



Imperial Irrigation District

WATER | Home | About IID | Water | Power | News | Economic Development | Contact Us

- How We Started and Areas We Serve
- California Water Issues
- Water Transfer Agreement
- How it Works
- Irrigation Services
- Questions and Answers

Irrigation Services Agriculture



The Imperial Valley's fertile soil and mild climate allow farmers to enjoy year-round planting, cultivation and harvest. In 1998, over 461,000 acres of Imperial Valley land was farmed to produce over \$1 billion in field, vegetable and permanent crops.

Background

The feasibility of irrigating the barren Imperial Valley with water from the Colorado River was recognized as early as the 1850s. It wasn't until 1901 that the California Development Company started diverting water to the Imperial Valley through a canal, called the Alamo, which had its heading in the United States but ran most of its course through Mexico.

In 1905, a winter flood caused the Colorado River to jump its banks and flow freely into the Imperial Valley creating the Salton Sea. The sea is still used as a drainage basin for irrigation and storm runoff in the Imperial, Coachella and Mexicali valleys.

The Imperial Irrigation District was formed in 1911 to acquire properties of the bankrupt California Development Company. By 1922, the district had also acquired the 13 mutual water companies which had developed and operated the distribution canals.

Since 1942, the Imperial Valley has received its water through the All-American Canal, which runs its entire length in the United States. The 82-mile-long All-American Canal carries water from the Imperial Dam on the Colorado River west to agriculture and cities in the Imperial Valley.

Colorado River

The Colorado River is the lifeline of the Imperial Valley. Its course runs a 1,400-mile distance and its watershed covers 157 million acres of land. The river produces approximately 14 million acre-feet of water per year. One acre-foot is equal to 325,900 gallons—enough to sustain the water needs of a family of five for one year.

The river makes it possible to irrigate nearly 500,000 acres in the Imperial Valley, in addition to farmland in the Palo Verde and Coachella valleys in California and the Yuma Project in Arizona.

Are farmers going to start conserving water, thus making a decline in the amount of inflow?

- runoff - what is in it?

- how would you tell this story

- what are the main concepts that you see for this issue

Water from the river is also diverted to the Metropolitan Water District for use in Southern California urban areas and to other agriculture and urban interests along its course.

A naturally salty river, the Colorado carries salinity from saline springs and agriculture return flows along its way. Salinity is responsible for millions of dollars in damages to agriculture, municipal and industrial users in the lower basin states.

The Colorado is also an extremely silty river. Six desilting basins remove silt from the water at the Imperial Dam before it is diverted into the All-American Canal.

Soils

In the Imperial Valley, irrigated farmlands flourish on layers of soil deposited over centuries by the Colorado River. The soils are formed in two principle landscapes. One landscape is the lower Colorado River flood plain and the dry lake basin of old Lake Cahuilla. The other landscape is the nearly level to gently sloping plain of the Imperial East and West mesas which lie above the beachline of the old lake.

There is no "top soil" in the usual sense. The valley is a large bowl filled with a conglomerate of elements transported by Colorado River flood waters. The soils are up to a full mile or more deep. Beneath the soil surface is a maze of passages of aquifers and aquicludes of clay barriers and sand lenses. In general, there is no gravel and sand water-bearing stratum. Stratum of any one type of soil does not extend over a large area, but occurs more as a lens or pocket.

Imperial Valley soil is naturally salty. As river floods left alluvial soils, they also left salt. Saline soils are often recognized by a white crust on the surface.

Water

The Colorado River is highly saline and carries about one ton of salt per acre-foot of water applied to fields, posing problems for growers. Imperial Valley farmers battle salinity by leaching salts through the root zone into subsurface tile drainage systems. This saline water is then carried through the district's drainage canals into the Salton Sea. Adequate drainage in the Imperial Valley makes the difference between barren land and highly productive soil. To date, there are 230 miles of main canals, 1,438 miles of canals and laterals of which 1,109 miles are concrete lined or pipelined and 1,406 miles of drainage ditches in the Imperial Valley.

Weather

Imperial Valley enjoys a year-round climate characterized by a temperate fall, winter and spring and a harsh summer. Humidity often combines with the Imperial Valley's normal high temperatures to produce a moist, tropical atmosphere that frequently seems hotter than the thermometer suggests. The highest temperature on record, 121 degrees, was recorded on July 28, 1995. The lowest temperature ever recorded was 16 degrees on January 22, 1937.

The sun shines, on the average, more in the Imperial Valley than anywhere else in the United States. Even in December and January, the sun shines an average of more than eight hours a day. The 83-year average rainfall for the Imperial Valley is 2.93

inches. June is the driest month of the year. Since 1914, there has been measurable rainfall three times during that month - 0.04 of an inch on June 2, 1948 and 0.01 of an inch on June 18, 1988 and June 7, 1997. The period from November through March is considered the "rainy" season. On the average there are 16 hours of rainfall during that period, a little more than three hours a month.

Cool winter nights occasionally produce overnight and morning frosts. The only recorded snowfall of consequence occurred in 1932. Up to four inches of snow was reported in the southeast portion of the Imperial Valley on December 13 of that year.

Crop Report

The availability of Colorado River water and a considerate climate make the Imperial Valley one of the most productive agricultural regions in the world. The Imperial Valley has an agriculturally based economy, producing approximately \$1 billion in crops annually. Roughly one out of every three jobs is directly related to agriculture.

There are 1,061,637 total acres within district boundaries. In 1998, 449,640 acres were used for field crops, 94,088 for vegetable crops and 22,806 for permanent crops.

Top 10 Crops For 1998

Cattle	\$151,408,000
Alfalfa	\$127,880,000
Lettuce	\$94,968,000
Carrots	\$64,214,000
Leaf Lettuce	\$55,999,000
Sugar Beets	\$51,942,000
Broccoli	\$45,820,000
Cataloupes	\$44,798,000
Onions	\$44,241,000
Wheat	\$40,830,000

Harvest Schedule

January-March

Asparagus-Broccoli
Carrots-Lettuce
Cabbage-Romaine
Dehydrator Onions
Bunching Onions
Summer Squash
Alfalfa-Citrus

April-June

Asparagus-Okra
Garlic-Cantaloupe
Fresh Market Onions
Seed Onions
Tomatoes-Honeydew
Watermelon-Flax
Sweet Corn
Summer Squash
Banana Squash
Alfalfa-Wheat

July-September

Seed Onions-Tomatoes
Watermelon-Casaba
Okra-Banana Squash
Alfalfa-Wheat
Flax-Sesbania
Forage-Sorghums
Grain Sorghums
Sugar Beets

October-December

Broccoli-Cantaloupe
Carrots-Lettuce
Cabbage-Cucumbers
Casaba-Honeydew
Persian-Rapini
Okra-Romaine
Bunching Onions
Summer Squash
Alfalfa

Sudan Grass
Sugar BeetsCotton Sesbania
Forage Sorghums
Grain Sorghums

Commodity	Year	Harvested	
		Acreage	Value
Vegetable and Melon Crops	1998	103,618	486,178,000
	1997	107,708	416,953,000
Field Crops	1998	416,463	284,732,000
	1997	423,353	331,389,000
Livestock	1998		205,369,000
	1997		210,359,000
Fruit & Nut Crops	1998	5,087	28,724,000
	1997	4,739	28,324,000
Seed & Nursery Crops	1998	60,559	75,336,000
	1997	44,432	49,774,000
Apiary Products	1998		2,893,000
	1997		3,129,000
Totals	1998	585,727	1,083,232,000
Totals	1997	*576,552	1,039,928,000

* revised

Acreage Summary

	Acres		
	1998	1997	1996
Field Crops	449,640	448,238	446,164
Garden Crops	94,088	95,030	93,868
Permanent Crops	22,806	21,605	20,428
Total Acres of Crops	566,534	564,873	560,460
Total Duplicate Crops	105,473	104,167	99,848
Total Net Acres in Crops	461,061	460,706	460,612
Area being reclaimed: leached	190	263	503
Net area irrigated	461,251	460,969	461,115
Area farmable but not farmed during the year (Fallowed land)	18,076	18,448	19,136
Total Area Farmable	479,327	479,417	480,251
Area of farms in homes, feedlots, corrals, cotton gins, experimental farms & industrial areas	16,019	15,959	15,859
Area in cities, towns, airports,	26,013	26,013	25,504

cemeteries, fairgrounds, golf-courses, recreational parks, lakes, & rural schools

Total Area Receiving Water	521,359	521,389	521,614
Area in drains, canals, reservoirs, rivers, railroads & roads	73,650	73,620	73,395
Area below -230 Salton Sea Reserve Boundary & area covered by Salton Sea, less area receiving water	40,150	40,150	40,150
Area in Imperial Unit not entitled to water	63,933	63,933	63,933
Undeveloped area of Imperial, West Mesa, East Mesa & Pilot Knob units	277,629	277,629	277,629
Total acreage included-all units	976,721	976,721	976,721
*Acreage not included-all units	84,916	84,916	84,916
Total Gross Acreage within district boundaries	1,061,637	1,061,637	1,061,637

*Acreage within district boundaries that is not included in district.

Summary

	1998	1997	1996
Number of Farm Accounts	6,290	6,299	6,289
# of owner-operated farm accounts	(43.9%) 2,760	(42.9%) 2,702	(43.6%) 2,743
# of tenant-operated farm accounts	(56.1%) 3,530	(57.1%) 3,597	(56.4%) 3,546
Average acreage of farm accounts	76.20	76.11	76.36

[Back to Irrigation Services](#)

[Home](#) | [About IID](#) | [Water](#) | [Power](#) | [News](#) | [Economic Development](#) | [Contact Us](#) | [Index](#)

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