



The Salton Sea and Southern California's Water Future

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Pacific Institute



Founded in 1987 and based in Oakland, California, the Pacific Institute is a non-profit research center dedicated to protecting our natural world, encouraging sustainable development, and improving global security.

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A satellite map of the Salton Sea region, showing the sea as a large dark blue body of water. The surrounding land is a mix of brown and green, indicating desert and some vegetation. Roads are visible as yellow lines, and some cities are labeled. The text 'The Salton Sea: Background' is overlaid in large white font.

The Salton Sea: Background

- History
- Scale
- Changes over time
- Ecological value

Salton Sea

California

Arizona

Los Angeles

***Colorado
River***

San Diego

U.S.

Tijuana

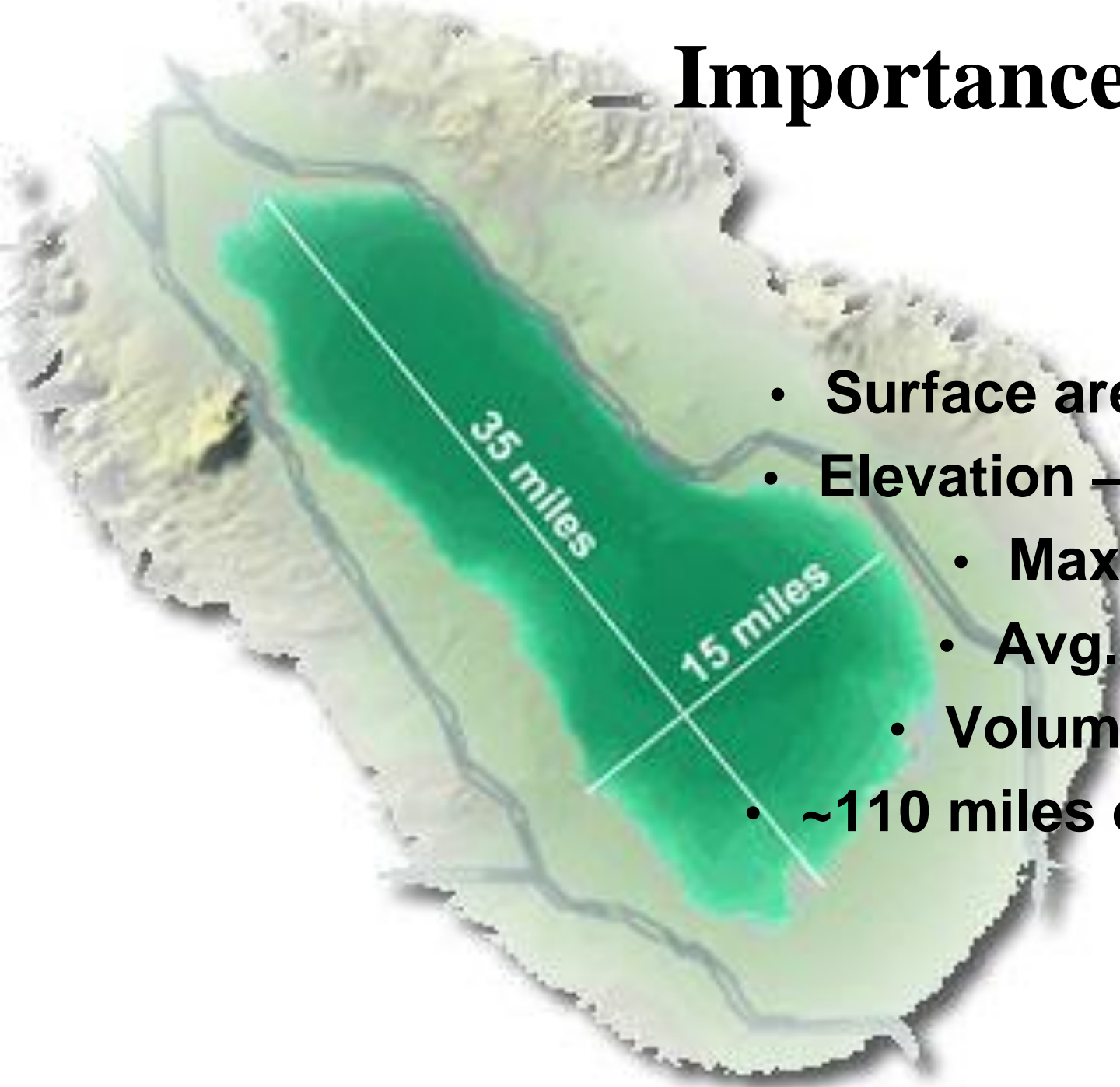
Mexico

Pacific Ocean

***Gulf of
California***

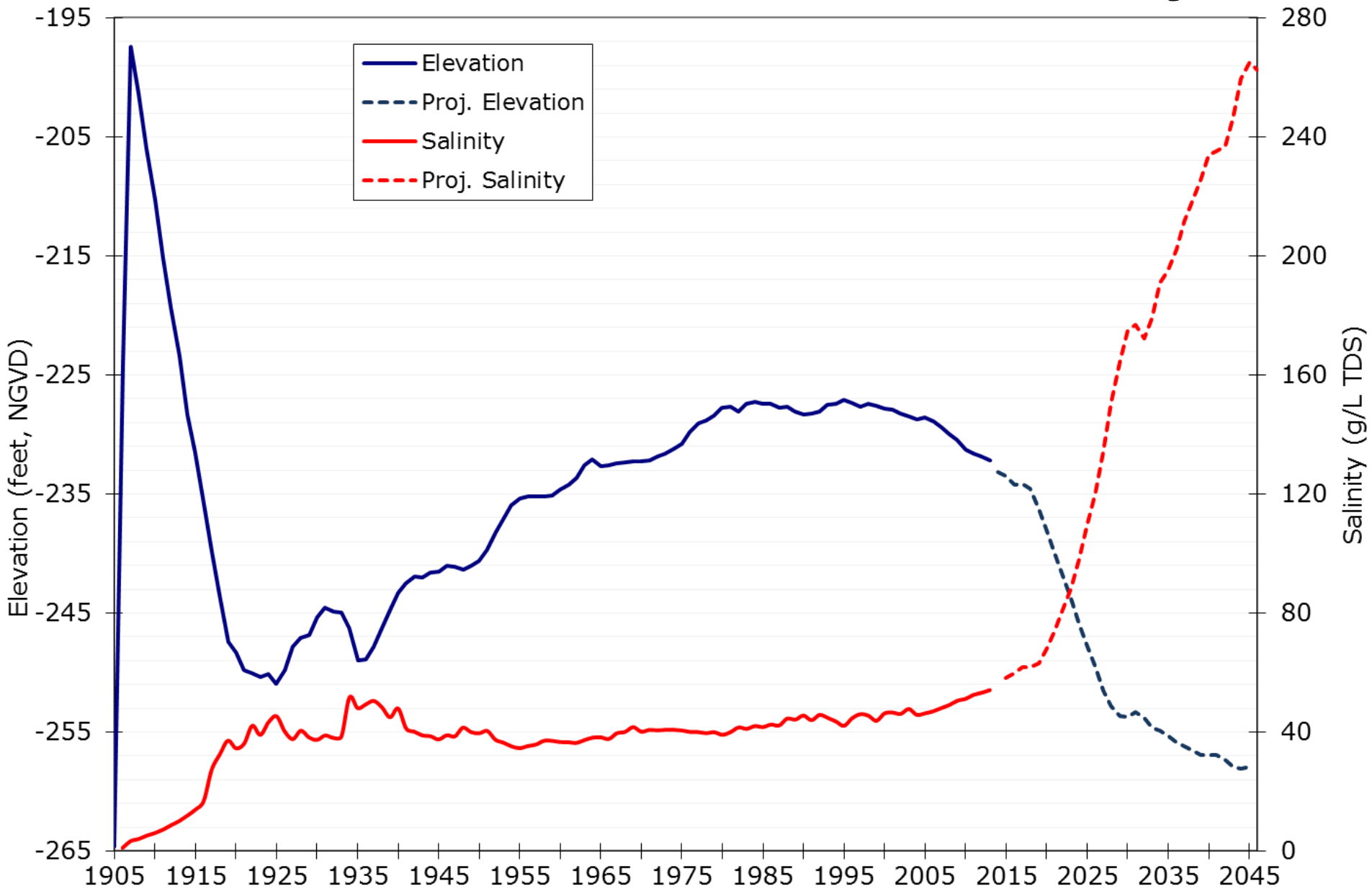


– Importance of Scale

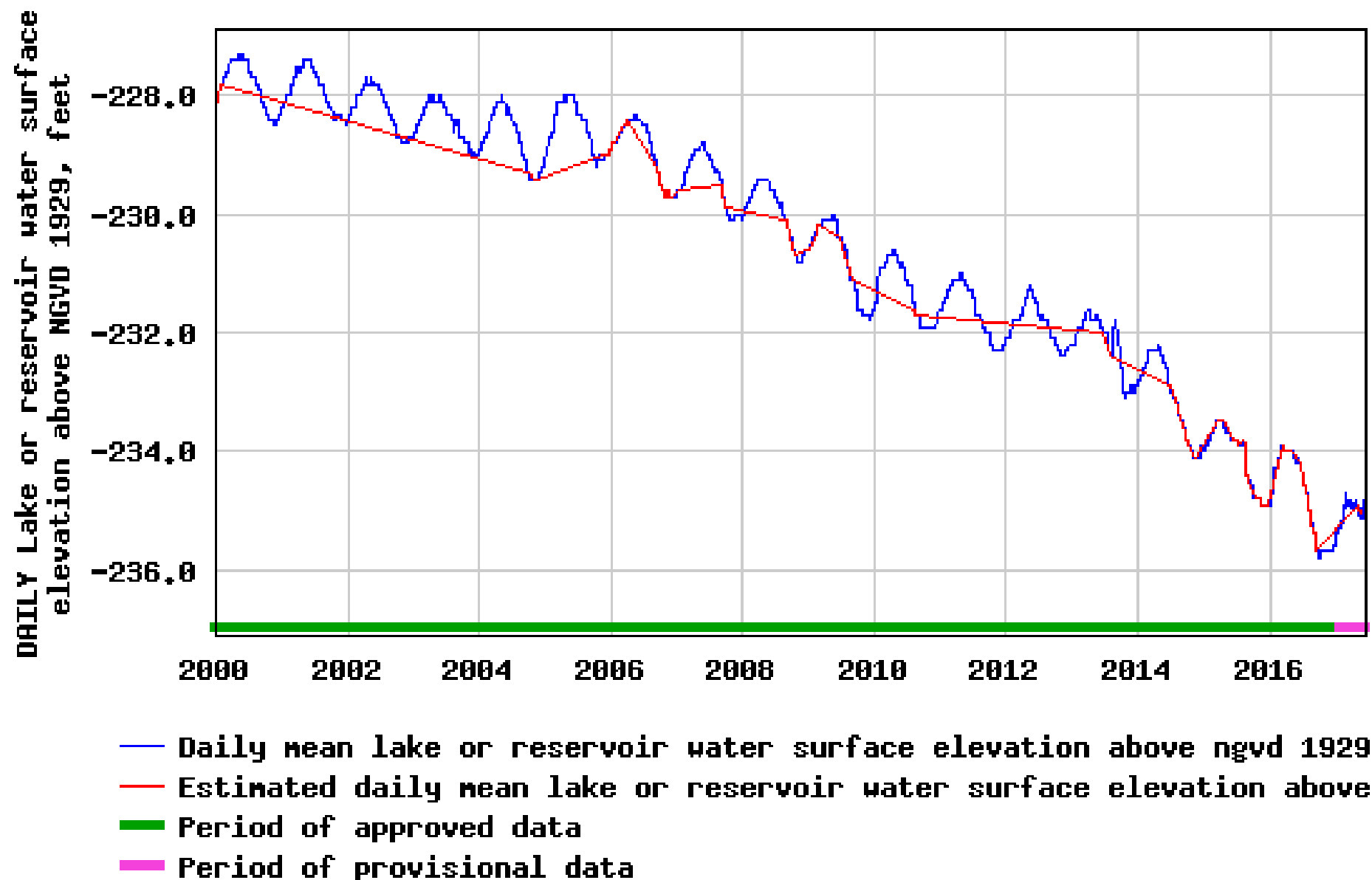


- Surface area – 340 mi²
- Elevation – -235' (NGVD29)
 - Max depth – 42'
 - Avg. depth ~ 25'
 - Volume – 5.7 MAF
- ~110 miles of shoreline

Salton Sea Elevation & Salinity



USGS 10254005 SALTON SEA NR WESTMORLAND CA

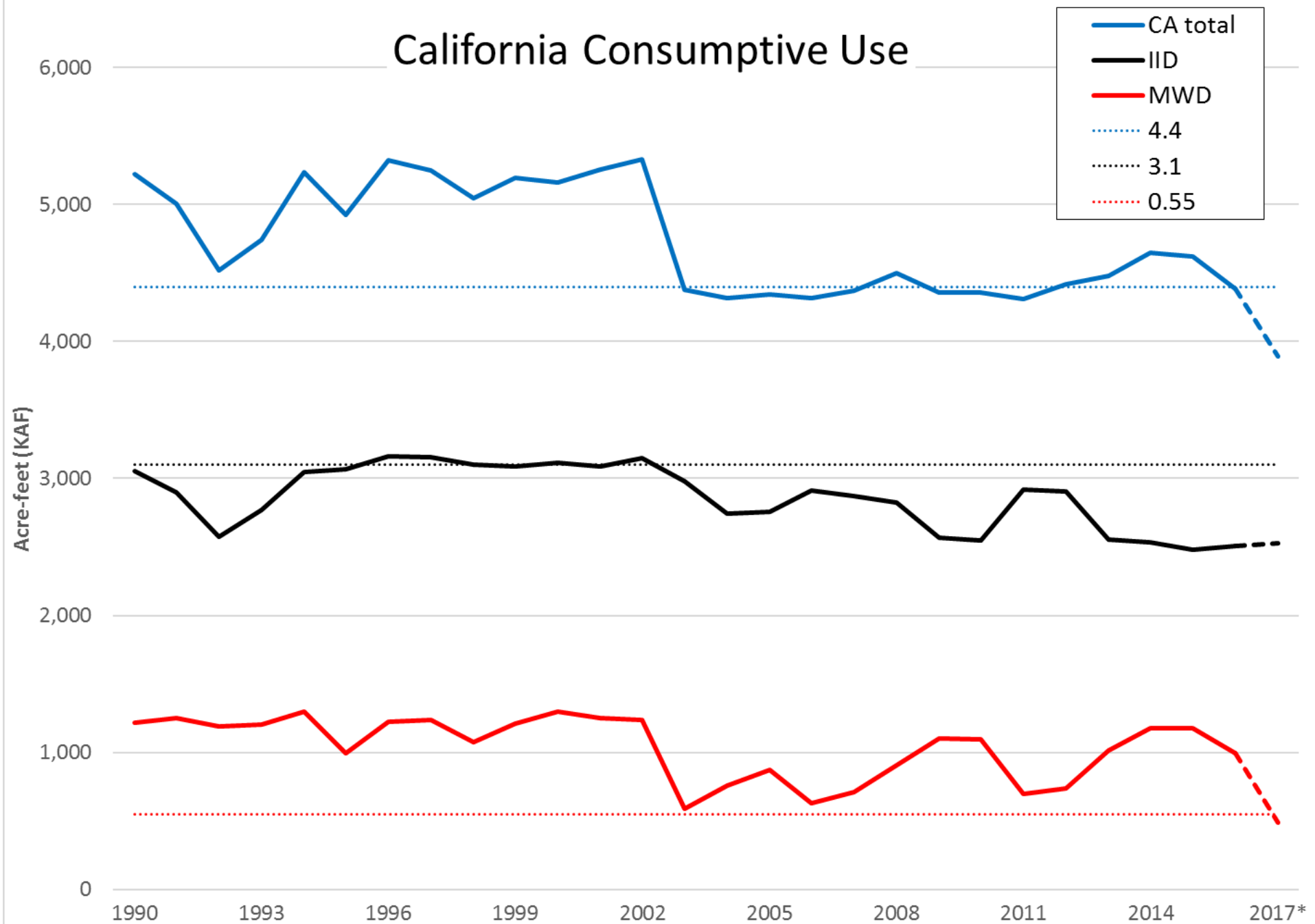


A satellite map of the Salton River and Colorado River area. The Salton River is a dark, winding feature flowing from the top left towards the bottom right. The Colorado River is visible as a straight line on the left side. The map includes labels for 'Mecca' at the top left, 'Calipatria' at the bottom right, and 'Salton Sea' in the center. Highway markers for 86, 70, and 3 are visible. The title 'Drivers of Change' is overlaid in large white text at the top.

Drivers of Change

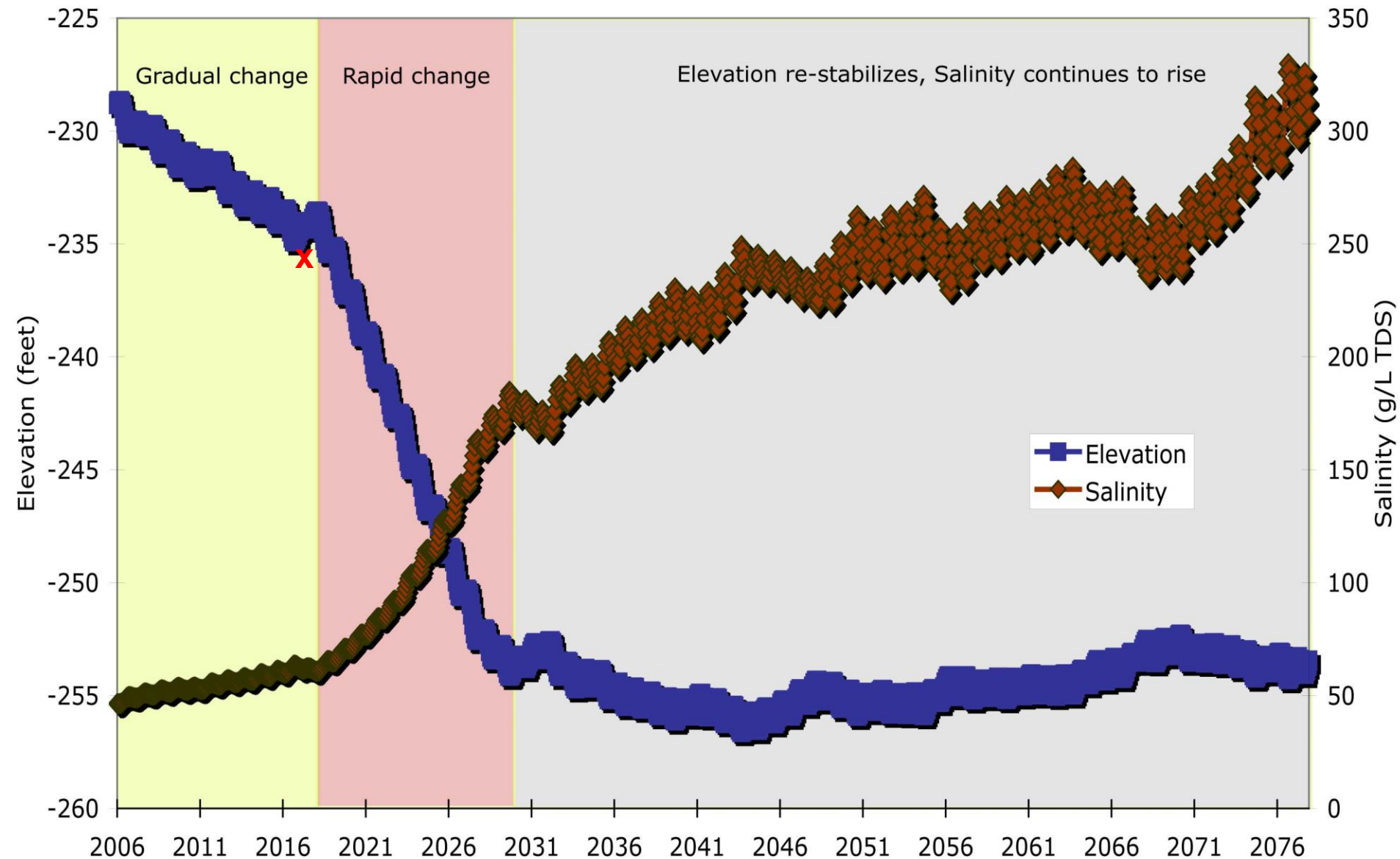
- Lower inflows
 - IID-SDCWA water transfer
 - changes in Mexico
 - no surplus
 - cropping changes
- Urbanization
- Ag changes/BMPs & TMDLs
- Climate change

California Consumptive Use



Source: Annual Reclamation Decree Accounting reports, June 6, 2017 forecast

Salton Sea Elevation and Salinity



LBDCP Reductions

Lake Mead Elevation	AZ (2007)	AZ (Plan)	AZ Total	NV (2007)	NV (Plan)	NV Total	CA (2007)	CA (Plan)	CA Total	USBR	Mexico Minute 319*	Total
1,090-1,075	0	192,000	192,000	0	8,000	8,000	0	0	0	100,000	0	300,000
1,075-1,050	320,000	192,000	512,000	13,000	8,000	21,000	0	0	0	100,000	50,000	683,000
1,050-1,045	400,000	192,000	592,000	17,000	8,000	25,000	0	0	0	100,000	70,000	787,000
1,045-1,040	400,000	240,000	640,000	17,000	10,000	27,000	0	200,000	200,000	100,000	70,000	1,037,000
1,040-1,035	400,000	240,000	640,000	17,000	10,000	27,000	0	250,000	250,000	100,000	70,000	1,087,000
1,035-1,030	400,000	240,000	640,000	17,000	10,000	27,000	0	300,000	300,000	100,000	70,000	1,137,000
1,030-1,025	400,000	240,000	640,000	17,000	10,000	27,000	0	350,000	350,000	100,000	70,000	1,187,000
<1,025	480,000	240,000	720,000	20,000	10,000	30,000	0	350,000	350,000	100,000	125,000	1,325,000

*Minute 319 reductions extend through 2017. Assume reductions continue in Minute 32X.

Source: Information Brief to CAP Board, Jan. 5, 2017



Photo courtesy of Daniel M. Edwards

Ecological Importance

- More than 420 bird species recorded at and around the Sea
- 90% of western population of American White pelicans (> 30,000)
- Over 40,000 ruddy ducks (half of ruddies in Pacific Flyway)
- Important breeding habitat for many species of ducks, rails, herons, and others

Air Quality

- CV and IV 'serious non-attainment areas' for PM10 (small dust particles)
- Currently about 261 tons/day of PM10 in basin
- 26.5 sq. miles of lakebed exposed by 2018 – responsibility of individual landowners
- as much as 150 sq. miles of exposed lakebed
- Potentially, additional 100 tons/day of PM10

A satellite map of the Salton Sea region, showing the large body of water in the center. The city of Mecca is visible in the upper left, and the city of Calipatria is visible in the lower right. A road labeled '86' runs vertically on the left side of the sea. The text 'Salton Sea' is faintly visible across the water.

Further Reading

- resources.ca.gov/salton-sea/
- www.waterboards.ca.gov/waterrights/water_issues/programs/salton_sea/
- www.iid.com/water/salton-sea-initiative
- pacinst.org/issues/salton-sea/
- ca.audubon.org/conservation/birds-salton-sea
- www.usbr.gov/lc/region/programs/salton-sea.html