



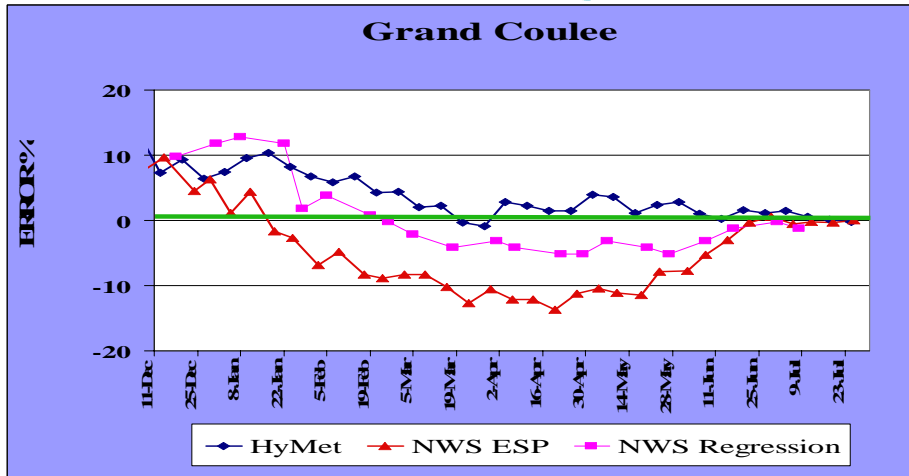
Streamflow Forecasting Service

Provided by HyMet Inc.

RELIABLE SEASONAL FORECASTS OF COLUMBIA RIVER NATURAL INFLOWS

The HyMet Stream flow Forecasting service has been providing reliable forecasts of seasonal inflow of the Columbia River for eight years for distribution to public and private utilities, energy traders and investment banks. These forecasts are distributed by email on a weekly schedule from early December to mid- September.

The HyMet forecasting model uses daily observations of precipitation, temperature and runoff to produce these forecasts. Our Combined Columbia Weekly Forecasts at Grand Coulee, The Dalles and Lower Granite Dams contain detailed charts and tables of forecast hydrograph and basin water storage, which includes snowpack and groundwater storage. Basin water storage is distributed according to altitude to improve the accuracy and timing of the forecasts.



The Columbia River is the largest hydroelectric producing basin in Western North America. The 55 hydroelectric dams on its main stem and tributaries have the capacity to generate 300 billion Kwh of renewable energy annually, valued at \$30–50 billion on the current energy market.

Comparison of weekly HyMet forecasts to NWS forecasts at Grand Coulee

Mean Forecast Errors%									
BASIN/ Year	HyMet			NWRFC			ESP		
	GCL	LWG	TDA	GCL	LWG	TDA	GCL	LWG	TDA
2004-05	2.8	11.0	4.5	5.8	10.1	7.4			
2005-06	5.8	7.9	5.0	7.0	6.6	6.4			
2006-07	3.9	21.8	5.3	2.0	13.2	4.8	5.4	15.8	8.4
2007-08	5.6	11.3	7.1	2.9	2.5	2.6	3.2	5.1	3.9
2008-09	7.3	13.9	3.9	8.1	11.2	2.5	7.8	9.0	4.3
2009-10	5.0	6.8	4.4	5.9	13.8	9.9	8.3	13.7	10.9
Average	5.1	12.1	5.0	5.3	9.6	5.6	6.2	10.9	6.9

Average errors (%) for the 2005-2010 period of January - July forecasts produced by HyMet and the National weather Service (NWRFC and ESP) at Grand Coulee (GCL), The Dalles (TDA) and Lower Granite (LWG) dams.

The average forecast error at The Dalles for the 2010 season is just half of the NWS error.