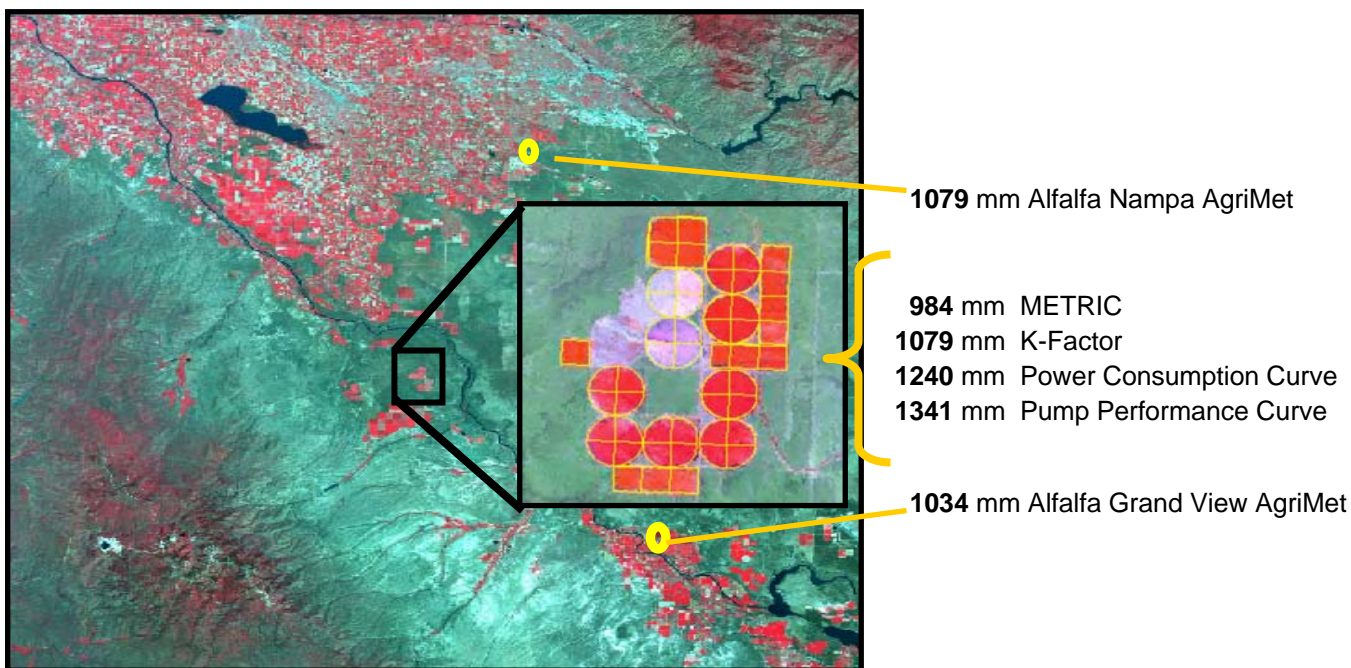


Water Rights Buy-Back

The Idaho Department of Water Resources and the U.S. Bureau of Reclamation have paid irrigators to leave water in the Snake River to support minimum flow levels. The Idaho Department of Water Resources used the METRIC model to evaluate irrigators' claims for water not diverted. In the example below, the irrigator used power consumption and pump performance curves for the year 2000 to calculate 7,574 acre-feet of water were diverted to irrigate 1,689 acres, which is 4.48 acre-feet per acre. The 4.48 feet correspond to 1,365 mm. The Idaho Department of Water Resources was willing to credit only the amount of water consumptively used, not the total diversion.

The Idaho Department of Water Resources used Landsat thermal data in the METRIC model to compute evapotranspiration. The Department compared the irrigator's claimed diversion with actual evapotranspiration output from the METRIC model and with 3 pump-related methods of computing diversion. All those numbers were compared to seasonal evapotranspiration for alfalfa, which is the crop with the largest water use, from nearby Bureau of Reclamation ArgiMet stations.



The Idaho Department of Water Resources concluded that the output from the METRIC evapotranspiration model value of 984 mm was the most realistic estimate of actual consumptive use because it was the only estimate that was less than alfalfa. The irrigator chose not to participate in the buy-back program. Landsat thermal data directly supported decisions about the wise use of public money.