



# Five minutes in an elevator at 30000 feet over a mile-wide canyon

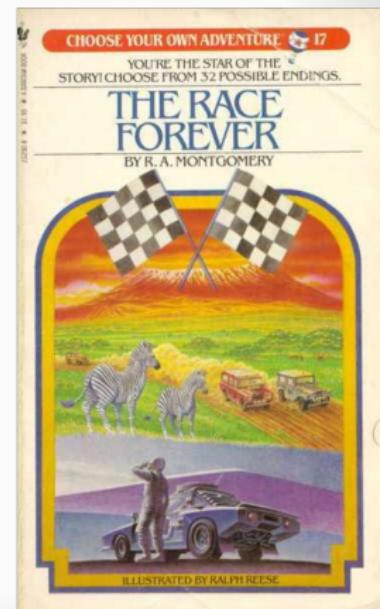
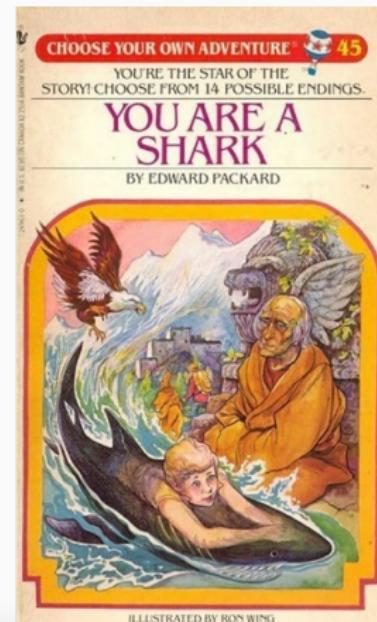
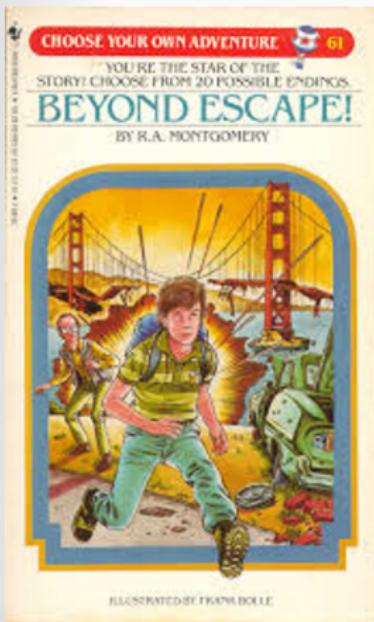
Marcus W. Beck

<sup>1</sup>USEPA NHEERL Gulf Ecology Division  
Email: beck.marcus@epa.gov

July 27, 2016

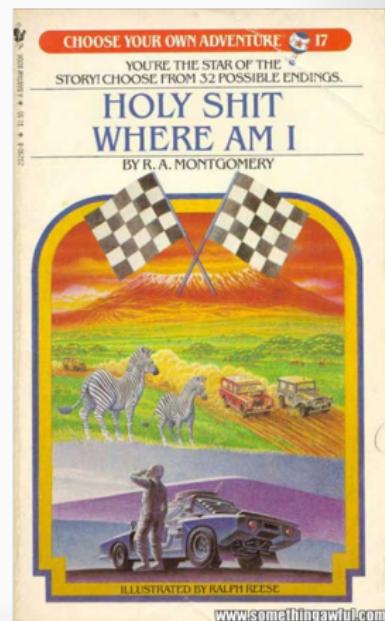
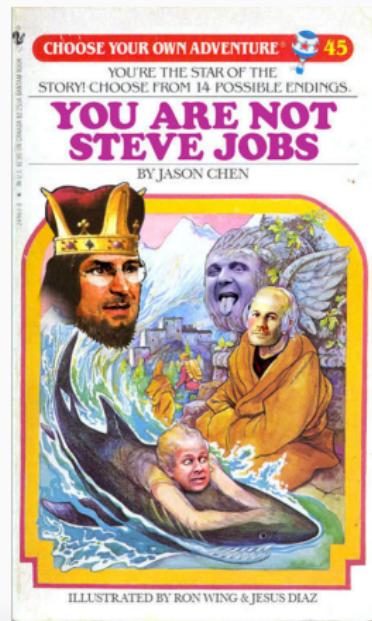
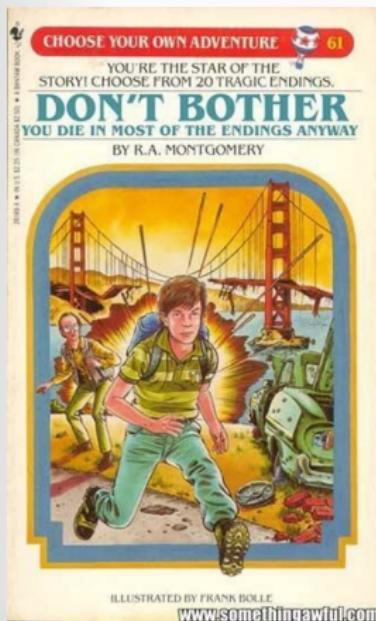


# Choosing your own adventure





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## Choosing your own adventure

### 13 years old

1. Learn to fly
2. Join Air Force
3. Fighter pilot/  
professional  
skateboarder



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20 years old

1. BSc in Zoology
2. Intern for FWC
3. MSc in  
Conservation  
Biology
4. Fisheries  
Biologist



## Choosing your own adventure

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1. Learn to fly
2. Join Air Force
3. Fighter pilot/  
professional  
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20 years old

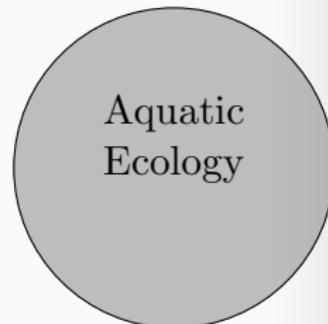
1. BSc in Zoology
2. Intern for FWC
3. MSc in  
Conservation  
Biology
4. Fisheries  
Biologist

30 years old

4. Intern for  
MNDNR
5. PhD in  
Conservation  
Biology
6. ORISE post-doc
7. Fed post-doc

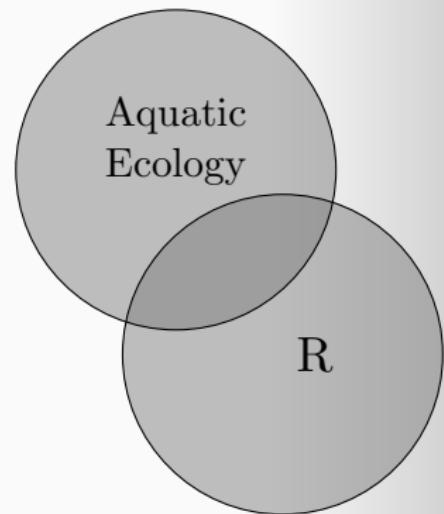
## Elements of the adventure

- Water quality
- Biological monitoring
- Eutrophication
- Aquatic Macrophytes
- Ecosystem metabolism



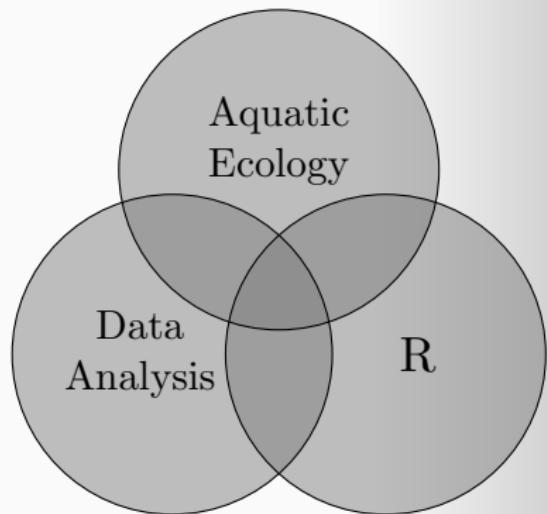
## Elements of the adventure

- NeuralNetTools
- SWMPr
- WtRegDO
- WRTDStidal
- ggord
- rStrava



## Elements of the adventure

- Indicator development
- Time series methods
- Reproducible research
- Visualization and graphics
- Model comparisons



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