## SOCIO-ECONOMIC BENEFITS OF METEOROLOGICAL AND HYDROLOGICAL SERVICES

## **INVENTORY OF DECISION SUPPORT TOOLS**

ITEM	DESCRIPTION
Sector	Agriculture and Natural Resources
Sub-sector	Drought
Tool Name	United States Drought Monitor (USDM)
Tool Description	The primary goal of the Drought Monitor is to identify
·	and map drought intensity areas for the United States
	and provide information on the major impact types.
Weather, Climate or Water inputs	Various hydrological inputs needed
Specific weather, climate, water	Precipitation, temperatures, soil moisture, streamflow,
data required	snowpack, snow water equivalency
	Groundwater, reservoir levels
Spatial resolution	Multiple-county
Temporal resolution	Weekly
Delivery methodology	Weekly
Frequency of data requirement	Daily/weekly
Other???	United States extent
Detailed Tool Description	The Drought Monitor is the result of a cooperative
-	arrangement between the National Drought Mitigation
	Center (NDMC), United States Department of
	Agriculture's (USDA) Chief Meteorologist's Office and
	the National Oceanic and Atmospheric
	Administration's (NOAA) Climate Prediction Center
	(CPC) and National Climatic Data Center (NCDC).
	It was designed to heighten awareness of drought through a single product by labelling drought by intensity from D1-D4 with D1 being the least intense and D4 being the most intense. An Abnormally Dry (D0) category is used to show drought watch areas that may be drying out and potentially heading into drought as well as for those areas recovering and coming out of drought. The map also breaks out and defines areas of longer-term hydrological (H) and shorter-term agricultural (A) impacts. Drought intensity categories are based on 5-7 key indicators and numerous supplemental indicators based on regional and seasonal effects. A ranking percentile methodology is applied in order to break down the intensity categories historically with D0=30, D1=20, D2=10, D3=5, and D4=2 percentile classes respectively.
	The various indicators, data/products, and impact information for the Drought Monitor comes from a variety of on-line sources. Unique and invaluable to the process are the contributions of data and impacts from nearly 250 "local" experts around the country who provide information/data (ground truth) and iterative

input throughout the making of the weekly product. These experts are made up of climatologists, meteorologists, Morologists, soil scientists, natural resource managers and many more from a variety of levels from watershed, state-, and national-based entities.  Spatial resolution  Multiple County-level (climate divisions too)  Temporal resolution  Weekly  Prequency of provision  Provide weekly map via the Internet along with GIS shape files made available to those who request Archive and % area statistics tables are generated each week  Benefits of tool application  In cooperation with our partners, the National Drought Mitigation Center developed the Drought Monitor in response to the need for a national drought monitoring product for the United States. Defining drought and its impacts are inherently hard to quantify, therefore there had not been a comprehensive and integrated methodology for quantifying drought in the United States.  Improved information on drought early warning, severity and spatial extent has proven to help policy and decision makers identify where drough it is occurring and what types of impacts are being reported. Drought monitoring also plays a critical role in drought planning, preparedness and mitigation efforts at the local, watershed, state/provincial and national levels. The tool has been used frequently over recent years for triggering USDA drought programs.  Possible future advances  The NDMC is working to develop and incorporate more user friendly features to the existing Drought Monitor including the launch in the fall 2006 of a drill down/zoom in capability to the regional and state levels. The NDMC has received funding through USDA's Risk Management Agency to implement a second phase in the development of the tool, which is now in the planning stages. This second phase will improve the GIS robustness and map delivery options down to the sub-state or basin level.  The NDMC will also be placing a significant effort on outreach of the tool over the next several years. The Drought		Secretable and the condition of the condition of the
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