WESTERN REGION TECHNICAL ATTACHMENT
NO. 87-09
February 17, 1987

REPORT ON THE SSD CONFERENCE

The SSD Chiefs met in Boulder, Colorado, February 2-5, 1987, along with representatives from Office of Meteorology, Techniques Development Lab, NMC, and the Training Center. A number of items of interest to the field were brought up. The main ones are discussed below.

Local Verification - It was proposed that some changes be made to the local verification program. The changes would bring the local program more in line with what parameters are verified by the national program. Western Region will draft a list of proposed changes for consideration by the National Verification Committee.

Aviation Verification - No aviation verification program currently exists because of the non-uniform FT issuance times that recently went into effect. There are plans to reinstate the program, but it would not compare local and guidance products. TDL was asked to investigate the possibility of developing future guidance from the NGM such that a comparison can be made.

National Weather Service Forecasting Handbook No. 1 - This handbook is outdated and concentrates mainly on facsimile products. OM will undertake a rewrite with help from TDL, NMC, and the SSDs. It was recommended that the scope of the handbook be similar to the last one, that is it should briefly describe NMC models and the statistical guidance system, and should describe graphics products available to operational forecasters, both AFOS and facsimile.

TASC Contract - A contract award is imminent to a company called TASC for the purpose of demonstrating the utility of interactive video disk (IVD) technology to perform on-site training. The contractor is to assemble a demonstration module, probably for SWIS, and recommend the best possible set of hardware and software for field application.

USDA Courses - The revised correspondence courses in dynamic and synoptic meteorology are not yet ready to be reissued. Nor have they yet been provided to NWS for review.

NWSTC Training Module Development - Several met courses in the near term have been canceled so that the Training Center (TC) can devote time to developing training modules for use on-station. These modules will serve to shorten the Forecaster Development Course (FDC) as well as other met courses. The modules would be completed as prerequisites prior to in-residence training. The next FDC will probably be offered in October 1987. This date will allow the next class to complete the on-site modules before attending the FDC.

OPM Standards for Meteorologists - It was unanimously agreed that the OPM standard, spelling out what minimum academic requirements a meteorologist must have is a little weak. A proposed revision is being drafted for consideration by OM. One proposed change is that physics must be calculus based, which is no more than what almost all university met programs require now. We also strongly recommended that anyone currently qualified under the OPM standard be grandfathered if changes do get implemented.

National Workshops and Seminars - OM plans to continue strong support for these training efforts provided they have a national or at least a multi-regional focus. Some initiatives that are being supported include the Heavy Rainfall Workshop, the National Winter Storm Workshop, and marine training on oceanic bombs.

LFM Precipitation Coding Error - Due to this error in the way precipitation is accumulated, LFM precipitation values output on AFOS and FAX maps are double what they should be and have been since implementation of the LFM. We were asked to approve a change to correct this error. However, the SSDs unanimously agreed no change should be made unless NMC is willing then to retune the model physics to optimize the precipitation forecasts. Of course such changes would invalidate MOS from LFM, and it would have to be rederived. All these changes are impractical since scarce development resources need to be devoted to the NGM.

NGM Statistical Guidance - We agreed with a proposal by TDL to go forward with getting CAFTI and Data Review Group approval for transmitting new statistical guidance form the NGM based on perfect prog for PoP, max/min temperature, wind, and cloud amount. The new guidance could be made available this spring. It would be provided in addition to current LFM MOS. Development of NGM MOS guidance must await further modification to the NGM by NMC.

Planned NGM Improvements - We were briefed by NMC on its plans for improvements to the NGM. Short-term changes are spelled out in the attached memo. They will probably go into effect on February 25. Longer range possibilities are as follows:

Late Spring

Improvements in physics package to reduce cold bias
Introduction of mountain induced gravity wave drag

Summer

Improvements in convective precipitation algorithms
Multi-layer subsoil parameterization
Soil moisture budget

Later

Periodic spinup cycle - Use 12-hour old RAFS analysis, make a 12-hour NGM forecast, use this field as first guess for new RAFS analysis.
Increase in vertical resolution from 16 to about 20 layers
Addition of a higher resolution D grid (40km) - requires a faster computer for implementation

Earlier Aviation Run - NMC noted that the second CYBER 205 computer is now operational and will soon be used to run the AVN model with a 3+00 data cutoff (about a half hour earlier than at present).

Proposed New NGM Guidance - It was recommended that several 6- and 18-hour products be added to AFOS from the NGM. Based on input from NMC, indicating NGM output does contain useful small scale skill in the short term, the SSDs supported the proposal. However, offsets will probably be needed in order to keep AFOS traffic from getting out of hand. It was proposed that some of the aviation graphics have the upper portion or back side over Asia eliminated to reduce AFOS traffic. Some of these charts have gotten so large that they are no longer displayable

anyway. Western Region will draw up a list of proposed graphics for elimination of the back side.

It was also proposed that 60-hour NGM guidance be provided to the field on AFOS. This idea was not supported by NMC since it is felt forecasts would be overly contaminated by errors propagating into the C grid from the courser resolution B grid. The AVN guidance should be superior at 60 hours.

Text Books for the Field - OM expressed a willingness to consider text book purchases for field libraries. A strawman list of books was compiled from which OM will develop a written proposal for the regions to comment on.

U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL WEATHER SERVICE
Silver Spring, Md. 20910

W/OM23:SMZ

FEB 5 1987

MEMORANDUM FOR: William D. Bonner
Director, National Meteorological Center

FROM: James L. Rasmussen
Director, Office of Meteorology

SUBJECT: Implementation of Changes to the Operational RAFS Concerning Expansion of the NGM C Grid and Regional Analysis System

At the January 21, 1987 CAFTI meeting, Dr. Jim Hoke (W/NMC22) presented experiment results that showed improvements in NGM forecasts of cyclogenesis along the western and eastern US coast are possible by expanding the NGM's C grid. The proposed expansion involves adding 18 grid columns to the western edge of the current C grid, adding 12 columns on the eastern edge, and adding 4 rows along the north and south C grid boundaries. This expansion would make the NGM inner C grid 113 by 91 and increases the NGM's running time by 10 minutes (wall time).

At the same CAFTI meeting, Dr. Geoff DiMego (W/NMC22) proposed changes to the RAFS analysis system which would improve the first guess into the regional OI and account more realistically for errors in satellite temperature soundings. The proposed changes to the RAFS regional analysis are 1) for the first guess, use the 6 hour forecast from the GDAS (40 wave rhombodial, 18 sigma layers) directly into the regional OI, thus eliminating the interim postings; 2) for quality control of satellite retrievals, change the Buddy check system to require that 4 independent satellite data retrievals (TOVS) must agree to keep a particular TOVS, else toss the whole TOVS profile; 3) for better analysis, raise observation errors for TOVS everywhere to the current GDAS level--where there are no raobs, raise all other observation errors to GDAS levels and sharpen the correlation function to GDAS levels.

CAFTI concurred with Drs. Hoke and DiMego that their proposed RAFS changes are worthwhile and should be implemented as soon as possible provided that a summary of the changes and their anticipated impacts is made available to field forecasters prior to implementation. A Technical Procedures Bulletin could follow later. I approve of CAFTI's recommendation.

ATTACHMENT