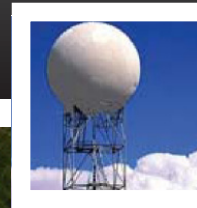
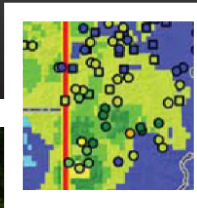




## Hydromet Decision Support System

Managing Water Resources  
Mitigating Risk from Flooding



Hydromet

# Hydromet Decision Support System (HDSS)

HDSS is a state-of-the-science suite of hydro-meteorological products designed to aid users in real-time decision making. HDSS can be deployed as a custom system or as a service hosted at WDT's high-quality data center. An intuitive web-based display is provided customized to add content unique to your area and to integrate your existing hydro-information (e.g., rain gauge networks, basins and critical flood thresholds) with WDT's high quality weather content and radar rainfall.

## Users

HDSS rainfall analysis and monitoring products are used in flood warning, run-off modeling and water resource management by organizations all over the world. Key customers include: ARPAAV-Veneto Region Environmental Agency (Italy), Lower Colorado River Authority (LCRA), Southern Companies, Denver-Area Urban Flood Control District and Maricopa County Flood Control District.

## Quantitative Precipitation Estimates (QPE)

Better Quantitative Precipitation Estimates (QPE) are achieved by combining radar and rain gauge data using technologies licensed from research organizations and WDT's proprietary state-of-the-science technologies. Rainfall amounts are derived from a mosaic of high-resolution data from local radars using a hybrid scan technique and sophisticated radar quality control that mitigates terrain blockages and removes non-precipitation radar echo. Rainfall data are provided in real-time on a 1 km grid, accumulated over multiple time intervals with updates as frequent as every 5 minutes.

To compute rainfall rates, convective and stratiform areas are identified, rain/snow areas are delineated and differential Z-R relationships are applied accordingly. Radar rainfall estimates are adjusted in real-time using rain gauge data, often supplied by the client, to provide complete spatial coverage of precipitation estimates, HDSS rainfall information are provided in both gridded and basin averaged amounts in a variety of data formats, such as GIS compatible grids, shapefiles and NetCDF.

## Quantitative Precipitation Forecasts (QPF) and Flash Flood Prediction

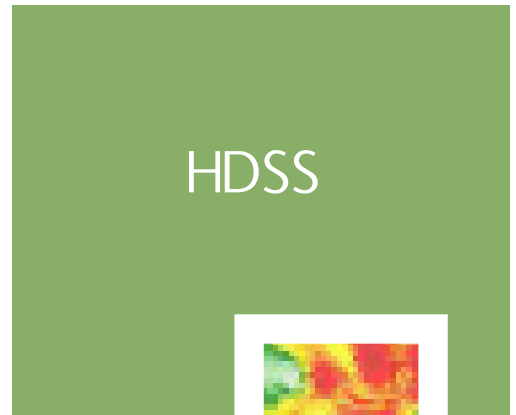
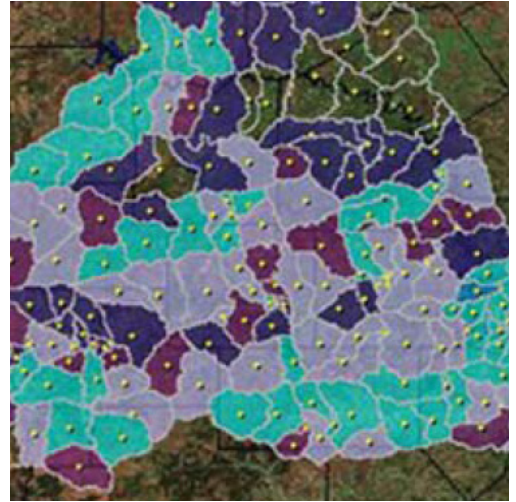
Nowcasting techniques are used to create short-term QPF out to 4 hours. Our QPF techniques, licensed from McGill University, have proven to be extremely useful to increase lead times for flood alerting and decision making. Future radar products are also available for advanced warning of approaching storms. WDT's Flash Flood Prediction Algorithm (FFPA) utilizes HDSS-generated QPE and QPF information to automatically tell users which basins may flood in the near future.

## Display

WDT's web-based platform allows you to display both current and future hydromet data with the capabilities to zoom, pan, interrogate data, view multiple products and even add your own overlays.

## 1 km resolution

- Level II Radar Mosaics
- Radar Quality Control
- Future Radar – out to 4 hours
- Rain Gauge Ingest/Display
- Rain Gauge Adjusted Radar Rainfall (QPE)
- Future Rainfall: 1-4 hour (QPF)
- Basin Averaged / Gridded Data
- Hydro Model Ready
- Flash Flood Prediction and Alerts
- GIS Format



## Contact

Beth Clarke, Hydrometeorologist  
E: [bclarke@wdtinc.com](mailto:bclarke@wdtinc.com)  
T: 405.579.7675 x235

Business Development Contact:  
David VandenHeuvel  
Sr. VP, Enterprise Solutions  
E: [dvan@wdtinc.com](mailto:dvan@wdtinc.com) | M: 720.635.2388



Weather Decision Technologies  
Norman, OK | [info@wdtinc.com](mailto:info@wdtinc.com) | [www.wdtinc.com](http://www.wdtinc.com)

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