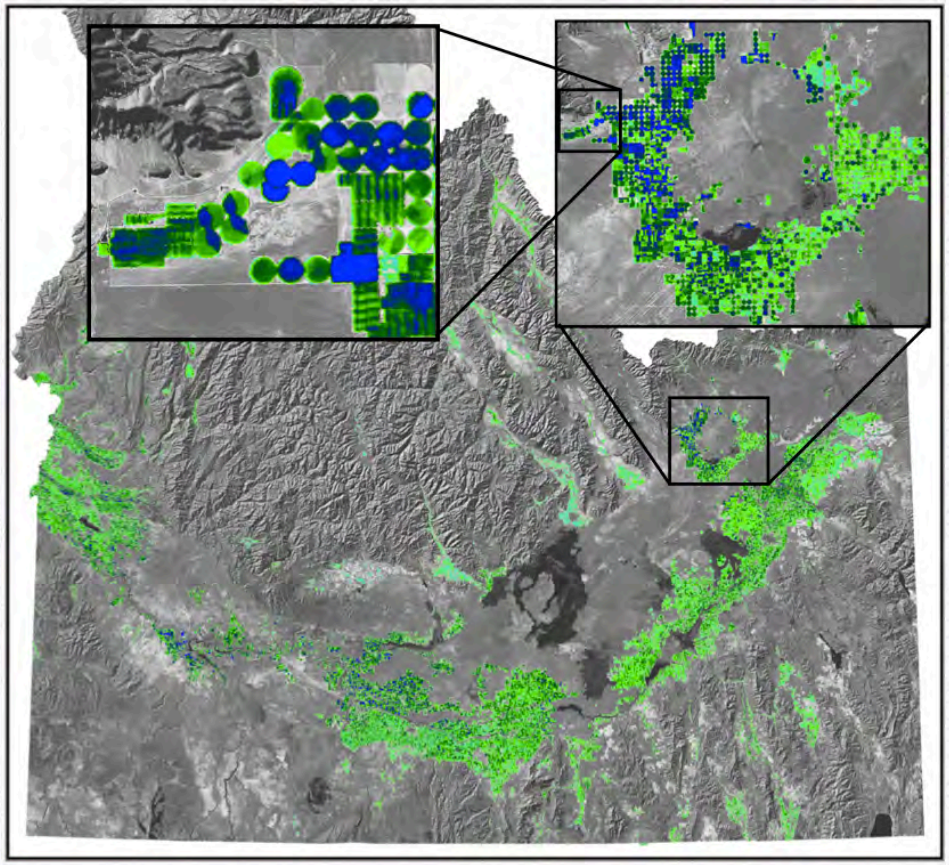
Landsat Economics

In Five Minutes?



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First, Some History

Landsat costs/benefits studied in 1970s

Cost of Landsat satellites in 2012 dollars

	Launch Year	Original Cost in Millions	Cost in 2012 Dollars Millions	Design Life	Actual Life
Landsat 1	1972	$ 176	**$ 968**	1 year	6 years
Landsat 2	1974	$ 197	**$ 918**	1 year	7 years
Landsat 3	1978	?	?	1 year	5 years
Landsat 4	1982	$ 538	**$1,269**	3 years	11 years
Landsat 5	1984	$ 573	**$1,267**	3 years	27 years
Landsat 6	1993	$ 518	**$ 816**	3 years	0 years
Landsat 7	1999	$ 800	**$1,093**	5 years	operating
Landsat 8	2013	$1,000	**$1,000**	5 years	tbd

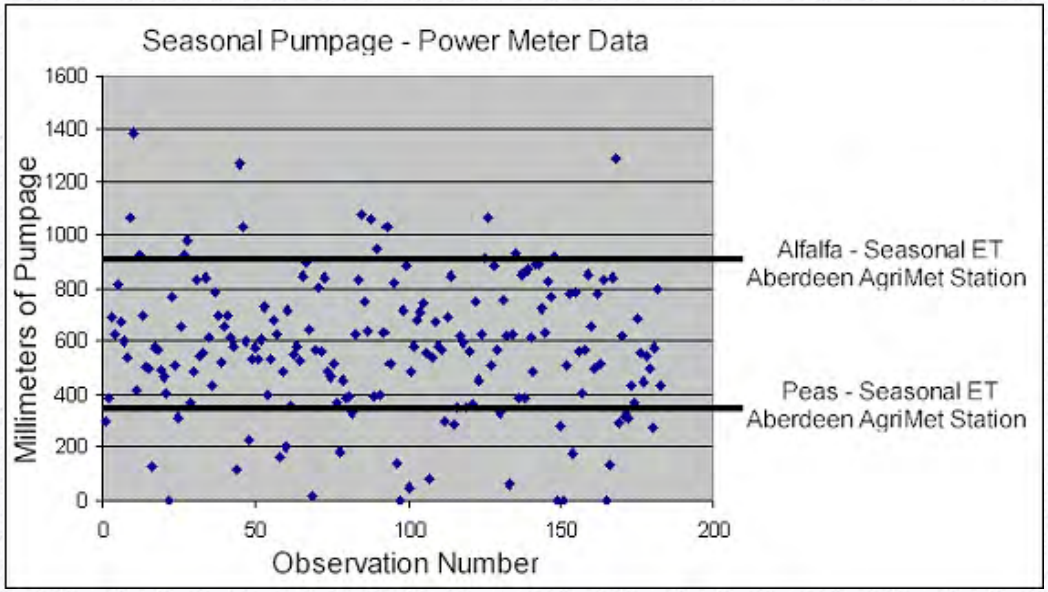
Dirty Little Secrets

You will save money… and not save money

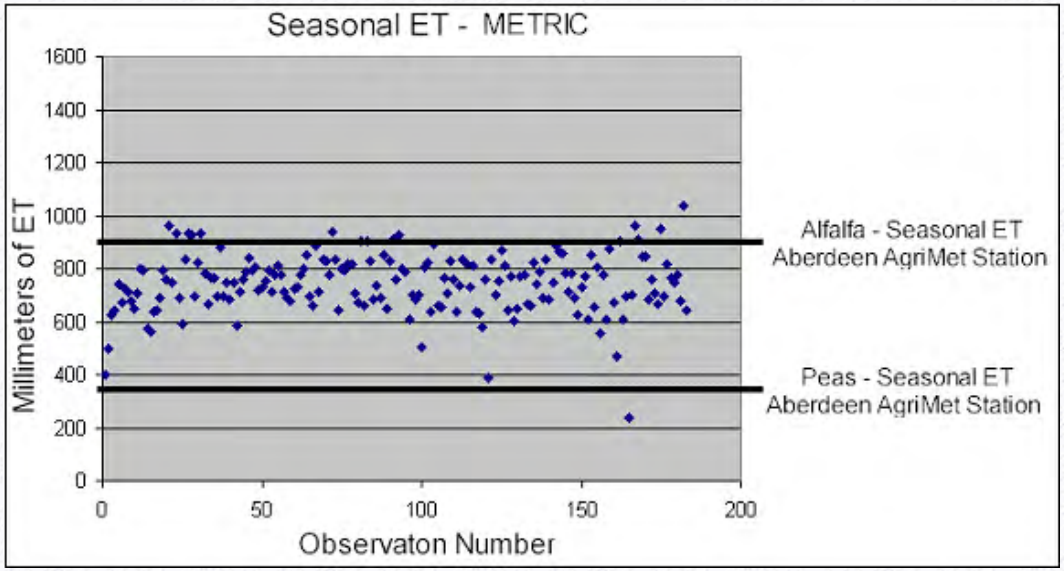
True: Landsat = greater efficiency
Also True: You will do new things

Not an “additional duties as assigned” deal.

Greater Efficiency



Cost: $119.32 per well



Cost: $32.15 per field

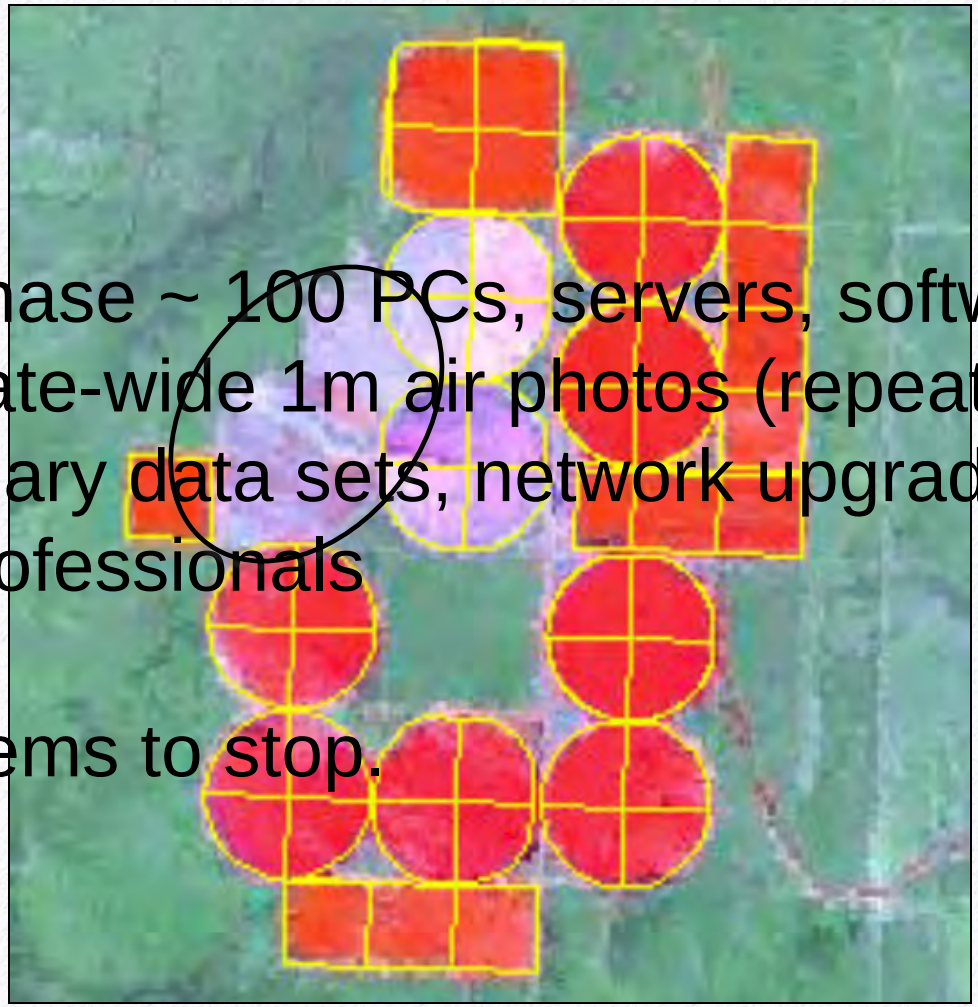
You Can Do New Things…

Unanticipated IDWR applications – Landsat ET

Water Planning
Aquifer Depletion
Curtailment Analysis
Hydrologic Modeling
Endangered Species
Legal Finding-of-Fact
Agricultural Water Use
Water Rights Buy-Back
Water Rights Compliance
In-Season Water Demand
Water-Use Curtailment Orders
Tribal Water Rights Negotiations

Cost To Do More

Goal: Display water rights on images



Result:

Purchase ~ 100 PCs, servers, software, training, state-wide 1m air photos (repeatedly), many ancillary data sets, network upgrades, hire RS and GIS professionals

It never seems to stop.

Why Do They Keep Doing It?

More efficient claim filing

Correct water rights errors

Effective basis for negotiation

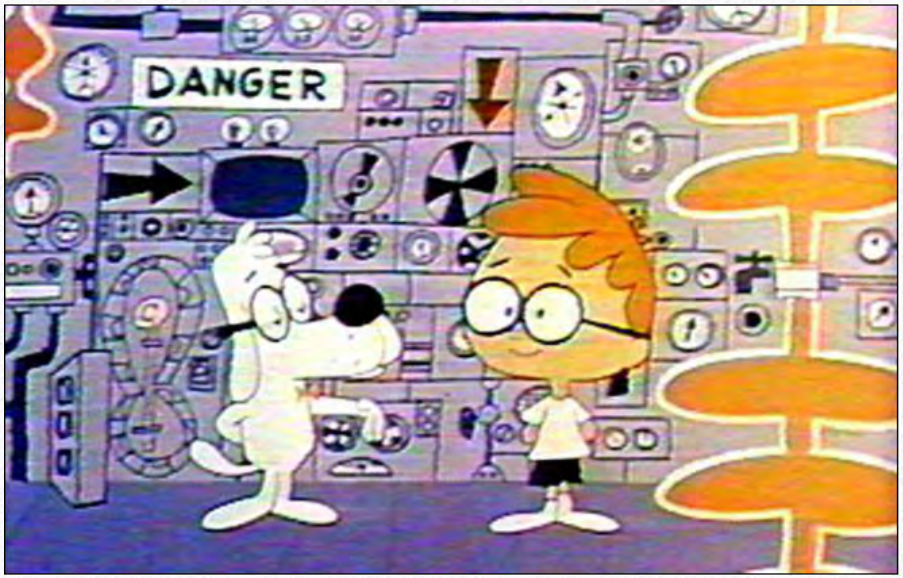
More accurate delineation of water rights

And…

To Answer Questions

Has a water right been used in 5 years?

Landsat data archive – the only time machine



One Last Thought

Everything should be open in love and war. Open as the day, since both are the call of an ideal which it is so easy, so terribly easy, to degrade in the name of Victory."

Joseph Conrad, “The Tale” 1917

Questions?

The Lessons of LDCM-TIRS

1. Quantify benefits
2. Identify a constituency
3. Mobilize the constituency.