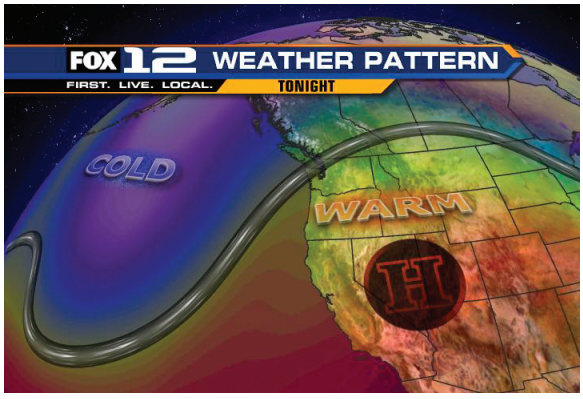


Earlier this year graphics were added to KPTV's weather blog to enhance the content. (Nelsen)

gist puts thoughts into text each day and posts them to the Internet, generally onto the station's Web page. Other stations have started blogs, as they are known, and soon broadcast meteorologists in most markets may be asked to "blog" from the weather center. Of course, then the question arises . . . "Is it worth your time?" The answer depends somewhat on your personality and workload, but in general our experience at KPTV in Portland, Oregon (www.kptv.com) says "yes."

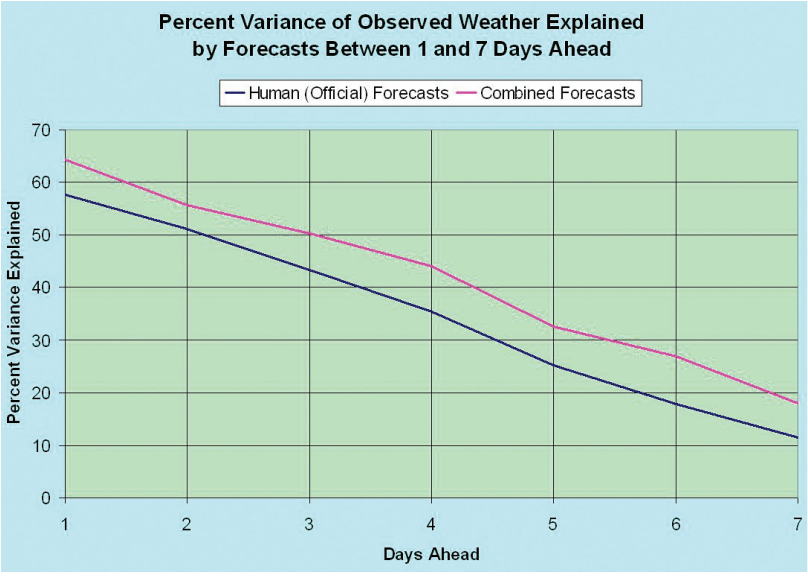
The term "blog" is a combination of the words "Web" and "log." It can be used as a noun or a verb: "There is more information about that cold spell last week on our blog, where I'll be blogging after the newscast." Our Webmaster approached the weather department at KPTV in December 2005, suggesting that we begin blogging occasionally on our Web site. All it takes is a subscription ($20 per month) to one of numerous blog sites, a password and username, and some simple setup of logos, banners, etc. We made the decision almost immediately to tailor our blog to "serious forecast users" and include plenty of technical jargon not normally used in television weather broadcasting. Basically, we envisioned this as an outlet for a more in-depth look at the current and forecast weather patterns, similar to the National Weather Service technical discussions, but with no real boundaries on content. Some days we barely gave space to the day's weather and instead gave a primer on orographic lifting or some other interesting topic that we would never spend a significant amount of time on within a highly structured broadcast.

After more than a year of blogging, we have found that it's an excellent way to communicate extra information to viewers during fast-changing or severe weather. A weather blog is also a wonderful tool for educating viewers; the broadcast meteorologist becomes a sort of science teacher. Archiving past posts allows the meteorologist to look back over a year and get an idea what he/she was thinking as a major weather event approached; this is very helpful since we often have hazy memories of past weather patterns. A blog can have comments turned on or off, so readers can add their own opinions. At KPTV.com, leaving comments open had the unintended side effect of turning the blog into a major discussion group for weather. During big weather events, more than 1,000 comments have accumulated in just one day! Surprisingly, this has required very little "babysitting," with most of the commenters behaving appropriately.

Meteorologists concerned about the amount of time spent on a future blog endeavor should keep in mind that when you are busy, the blog can go to the bottom of the task list. Time spent on the blog is quite flexible, unlike your usual weathercast preparation. We blog almost every day; it tends to be longer of course when the weather is more active. The blogging itself takes 5–15 minutes and we generally enjoy doing it . . . a sort of "creative release" after a short and controlled television weathercast. If you love talking about weather, you will likely enjoy blogging on your station Web site as well.—Mark Nelsen (KPTV Television, Portland, Oregon). *"Blogging from the Weather Center—Is It Worth Your Time?" presented at the 35th Conference on Broadcast Meteorology, San Antonio, Texas, 14–18 January 2007.*

Improving Forecasts with Mechanically Combined Predictions

There is an accepted mathematical concept that two or more inaccurate but independent (or partially independent) predictions of the same future events may be combined to yield predictions that are, on the average, more accurate than either of them taken separately. Automated and human weather forecasts might be expected to "bring to the table" different knowledge sets, and this suggests the development of a weather forecasting system that combines human and computer-generated predictions. This study created just such predictions, and reports the finding that they did indeed perform better than separate human and computer-generated forecasts.



Percent variance of observed weather explained by forecasts from 1 to 7 days ahead. (STERN)

What made the system's development important, when humans were already working with computer-generated forecast information, was that the forecasts were generated by a knowledge-based system that was modified to mechanically combine (via an averaging procedure) human (official) and automated (computer-generated) predictions. The decision to do this in a mechanical way rather than having humans adjust the computer forecasts was based on the assertion that human forecasters are unable (by themselves) to optimally integrate into the forecasting process guidance from computer-generated predictions and, also, that computer-generated forecasts are unable (by themselves) to fully replicate the decision-making processes of human forecasters.

The system's output was evaluated over an extended real-time trial and, after 365 Day-1 to Day-7 forecasts for Melbourne, Australia, the combined forecasts were shown to be substantially more accurate than the human (official) product. Combining the forecasts not only increased the variance of the observed weather (rainfall amount, sensible weather, and minimum and maximum temperatures) explained at each lead time, but also resulted in enhanced skill at predicting each weather element.

Because the combined forecasts are more accurate than currently available individual predictions, companies involved in weather-risk management and weather broadcasting are provided with a potential competitive advantage over their peers should they choose to adopt a strategy of mechanically combining existing predictions. Also, with computer-generated forecasts unable to fully incorporate human forecasters' valuable domain and contextual knowledge, there should be a need for the human forecaster well into the future. That future role may be as input to a system that mechanically combines human predictions with computer-generated forecasts.—HARVEY STERN (AUSTRALIAN BUREAU OF METEOROLOGY). *"Increasing Forecast Accuracy by Mechanically Combining Human and Automated Predictions Using a Knowledge Based System," presented at the 23rd Conference on Interactive Information Processing Systems (IIPS) for Meteorology, Oceanography, and Hydrology, San Antonio, Texas, 14–18 January 2007.*

Enhanced forecast accuracy for various weather elements.

Element	Verification parameter	Human (official)	Combined
All elements	% variance explained	33.40	41.30
Rain or no rain	% correct	70.10	76.80
Rain amount	RMS error ($mm^{0.5}$)	1.05	0.97
Min temp	RMS error (°C)	2.39	2.27
Max temp	RMS error (°C)	2.82	2.49
Thunder	Critical Success Index (%)	17.90	21.60
Fog	Critical Success Index (%)	15.50	17.80