ABRFC Verification Activities
NWS Verification Workshop
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ABRFC
Verification Activities

History

- ABRFC has long been interested in verification of our forecasts.
- One item in particular was the question of qpf helping or hurting our forecasts??
- On Feb 3, 1997, ABRFC starting issuing both QPF and non-QPF RVF forecasts. All forecasts were shef-encoded and stored in a relational DB.
- Local verification software written in the late 1990s calculated RMSE and BIAS for both QPF and non-QPF forecasts. Output was both graphical and text.
- Uses xsets configuration files

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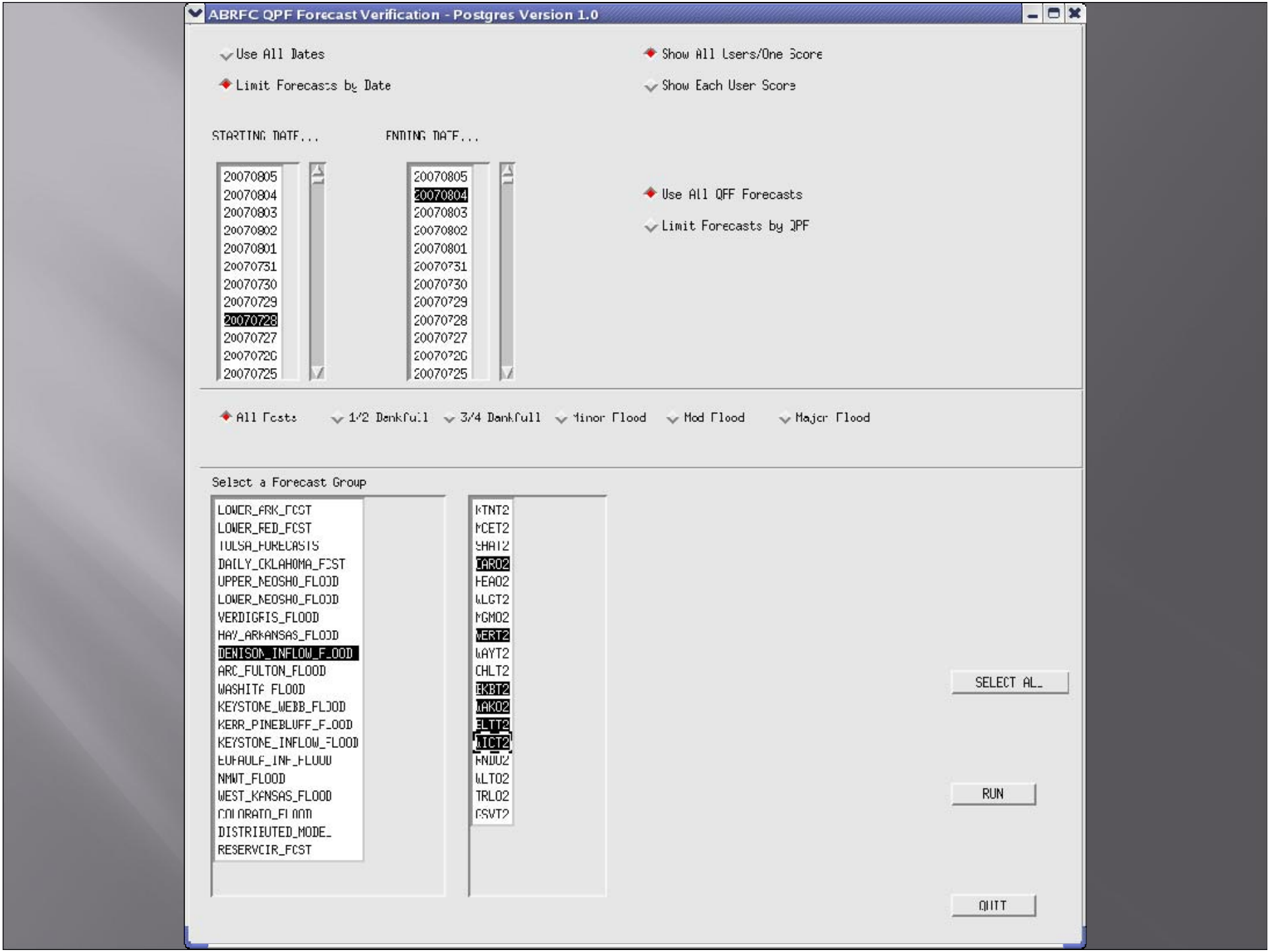
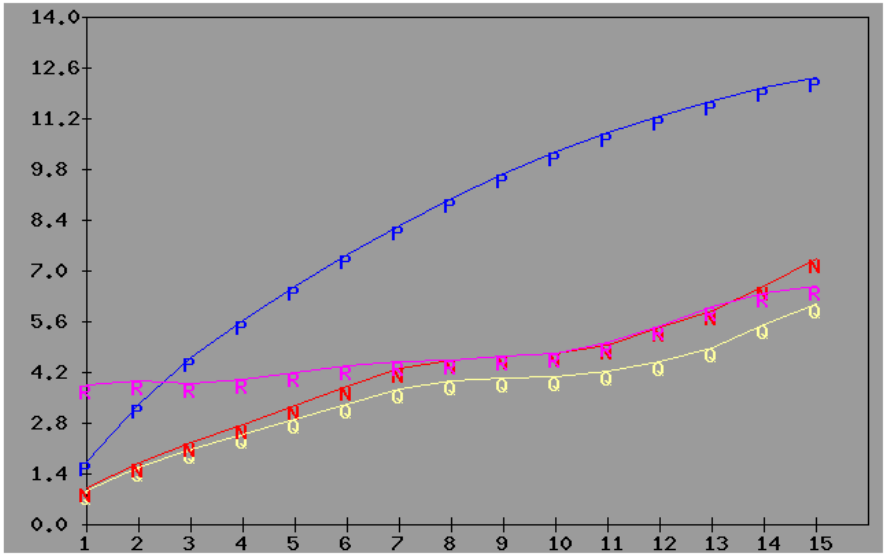
- Additional upgrades to software allowed statistics to be displayed for persistence forecasts, and later “raw” forecasts.
- Idea of raw forecasts was to show “human” improvement over what a machine without intelligence might create.
- Software was further refined to produce output statistics for individual users.
- Data has been run for an extended time period for all ABRFC forecasters. Results not exactly easy to interpret.
- All results for daily forecasts made available via web; data compiled every month.
- Overall stats led to the decision of ABRFC to go from 24 hours of QPF to 12 hours of QPF.

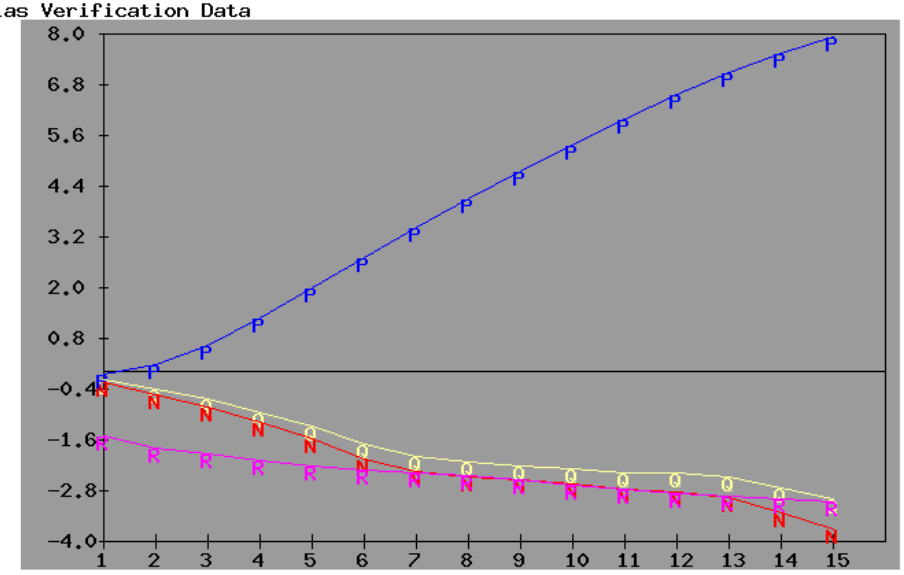

ABRFC QPF Forecast Verification - Postgres Version 1.0
Use All Dates
Limit Forecasts by Date
Show All Users/One Score
Show Each User Score
STARTING DATE...
ENDING DATE...
20070805
20070804
20070803
20070802
20070801
20070731
20070730
20070729
20070728
20070727
20070726
20070725
Use All QPF Forecasts
Limit Forecasts by QPF
All Fcsts
1/2 Bankfull
3/4 Bankfull
Minor Flood
Mod Flood
Major Flood
Select a Forecast Group
LOWER_ARK_FCST
LOWER_RED_FCST
TULSA_FORECASTS
DAILY_OKLAHOMA_FCST
UPPER_NEOSHO_FLOOD
LOWER_NEOSHO_FLOOD
VERDIGRIS_FLOOD
HAV_ARKANSAS_FLOOD
DENISON_INFLOW_FLOOD
ARC_FULTON_FLOOD
WASHITA_FLOOD
KEYSTONE_WEBB_FLOOD
KERR_PINEBLUFF_FLOOD
KEYSTONE_INFLOW_FLOOD
EUFAULA_INFLOW
NMWT_FLOOD
WEST_KANSAS_FLOOD
COLORADO_FLOOD
DISTRIBUTED_MODEL
RESERVOIR_FCST
KTNT2
MCET2
SHAT2
CAR02
HEA02
WLGT2
MGM02
WERT2
WAYT2
CHLT2
OKBT2
WAK02
ELTT2
WICT2
RNDU2
WLTO2
TRLO2
CSVT2
SELECT ALL
RUN
QUIT

RMS Verification data for PPFK1
Data Starts: 2007-05-02
Data Ends: 2007-07-15 00:00:00
QPF Fcsts: 72 # RAW Fcsts: 68

QPF RMS = 3.61 QPF BIAS = -1.80
NONQPF RMS = 4.20 NONQPF BIAS = -2.15
PERSIS RMS = 8.30 PERSIS BIAS = 3.96
RAW RMS = 4.80 RAW BIAS = -2.45



Bias Verification Data



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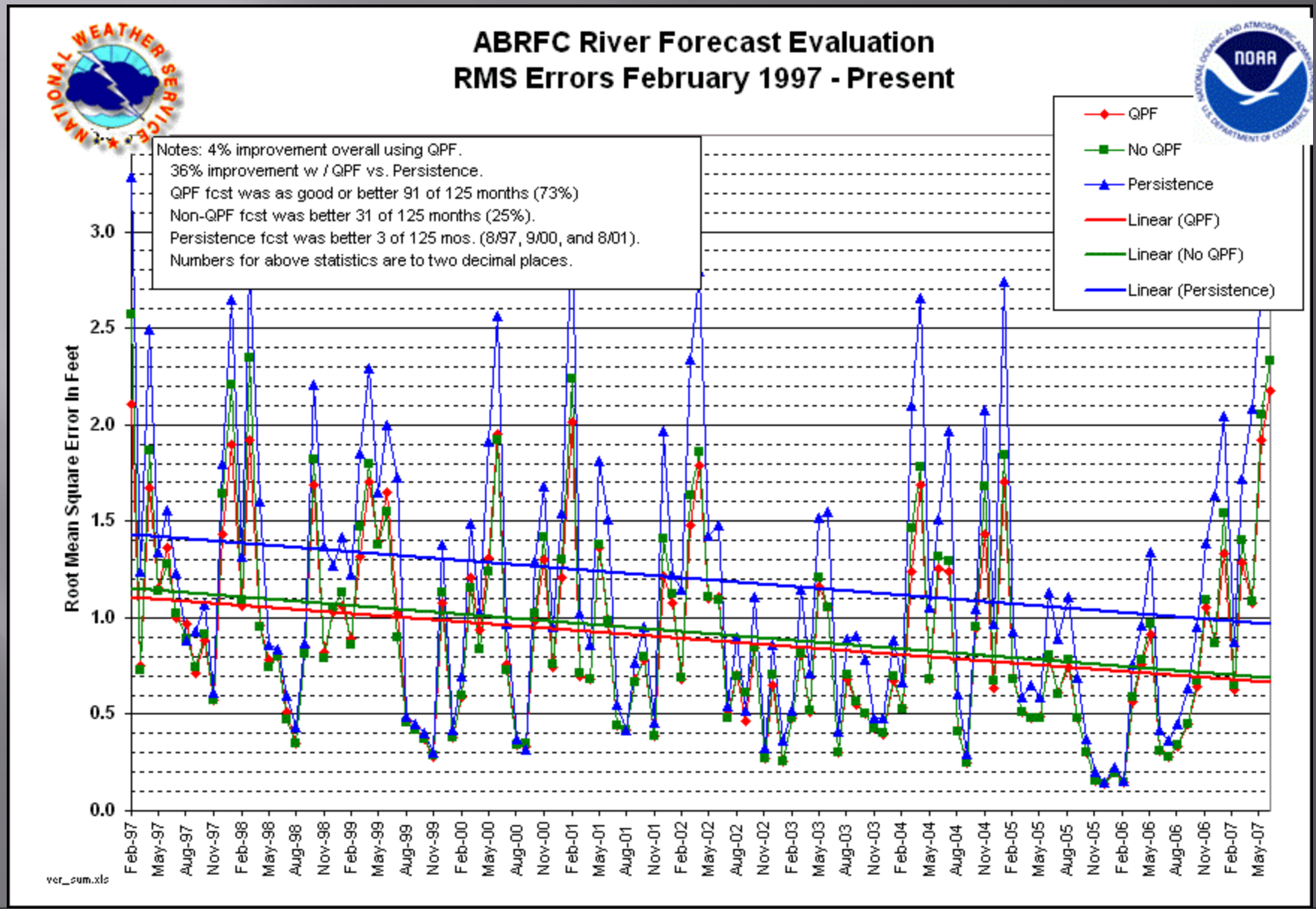

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- Problems found in the data. Does it really tell us anything?
- Olsen performed a study to show extremely high correlation between RMSE and amount of rainfall.
- Bias will almost always be low after 12-24 hours due to lack of model QPF.
- Needed a new paradigm that would not have these problems……