

**WEATHER FOR THE CONNECTED WORLD**



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**CSO**

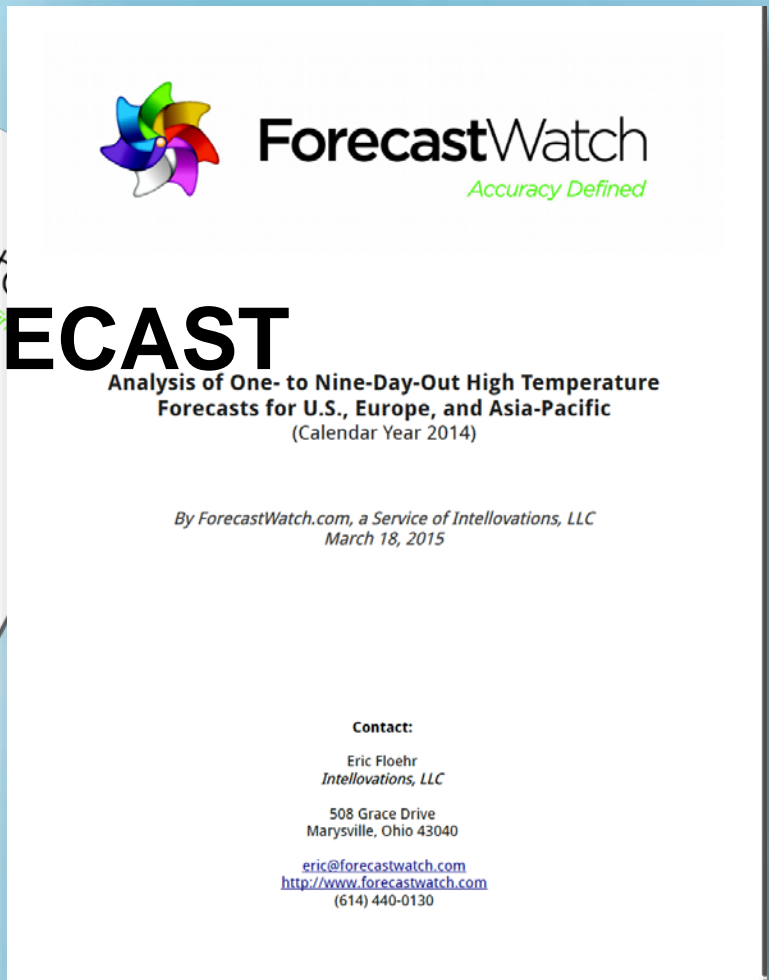
# **GWC Overview**

- Small company
- White label forecast provider
- Model post-processing focus
- Requires automation
- Global domain
- Near-surface forecasts

# THE GLOBAL WEATHER DIFFERENCE

The **most accurate** weather forecast in the world

**RANKED  
#1 TEMPERATURE FORECAST  
IN THE WORLD  
BY FORECASTWATCH  
2013 and 2014**



# GWC Forecast System

- DICast
  - Consensus Forecast System
  - Initially developed at NCAR
- Uses short history of NWP data
  - Last 90 days
  - Length v Seasonality
  - Avoids model change issues
- Model archive would be voluminous, unwieldy, and contain evolving model versions

# GWC Forecast System (2)

- Is using a short history a benefit or hindrance?
- Longer training might be better
  - e.g. Multiple years of same season
  - Optimal length unknown
- Historical tuning difficult
  - Many customers have long obs histories
  - Sites must be tuned going forward

# Reforecast Potential Benefits

- Difficult for automated learning methods to find patterns with evolving models
- Longer history required for development of rare event algorithms

# Repository Design

- ECMWF MARS is best model repository
- Strengths:
  - Easy to extract any set of variables, temporal/spatial domain
  - Deterministic and ensemble systems
- Weaknesses:
  - High Resolution model not reforecast
  - Creates same model evolution problem

# Other Challenges

- GFS 3-hourly data difficult
- Temporal “interpolation” of precip and insolation problematic
- Only need perhaps 84 hours of high temporal resolution data
- Hard to develop PP algorithms when there is this kind of interpolation error



# Notes

- Grib-2 is fine
- Ability to subset real-time data sets would be nice
- Important variables to provide in reforecast history
  - Surface Vars
  - Precip-related data
  - T, TD, Z, U, V at lower pressure levels

# Suggestions

- Need a repository of reforecasts
  - Easy to use interface
  - Both Deterministic and Ensemble data
- Make hourly resolution data available out 84 hours from GFS and perhaps GFS ensemble
- User selectable real-time variable set



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**THANK YOU**

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