

Preparing our Workforce: Thinking Differently about Geoscience Careers



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Content provided by the American Geosciences Institute

Why I'm here

- To explain the geoscience job market.
- To get you to think outside the box!
- To help facilitate and guide your job searches.
- To be a resource for you!

My Career Pathway



Photo Credit: Emma Rude, AGI's Life in the Field Contest, 2014

What Geo Careers do you know?

- What Geo subjects interest you?
 - What skills do you need to be successful?

Participation Slide

- Geo Subjects:

- Geo Skills:

What Geo Careers do you know?

- What Geo subjects interest you?
 - What skills do you need to be successful?
- What Geo careers interest you?
 - What skills do you need to be successful?

Participation Slide

- Geo Careers:

- Geo Career Skills:

What Geo Careers do you know?

- What Geo subjects interest you?
 - What skills do you need to be successful?
- What Geo careers interest you?
 - What skills do you need to be successful?
- What are your other interests or hobbies?
 - What skills do you need to be successful?

Participation Slide

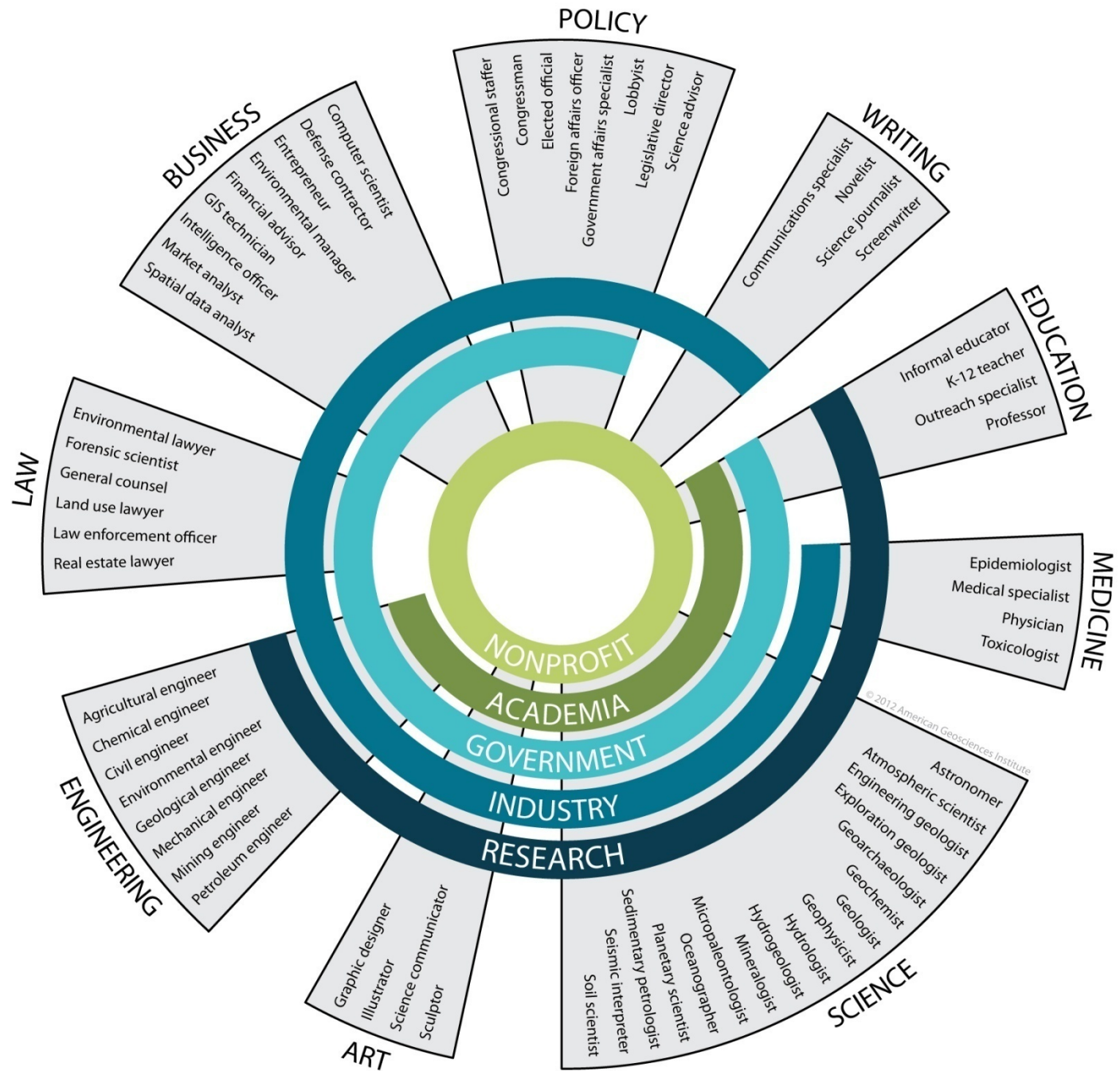
- Other Subjects/Hobbies:

- Other Skills:

Overarching Theme:

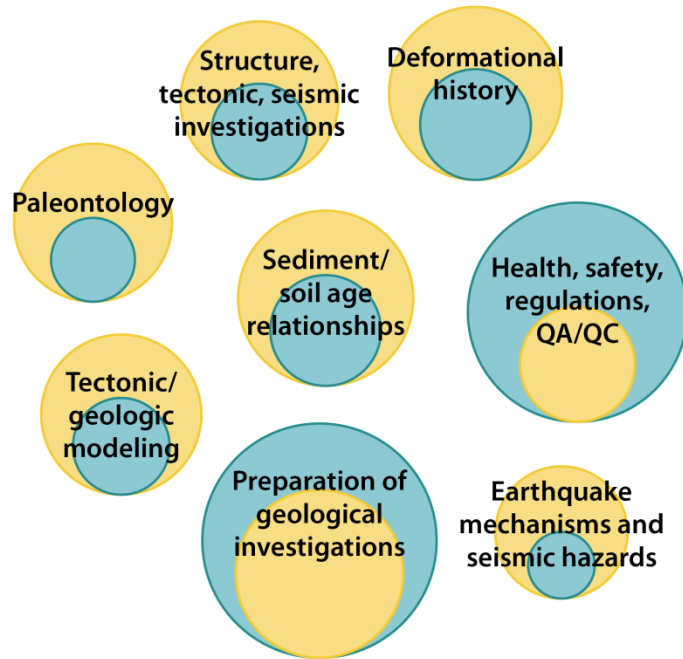
Transferrable skills are vitally important to any and every geoscience career!

Think
outside
the box!



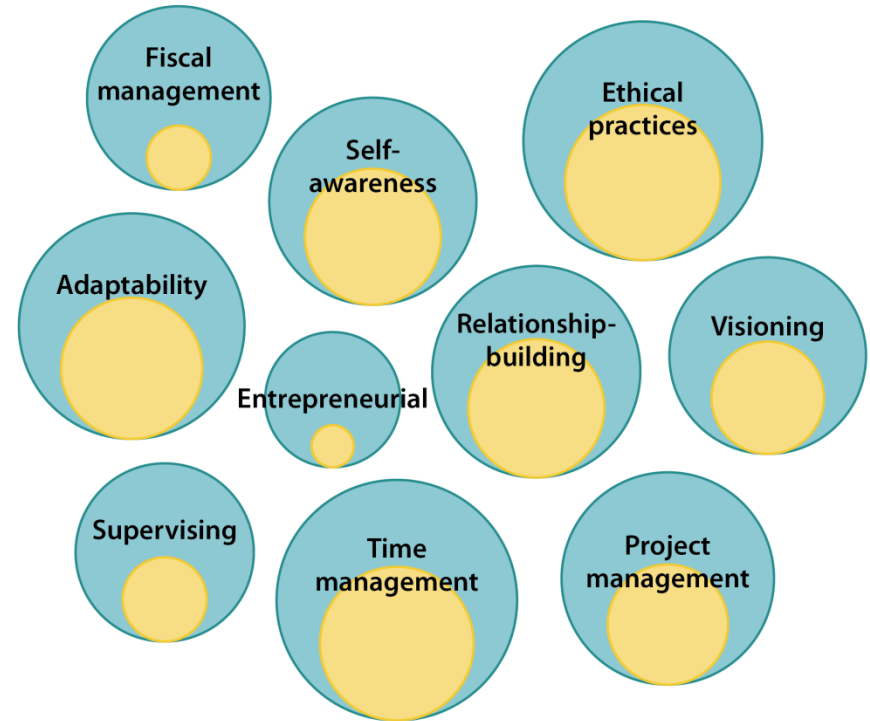
A subset of data that highlights significant disparity between skill appraisal and student preparation

TECHNICAL SKILLS



GEOLOGY

NON-TECHNICAL SKILLS



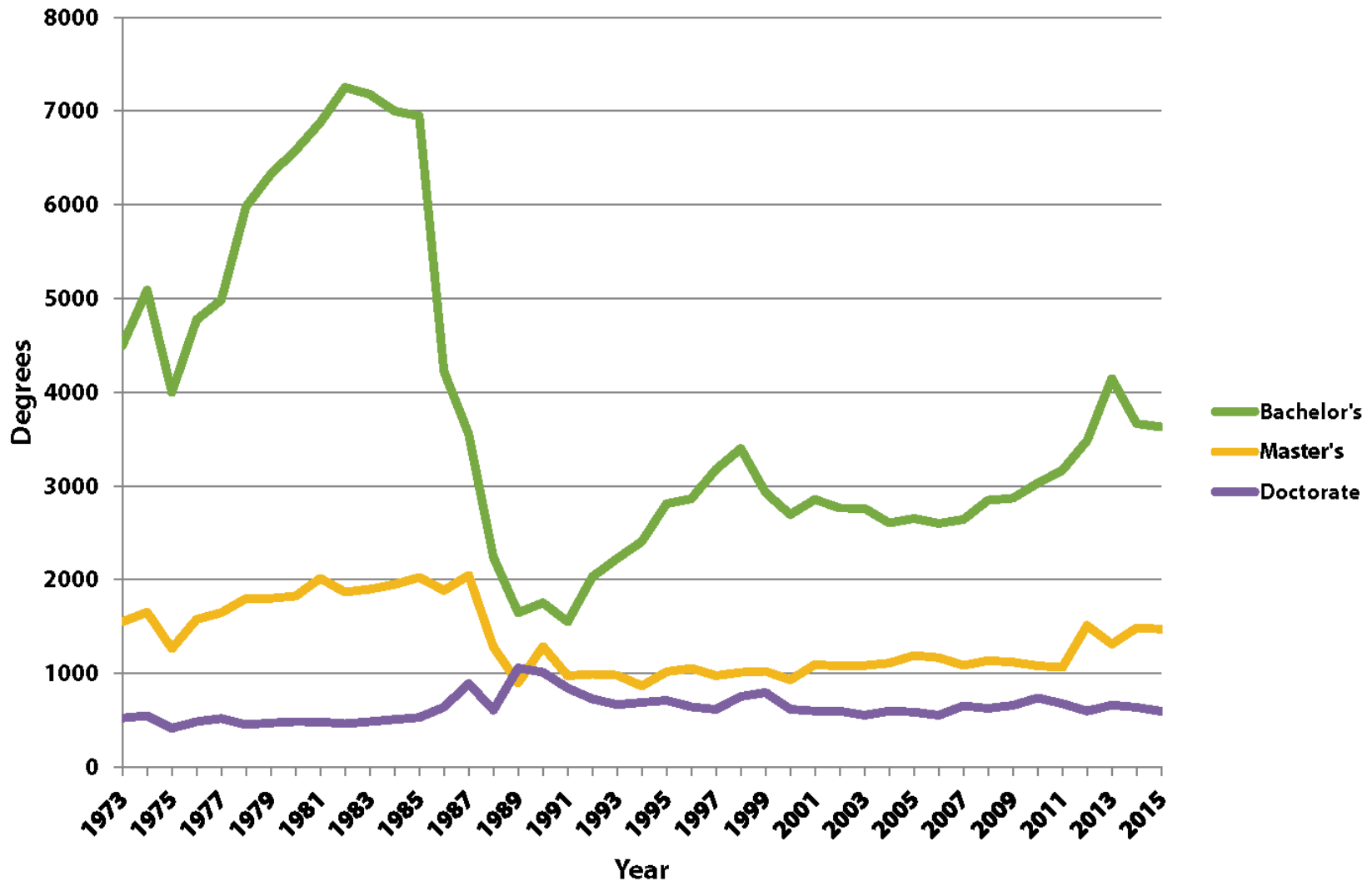
- Student preparation indicated by faculty and students (n=89)
- Importance of skill in professionals' current position (n=72)
- Diameter indicates magnitude of importance/preparation

Data Source: Geoscience Career Master's Preparation Survey Report, by Heather R. Houlton, American Geosciences Institute. Technical and non-technical skill names adapted from the ASBOG Task Analysis Survey, and the AAG EDGE Geography and Career Planning Survey, respectively.

The relative sizes of the circles can only be compared within the same category of either technical skills or non-technical skills. Skills selected for this graphic displayed statistically significant disparity between student preparation and rated importance, as indicated by the Geoscience Career Master's Survey Data Analysis (i.e. Larger blue circles indicate that professionals found these skills to be more important than the overall preparation of students when graduating from their Master's programs). The preparation of students was determined by aggregating data of student and faculty responses.

The Breakdown: Workforce Trends

US Geoscience Degrees Granted
1973-2015



The Breakdown: Workforce Trends

324,411 geoscience jobs **exist today** with postsecondary teachers, 2014 (BLS)

156,000 geoscientists expected to **retire** by 2024 (~48%) (AGI)

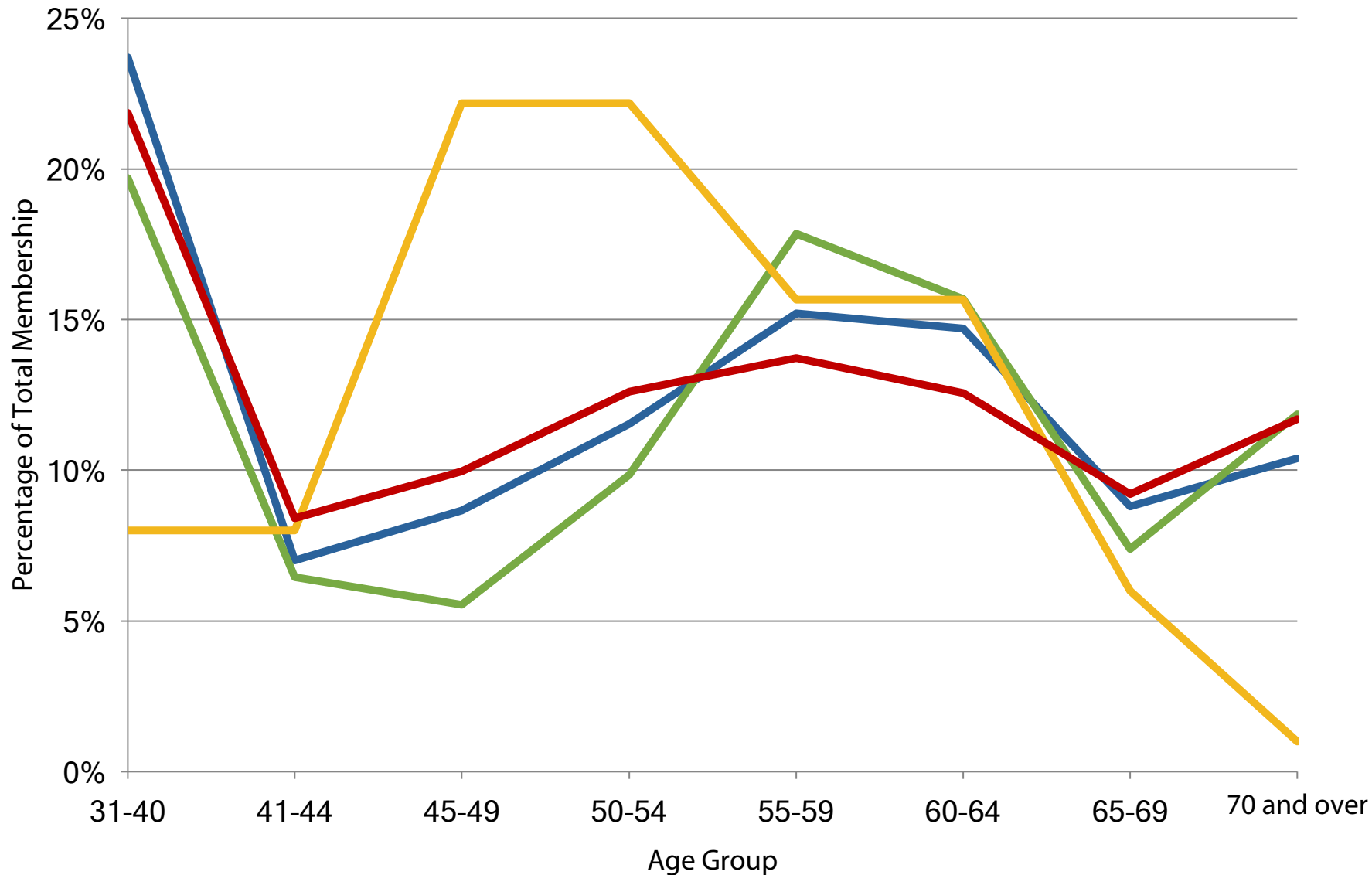
32,400 geoscience job **growth** by 2024 (~10% change) (BLS)

58,000 **total new graduates** (with BS, MS and PhD)



Net deficit of over **90,000** geoscientists by 2024

Geoscience Age Distribution by Membership Society without Student Memberships



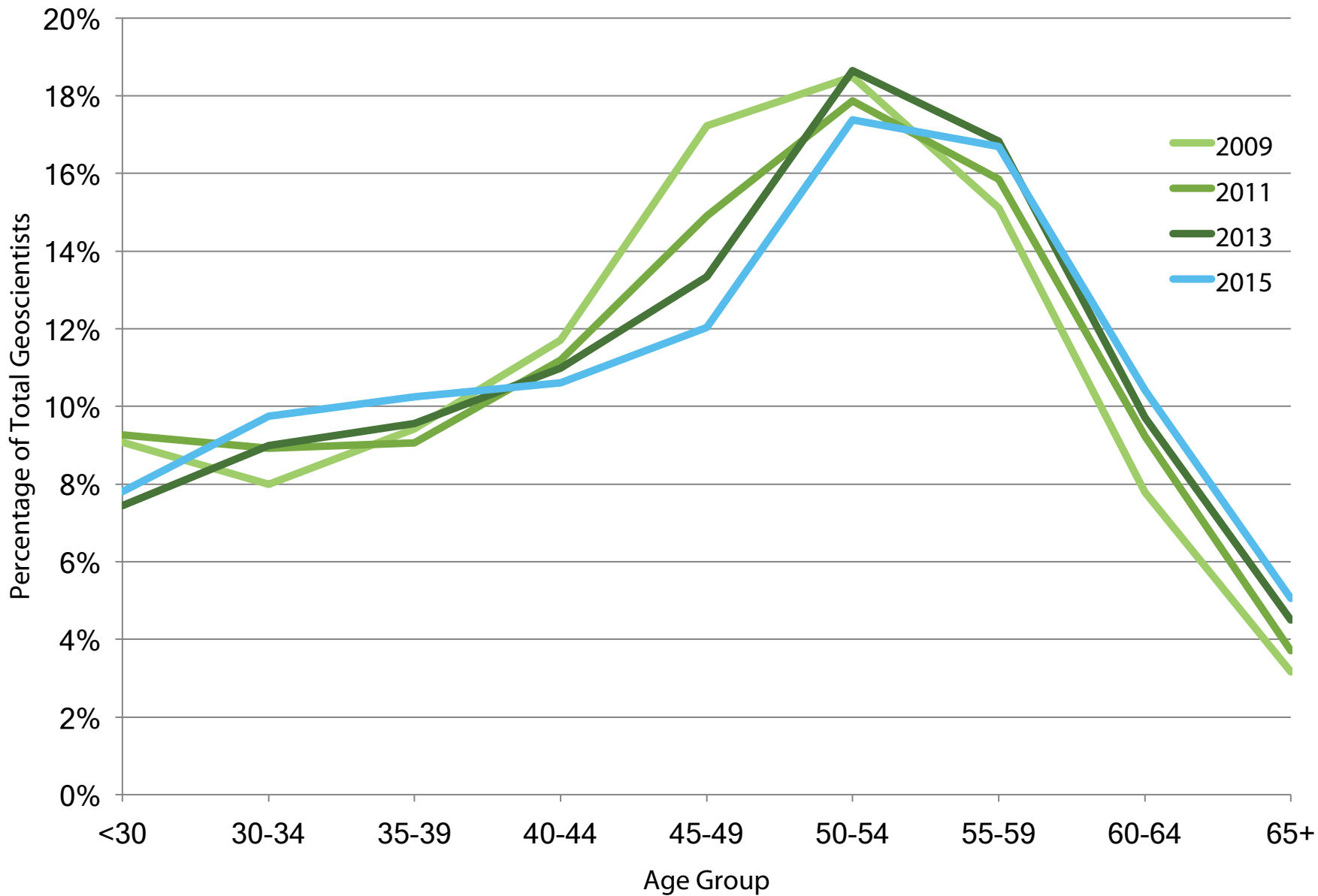
— Exploration Geophysicists (SEG)

— Hydrologists (NGWA)

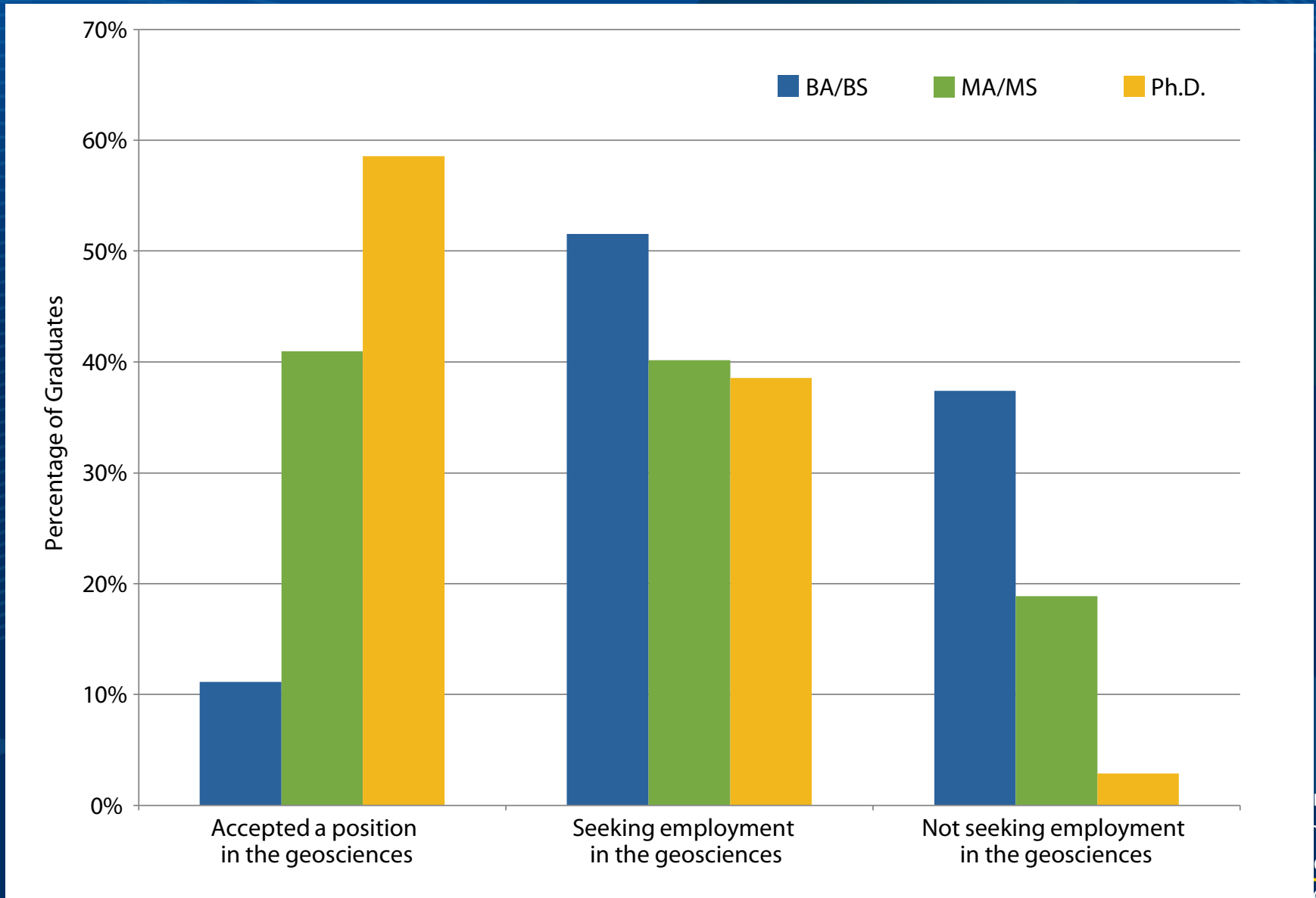
— Petroleum Geologists (AAPG)

— Economic Geologists (SEG)

Age Distribution of Geoscientists Employed in the Federal Government

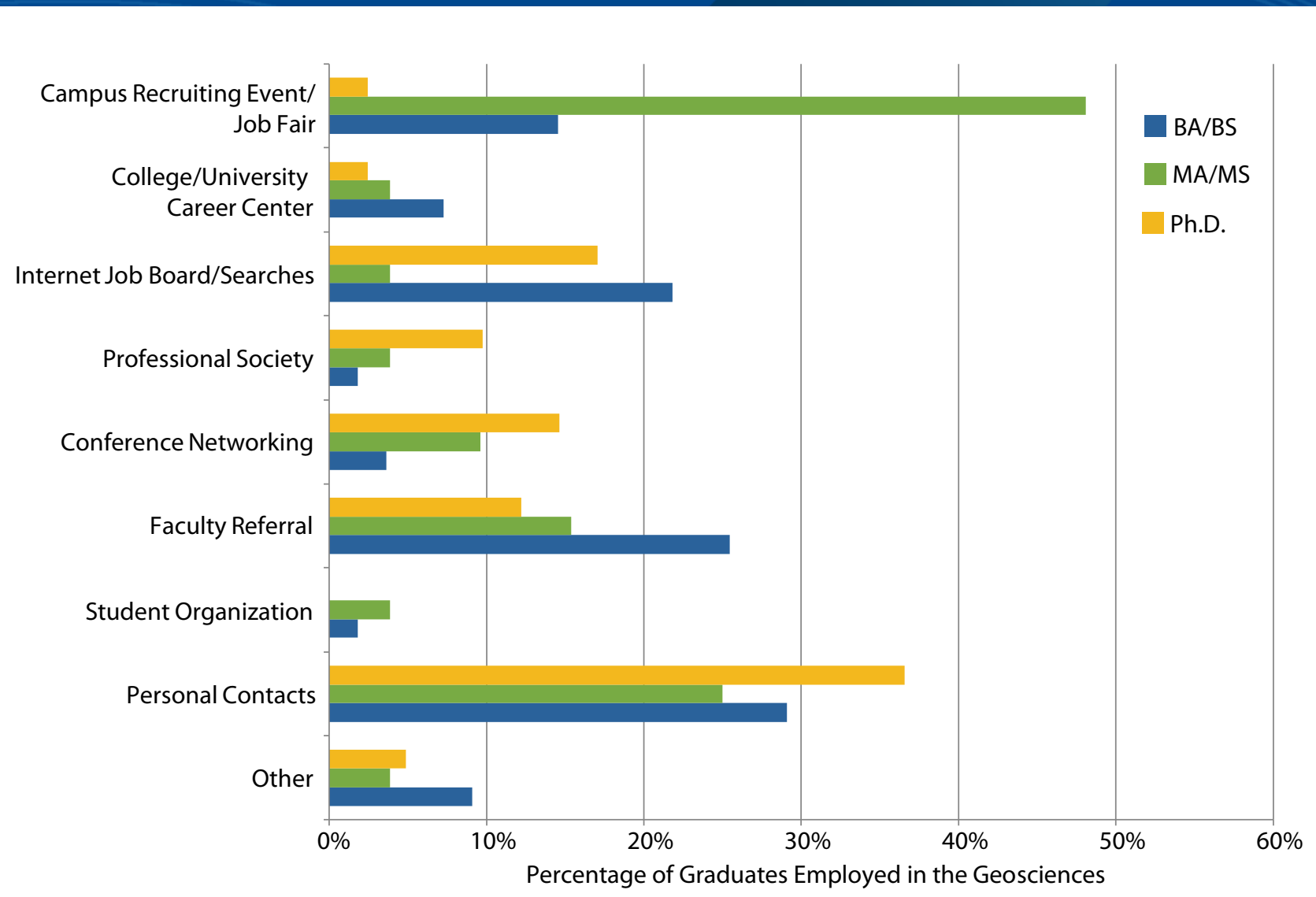


Students Seeking/Accepted Employment in Geoscience



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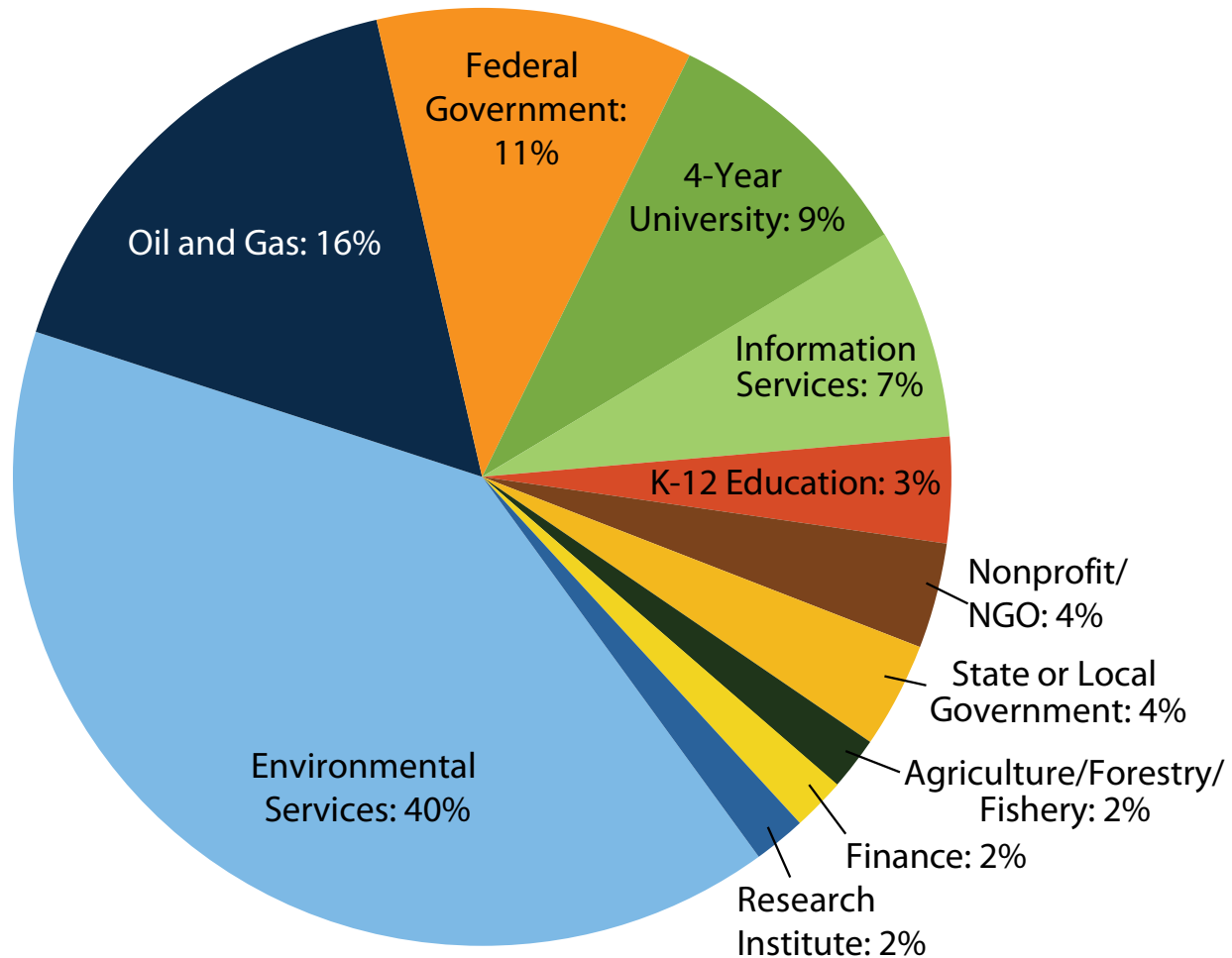
Useful Resources for Finding Geoscience Employment



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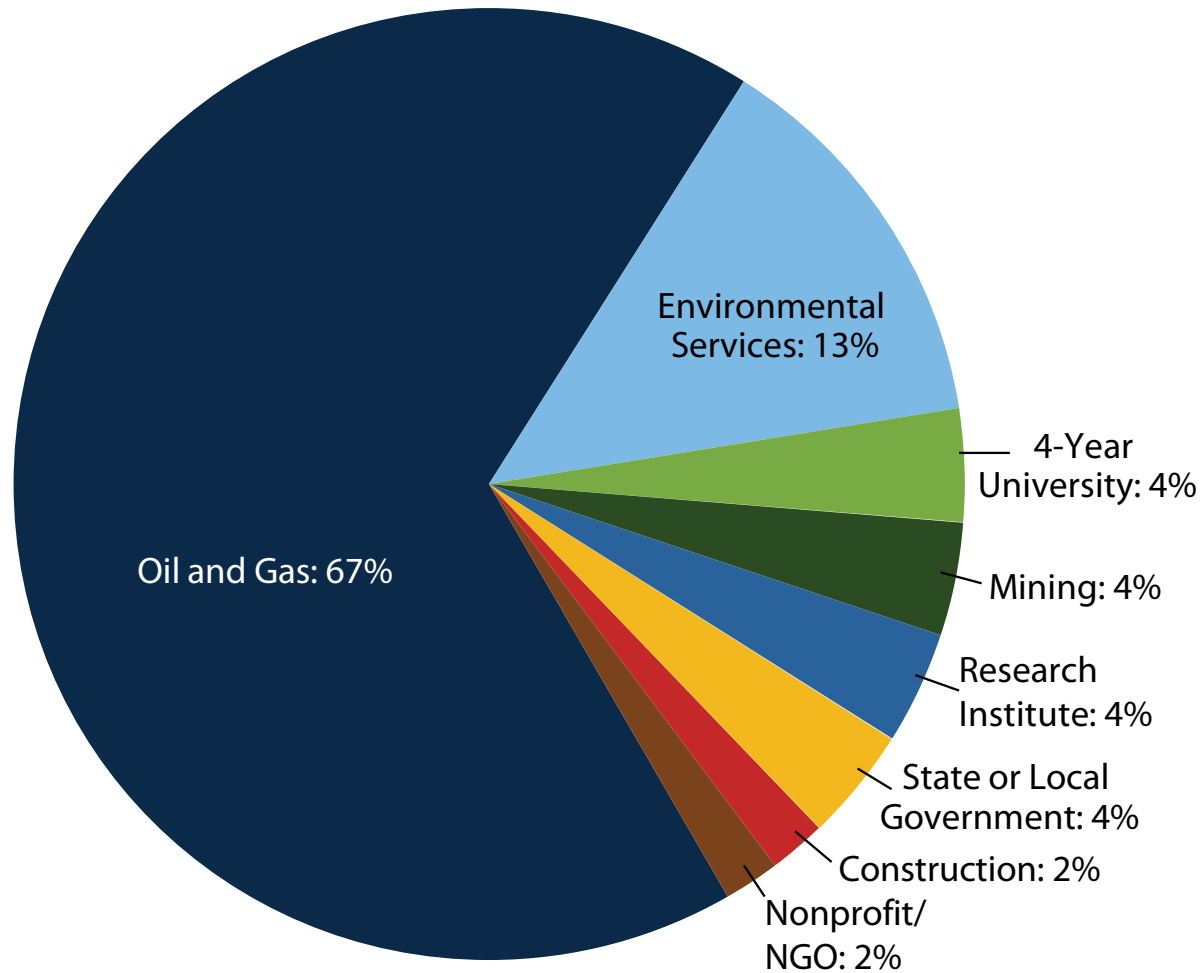
Bachelor's Grads' Accepted Positions (2015)

Graduates with a BA/BS



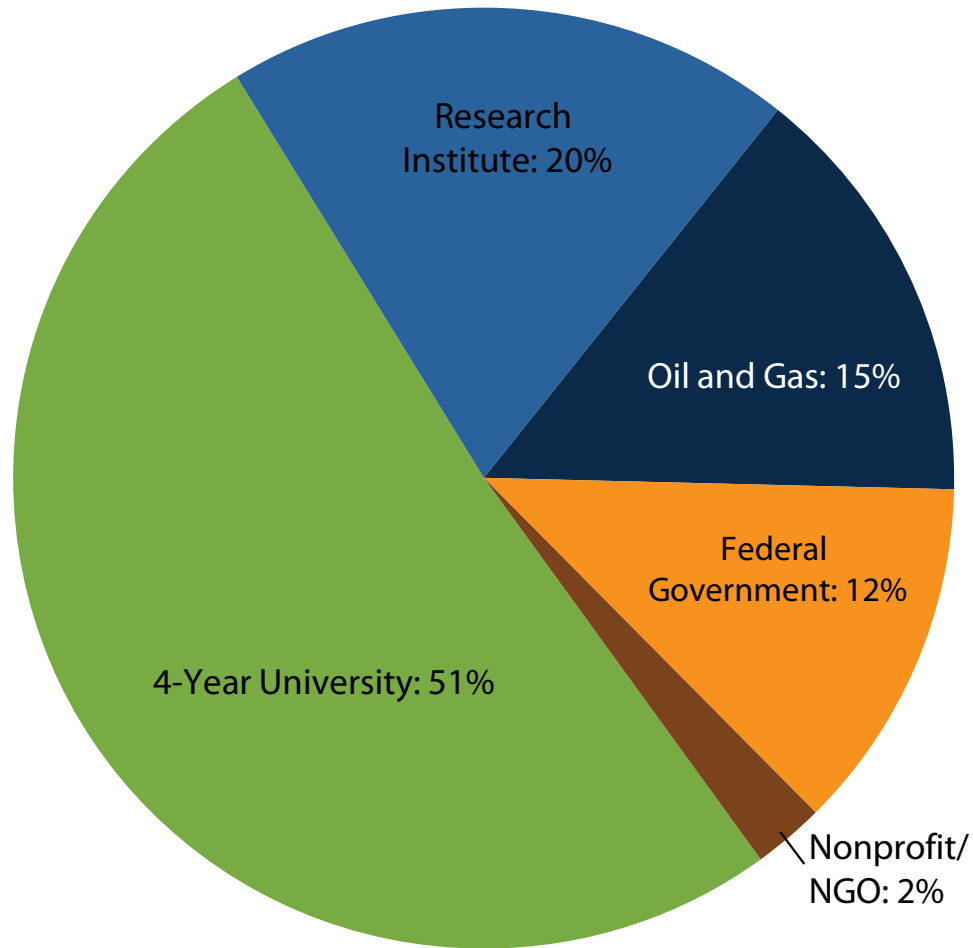
Master's Grads' Accepted Positions (2015)

Graduates with a MA/MS

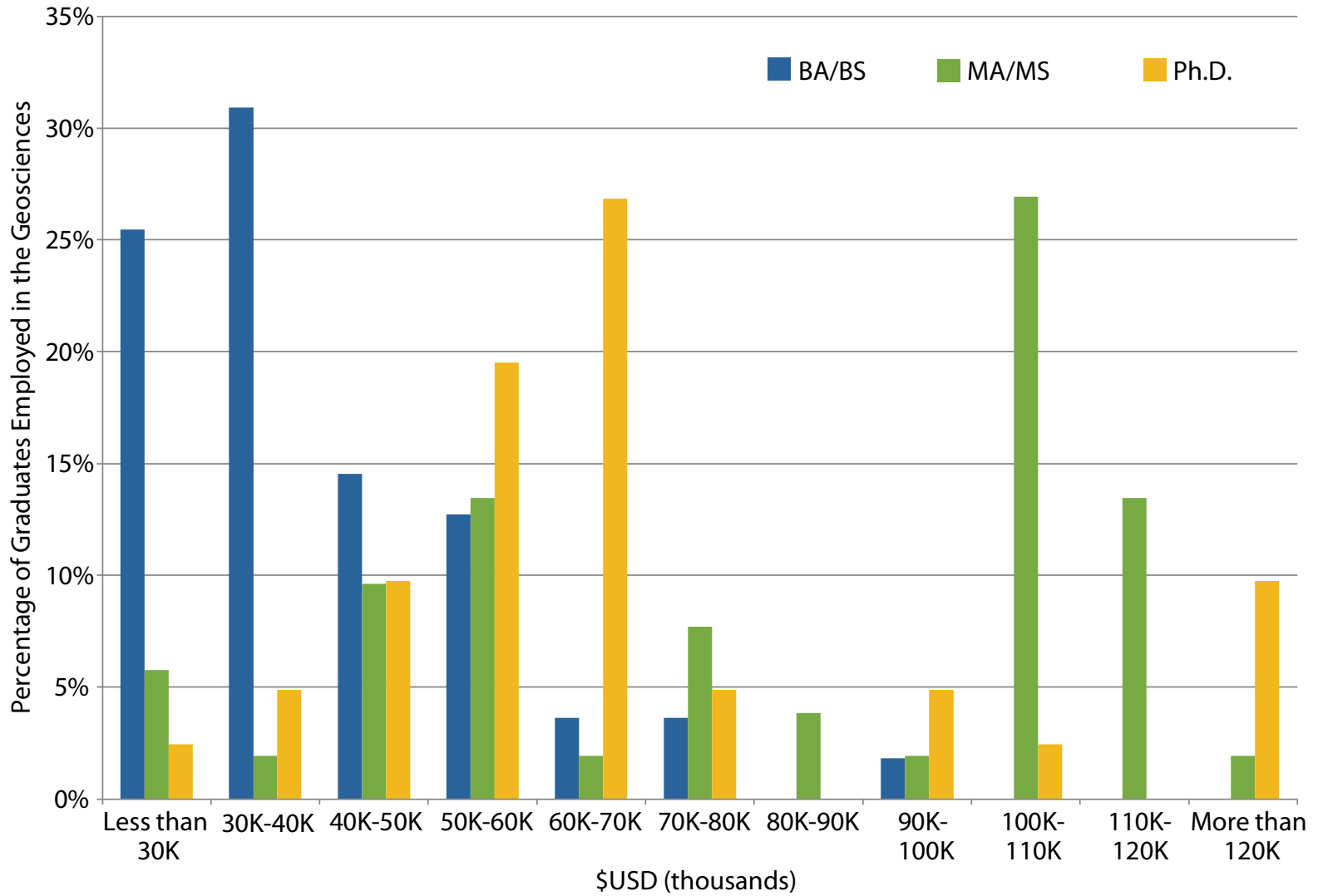


Doctoral Grads' Accepted Positions (2015)

Graduates with a Ph.D.

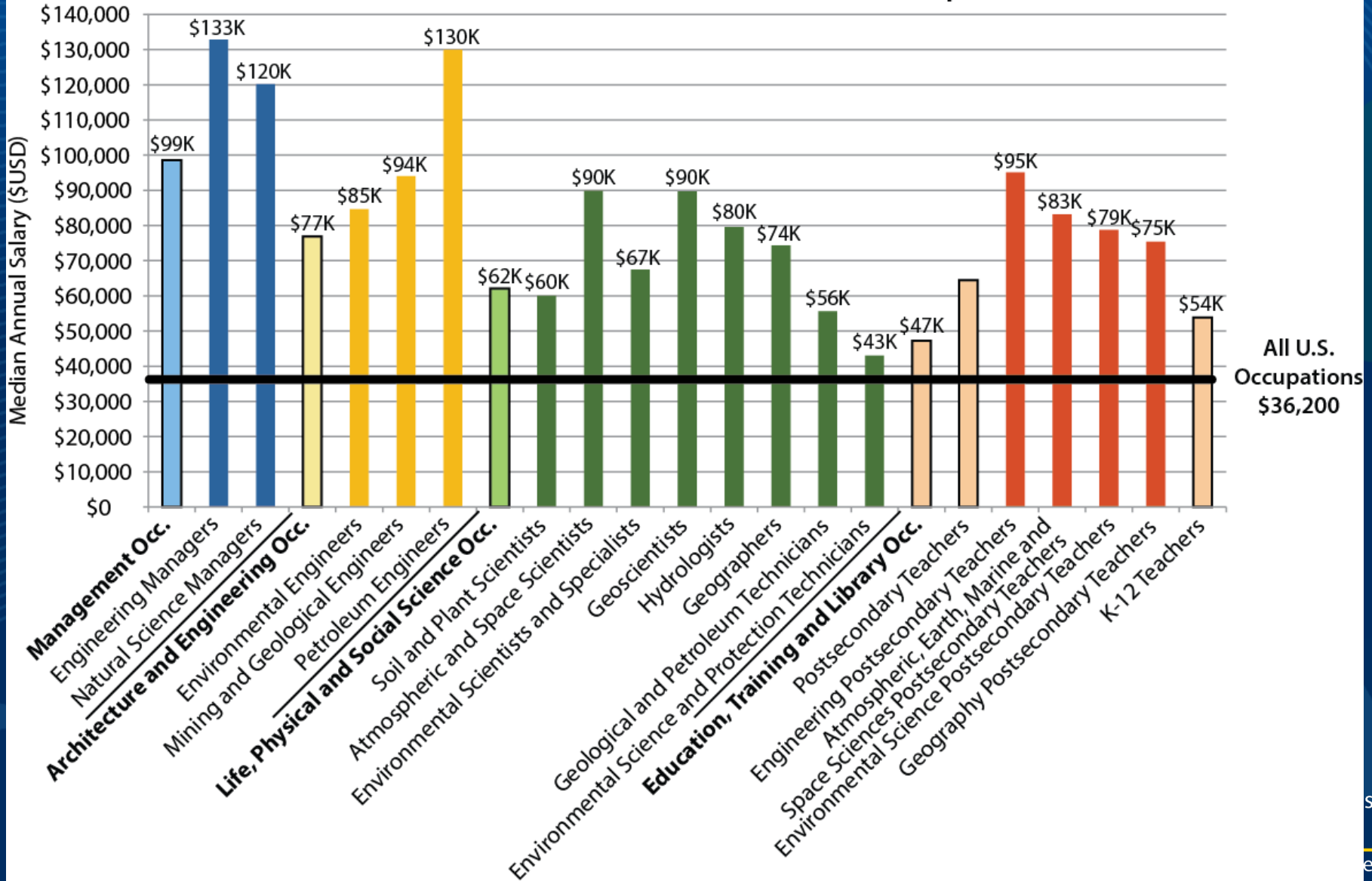


Starting Salaries of Geoscience Graduates (2015)



2015 Median Annual Salaries All Geoscience Occupations

2015 Median Annual Salaries for Geoscience-Related Occupations



Questions? Thank you!

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