

Analysis Methods in Atmospheric and Oceanic Science

AOSC 652

Class Projects
Week 14, Day 2

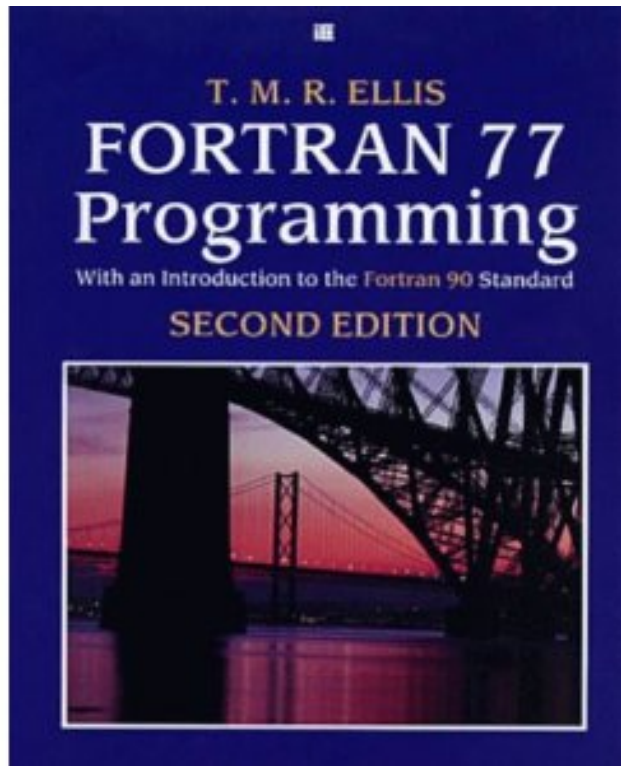
30 Nov 2016

AOSC 652: Analysis Methods in AOSC

Logistics

FORTRAN Book:

- Would like to start getting returns of Ellis book
- \$20 to be refunded upon return of book



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Student projects (this slide first shown 10 Oct 2016):

- **20% of the final grade**: you will receive a numerical score for the project and final grade will be found via:

$$\text{Final Grade} = (0.1) \times (\text{Attendance} + \text{Participation}) + (0.7) \times (\text{Homework}) + (0.2) \times (\text{Final Project})$$

- 28, 30 Nov, 2 Dec (MWF) + 5, 7 Dec (MW)
set aside for “in class” work on your project
- Thurs 8 & Fri 9 Dec: *students present their project (10 minute talks)*, prepared using either Powerpoint, Open Office, etc and converted to PDF prior to the start of class
- Each student must turn in a *brief* written description of the project as well as all *code* used to complete the project
- Good to begin thinking about your project: application of techniques learned in class to a **scientific problem of your interest**
- I am available to discuss potential projects at any time

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- I am available to discuss “issues” with project, by appointment please!

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- 28, 30 Nov, 2 Dec (MWF) + 5, 7 Dec (MW)
set aside for “in class” work on your project
- **9 Dec (F) or 19 Dec (M):** *students present their project (10 minute talks)*, prepared using either Powerpoint, Open Office, etc and converted to PDF prior to the start of class
- Each student must turn in a *brief* written description of the project as well as all *code* used to complete the project
- Good to begin thinking about your project: application of techniques learned in class to a **scientific problem of your interest**
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Project presentations will be 9 and 19 Dec:

- Each presentation will be a maximum of 10 minutes
- For a 10 minute presentation, best to focus on:
what you did & *what you learned*
rather than spending much time on
why you did what,
summary of state of knowledge on the subject matter,
etc
- Suggest 8 to 10 slides; any presentation w/ more than 10 slides
must be cleared with me prior to presentation

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Student project description:

- In addition to your presentation, please turn in a **BRIEF** written description of your project no later than **2 pm, Dec 19:**

1 to at most 2 page, typed, description of your project focusing on:

- a) scientific problem that was studied (1 paragraph)
- b) software and/or analysis tools that were used (1 paragraph)
- c) what was learned in the analysis (2 to 3 paragraphs)

No need for figures or extensive use of citations in this written description

- Code – or – URL pointing to code

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Student project timeline:

9 Dec is nine days from now

Suggest the following timeline:

- **Today:** If looking at data, it is on our system and can be read.
If working with a new model, it is on our system and compiled.
Jeff: Python assistance
Tim: IDL assistance
Walt: MATLAB assistance
Ross: FORTRAN assistance & general issues
- **Friday: Preliminary results (i.e., some graphs) ready to show us**
- **Next Monday (Dec 5):** Final graphs complete
- **Next Wednesday (Dec 7):** Draft presentations available for discussion

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Student	Topic	Data Files or Model Desc
Chang, Chu-Chan	Observation operator, variational system	Model: F90
Eure, Keenan	Palmer experiment, chaos theory	Model: inherited code
Fedkin, Nikita	Sulfate & nitrate deposition trends	Data Files: SO ₂ & NO ₂
Fricke, Patty	Cyclogenesis on ozone	Data Files: Ozone & Winds
Gohil, Kanisk	SLP & SST during ENSO	Data Files: SLP & SST
Jeffrey, Dylan	Thermal Structure, freezing rain	Data Files: METAR Obs
Kahn, Doug	Off-shore thunderstorm characterization	Data Files: lightning, CAPE, etc
McBride, Laura	Global snow cover, 2000 to 2016	Data Files: Snow & Ice Data Ctr
Malloy, Kelsey	Stratospheric Air Intrusions	Data Files: O3, humidity
Ortiz, Alex	Renewable Energy	Data Files: irrad, wind speed, etc
Porter, Greg	500 mb blocking events for forecasting	Data Files & Project Scope
Sengupta, Agniv	Periodicity of AMO	Data Files & Method to Detrend AMO
Treacy, Angie	Population, climate, and water	Model: COWA & visualizations
Varada, Sai	NO _x and VOC emissions	Visualizations
Williams, Matt	Global warming hole, U.S.	Data Files: Num of centers & lapse rate