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THE 1977 DROUGHT IN IDAHO:  
ECONOMIC IMPACTS AND THE RESPONSES OF  
IRRIGATORS AND WATER DELIVERY ORGANIZATIONS

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## ABSTRACT

The objectives of this study were to use survey methods to document changes in cropping patterns, irrigation systems, and water management strategies caused by the 1977 drought; to document the way institutions such as water delivery organizations and government agencies respond to drought; to measure the economic consequences of drought in southern Idaho; to draw implications regarding probable farmer response in future droughts; and to make suggestions for drought management strategies.

While some farmers changed crops and varieties or idled land in anticipation of water shortage, the majority proceeded with normal cropping patterns. When water shortage occurred, the result was reduced yield, or in some cases complete loss of the crop. These yield declines and lost crops comprised the largest part of the economic impact of the drought.

Results suggest however that water was managed much more efficiently than usual during the summer of 1977. Many crops got less water but didn't suffer corresponding yield declines. Some of this resulted from better water management, and from improvements in application systems. Many delivery organizations responded to water shortage by implementing delivery rotation programs.

The study concludes that:

- 1) There is a need for continued improvement in the accuracy of drought warnings, especially regarding the probable severity, distribution, and timing of water shortage.
- 2) There is also need for more detailed information regarding crop response to water shortage, to allow farmers to make optimal decisions about which

crops to plant and how best to allocate available water amongst crops.

3) There is a need to install more and better water measuring devices so water use can be monitored and controlled more carefully by farmers and water delivery organizations. The use of rotation as a mechanism to allocate limited water supplies may conflict with a farmers efforts to make optimal use of water.

4) There is a need to carefully consider the system wide consequences of actions taken during drought. Changes that improve application efficiency can have devastating impacts on downstream farmers who use return flows or groundwater as irrigation supplies.