Interactive Grid Analysis and

Gets praise from the field

by Senior Airman Randall Jennings
HQ Air Force Weather Agency Public Affairs
Offutt AFB, Neb.

Customers are singing the praises of one of the Joint Air Force and Army Weather Information Network's most powerful and cost-effective tools.

The Interactive Grid Analysis and Display System, known as IGrADS, offers the on-demand weather information that assists warfighters in making life-or-death decisions. A greater familiarity with IGrADS capabilities provides operational forecasters with more customizable, easily-accessible meteorological information in graphical or textual format. The system was initially developed to meet field units' most requested weather products. Customers were demanding everything from vertical cross sections and forecast maps to user-defined meteograms and numerous alphanumeric products.

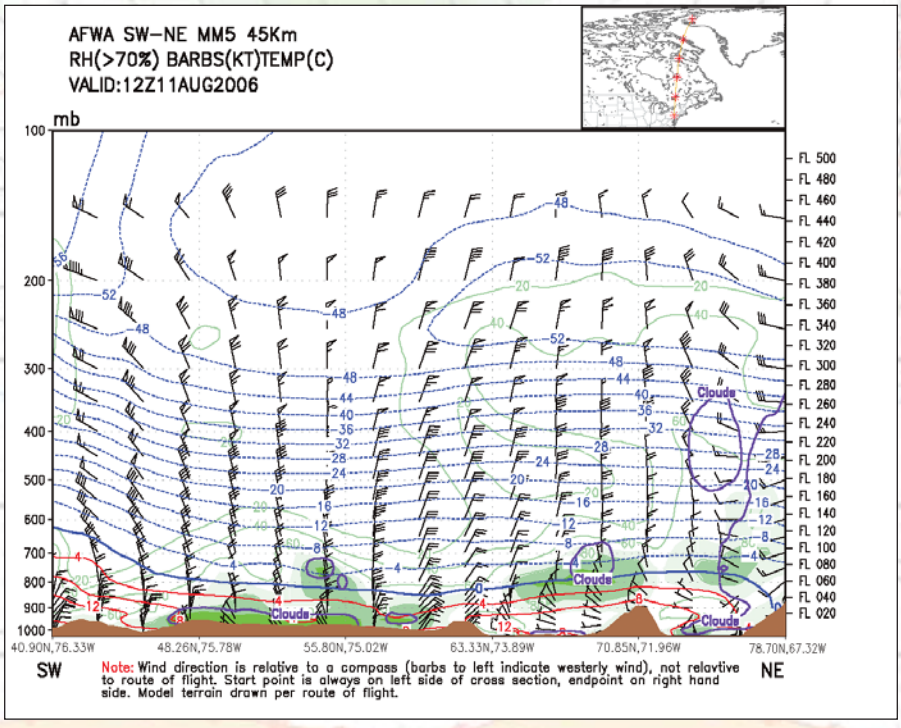
Forecasters of the past were completely unable to receive weather data pertaining to their exact location. They relied on data for their region and not for specific longitudinal or latitudinal coordinates. With IGrADS, forecasters are able to retrieve more relevant weather information for their specific location – on demand – a capability that simply did not exist before.

Mr. Bruce Telfeyan, Chief of the Technology Exploitation Branch at the Air Force Weather Agency, Offutt AFB, Neb., says, "We frequently obtain feedback from IGrADS users of how much they appreciate the tool and benefit from using it. Pilots, navigators, Army and Marine field artillery operators, all have provided glowing reviews of IGrADS."

"I can tell you for a fact that we often utilize your site [IGrADS] for planning missions up to 72 hours out, and have found that the forecasts have been frighteningly accurate," said Chief Warrant Officer Mike Fahmer, a navigation officer from Kadena AB, Okinawa. "They aid greatly in our decision making during the planning phase as well as the execution phase of the numerous missions...air refueling, air delivery, low level flight, short field landings and basic point A to point B logistic flights."

Another great example of the system's importance comes from a field meteorologist.

Operational meteorologist, Captain Kris "Crash" Long wrote from Afghanistan, "...We have found that the IGrADS wind forecasts derived from the Mesoscale Model, version 5, Afghan five-kilometer grid do very, very well. Feedback from aircrews out here has been glowing. Recently an airdrop of supplies to special operations forces downrange landed



A Vertical Cross Section product depicting the route from Thule AB, Greenland to McGuire AB, N.J. Mr. Phil Eddy, Chief of weather station operations at Thule, says aircrews rave about this product he provides with their pre-takeoff briefing package. Air Force Weather Agency image.

Display System

Chief Warrant Officer Mike Fahmer, a navigation officer from Kadena AB, Okinawa, says IGrADS is a great asset to have at his fingertips. As an aerial navigator, he is required to have a weather knowledge-base. According to the Chief Warrant Officer, IGrADS greatly enhances his knowledge and improves his decision-making process. Courtesy photo.

within 40 meters of its designated target in part due to the highly accurate winds produced with the IGrADS precision airdrop wind product on the Secure Internet Protocol Router side 5KM Afghanistan grid. In another case, supplies were airdropped to a 16,000 foot mountain peak using the same IGrADS/MM5 grid, and the results were, by the aircrews words, 'dead-on accurate."

The system is constantly being improved. Dust forecasts were added May 18, 2006, and the Weather Research and Forecasting Model on the secret and top secret side went into effect in late July. The WRF Model will be implemented on the unclassified side in the near future.

IGrADS is a password-protected site except for users accessing the site from ".mil" accounts. Those working from ".gov" accounts can obtain access to JAAWIN by applying for an account on-line.

JAAWINs, "best kept secret," is IGrADS. Customizable, easily-accessible meteorological information that is available anytime, anywhere.

IGrADS includes the following capabilities:

Map displays (within the graphical user interface):
- World Map centered on Prime Meridian
- World Map centered on International Dateline
- All MM5 theater maps
- United Kingdom Meteorological Office Middle East domain
- Continental United States Eta domain
- Coupled Ocean/Atmospheric Mesoscale Prediction System domain

Meteorological model output:
- AFWA MM5
- AFWA Diagnostic Cloud Forecast Algorithm (Eylander and Evans 2003; Norquist 2000)
- AFWA Advect Cloud Model
- NCEP GFS
- NCEP Eta
- US Navy NOGAPS
- US Navy COAMPS
- UKMO Middle East Theater
- AFWA Stochastic Cloud Forecasts
- AFWA Worldwide Merged Cloud Analysis

Products offered:
- Meteograms (MM5, Advect Cloud, GFS, Eta, NOGAPS, COAMPS, and UKMO)
- MM5 Army low-level meteograms
- MM5 severe weather meteogram
- GFS (0 to 180 hour and 192-384 hour) meteograms
- GFS and NOGAPS stratospheric meteograms
- User defined meteograms
- Forecast skew-Ts
- Vertical cross-sections
- Multiple leg cross-sections
- Forecast maps (color filled, contoured, both)
- Four-Panel Forecast Maps
- Alphanumeric output products

Alphanumeric output:
- MM5-based
  - Forecast vertical profile
  - "FOUS" bulletin (similar to Eta and NGM output from NCEP)
  - RAOB bulletin
  - Precision airdrop wind profile
  - Chemical downwind message
  - Basic wind message
  - Field artillery forecast
  - Effective downwind message
- GFS-based
  - "FOUS" bulletin (0 to 180 hours at 3 hour intervals)
  - RAOB bulletin
  - Precision airdrop wind profile
  - Chemical downwind message
  - Basic wind message
  - Effective downwind message
- COAMPS-based
  - Basic wind message