

Road Weather Forecast System

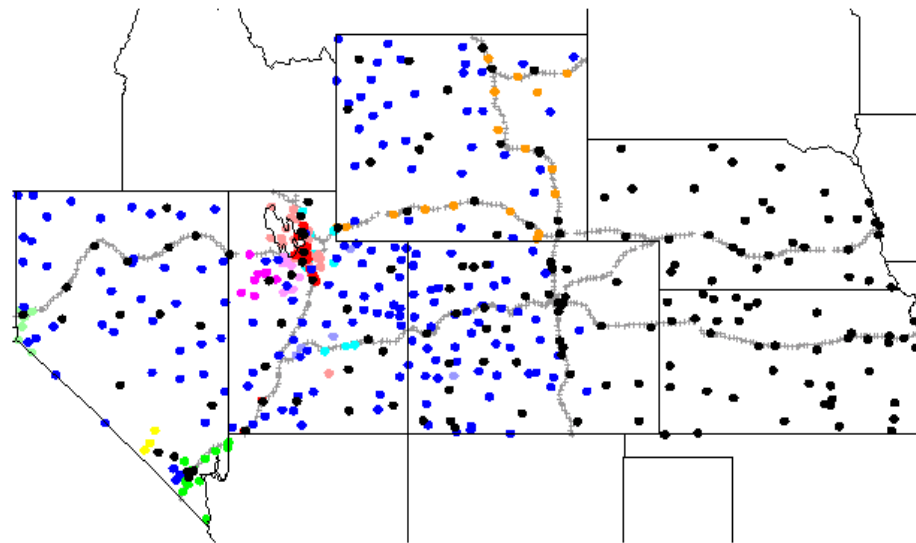
Report for Fiscal Year 2001

Data Used in RWFS

- Model data
 - Avn
 - Eta
- MOS
 - NGM
 - MRF
 - AVN
- Observational Data
 - Metars
 - Mesowest (LDADs provided by FSL)
- Climatology

MDSS Forecast Sites

STATION & HIGHWAY LOCATIONS



INTRST NWS RANS REC CLARK NDOT AIRQ
SNOWNET DUGWAY TOOLE UDOT WDOT ARL

Output Forecast Variables

Core & Derived

- Max, min temp
- Temp, dewpoint
- Pop24, pop06, pop03
- Qpf03, qpf06
- Cond. prob. rain, snow, ice
- Wind u, v components, wind speed, direction
- Cloud cover
- Prob. Thunder, fog
- Visibility
- Rh
- Precip rate

Non-Verifiable

- Low, middle, high cloud amounts
- Cloud base temp
- Sub-surface temp
- 3hr accum. snow depth
- Instantaneous snow depth
- Surface pressure

Forecast Modules

- Model forecasts- Avn00, Avn12, Eta00, Eta12
- MOS forecasts- Ngm00, Ngm12, MRF, AVN
- Climatology forecast
- Persistence forecast

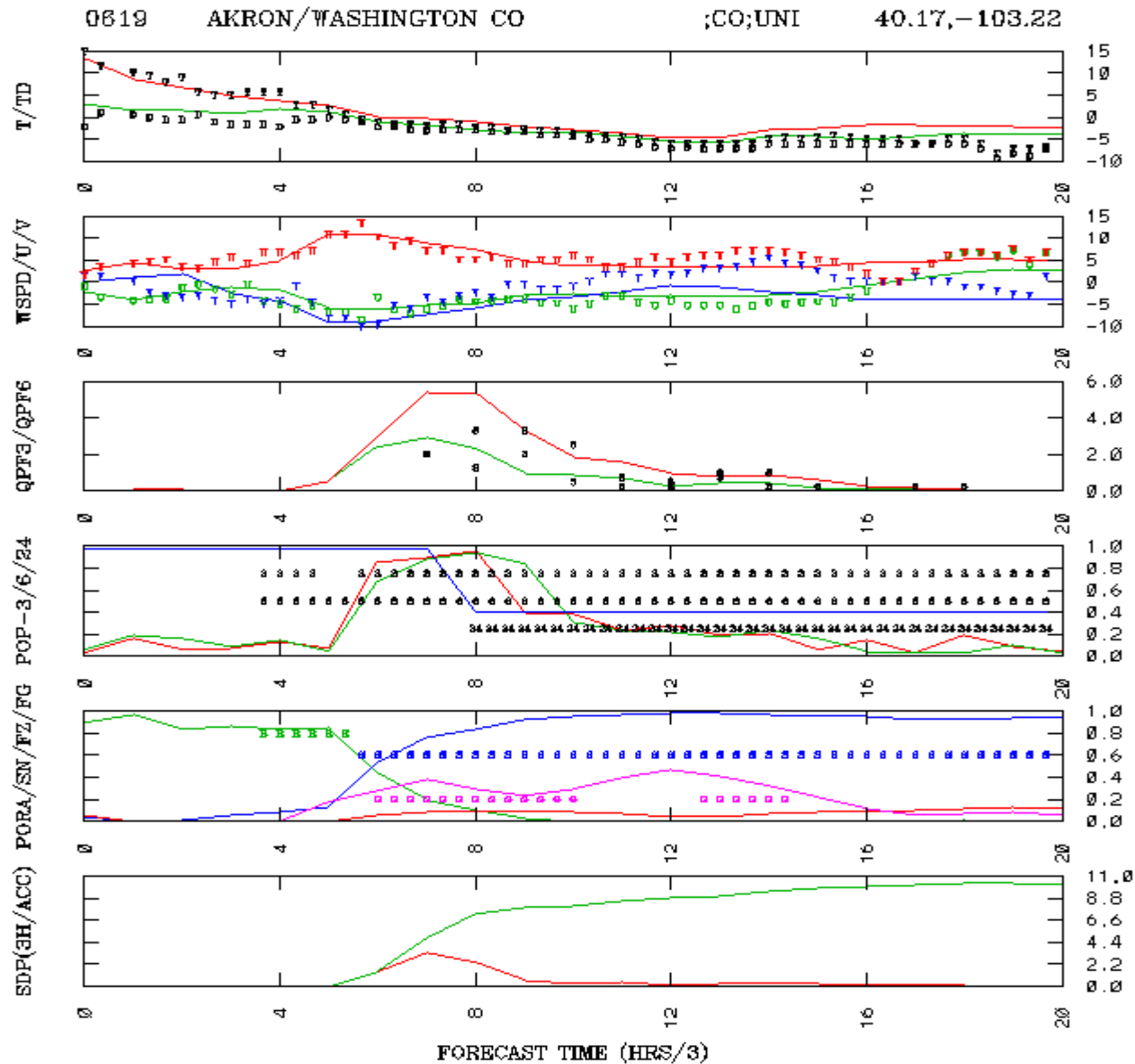
Forecast Integration

- Discovers “best” combination of forecast modules for each forecast time and location.
- Integrated forecasts are weighted sums of the model inputs:

$$F = \frac{\sum w_i f_i}{\sum w_i}$$

- Module weights for each site and forecast time are adjusted daily depending upon the performance of the module.

Data Plots for Akron, CO



Sample- Akron, Colorado Temperature, 18Z

Avn 00	3.047
Avn 12	9.433
Eta 00	-0.447
Eta 12	7.418
Avn MOS	5.646
Ngm MOS 00	1.111
Ngm MOS 12	6.33
Persistence	8.9
Mrf MOS	Mssg
Climo	Mssg

Int fcst

0.336

