16</td>
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</tr>
<tr>
<td>1986</td>
<td>144.00</td>
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<td>1988</td>
<td>85.00</td>
<td>99.13</td>
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<td>136.00</td>
<td>149.12</td>
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<td>2001</td>
<td>153.00</td>
<td>154.01</td>
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</tr>
<tr>
<td>2002</td>
<td>143.00</td>
<td>143.00</td>
<td></td>
</tr>
</tbody>
</table>

*Definitions:*
- **Mean** - average of the data
- **Median** - central observation when ranked high to low
- **Standard Deviation** - measure of the relative variation about the mean
- **Raw** - original data series from NASS
- **Detrended** - data have been corrected for time trend and stated in terms of 2002 conditions
Probability Utilities
Probability Utilities help evaluate the probabilities of farm-level yields falling within certain production ranges for a representative farm in a given county. To access this page, click Probability Utility in the third column of the input section.

Shown below is the probability page for Champaign County.

This page contains two sections.

Estimated Probabilities of Crop Yields for a Specific County
Is located in the top half of the probability page, shown above. Select the crop and county, and click Initialize. To change the yield interval, use the two scroll bars to re-set the low and high ends of the range. The graph will move accordingly and the probability of yields in the selected range will be calculated automatically. The yields in this page are adjusted from the county level to reflect the yield risk typical for an individual producer.
**Probabilities of Yields and APH Levels**

Is located in the bottom half of the probability page. The fitted average and standard deviation are provided.

The left side of the table illustrates the “Value at Risk” (VaR), or probability of attaining the given yield, for the farmer and county. For example, in Champaign County an individual farmer has a 25% chance of producing 127.83 bushels or less of corn per acre, while the county average will be 132.18 bushels or less per acre with an equal likelihood.

The right side of the table provides the calculated yield probabilities and Actual Production History (APH) insurance guarantee levels for the user’s farm. The user can enter the expected yield, or “custom APH yield”, and APH yield election, or “percentage of custom APH level”, on the left side of the bottom section. In this example, the user entered 150 bushels with an 82% APH level. On the right, the program reports yields associated with common APH insurance elections, and the associated calculated probabilities for yield outcomes.