

ATM 693: Analysis Methods in Meteorology and Climate

Spring 2013

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Class room: ARSC computer lab WRRB 009

Class times: MW: 9:45am to 11:15am

Office hours: TBD

3 credits

Prerequisites: Understanding of statistics and basic programming skills using fortran or some other form are required. Examples will be provided using fortran and IDL (the syntax of IDL is similar to fortran).

Introduction: It is your first day of work and your supervisor comes to you and says, "It's great to finally have on board someone who knows something about environmental data. What I'd like from you is a map showing maximum hourly 10-year return temperatures for the 1950-2005 period for all weather stations reporting in North America."

At the very least we can note the following about this task:

- There are almost half a million hourly observations for this period
- There are thousands of weather stations
- What data set(s) are there to handle this? – Where to get them?
- How to read them in?
- How is a return frequency analysis performed?
- How do we ramp it up to run for so many weather stations?
- How do we present the results?

semester we will compose jointly a pan-Arctic picture of observed high-latitude

CLASS CALENDAR

Wk

