
Northwest River Forecast Center

GFE/ICS Grid Investigation and Utilization

by

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Objectives of This Project:

Take Advantage of WFO Gridded Forecasts

Develop Understanding of Gridded Issues

Move Away from Climatologically based System

***Position Office to be a customer and service provider
for gridded information***

Apply to Both Temperature and Precipitation

Support Finer Resolution Models

Utilize Nationally Supported Software



GFE System

2 – 1 Ghz CPUs

1 GB memory

100 MB network band width

Linux Red Hat 7.3

GFE RPP 21.0

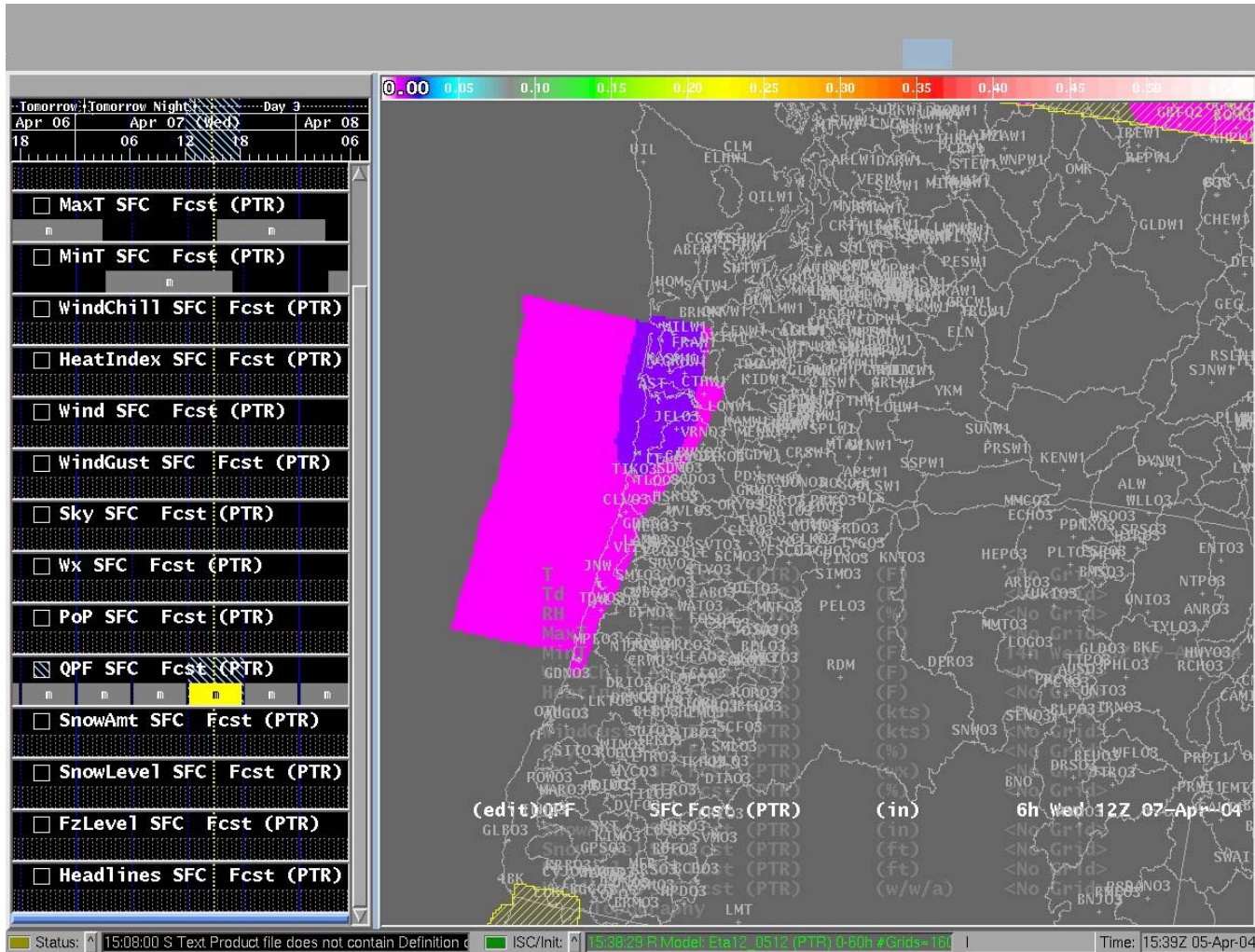


Basic System Issues

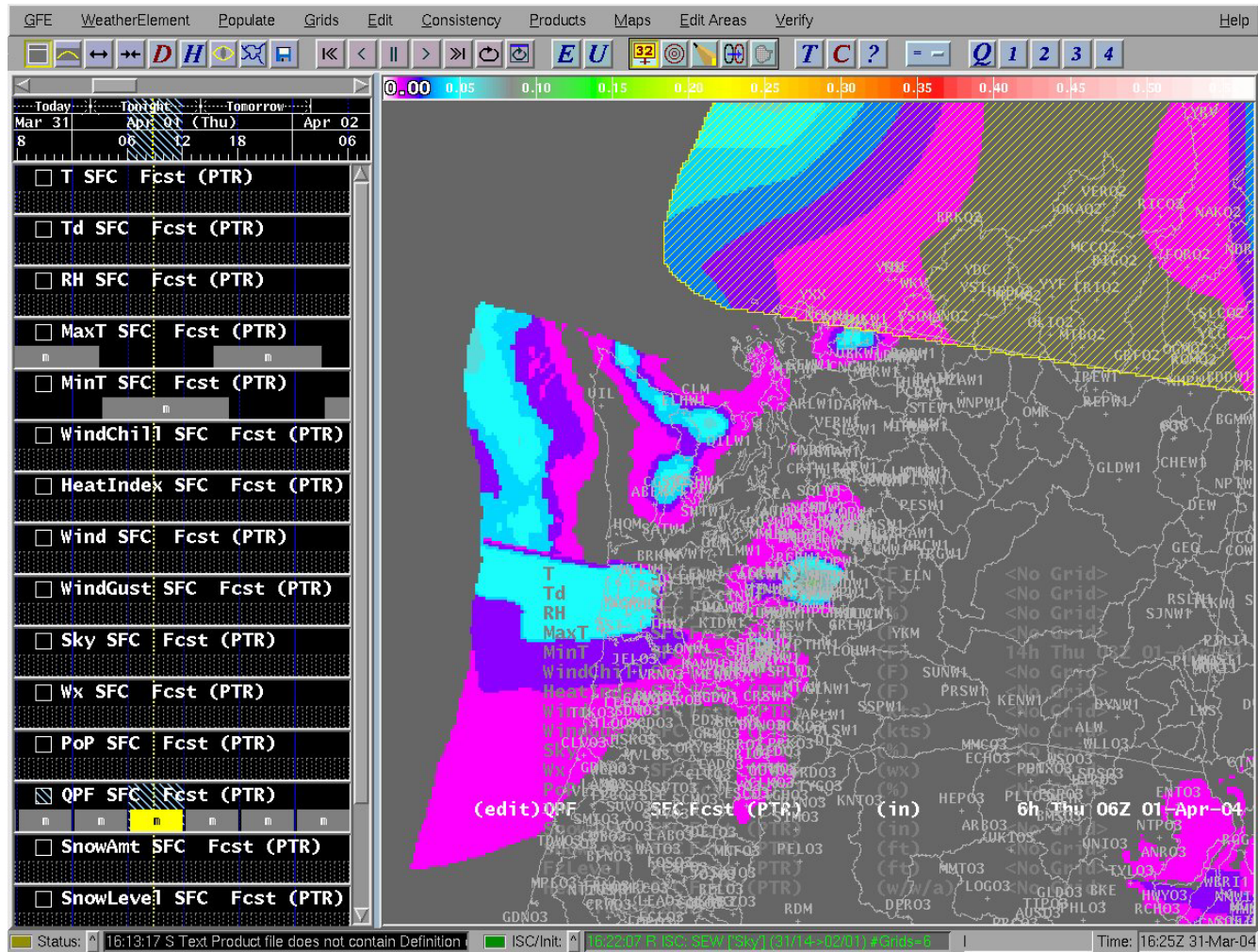
- *Difficult to Use all WFO ISC Grids*
- *Lack of Tools for RFC to Deal with Grid Inconsistencies*
- *Limited Training and Support*
- *High Learning Curve for Python and Developing Procedures and CRON Applications*
- *Takes 10 Minutes to Generated NWSRFS Forecasts without Analysis*
- *All Input in NetCDF Format*



Missing ISC Grids



Inconsistency



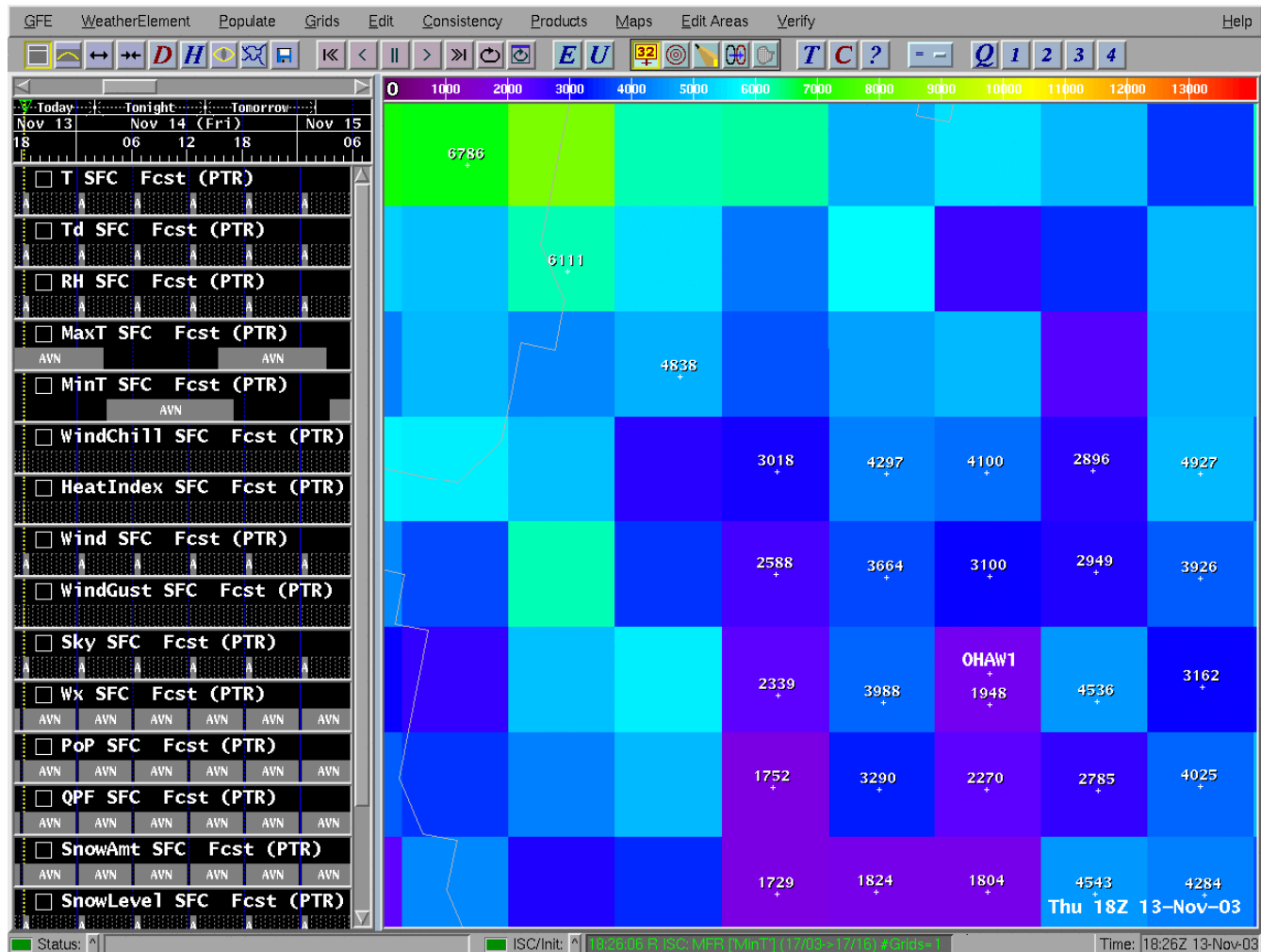
Lack of Tools

The screenshot displays a meteorological software interface with the following components:

- Menu Bar:** GFE, WeatherElement, Populate, Grids, Edit, Consistency, Products, Maps, Edit Areas, Verify.
- Toolbar:** Navigation and editing icons, including a color scale legend ranging from -30 to 110.
- Left Panel (Variable List):**
 - T SFC Fcst (PTR)
 - Td SFC Fcst (PTR)
 - RH SFC Fcst (PTR)
 - MaxT SFC Fcst (PTR)
 - MinT SFC Fcst (PTR)
 - WindChill SFC Fcst (PTR)
 - HeatIndex SFC Fcst (PTR)
 - Wind SFC Fcst (PTR)
 - WindGust SFC Fcst (PTR)
 - Sky SFC Fcst (PTR)
 - Wx SFC Fcst (PTR)
 - PoP SFC Fcst (PTR)
 - QPF SFC Fcst (PTR)
 - SnowAmt SFC Fcst (PTR)
 - SnowLevel SFC Fcst (PTR)
- Center Panel:** A map showing a geographical area with a color-coded overlay. An 'Edit Actions' dialog box is open over the map, listing various tools:
 - File
 - Windows
 - Smart Tools
 - Assign_Value
 - AdjustValue_Down
 - AdjustValue_Up
 - Smooth
 - ISC_Copy
 - MaxT_SmartTool
 - Show_ISC_Area
 - Show_ISC_Grid
 - PickUp...
 - Delta...
- Bottom Panel:** Status bar with text: 'Status: 19:46:43 S Unable to copy grids into :Fcst (PTR) since th', 'ISC/Init: 20/20/07 R ISC: PGR (MaxFH) (19/23->14/16) #Grids= 1', and 'Time: 20:21Z 07-'. The map title is '(edit) MaxT SFC Fcst (PTR) (F) 12h Wed 15Z 07-Apr'.



Grid Elevation and Value Issue



Current NWRFC Status

Focused Still - Grids to Points

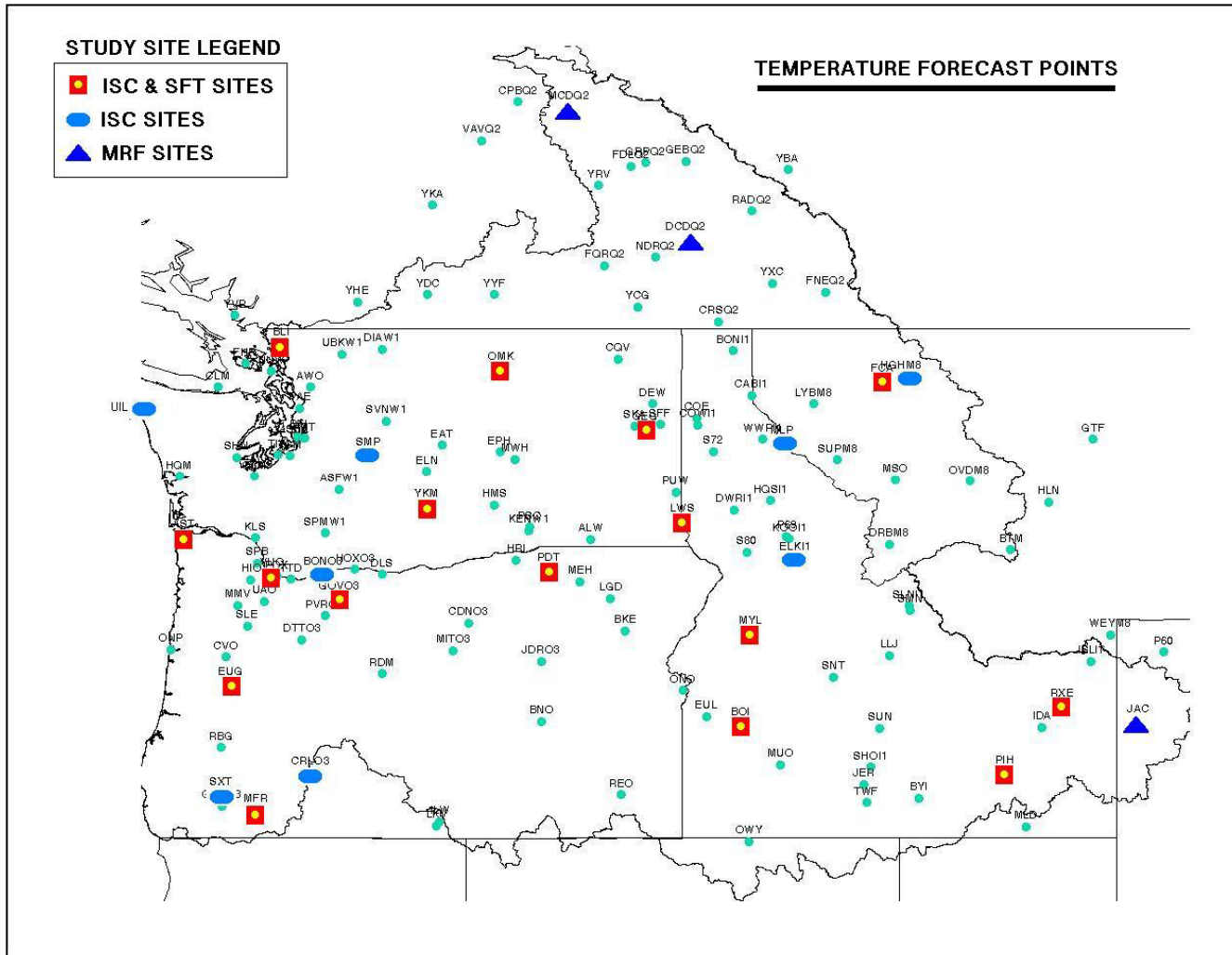
Developing A Winter QPF Project for Winter 2004

Evaluating Temperature Forecasts This Spring

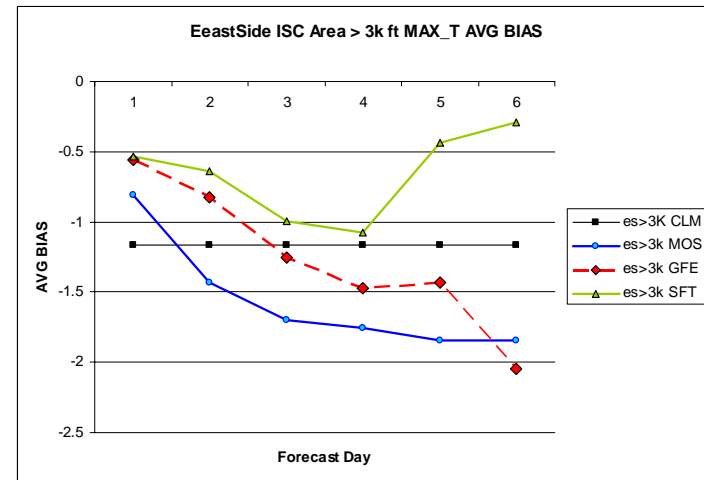
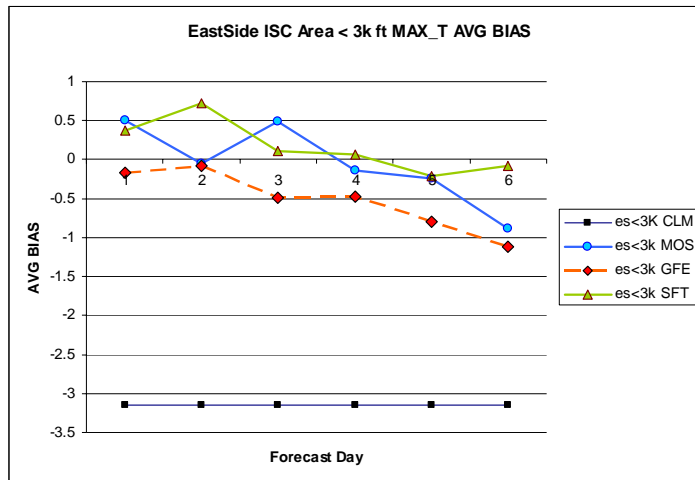
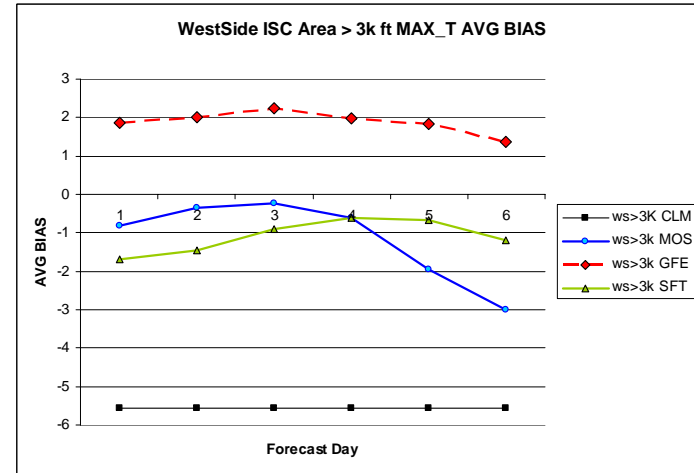
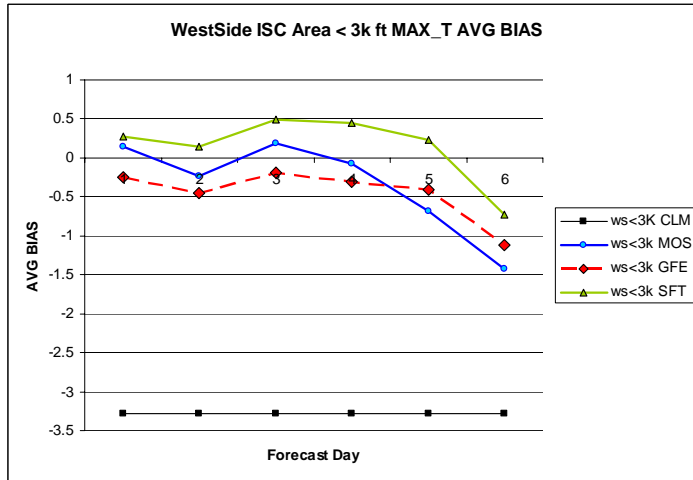
***Working With FSL to Develop Methods to Deal With
Multiple WFO ISC Grids***



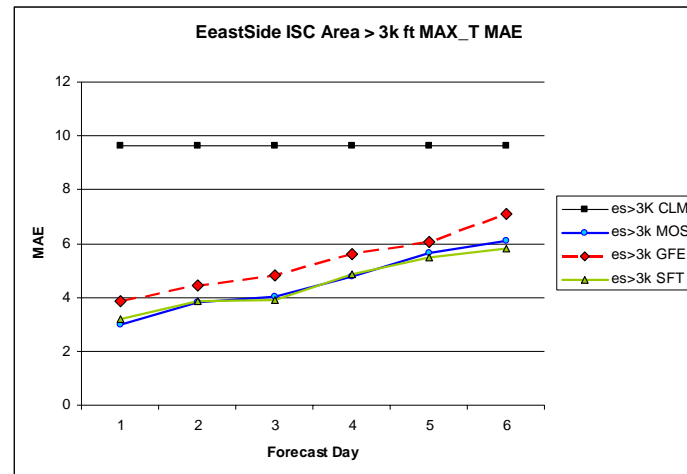
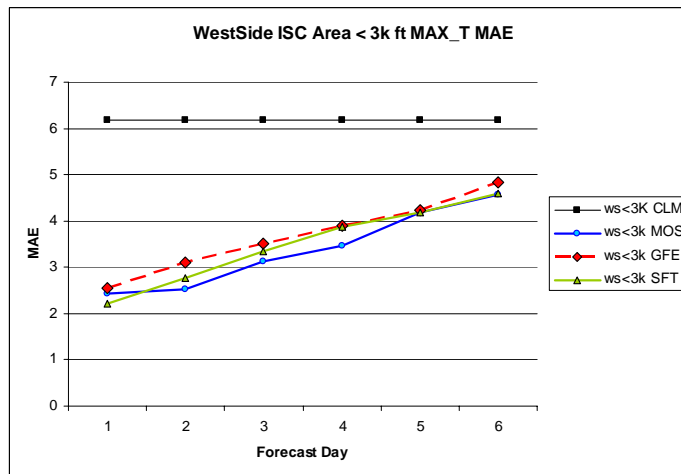
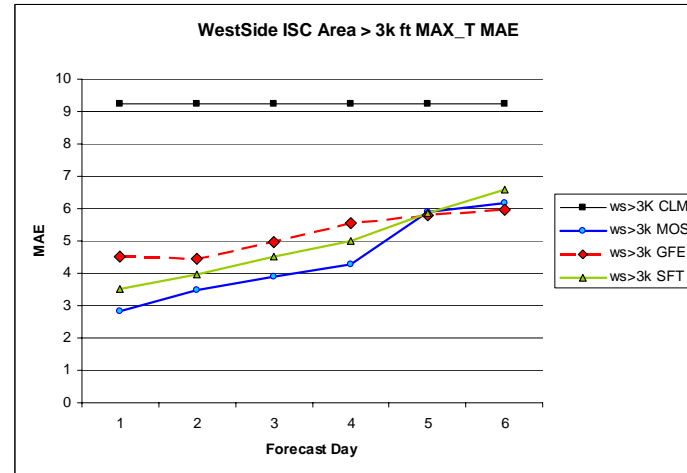
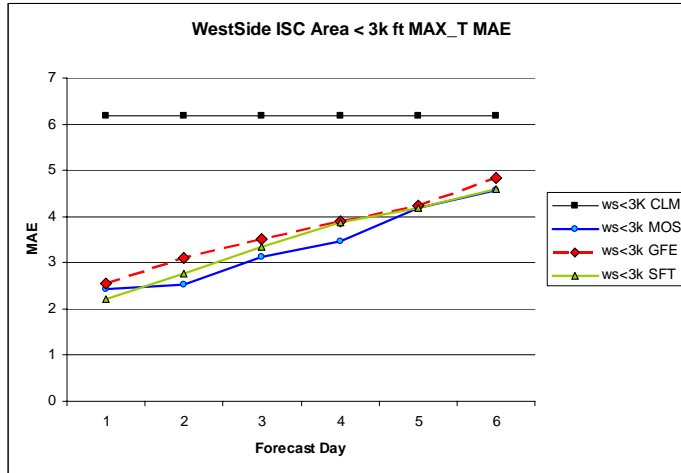
Temperature Verification Sites



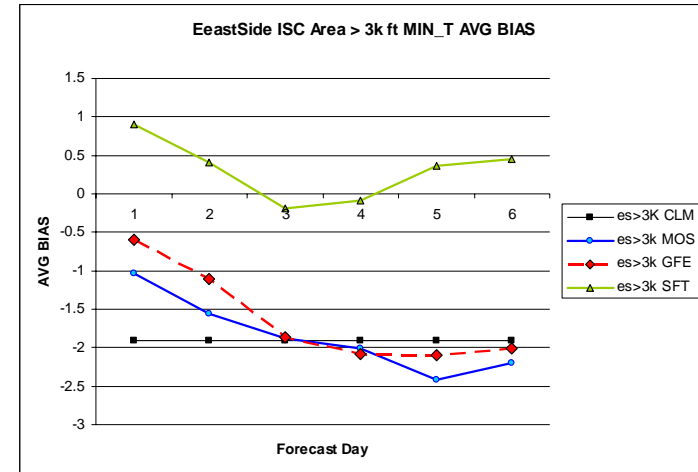
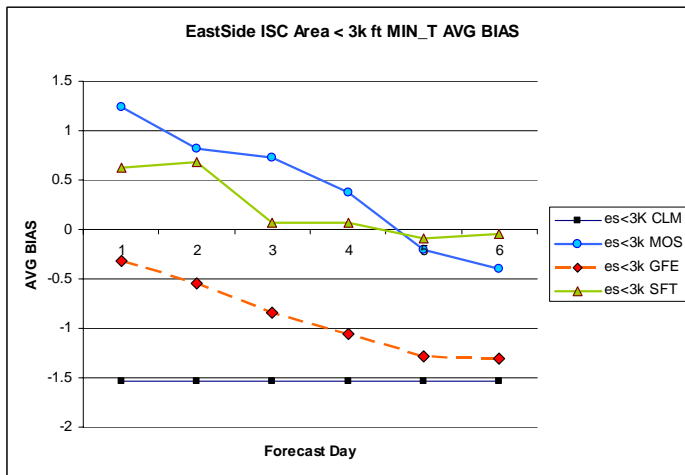
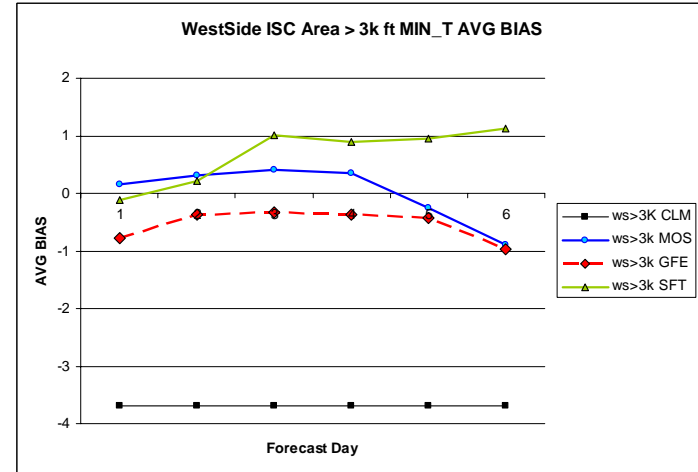
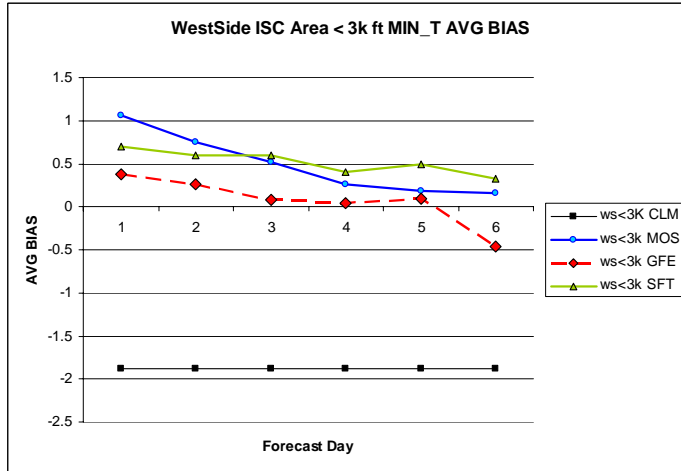
Max Temperature Average Bias



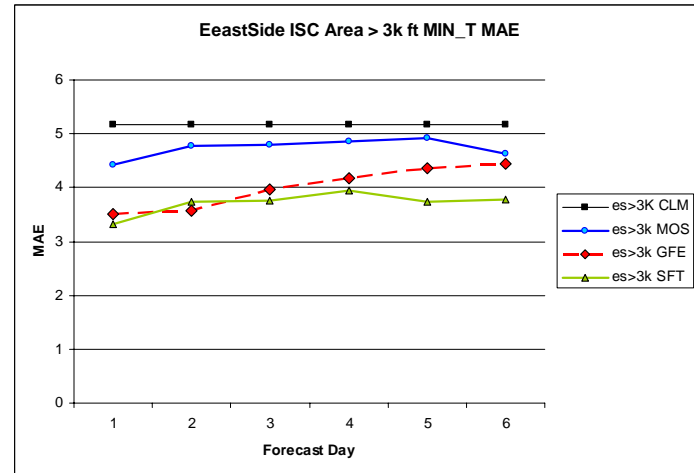
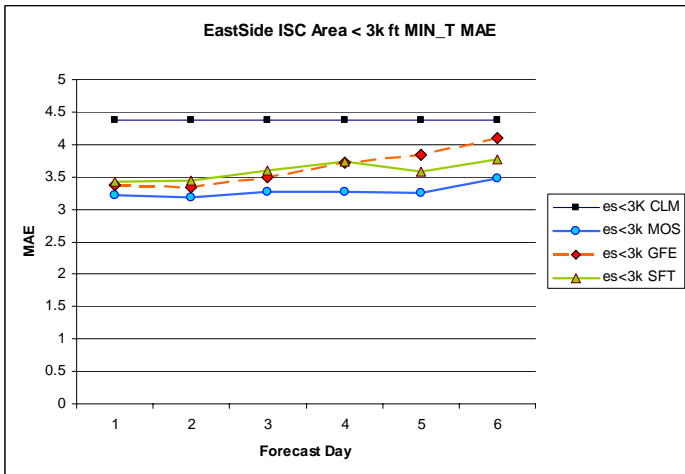
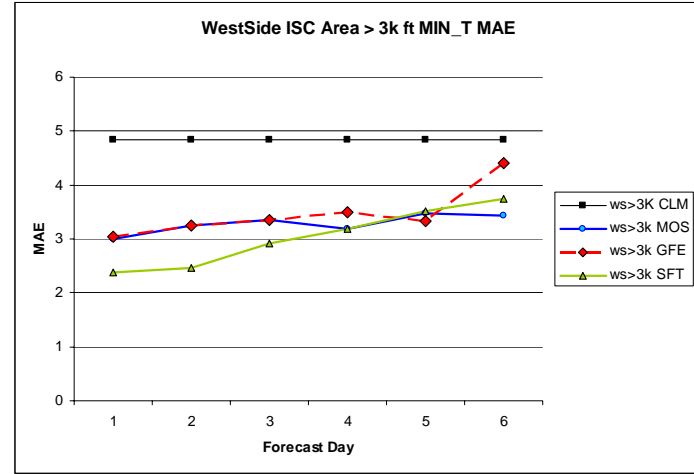
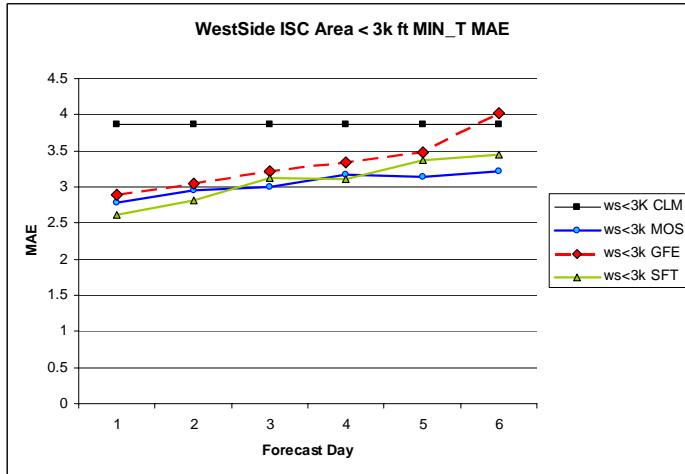
Max Temperature MAE



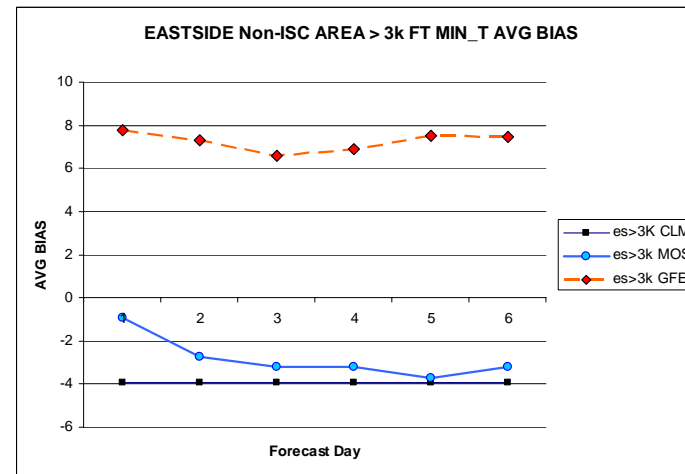
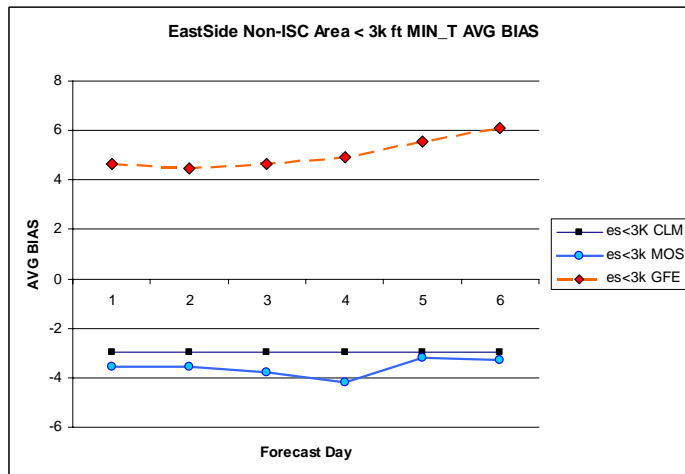
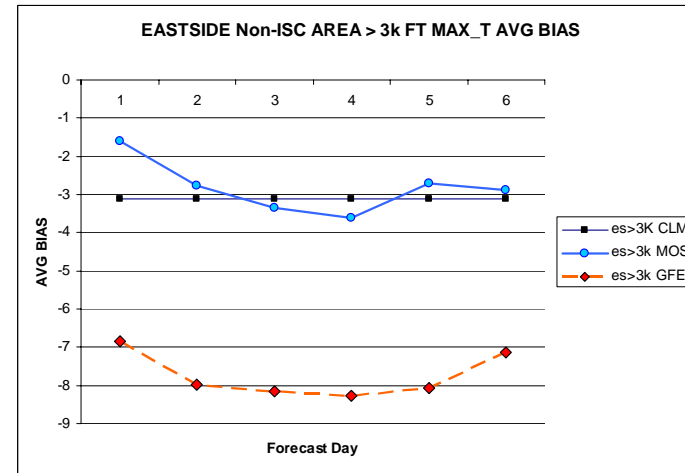
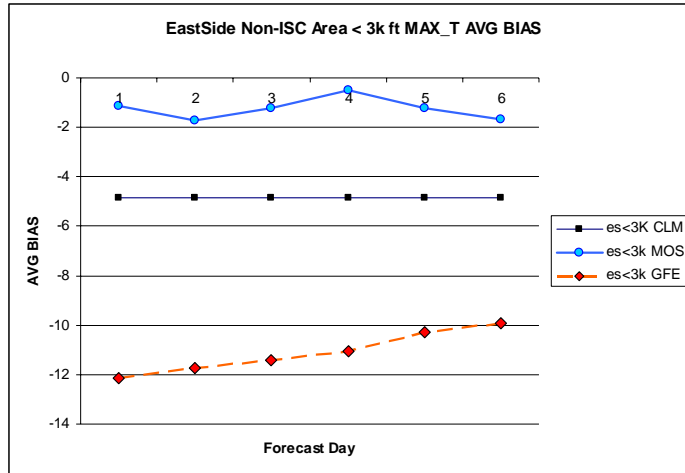
Min Temperature Average Bias



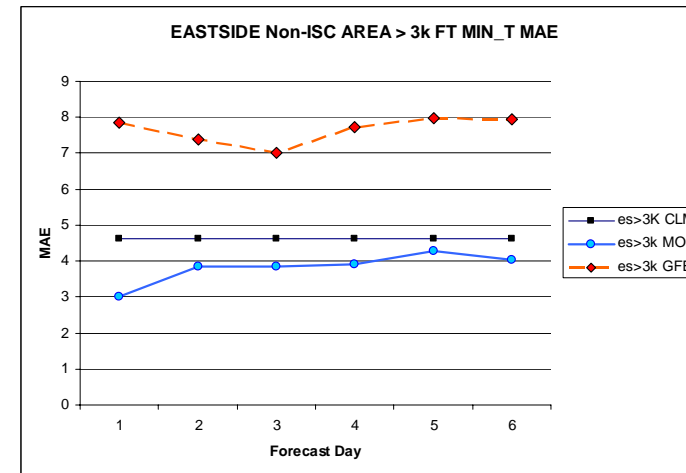
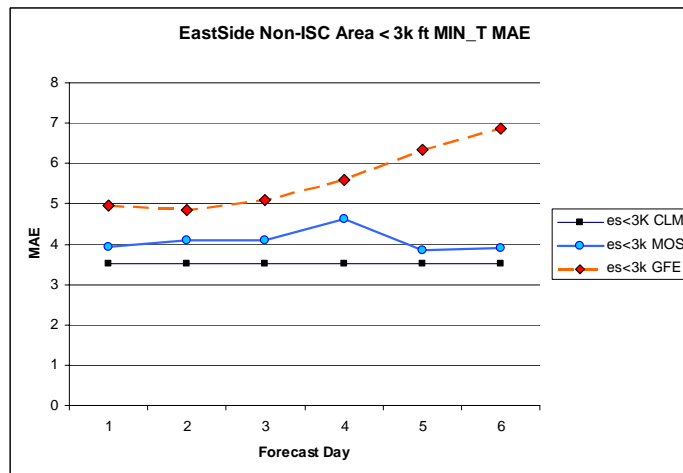
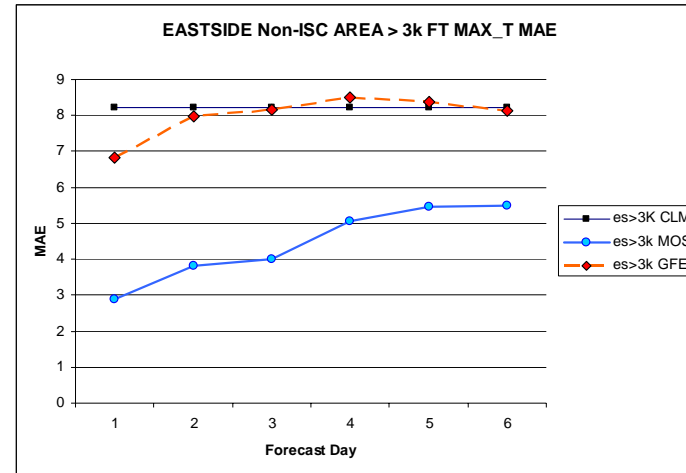
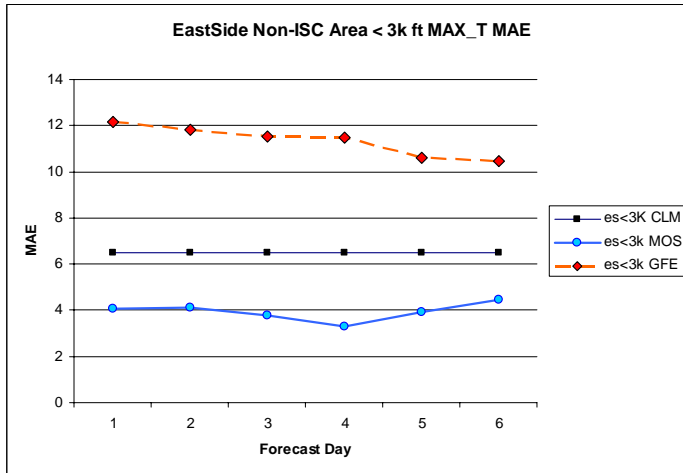
Min Temperature MAE



Non ISC (Model Only) Average Bias



Non ISC (Model Only) MAE



Summary

Need for Standard Grid Initialization by WFOs

Need to Have Standard Grid Generation Methods

Need for the Grids to Represent Forecast

Need for Canadian Forecasts

Need for GFE Tools for RFC to Modify the ISC Mosaic Grid

***Need for NWSRFS to Handle Finer Spatial and Temporal
Forecast Data***

