

NOAA's Coastal Assessment and Data Synthesis System

Pesticides

Dataset Description

Information on the use of pesticides is available for the years 1987 and 1992. The 1987 pesticide use data were provided by L. Gianessi, while the 1992 data were provided by G. Thelin (see sources below).

The National Center for Food and Agricultural Policy (NCFAP) has compiled information about the use of pesticides in agricultural production, including statistics on 185 and 208 different chemical compounds for years 1987 and 1992, respectively. The NCFAP national database provides information from the National Agricultural Statistics Service (NASS) survey of pesticide use in field crops, vegetable crops and fruit and nut crops; selected crop reports compiled by USDA Cooperative Extension Service; pesticide benefit assessments conducted by the USDA National Agricultural Pesticide Impact Assessment Program (NAPIAP); and farmer pesticide use reports compiled in a State of California report. In addition, NCFAP conducted a survey among extension service specialists on pesticide use for areas not included in other state and federal sources.

Caveats of the data. The NCFAP database represents the average use of pesticides for an entire state and does not reflect the variability of cropping and management practices at the county level. For some states, there exist no published surveys or body of opinion by specialists in the field. In cases where state-level information was absent, the NCFAP database determined pesticide use with data from an adjacent state.

The acreage data used to calculate county-level pesticide use are based on the 1987 and 1992 Census of Agriculture. Because of Census non-disclosure rules, county-level estimates may not include all crop acreage. In addition, the data does not include pesticide applications to non-cropland areas like private residences, greenhouses, etc. Pesticides applied to pasture refer to pasture land as defined in the Census of Agriculture and does not include federally owned land.

The data are available for four distinct spatial aggregations as outlined below. To view the data dictionary of each dataset, click on the links below or refer to NOAA's Coastal Assessment and Data Synthesis System (<http://cads.nos.noaa.gov>).

- 1) Coastal Watersheds (from NOAA's Coastal Assessment Framework),
(http://spo.nos.noaa.gov/projects/cads/data_references/pesticides/pesticides_eda_h_dict.html)
- 2) Hydrologic Cataloging Units (8-digit sub-watersheds from the U.S. Geological Survey and a building block of NOAA's CAF),
(http://spo.nos.noaa.gov/projects/cads/data_references/pesticides/pesticides_huc_h_dict.html)
- 3) Counties, and
(http://spo.nos.noaa.gov/projects/cads/data_references/pesticides/pesticides_cnty_h_dict.html)
- 4) States (aggregated from Counties).
(http://spo.nos.noaa.gov/projects/cads/data_references/pesticides/pesticides_st_h_dict.html)

Source(s) of Information:

Pesticide use data for 1987:

Gianessi, Leonard P. and Anderson, James Earl

Pesticide use data for 1992:

Gail P. Thelin

U.S. Geological Survey, Water Resources Division (WRD), NAWQA Pesticide National

Synthesis

CSUS Placer Hall, 6000 J Street

Sacramento, CA 95819-6129

Telephone: (916) 278-3095 Fax: (916) 278-3045

E-mail: <mailto:gpthelin@usgs.gov>

Web Site: <http://s101dcascr.wr.usgs.gov/pnsp/gis/data/natancil>

Agricultural Pesticide Use in Coastal Areas: A National Summary

Pait, Anthony S., et. al, September 1992

Strategic Environmental Assessments Division

ORCA/NOS/NOAA/NOS/ORCA

Contact: Anthony Pait

Tel: 301-713-3000 x 156

Email: <mailto:tony.pait@noaa.gov>

Data Processing:

The 1987 and 1992 data sets were merged by FIPS, crop name and pesticide name into a single data set. County level data were aggregated by class (fungicide, herbicide, insecticide, and for 1992, other pesticide). A county-level estimate of pesticide use by class was obtained using the Hazard Rating Coefficients (HRC) developed by Pait et.al. (1992) ("Agricultural Pesticide use in Coastal Area: A National Summary", US Department of Commerce, NOAA, SEA Division, September 1992).

Spatial aggregations were done with GIS (Geographic Information System) software called ARCVIEW. To geo-reference national land use data to counties and to NOAA's Coastal Assessment Framework (CAF), a NOAA unique-level map (see explanation of spatial aggregations above) was intersected with land use (LULC + 1990 Enhanced). All data aggregations were done using the SAS software.

Contact(s) on Data Processing

Percy A. Pacheco

Environmental Engineer

NCA Branch, Special Projects Office (SPO), NOS/NOAA

1305 East West Highway, SSMC4, 9th Floor

Silver Spring, Maryland 20910

Tel: 301-713-3000 x 155

Fax: 301-713-4384

Email: <mailto:percy.pacheco@noaa.gov>

Quality Control

1) A ratio of pesticide use was calculated for each county in 1987 and 1992. The results helped isolate cases where data were questionable:

Ratio	Count	Assessment
<0	11	questionable 1987 data
=0	2661	okay
>0 - <=0.001	4	questionable 1992 data (OK)
>0.001 - <=0.01	126	questionable 1992 data (OK)
>0.01 - <=0.1	6203	acceptable
>0.1 - <=10	299761	good
>10 - <=100	10812	acceptable
>100 - <=1000	408	questionable 1987 data
>1000 - <=10000	31	questionable 1987 data
>10000	1	questionable 1987 data

2) Data highlighted as questionable for 1992, listed above, were confirmed as reliable by sources at the USGS Water Resources Division in Sacramento. However, questionable 1987 data were not confirmed as reliable.

3) County-level pesticide data were recomputed using a file listing the prorated values. Computed county level data were then compared with original county datasets. The comparison confirmed the accuracy of the areal proration method.

Citation:

Pesticides. [Coastal Assessment and Data Synthesis \(CA&DS\) System](#), 1999. National Coastal Assessments (NCA) Branch, [Special Projects Office \(SPO\)](#), National Ocean Service ([NOS](#)), National Oceanic and Atmospheric Administration ([NOAA](#)). Silver Spring, Maryland.

Applicable Digital Geography

The data are associated to distinct spatial aggregations. Geographic Information System (GIS) digital geographies are available for associating these data to their appropriate spatial aggregations. The following GIS files apply to and should be used with these data during GIS processing. To download the data or an applicable digital geography, click on the links below.

Dataset Spatial Aggregation	Applicable GIS file(s)
Coastal Watersheds	ftp://sposerver.nos.noaa.gov/datasets/CADS/GIS_Files/ShapeFiles/caf/
Hydrologic Cataloging Units	ftp://sposerver.nos.noaa.gov/datasets/CADS/GIS_Files/ShapeFiles/caf/original_caf
Counties	ftp://sposerver.nos.noaa.gov/datasets/CADS/GIS_Files/ShapeFiles/counties
States	ftp://sposerver.nos.noaa.gov/datasets/CADS/GIS_Files/ShapeFiles/states

For Additional Information:

For additional information, refer to NOAA's [Coastal Assessment and Data Synthesis \(CA&DS\) System](#), or contact:

The [CA&DS](#) team.
National Coastal Assessments Branch
Special Projects Office (SPO), NOS/NOAA
1305 East West Highway, SSMC4, 9th Floor
Silver Spring, Maryland 20910
Tel: 301-713-3000
Fax: 301-713-4384