

## AGI-AAG Geo Career MaPS: Geoscience Career Master's Preparation Survey Data Analysis

**NOTE:** Percentages shown in this report are different than the percentages in the original 'InterestingTrendsforAAGStats...'.xls file as the tables below do not include the Not Applicable/I don't know responses in their calculation.

### CAREER TYPE

**Asked to Faculty:** How often do your Master's advisees secure each of these types of positions post-graduation? (*faculty observations of student career paths*)

**Asked to Students:** How likely are you to consider the following career choices after completing your graduate program? (*student expectations/desires for career paths*)

**Ordinal Scale of Responses** (*Number in parentheses represents coded response used for data analysis*)

**Student Responses:** Not Likely (1); Somewhat Likely (2); Likely (3); Highly Likely (4)

**Faculty Responses:** Not Often (1); Somewhat Often (2); Often (3); Very Often (4)

**Statistical Test: Nonparametric Wilcoxon Test** (*aka the Mann-Whitney test; called Kruskal-Wallis for more than 2 categories/data factors*)

**NOTE:** Faculty and students were asked non-corresponding questions/categories concerning PhD enrollment and public sector careers. Due to this, no faculty-to-student statistical tests were performed for PhD enrollment or public sector careers, only comparisons within different faculty groups and within different student groups. See the results below for more details on this issue.

### 1) Career in a Non-Profit organization:

Comparisons **NOT** significantly different:

- a) Geography Faculty vs. Geography Students
- b) Geography Faculty vs. Hybrid Faculty
- c) Geography Students vs. Hybrid Students
- d) Geology Faculty vs. Geology Students
- e) Geology Students vs. Hybrid Students
- f) Hybrid Faculty vs. Hybrid Students

Comparisons **SIGNIFICANTLY** different:

#### g) Geography Faculty vs. Geology Faculty:

Response	Geog Faculty	Geol Faculty
Not Often	14.3%	47.7%
Somewhat Often	50.0%	40.9%
Often	30.4%	6.8%
Very Often	5.4%	4.5%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0002$

1-way Test, ChiSquare Approximation:  $p = 0.0001$

**h) Geography Students vs. Geology Students:**

Response	Geog Students	Geol Students
Not Likely	28.9%	48.4%
Somewhat Likely	23.7%	32.3%
Likely	23.7%	12.9%
Highly Likely	23.7%	6.5%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0190$

1-way Test, ChiSquare Approximation:  $p = 0.0187$

**i) Geology Faculty vs. Hybrid Faculty:**

Response	Geol Faculty	Hybrid Faculty
Not Often	14.3%	23.5%
Somewhat Often	50.0%	41.2%
Often	30.4%	17.6%
Very Often	5.4%	17.6%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0265$

1-way Test, ChiSquare Approximation:  $p = 0.0259$

**2) Career in K-12 Education**

Comparisons **NOT** significantly different:

- a) Geography Faculty vs. Geography Students
- b) Geography Faculty vs. Hybrid Faculty
- c) Geography Students vs. Hybrid Students
- d) Geology Faculty vs. Geology Students
- e) Geology Faculty vs. Hybrid Faculty
- f) Hybrid Faculty vs. Hybrid Students

Comparisons **SIGNIFICANTLY** different:

**g) Geography Faculty vs. Geology Faculty:**

Response	Geog Faculty	Geol Faculty
Not Often	73.5%	60.4%
Somewhat Often	24.5%	28.3%
Often	2.0%	11.3%
Very Often	0.0%	0.0%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0073$

1-way Test, ChiSquare Approximation:  $p = 0.0072$

**h) Geography Students vs. Geology Students:**

Response	Geog Students	Geol Students
Not Likely	78.9%	70.0%
Somewhat Likely	15.8%	16.7%
Likely	2.6%	3.3%
High Likely	2.6%	10.0%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0076$

1-way Test, ChiSquare Approximation:  $p = 0.0074$

**i) Geology Students vs. Hybrid Students:**

Response	Geol Students	Hybrid Students
Not Likely	70.0%	78.6%
Somewhat Likely	16.7%	14.3%
Likely	3.3%	3.6%
Highly Likely	10.0%	3.6%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0203$

1-way Test, ChiSquare Approximation:  $p = 0.0198$

**3) Faculty Position at a 2-year college**

Comparisons **NOT** significantly different:

- a) Geography Faculty vs. Geology Faculty
- b) Geography Faculty vs. Hybrid Faculty
- c) Geography Students vs. Geology Students

- d) Geology Faculty vs. Geology Students
- e) Geology Faculty vs. Hybrid Faculty
- f) Geology Students vs. Hybrid Students
- g) Hybrid Faculty vs. Hybrid Students

Comparisons **SIGNIFICANTLY** different:

**h) Geography Faculty vs. Geography Students:**

Response	Geog Faculty	Geog Students
Not Often/Not Likely	63.3%	36.8%
Somewhat Often/Somewhat Likely	34.7%	34.2%
Often/Likely	0.0%	15.8%
Very Often/Highly Likely	2.0%	13.2%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0018$

1-way Test, ChiSquare Approximation:  $p = 0.0018$

**i) Geography Students vs. Hybrid Students:**

Response	Geog Students	Hybrid Students
Not Likely	36.8%	71.4%
Somewhat Likely	34.2%	17.9%
Likely	15.8%	3.6%
Highly Likely	13.2%	7.1%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0078$

1-way Test, ChiSquare Approximation:  $p = 0.0077$

**4) Faculty Position at 4-year College or University**

Comparisons **NOT** significantly different:

- a) Geography Faculty vs. Geology Faculty
- b) Geography Faculty vs. Hybrid Faculty
- c) Geography Students vs. Geology Students
- d) Geology Faculty vs. Hybrid Faculty
- e) Geology Students vs. Hybrid Students
- f) Hybrid Faculty vs. Hybrid Students

Comparisons **SIGNIFICANTLY** different:

**g) Geography Faculty vs. Geography Students:**

Response	Geog Faculty	Geog Students
Not Often/Not Likely	86.0%	39.5%
Somewhat Often/Somewhat Likely	11.6%	28.9%
Often/Likely	2.3%	13.2%
Very Often/Highly Likely	0.0%	18.4%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p < 0.0001$

1-way Test, ChiSquare Approximation:  $p < 0.0001$

**h) Geography Students vs. Hybrid Students:**

Response	Geog Students	Hybrid Students
Not Likely	39.5%	64.3%
Somewhat Likely	28.9%	21.4%
Likely	13.2%	7.1%
Highly Likely	18.4%	7.1%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0384$

1-way Test, ChiSquare Approximation:  $p = 0.0378$

**i) Geology Faculty vs. Geology Students:**

Response	Geol Faculty	Geol Students
Not Often/Not Likely	95.0%	40.0%
Somewhat Often/Somewhat Likely	5.0%	36.7%
Often/Likely	0.0%	10.0%
Very Often/Highly Likely	0.0%	13.3%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p < 0.0001$

1-way Test, ChiSquare Approximation:  $p < 0.0001$

**5) Position with a Private Business/Career in the Private Sector**

Comparisons **NOT** significantly different:

- a) Geography Faculty vs. Hybrid Faculty
- b) Geography Students vs. Geology Students

- c) Geography Students vs. Hybrid Students
- d) Geology Faculty vs. Geology Students
- e) Geology Students vs. Hybrid Students
- f) Hybrid Faculty vs. Hybrid Students

Comparisons **SIGNIFICANTLY** different:

**g) Geography Faculty vs. Geography Students:**

Response	Geog Faculty	Geog Students
Not Often/Not Likely	3.6%	13.2%
Somewhat Often/Somewhat Likely	50.0%	15.8%
Often/Likely	35.7%	34.2%
Very Often/Highly Likely	10.7%	36.8%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0153$

1-way Test, ChiSquare Approximation:  $p = 0.0151$

**h) Geography Faculty vs. Geology Faculty:**

Response	Geog Faculty	Geol Faculty
Not Often	3.6%	1.8%
Somewhat Often	50.0%	12.3%
Often	35.7%	36.8%
Very Often	10.7%	49.1%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p < 0.0001$

1-way Test, ChiSquare Approximation:  $p < 0.0001$

**i) Geology Faculty vs. Hybrid Faculty:**

Response	Geol Faculty	Hybrid Faculty
Not Often	1.8%	5.6%
Somewhat Often	12.3%	33.3%
Often	36.8%	38.9%
Very Often	49.1%	22.2%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0144$

1-way Test, ChiSquare Approximation:  $p = 0.0141$

## 6) Self-Employment

Comparisons **NOT** significantly different:

- a) Geography Faculty vs. Geology Faculty
- b) Geography Faculty vs. Hybrid Faculty
- c) Geography Students vs. Geology Students
- d) Geography Students vs. Hybrid Students
- e) Geology Faculty vs. Geology Students
- f) Geology Faculty vs. Hybrid Faculty
- g) Geology Students vs. Hybrid Students
- h) Hybrid Faculty vs. Hybrid Students

Comparisons **SIGNIFICANTLY** different:

### i) Geography Faculty vs. Geography Students:

Response	Geog Faculty	Geog Students
Not Often/Not Likely	68.8%	44.4%
Somewhat Often/Somewhat Likely	29.2%	36.1%
Often/Likely	2.1%	11.1%
Very Often/Highly Likely	0.0%	8.3%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0089$

1-way Test, ChiSquare Approximation:  $p = 0.0088$

## 7) Enrollment in a PhD Program/Doctoral Degree in...

- Faculty were asked 1 question stated as “enrollment in a PhD program”.
- Students were asked 2 questions stated as “doctoral degree in geology/geography/related field” and “doctoral degree outside geology/geography/related field”
- Due to the differing number of questions and question content, faculty-to-student comparisons cannot be logically made (i.e. we cannot combine the student responses from the 2 questions as we would be doubling our sample size but doing so by representing each student response twice)

### Enrollment in a PhD program (Faculty Question)

Comparisons **NOT** significantly different:

- a) Geography Faculty vs. Geology Faculty
- b) Geography Faculty vs. Hybrid Faculty
- c) Geology Faculty vs. Hybrid Faculty

### **Doctoral degree in geology/geography/related field (Student Question)**

Comparisons **NOT** significantly different:

- a) Geography Students vs. Geology Students
- b) Geography Students vs. Hybrid Students
- c) Geology Students vs. Hybrid Students

### **Doctoral degree outside geology/geography/related field (Student Question)**

Comparisons **NOT** significantly different:

- a) Geography Students vs. Geology Students (*close to sig.;  $p = 0.0592$* )
- b) Geology Students vs. Hybrid Students

Comparisons **SIGNIFICANTLY** different:

#### **c) Geography Students vs. Hybrid Students**

Response	Geog Students	Hybrid Students
Not Likely	62.9%	89.3%
Somewhat Likely	28.6%	7.1%
Likely	5.7%	3.6%
Highly Likely	2.9%	0.0%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0203$

1-way Test, ChiSquare Approximation:  $p = 0.0199$

## **8) Public Sector**

- Faculty were asked 3 questions stated as “a position with a federal government agency or department”, “position with a state or local government agency or department”, and “position with a tribal government or business.”
- Students were asked 1 question stated as “a career in a federal, state, local, or tribal government organization”
- Due to the differing number of questions and question content, faculty-to-student comparisons cannot be logically made (i.e. we cannot combine the faculty responses from the 3 questions as we would be tripling our sample size but doing so by representing each faculty response three times)

### **Career in a federal, state, local, or tribal government org. (Student Question)**

Comparisons **NOT** significantly different:

- a) Geography Students vs. Geology Students
- b) Geography Students vs. Hybrid Students
- c) Geology Students vs. Hybrid Students



**Position with a federal government agency or department (Faculty Question)**

Comparisons **NOT** significantly different:

- a) Geography Faculty vs. Hybrid Faculty

Comparisons **SIGNIFICANTLY** different:

**b) Geography Faculty vs. Geology Faculty:**

Response	Geog Faculty	Geol Faculty
Not Often	1.7%	44.4%
Somewhat Often	50.0%	42.6%
Often	32.8%	9.3%
Very Often	15.5%	3.7%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p < 0.0001$

1-way Test, ChiSquare Approximation:  $p < 0.0001$

**c) Geology Faculty vs. Hybrid Faculty:**

Response	Geol Faculty	Hybrid Faculty
Not Often	44.4%	17.6%
Somewhat Often	42.6%	29.4%
Often	9.3%	47.1%
Very Often	3.7%	5.9%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0035$

1-way Test, ChiSquare Approximation:  $p = 0.0034$

**Position with a state or local government agency or department (Faculty Question)**

Comparisons **NOT** significantly different:

- a) Geography Faculty vs. Hybrid Faculty

Comparisons **SIGNIFICANTLY** different:

**b) Geography Faculty vs. Geology Faculty:**

Response	Geog Faculty	Geol Faculty
Not Often	1.7%	20.0%
Somewhat Often	37.9%	49.1%
Often	36.2%	23.6%
Very Often	24.1%	7.3%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0001$

1-way Test, ChiSquare Approximation:  $p = 0.0001$

**c) Geology Faculty vs. Hybrid Faculty:**

Response	Geol Faculty	Hybrid Faculty
Not Often	20.0%	0.0%
Somewhat Often	49.1%	23.5%
Often	23.6%	64.7%
Very Often	7.3%	11.8%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0014$

1-way Test, ChiSquare Approximation:  $p = 0.0014$

**Position with a tribal government or business (Faculty Question)**

Comparisons **NOT** significantly different:

- a) Geography Faculty vs. Geology Faculty
- b) Geography Faculty vs. Hybrid Faculty
- c) Geology Faculty vs. Hybrid Faculty

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**CAREER OUTSIDE OF GEOLOGY/GEOGRAPHY**

**Asked to Students:** How likely are you to consider the following career choices after completing your graduate program? - Specific item being “a career outside of a geology/geography related field.”

**Ordinal Scale of Responses** (*Number in parentheses represents coded response used for data analysis*): Not Likely (1); Somewhat Likely (2); Likely (3); Highly Likely (4)

**Statistical Test: Nonparametric Wilcoxon Test** (*aka the Mann-Whitney test; called Kruskal-Wallis for more than 2 categories/data factors*)

Comparisons **NOT** significantly different:

- a) Geography Students vs. Hybrid Students
- b) Geology Students vs. Hybrid Students

Comparisons **SIGNIFICANTLY** different:

**c) Geography Students vs Geology Students:**

Response	Geog Students	Geol Students
Not Likely	35.1%	66.7%
Somewhat Likely	40.5%	25.9%

Likely	16.2%	3.7%
Highly Likely	8.1%	3.7%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0109$

1-way Test, ChiSquare Approximation:  $p = 0.0107$

## PROGRAM SATISFACTION

**Asked to Faculty:** Rate your level of satisfaction with the following aspects of the Master's degree program in your department.

**Asked to Students:** How satisfied are you with the following aspects of your Master's degree program?

**Ordinal Scale of Responses** (*Number in parentheses represents coded response used for data analysis*)

**Faculty & Student Responses:** Not Satisfied (1); Somewhat Satisfied (2); Satisfied (3); Very Satisfied (4)

**22 Aspects Surveyed**

**Statistical Test: Nonparametric Wilcoxon Test** (*aka the Mann-Whitney test; called Kruskal-Wallis for more than 2 categories/data factors*)

### 1) Core Curriculum Courses

Comparisons **NOT** significantly different:

- a) Geography Faculty vs. Geography Students
- b) Hybrid Faculty vs. Hybrid Students

Comparisons **SIGNIFICANTLY** different:

#### c) Geology Faculty vs. Geology Students

Response	Geol Faculty	Geol Students
Not Satisfied	9.3%	16.1%
Somewhat Satisfied	24.1%	45.2%
Satisfied	48.1%	29.0%
Very Satisfied	18.5%	9.7%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0220$

1-way Test, ChiSquare Approximation:  $p = 0.0218$

## 2) Elective Course Offerings

Comparisons **NOT** significantly different:

- a) Geography Faculty vs. Geography Students
- b) Hybrid Faculty vs. Hybrid Students

Comparisons **SIGNIFICANTLY** different:

### c) Geology Faculty vs. Geology Students

Response	Geol Faculty	Geol Students
Not Satisfied	12.1%	30.0%
Somewhat Satisfied	36.2%	46.7%
Satisfied	43.1%	20.0%
Very Satisfied	8.6%	3.3%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0059$

1-way Test, ChiSquare Approximation:  $p = 0.0058$

## 3) Relevance of Coursework to Graduate Students' Career Aspirations

Comparisons **NOT** significantly different:

- a) Geography Faculty vs. Geography Students
- b) Hybrid Faculty vs. Hybrid Students

Comparisons **SIGNIFICANTLY** different:

### c) Geology Faculty vs. Geology Students

Response	Geol Faculty	Geol Students
Not Satisfied	1.7%	12.9%
Somewhat Satisfied	31.0%	38.7%
Satisfied	43.1%	41.9%
Very Satisfied	24.1%	6.5%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0149$

1-way Test, ChiSquare Approximation:  $p = 0.0147$

## 4) Overall Quality of Instruction

Comparisons **NOT** significantly different:

- a) Hybrid Faculty vs. Hybrid Students

Comparisons **SIGNIFICANTLY** different:

**b) Geology Faculty vs. Geology Students**

Response	Geol Faculty	Geol Students
Not Satisfied	0.0%	3.3%
Somewhat Satisfied	10.3%	26.7%
Satisfied	44.8%	40.0%
Very Satisfied	44.8%	30.0%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0428$

1-way Test, ChiSquare Approximation:  $p = 0.0423$

**c) Geography Faculty vs. Geography Students**

Response	Geog Faculty	Geog Students
Not Satisfied	0.0%	12.8%
Somewhat Satisfied	13.6%	15.4%
Satisfied	50.8%	53.8%
Very Satisfied	35.6%	17.9%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0204$

1-way Test, ChiSquare Approximation:  $p = 0.0202$

**5) Career Counseling and Advising for Graduate Students**

Comparisons **NOT** significantly different:

- a) Geology Faculty vs. Geology Students
- b) Hybrid Faculty vs. Hybrid Students

Comparisons **SIGNIFICANTLY** different:

**c) Geography Faculty vs. Geography Students**

Response	Geog Faculty	Geog Students
Not Satisfied	15.5%	32.4%
Somewhat Satisfied	41.4%	35.1%
Satisfied	25.9%	27.0%
Very Satisfied	17.2%	5.4%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0253$

1-way Test, ChiSquare Approximation:  $p = 0.0251$

## 6) Accommodating Graduate Students' Family Responsibilities

Comparisons **NOT** significantly different:

- a) Geology Faculty vs. Geology Students
- b) Geography Faculty vs. Geography Students
- c) Hybrid Faculty vs. Hybrid Students

## 7) Financial Aid Support for Graduate Students

Comparisons **NOT** significantly different:

- a) Geology Faculty vs. Geology Students
- b) Geography Faculty vs. Geography Students

Comparisons **SIGNIFICANTLY** different:

- c) Hybrid Faculty vs. Hybrid Students

Response	Hybrid Faculty	Hybrid Students
Not Satisfied	61.1%	12.5%
Somewhat Satisfied	5.6%	37.5%
Satisfied	22.2%	25.0%
Very Satisfied	11.1%	25.0%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0016$

1-way Test, ChiSquare Approximation:  $p = 0.0016$

## 8) Amount of Contact Graduate Students have with Faculty

Comparisons **NOT** significantly different:

- a) Geology Faculty vs. Geology Students
- b) Geography Faculty vs. Geography Students
- c) Hybrid Faculty vs. Hybrid Students

## 9) Job opportunities or internships available within the department for graduate students

Comparisons **NOT** significantly different:

- a) Geology Faculty vs. Geology Students
- b) Geography Faculty vs. Geography Students

Comparisons **SIGNIFICANTLY** different:

**c) Hybrid Faculty vs. Hybrid Students**

Response	Hybrid Faculty	Hybrid Students
Not Satisfied	33.3%	9.1%
Somewhat Satisfied	22.2%	40.9%
Satisfied	38.9%	36.4%
Very Satisfied	5.6%	13.6%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0424$

1-way Test, ChiSquare Approximation:  $p = 0.0410$

**10) Job opportunities or internships available outside of the department for graduate students**

Comparisons **NOT** significantly different:

- a) Geology Faculty vs. Geology Students
- b) Geography Faculty vs. Geography Students
- c) Hybrid Faculty vs. Hybrid Students

**11) Research opportunities available within the department for graduate students**

Comparisons **NOT** significantly different:

- a) Geology Faculty vs. Geology Students
- b) Geography Faculty vs. Geography Students
- c) Hybrid Faculty vs. Hybrid Students

**12) Training in research methods for graduate students**

Comparisons **NOT** significantly different:

- a) Geology Faculty vs. Geology Students
- b) Geography Faculty vs. Geography Students
- c) Hybrid Faculty vs. Hybrid Students

**13) Teaching opportunities for graduate students**

Comparisons **NOT** significantly different:

- a) Geology Faculty vs. Geology Students
- b) Geography Faculty vs. Geography Students
- c) Hybrid Faculty vs. Hybrid Students

#### 14) Training in teaching methods for graduate students

Comparisons **NOT** significantly different:

- a) Geology Faculty vs. Geology Students
- b) Geography Faculty vs. Geography Students
- c) Hybrid Faculty vs. Hybrid Students

#### 15) Preparation of graduate students for future careers

Comparisons **NOT** significantly different:

- a) Geography Faculty vs. Geography Students

Comparisons **SIGNIFICANTLY** different:

##### b) Geology Faculty vs. Geology Students

Response	Geol Faculty	Geol Students
Not Satisfied	1.7%	23.3%
Somewhat Satisfied	29.3%	33.3%
Satisfied	46.6%	43.3%
Very Satisfied	22.4%	0.0%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0007$

1-way Test, ChiSquare Approximation:  $p = 0.0006$

##### c) Hybrid Faculty vs. Hybrid Students

Response	Hybrid Faculty	Hybrid Students
Not Satisfied	0.0%	25.0%
Somewhat Satisfied	50.0%	21.4%
Satisfied	33.3%	39.3%
Very Satisfied	16.7%	14.3%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0345$

1-way Test, ChiSquare Approximation:  $p = 0.0335$



## 16) Overall academic experience for graduate students

Comparisons **NOT** significantly different:

- a) Geography Faculty vs. Geography Students
- b) Hybrid Faculty vs. Hybrid Students

Comparisons **SIGNIFICANTLY** different:

### c) Geology Faculty vs. Geology Students

Response	Geol Faculty	Geol Students
Not Satisfied	0.0%	13.3%
Somewhat Satisfied	22.4%	36.7%
Satisfied	63.8%	40.0%
Very Satisfied	13.8%	10.0%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0114$

1-way Test, ChiSquare Approximation:  $p = 0.0112$

## 17) Competency of graduate students

Comparisons **NOT** significantly different:

- a) Geology Faculty vs. Geology Students
- b) Geography Faculty vs. Geography Students
- c) Hybrid Faculty vs. Hybrid Students

## 18) Opportunity for graduate students to develop new ideas

Comparisons **NOT** significantly different:

- a) Geology Faculty vs. Geology Students
- b) Hybrid Faculty vs. Hybrid Students

Comparisons **SIGNIFICANTLY** different:

### c) Geography Faculty vs. Geography Students

Response	Geog Faculty	Geog Students
Not Satisfied	3.4%	10.5%
Somewhat Satisfied	22.0%	15.8%
Satisfied	45.8%	57.9%
Very Satisfied	28.8%	15.8%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0375$

1-way Test, ChiSquare Approximation:  $p = 0.0372$

## 19) Quality of academic mentoring and advising for graduate students

Comparisons **NOT** significantly different:

- a) Geography Faculty vs. Geography Students
- b) Hybrid Faculty vs. Hybrid Students

Comparisons **SIGNIFICANTLY** different:

### c) Geology Faculty vs. Geology Students

Response	Geol Faculty	Geol Students
Not Satisfied	3.4%	19.4%
Somewhat Satisfied	19.0%	22.6%
Satisfied	50.0%	41.9%
Very Satisfied	27.6%	16.1%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0321$

1-way Test, ChiSquare Approximation:  $p = 0.0317$

## 20) Quality of work space

Comparisons **NOT** significantly different:

- a) Geology Faculty vs. Geology Students
- b) Geography Faculty vs. Geography Students
- c) Hybrid Faculty vs. Hybrid Students

## 21) Quality of computer lab facilities

Comparisons **NOT** significantly different:

- Geology Faculty vs. Geology Students
- Geography Faculty vs. Geography Students
- Hybrid Faculty vs. Hybrid Students

## 22) Quality of research lab facilities

Comparisons **NOT** significantly different:

- a) Geology Faculty vs. Geology Students
- b) Geography Faculty vs. Geography Students

Comparisons **SIGNIFICANTLY** different:

c) Hybrid Faculty vs. Hybrid Students

Response	Hybrid Faculty	Hybrid Students
Not Satisfied	33.3%	5.0%
Somewhat Satisfied	27.8%	35.0%
Satisfied	38.9%	25.0%
Very Satisfied	0.0%	35.0%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0015$

1-way Test, ChiSquare Approximation:  $p = 0.0014$

## INFLUENCES ON GRADUATE SCHOOL ENROLLMENT

**Asked to Students:** How important were the following factors in your decision to enroll in your current graduate program?

**Ordinal Scale of Responses** (*Number in parentheses represents coded response used for data analysis*)

**Student Responses:** Not Important (1); Somewhat Important (2); Important (3); Very Important (4)

**23 Factors Surveyed**

**Statistical Test: Nonparametric Wilcoxon Test** (*aka the Mann-Whitney test; called Kruskal-Wallis for more than 2 categories/data factors*)

### 1) My family wanted me to enroll

Comparisons **NOT** significantly different:

- a) Geology Students vs. Geography Students
- b) Geology Students vs. Hybrid Students
- c) Geography Students vs. Hybrid Students

### 2) My mentor/role model encouraged me to enroll

Comparisons **NOT** significantly different:

- a) Geology Students vs. Geography Students
- b) Geology Students vs. Hybrid Students
- c) Geography Students vs. Hybrid Students

### **3) I could not find a job**

Comparisons **NOT** significantly different:

- a) Geology Students vs. Geography Students
- b) Geology Students vs. Hybrid Students
- c) Geography Students vs. Hybrid Students

### **4) To prepare for a better job**

Comparisons **NOT** significantly different:

- a) Geology Students vs. Geography Students
- b) Geology Students vs. Hybrid Students
- c) Geography Students vs. Hybrid Students

### **5) To change my career path**

Comparisons **NOT** significantly different:

- a) Geology Students vs. Geography Students
- b) Geology Students vs. Hybrid Students
- c) Geography Students vs. Hybrid Students

### **6) To increase my earnings (salary) potential**

Comparisons **NOT** significantly different:

- a) Geology Students vs. Geography Students
- b) Geology Students vs. Hybrid Students
- c) Geography Students vs. Hybrid Students

### **7) To gain more education and appreciation of ideas**

Comparisons **NOT** significantly different:

- a) Geology Students vs. Geography Students
- b) Geology Students vs. Hybrid Students
- c) Geography Students vs. Hybrid Students

### **8) Opportunities to conduct research**

Comparisons **NOT** significantly different:

- a) Geology Students vs. Geography Students
- b) Geology Students vs. Hybrid Students
- c) Geography Students vs. Hybrid Students

## **9) Intellectual challenge**

Comparisons **NOT** significantly different:

- a) Geology Students vs. Geography Students
- b) Geology Students vs. Hybrid Students
- c) Geography Students vs. Hybrid Students

## **10) Opportunities to teach**

Comparisons **NOT** significantly different:

- a) Geology Students vs. Geography Students
- b) Geology Students vs. Hybrid Students
- c) Geography Students vs. Hybrid Students

## **11) The academic reputation of the program**

Comparisons **NOT** significantly different:

- a) Geology Students vs. Geography Students
- b) Geology Students vs. Hybrid Students
- c) Geography Students vs. Hybrid Students

## **12) The reputation of this program's faculty**

Comparisons **NOT** significantly different:

- a) Geology Students vs. Geography Students
- b) Geology Students vs. Hybrid Students
- c) Geography Students vs. Hybrid Students:

## **13) The reputation of this program's alumni**

Comparisons **NOT** significantly different:

- a) Geology Students vs. Geography Students
- b) Geology Students vs. Hybrid Students
- c) Geography Students vs. Hybrid Students

## **14) This program's graduates get good jobs**

Comparisons **NOT** significantly different:

- a) Geology Students vs. Geography Students
- b) Geology Students vs. Hybrid Students

- c) Geography Students vs. Hybrid Students

**15) This institution has affordable tuition**

Comparisons **NOT** significantly different:

- a) Geology Students vs. Geography Students
- b) Geology Students vs. Hybrid Students
- c) Geography Students vs. Hybrid Students

**16) I was not accepted anywhere else**

Comparisons **NOT** significantly different:

- a) Geology Students vs. Geography Students
- b) Geology Students vs. Hybrid Students
- c) Geography Students vs. Hybrid Students

**17) I was not offered financial aid by my first-choice program**

Comparisons **NOT** significantly different:

- a) Geology Students vs. Geography Students
- b) Geology Students vs. Hybrid Students
- c) Geography Students vs. Hybrid Students

**18) I was offered financial assistance**

Comparisons **NOT** significantly different:

- a) Geology Students vs. Geography Students
- b) Geology Students vs. Hybrid Students
- c) Geography Students vs. Hybrid Students

**19) This program includes specializations that match my research interests**

Comparisons **NOT** significantly different:

- a) Geology Students vs. Geography Students
- b) Geology Students vs. Hybrid Students
- c) Geography Students vs. Hybrid Students

**20) I was recruited by this program**

Comparisons **NOT** significantly different:

- a) Geology Students vs. Geography Students

- b) Geology Students vs. Hybrid Students
- c) Geography Students vs. Hybrid Students

**21) This program seemed to be the best match for my career goals**

Comparisons **NOT** significantly different:

- a) Geology Students vs. Geography Students
- b) Geology Students vs. Hybrid Students
- c) Geography Students vs. Hybrid Students

**22) Ranking of this graduate program in national publications**

Comparisons **NOT** significantly different:

- a) Geology Students vs. Geography Students
- b) Geology Students vs. Hybrid Students
- c) Geography Students vs. Hybrid Students

**23) A faculty member from this program encouraged me to enroll**

Comparisons **NOT** significantly different:

- a) Geology Students vs. Geography Students
- b) Geology Students vs. Hybrid Students
- c) Geography Students vs. Hybrid Students

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**CAREER GOAL INFLUENCES**

**Asked to Students:** To what extent has each of the following individuals, resources, or experiences influenced your #1 career goal (as previously cited)?

**Ordinal Scale of Responses** (*Number in parentheses represents coded response used for data analysis*)

**Student Responses:** Not Influential (1); Somewhat Influential (2); Influential (3); Very Influential (4)

**20 Items Surveyed**

**Statistical Test: Nonparametric Wilcoxon Test** (*aka the Mann-Whitney test; called Kruskal-Wallis for more than 2 categories/data factors*)

**1) Research advisor (one who guides your research and thesis)**

Comparisons **NOT** significantly different:

- a) Geology Students vs. Geography Students

- b) Geology Students vs. Hybrid Students
- c) Geography Students vs. Hybrid Students

**2) Academic advisor or counselor (one who helps with classes and scheduling)**

Comparisons **NOT** significantly different:

- a) Geology Students vs. Geography Students
- b) Geology Students vs. Hybrid Students
- c) Geography Students vs. Hybrid Students

**3) Other faculty in the department**

Comparisons **NOT** significantly different:

- a) Geology Students vs. Geography Students
- b) Geology Students vs. Hybrid Students
- c) Geography Students vs. Hybrid Students

**4) Faculty at other institutions**

Comparisons **NOT** significantly different:

- a) Geology Students vs. Geography Students
- b) Geology Students vs. Hybrid Students
- c) Geography Students vs. Hybrid Students

**5) Campus administrator**

Comparisons **NOT** significantly different:

- a) Geology Students vs. Geography Students
- b) Geology Students vs. Hybrid Students
- c) Geography Students vs. Hybrid Students

**6) Spouse or partner**

Comparisons **NOT** significantly different:

- a) Geology Students vs. Geography Students
- b) Geology Students vs. Hybrid Students
- c) Geography Students vs. Hybrid Students

**7) Other family member**

Comparisons **NOT** significantly different:



- a) Geology Students vs. Geography Students
- b) Geology Students vs. Hybrid Students
- c) Geography Students vs. Hybrid Students

## 8) Graduate student in the department

Comparisons **NOT** significantly different:

- a) Geology Students vs. Geography Students
- b) Geology Students vs. Hybrid Students
- c) Geography Students vs. Hybrid Students

## 9) Other peer

Comparisons **NOT** significantly different:

- a) Geology Students vs. Geography Students
- b) Geology Students vs. Hybrid Students
- c) Geography Students vs. Hybrid Students

## 10) Geoscientific professional society (e.g. AAG, AGU, GSA, AIPG, etc.)

Comparisons **NOT** significantly different:

- a) Geology Students vs. Hybrid Students

Comparisons **SIGNIFICANTLY** different:

### b) Geology Students vs. Geography Students

Response	Geol Students	Geog Students
Not Influential	31.0%	62.2%
Somewhat Influential	51.7%	27.0%
Influential	10.3%	10.8%
Very Influential	6.9%	0.0%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0190$

1-way Test, ChiSquare Approximation:  $p = 0.0186$

### c) Geography Students vs. Hybrid Students

Response	Geog Students	Hybrid Students
Not Influential	62.2%	32.0%
Somewhat Influential	27.0%	44.0%
Influential	10.8%	20.0%
Very Influential	0.0%	4.0%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0182$

1-way Test, ChiSquare Approximation:  $p = 0.0188$

### 11) Other (non-geoscience) professional society

Comparisons **NOT** significantly different:

- a) Geology Students vs. Geography Students
- b) Geology Students vs. Hybrid Students
- c) Geography Students vs. Hybrid Students

### 12) Professional journals, books and/or articles

Comparisons **NOT** significantly different:

- a) Geology Students vs. Geography Students
- b) Geology Students vs. Hybrid Students
- c) Geography Students vs. Hybrid Students

### 13) Internship experience

Comparisons **NOT** significantly different:

- a) Geology Students vs. Geography Students
- b) Geology Students vs. Hybrid Students
- c) Geography Students vs. Hybrid Students

### 14) Professional conference

Comparisons **NOT** significantly different:

- a) Geology Students vs. Geography Students
- b) Geography Students vs. Hybrid Students

Comparisons **SIGNIFICANTLY** different:

- c) **Geology Students vs. Hybrid Students**

Response	Geol Students	Hybrid Students
Not Influential	59.3%	33.3%
Somewhat Influential	25.9%	20.8%
Influential	11.1%	25.0%
Very Influential	3.7%	20.8%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0188$

1-way Test, ChiSquare Approximation:  $p = 0.0183$

### 15) Former employer

Comparisons **NOT** significantly different:

- a) Geology Students vs. Geography Students
- b) Geography Students vs. Hybrid Students

Comparisons **SIGNIFICANTLY** different:

#### c) Geology Students vs. Hybrid Students

Response	Geol Students	Hybrid Students
Not Influential	65.4%	34.8%
Somewhat Influential	15.4%	21.7%
Influential	3.8%	21.7%
Very Influential	15.4%	21.7%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0484$

1-way Test, ChiSquare Approximation:  $p = 0.0472$

### 16) Current employer

Comparisons **NOT** significantly different:

- a) Geology Students vs. Geography Students
- b) Geography Students vs. Hybrid Students

Comparisons **SIGNIFICANTLY** different:

#### c) Geology Students vs. Hybrid Students

Response	Geol Students	Hybrid Students
Not Influential	65.2%	33.3%
Somewhat Influential	13.0%	22.2%
Influential	8.7%	25.9%
Very Influential	13.0%	18.5%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0456$

1-way Test, ChiSquare Approximation:  $p = 0.0445$

### 17) Former co-worker

Comparisons **NOT** significantly different:

- a) Geology Students vs. Geography Students
- b) Geology Students vs. Hybrid Students
- c) Geography Students vs. Hybrid Students

#### 18) Current co-worker

Comparisons **NOT** significantly different:

- a) Geology Students vs. Geography Students
- b) Geography Students vs. Hybrid Students

Comparisons **SIGNIFICANTLY** different:

- c) **Geology Students vs. Hybrid Students**

Response	Geol Students	Hybrid Students
Not Influential	72.7%	38.5%
Somewhat Influential	9.1%	19.2%
Influential	13.6%	30.8%
Very Influential	4.5%	11.5%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0242$

1-way Test, ChiSquare Approximation:  $p = 0.0235$

#### 19) Professional contact or associate

Comparisons **NOT** significantly different:

- a) Geology Students vs. Geography Students
- b) Geology Students vs. Hybrid Students
- c) Geography Students vs. Hybrid Students

#### 20) Undergraduate courses and experiences

Comparisons **NOT** significantly different:

- a) Geology Students vs. Geography Students
- b) Geology Students vs. Hybrid Students
- c) Geography Students vs. Hybrid Students

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### SOFT SKILLS

**Asked to Faculty:** How prepared are your Master's advisees in each of the following skill areas for post-graduation employment in geology-related positions?

**Asked to Students:** How much preparation have you received in the following skill areas for post-graduation geoscience employment?

**Asked to Non-Academic Professionals:**

- 1) **Preparedness:** How prepared are you in each of these skill areas for employment in your current position?
- 2) **Importance:** Now that you've indicated how prepared you feel for each of these items, please indicate how important each skill area is for employment in your current position.

**Ordinal Scale of Responses** (*Number in parentheses represents coded response used for data analysis*)

**Faculty & Non-Academic Professional Question #1 Responses:** Not Prepared (1); Somewhat Prepared (2); Adequately Prepared (3); Extensively Prepared (4)

**Student Responses:** No Preparation (1); Some Preparation (2); Adequate Preparation (3); Extensive Preparation (4)

**Non-Academic Professional Question #2 Responses:** Not Important (1); Somewhat Important (2); Important (3); Very Important (4)

## **28 Skills Surveyed**

**Statistical Test: Nonparametric Wilcoxon Test** (*aka the Mann-Whitney test; called Kruskal-Wallis for more than 2 categories/data factors*)

### **1) Public Speaking**

Comparisons **NOT** significantly different:

- a) Geology Faculty vs. Geology Students
- b) Geography Faculty vs. Geography Students
- c) Geology Faculty vs. Geography Faculty
- d) Geography Faculty vs. Hybrid Faculty
- e) Geology Faculty vs. Hybrid Faculty
- f) Geology Students vs. Geography Students
- g) Geography Students vs. Hybrid Students
- h) Geology Students vs. Geology Non-Academic Professionals (Importance)
- i) Geology Students vs. Geology Non-Academic Professionals (Preparedness)
- j) Geology Faculty vs. Geology Non-Academic Professionals (Importance)
- k) Geology Faculty vs. Geology Non-Academic Professionals (Preparedness)
- l) Geography Students vs. Geography Non-Academic Professionals (Importance)
- m) Geography Faculty vs. Geography Non-Academic Professionals (Importance)
- n) Hybrid Faculty vs. Hybrid Non-Academic Professionals (Importance)
- o) Hybrid Faculty vs. Geography Non-Academic Professionals (Preparedness)

Comparisons **SIGNIFICANTLY** different:

- p) **Hybrid Faculty vs. Hybrid Students**

Response	Hybrid Faculty	Hybrid Students
Not Prepared/No Preparation	0.0%	17.9%
Somewhat Prepared/Some Preparation	16.7%	28.6%
Adequately Prepared/Adequate Preparation	66.7%	46.4%
Extensively Prepared/Extensive Preparation	16.7%	7.1%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0264$

1-way Test, ChiSquare Approximation:  $p = 0.0256$

**q) Geology Students vs. Hybrid Students**

Response	Geol Students	Hybrid Students
Not Prepared/No Preparation	0.0%	17.9%
Somewhat Prepared/Some Preparation	22.6%	28.6%
Adequately Prepared/Adequate Preparation	48.4%	46.4%
Extensively Prepared/Extensive Preparation	29.0%	7.1%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0076$

1-way Test, ChiSquare Approximation:  $p = 0.0074$

**r) Geography Students vs. Geography Non-Academic Professionals (Preparedness)**

Response	Geog Students	NA Profs - Preparedness
Not Prepared/No Preparation	2.6%	0.0%
Somewhat Prepared/Some Preparation	33.3%	12.5%
Adequately Prepared/Adequate Preparation	38.5%	33.3%
Extensively Prepared/Extensive Preparation	25.6%	54.2%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0116$

1-way Test, ChiSquare Approximation:  $p = 0.0113$

**s) Geography Faculty vs. Geography Non-Academic Professionals (Preparedness)**

Response	Geog Faculty	NA Profs - Preparedness
Not Prepared/No Preparation	1.7%	0.0%
Somewhat Prepared/Some Preparation	30.5%	12.5%
Adequately Prepared/Adequate Preparation	50.8%	33.3%
Extensively Prepared/Extensive Preparation	16.9%	54.2%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0014$

1-way Test, ChiSquare Approximation:  $p = 0.0014$

**t) Hybrid Students vs. Hybrid Non-Academic Professionals (Importance)**

Response	Hybrid Students	NA Profs - Importance
Not Prepared/Not Important	17.9%	3.7%
Somewhat Prepared/Somewhat Important	28.6%	14.8%
Adequately Prepared/Important	46.4%	33.3%
Extensively Prepared/Very Important	7.1%	48.1%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0010$

1-way Test, ChiSquare Approximation:  $p = 0.0009$

**u) Hybrid Students vs. Hybrid Non-Academic Professionals (Preparedness)**

Response	Hybrid Students	NA Profs - Preparedness
Not Prepared/No Preparation	17.9%	0.0%
Somewhat Prepared/Some Preparation	28.6%	18.5%
Adequately Prepared/Adequate Preparation	46.4%	48.1%
Extensively Prepared/Extensive Preparation	7.1%	33.3%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0033$

1-way Test, ChiSquare Approximation:  $p = 0.0032$

**2) Writing**

Comparisons **NOT** significantly different:

- a) Geology Faculty vs. Geology Students
- b) Geography Faculty vs. Geography Students
- c) Hybrid Faculty vs. Hybrid Students
- d) Geology Faculty vs. Geography Faculty
- e) Geography Faculty vs. Hybrid Faculty
- f) Geology Faculty vs. Hybrid Faculty
- g) Geology Students vs. Geography Students
- h) Geography Students vs. Hybrid Students
- i) Geology Students vs. Hybrid Students
- j) Geology Students vs. Geology Non-Academic Professionals (Preparedness)

Comparisons **SIGNIFICANTLY** different:

**k) Geology Students vs. Geology Non-Academic Professionals (Importance)**

Response	Geol Students	NA Profs - Importance
Not Prepared/Not Important	0.0%	0.0%
Somewhat Prepared/Somewhat Important	12.9%	1.4%
Adequately Prepared/Important	58.1%	19.4%
Extensively Prepared/Very Important	29.0%	79.2%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p < 0.0001$

1-way Test, ChiSquare Approximation:  $p < 0.0001$

**l) Geology Faculty vs. Geology Non-Academic Professionals (Importance)**

Response	Geol Faculty	NA Profs - Importance
Not Prepared/Not Important	0.0%	0.0%
Somewhat Prepared/Somewhat Important	15.5%	1.4%
Adequately Prepared/Important	65.5%	19.4%
Extensively Prepared/Very Important	19.0%	79.2%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p < 0.0001$

1-way Test, ChiSquare Approximation:  $p < 0.0001$

**m) Geology Faculty vs. Geology Non-Academic Professionals (Preparedness)**

Response	Geol Faculty	NA Profs - Preparedness
Not Prepared/No Preparation	0.0%	0.0%
Somewhat Prepared/Some Preparation	15.5%	11.1%
Adequately Prepared/Adequate Preparation	65.5%	37.5%
Extensively Prepared/Extensive Preparation	19.0%	51.4%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0008$

1-way Test, ChiSquare Approximation:  $p = 0.0008$

**n) Geography Students vs. Geography Non-Academic Professionals (Importance)**

Response	Geog Students	NA Profs - Importance
Not Prepared/Not Important	2.6%	0.0%
Somewhat Prepared/Somewhat Important	33.3%	16.7%



Adequately Prepared/Important	35.8%	20.8%
Extensively Prepared/Very Important	28.2%	62.5%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0109$

1-way Test, ChiSquare Approximation:  $p = 0.0107$

**o) Geography Faculty vs. Geography Non-Academic Professionals (Importance)**

Response	Geog Faculty	NA Profs - Importance
Not Prepared/Not Important	0.0%	0.0%
Somewhat Prepared/Somewhat Important	16.9%	16.7%
Adequately Prepared/Important	67.8%	20.8%
Extensively Prepared/Very Important	15.3%	62.5%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0019$

1-way Test, ChiSquare Approximation:  $p = 0.0018$

**p) Geography Students vs. Geography Non-Academic Professionals (Preparedness)**

Response	Geog Students	NA Profs - Preparedness
Not Prepared/No Preparation	2.6%	0.0%
Somewhat Prepared/Some Preparation	33.3%	12.5%
Adequately Prepared/Adequate Preparation	35.8%	37.5%
Extensively Prepared/Extensive Preparation	28.2%	50.0%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0293$

1-way Test, ChiSquare Approximation:  $p = 0.0287$

**q) Geography Faculty vs. Geography Non-Academic Professionals (Preparedness)**

Response	Geog Faculty	NA Profs - Preparedness
Not Prepared/No Preparation	0.0%	0.0%
Somewhat Prepared/Some Preparation	16.9%	12.5%
Adequately Prepared/Adequate Preparation	67.8%	37.5%
Extensively Prepared/Extensive Preparation	15.3%	50.0%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0085$

1-way Test, ChiSquare Approximation:  $p = 0.0084$

**r) Hybrid Students vs. Hybrid Non-Academic Professionals (Importance)**

Response	Hybrid Students	NA Profs - Importance
Not Prepared/Not Important	0.0%	0.0%
Somewhat Prepared/Somewhat Important	31.0%	7.4%
Adequately Prepared/Important	41.4%	22.2%
Extensively Prepared/Very Important	27.6%	70.4%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0012$

1-way Test, ChiSquare Approximation:  $p = 0.0012$

**s) Hybrid Students vs. Hybrid Non-Academic Professionals (Preparedness)**

Response	Hybrid Students	NA Profs - Preparedness
Not Prepared/No Preparation	0.0%	0.0%
Somewhat Prepared/Some Preparation	31.0%	7.4%
Adequately Prepared/Adequate Preparation	41.4%	37.0%
Extensively Prepared/Extensive Preparation	27.6%	55.6%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0122$

1-way Test, ChiSquare Approximation:  $p = 0.0119$

**t) Hybrid Faculty vs. Hybrid Non-Academic Professionals (Importance)**

Response	Hybrid Faculty	NA Profs - Importance
Not Prepared/Not Important	0.0%	0.0%
Somewhat Prepared/Somewhat Important	22.2%	7.4%
Adequately Prepared/Important	61.1%	22.2%
Extensively Prepared/Very Important	16.7%	70.4%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0008$

1-way Test, ChiSquare Approximation:  $p = 0.0008$

**u) Hybrid Faculty vs. Hybrid Non-Academic Professionals (Preparedness)**

Response	Hybrid Faculty	NA Profs - Preparedness
Not Prepared/No Preparation	0.0%	0.0%
Somewhat Prepared/Some Preparation	22.2%	7.4%
Adequately Prepared/Adequate Preparation	61.1%	37.0%

Extensively Prepared/Extensive Preparation	16.7%	55.6%
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Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0089$

1-way Test, ChiSquare Approximation:  $p = 0.0086$

### 3) Foreign Languages

Comparisons **NOT** significantly different:

- a) Geology Faculty vs. Geology Students
- b) Geography Faculty vs. Geography Students
- c) Hybrid Faculty vs. Hybrid Students
- d) Geology Faculty vs. Geography Faculty
- e) Geography Faculty vs. Hybrid Faculty
- f) Geology Faculty vs. Hybrid Faculty
- g) Geology Students vs. Geography Students
- h) Geography Students vs. Hybrid Students
- i) Geology Students vs. Hybrid Students
- j) Geology Students vs. Geology Non-Academic Professionals (Importance)
- k) Geology Students vs. Geology Non-Academic Professionals (Preparedness)
- l) Geography Students vs. Geography Non-Academic Professionals (Importance)
- m) Geography Faculty vs. Geography Non-Academic Professionals (Importance)
- n) Geography Students vs. Geography Non-Academic Professionals (Preparedness)
- o) Geography Faculty vs. Geography Non-Academic Professionals (Preparedness)
- p) Hybrid Students vs. Hybrid Non-Academic Professionals (Importance)
- q) Hybrid Students vs. Hybrid Non-Academic Professionals (Preparedness)
- r) Hybrid Faculty vs. Hybrid Non-Academic Professionals (Importance)
- s) Hybrid Faculty vs. Hybrid Non-Academic Professionals (Preparedness)

Comparisons **SIGNIFICANTLY** different:

#### t) Geology Faculty vs. Geology Non-Academic Professionals (Importance)

Response	Geol Faculty	NA Profs - Importance
Not Prepared/Not Important	83.0%	59.7%
Somewhat Prepared/Somewhat Important	10.6%	25.4%
Adequately Prepared/Important	4.3%	7.5%
Extensively Prepared/Very Important	2.1%	7.5%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0091$

1-way Test, ChiSquare Approximation:  $p = 0.0090$

**u) Geology Faculty vs. Geology Non-Academic Professionals (Preparedness)**

Response	Geol Faculty	NA Profs - Preparedness
Not Prepared/No Preparation	83.0%	64.4%
Somewhat Prepared/Some Preparation	10.6%	20.3%
Adequately Prepared/Adequate Preparation	4.3%	6.8%
Extensively Prepared/Extensive Preparation	2.1%	8.5%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0316$

1-way Test, ChiSquare Approximation:  $p = 0.0313$

**4) Visual Presentations**

Comparisons **NOT** significantly different:

- a) Geology Faculty vs. Geology Students
- b) Geography Faculty vs. Geography Students
- c) Geology Faculty vs. Geography Faculty
- d) Geography Faculty vs. Hybrid Faculty
- e) Geology Faculty vs. Hybrid Faculty
- f) Geology Students vs. Geography Students
- g) Geography Students vs. Hybrid Students
- h) Geology Students vs. Hybrid Students
- i) Geology Students vs. Geology Non-Academic Professionals (Importance)
- j) Geology Students vs. Geology Non-Academic Professionals (Preparedness)
- k) Geology Faculty vs. Geology Non-Academic Professionals (Importance)
- l) Geology Faculty vs. Geology Non-Academic Professionals (Preparedness)
- m) Geography Students vs. Geography Non-Academic Professionals (Importance)
- n) Geography Faculty vs. Geography Non-Academic Professionals (Importance)
- o) Geography Students vs. Geography Non-Academic Professionals (Preparedness)
- p) Geography Faculty vs. Geography Non-Academic Professionals (Preparedness)
- q) Hybrid Faculty vs. Hybrid Non-Academic Professionals (Importance)
- r) Hybrid Faculty vs. Hybrid Non-Academic Professionals (Preparedness)
- s) Hybrid Students vs. Hybrid Non-Academic Professionals (Importance)

Comparisons **SIGNIFICANTLY** different:

**t) Hybrid Faculty vs. Hybrid Students**

Response	Hybrid Faculty	Hybrid Students
Not Prepared/No Preparation	0.0%	3.4%
Somewhat Prepared/Some Preparation	0.0%	31.0%
Adequately Prepared/Adequate Preparation	72.2%	44.8%

Extensively Prepared/Extensive Preparation	27.8%	20.7%
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Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0437$

1-way Test, ChiSquare Approximation:  $p = 0.0425$

**u) Hybrid Students vs. Hybrid Non-Academic Professionals (Preparedness)**

Response	Hybrid Students	NA Profs - Preparedness
Not Prepared/No Preparation	3.4%	0.0%
Somewhat Prepared/Some Preparation	31.0%	7.4%
Adequately Prepared/Adequate Preparation	44.8%	37.0%
Extensively Prepared/Extensive Preparation	20.7%	55.6%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0022$

1-way Test, ChiSquare Approximation:  $p = 0.0022$

**5) Creative Thinking**

Comparisons **NOT** significantly different:

- Geology Faculty vs. Geology Students
- Geography Faculty vs. Geography Students
- Hybrid Faculty vs. Hybrid Students
- Geology Faculty vs. Geography Faculty
- Geography Faculty vs. Hybrid Faculty
- Geology Faculty vs. Hybrid Faculty
- Geology Students vs. Geography Students
- Geography Students vs. Hybrid Students
- Geology Students vs. Hybrid Students

Comparisons **SIGNIFICANTLY** different:

**j) Geology Students vs. Geology Non-Academic Professionals (Importance)**

Response	Geol Students	NA Profs - Importance
Not Prepared/Not Important	3.2%	1.4%
Somewhat Prepared/Somewhat Important	32.3%	2.8%
Adequately Prepared/Important	45.2%	29.2%
Extensively Prepared/Very Important	19.4%	66.7%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p < 0.0001$

1-way Test, ChiSquare Approximation:  $p < 0.0001$

**k) Geology Students vs. Geology Non-Academic Professionals (Preparedness)**

Response	Geol Students	NA Profs - Preparedness
Not Prepared/No Preparation	3.2%	1.4%
Somewhat Prepared/Some Preparation	32.3%	8.3%
Adequately Prepared/Adequate Preparation	45.2%	44.4%
Extensively Prepared/Extensive Preparation	19.4%	45.8%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0011$

1-way Test, ChiSquare Approximation:  $p = 0.0011$

**l) Geology Faculty vs. Geology Non-Academic Professionals (Importance)**

Response	Geol Faculty	NA Profs - Importance
Not Prepared/Not Important	0.0%	1.4%
Somewhat Prepared/Somewhat Important	24.1%	2.8%
Adequately Prepared/Important	56.9%	29.2%
Extensively Prepared/Very Important	19.0%	66.7%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p < 0.0001$

1-way Test, ChiSquare Approximation:  $p < 0.0001$

**m) Geology Faculty vs. Geology Non-Academic Professionals (Preparedness)**

Response	Geol Faculty	NA Profs - Preparedness
Not Prepared/No Preparation	0.0%	1.4%
Somewhat Prepared/Some Preparation	24.1%	8.3%
Adequately Prepared/Adequate Preparation	56.9%	44.4%
Extensively Prepared/Extensive Preparation	19.0%	45.8%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0007$

1-way Test, ChiSquare Approximation:  $p = 0.0007$

**n) Geography Students vs. Geography Non-Academic Professionals (Importance)**

Response	Geog Students	NA Profs - Importance
Not Prepared/Not Important	2.6%	0.0%
Somewhat Prepared/Somewhat Important	23.1%	8.3%

Adequately Prepared/Important	48.7%	41.7%
Extensively Prepared/Very Important	25.6%	50.0%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0259$

1-way Test, ChiSquare Approximation:  $p = 0.0254$

**o) Geography Faculty vs. Geography Non-Academic Professionals (Importance)**

Response	Geog Faculty	NA Profs - Importance
Not Prepared/Not Important	0.0%	0.0%
Somewhat Prepared/Somewhat Important	28.8%	8.3%
Adequately Prepared/Important	55.9%	41.7%
Extensively Prepared/Very Important	15.3%	50.0%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0011$

1-way Test, ChiSquare Approximation:  $p = 0.0010$

**p) Geography Students vs. Geography Non-Academic Professionals (Preparedness)**

Response	Geog Students	NA Profs - Preparedness
Not Prepared/No Preparation	2.6%	0.0%
Somewhat Prepared/Some Preparation	23.1%	4.2%
Adequately Prepared/Adequate Preparation	48.7%	41.7%
Extensively Prepared/Extensive Preparation	25.6%	54.2%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0076$

1-way Test, ChiSquare Approximation:  $p = 0.0074$

**q) Geography Faculty vs. Geography Non-Academic Professionals (Preparedness)**

Response	Geog Faculty	NA Profs - Preparedness
Not Prepared/No Preparation	0.0%	0.0%
Somewhat Prepared/Some Preparation	28.8%	4.2%
Adequately Prepared/Adequate Preparation	55.9%	41.7%
Extensively Prepared/Extensive Preparation	15.3%	54.2%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0002$

1-way Test, ChiSquare Approximation:  $p = 0.0002$

**r) Hybrid Students vs. Hybrid Non-Academic Professionals (Importance)**

Response	Hybrid Students	NA Profs - Importance
Not Prepared/Not Important	0.0%	0.0%
Somewhat Prepared/Somewhat Important	37.9%	3.7%
Adequately Prepared/Important	31.0%	37.0%
Extensively Prepared/Very Important	31.0%	59.3%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0046$

1-way Test, ChiSquare Approximation:  $p = 0.0045$

**s) Hybrid Students vs. Hybrid Non-Academic Professionals (Preparedness)**

Response	Hybrid Students	NA Profs - Preparedness
Not Prepared/No Preparation	0.0%	0.0%
Somewhat Prepared/Some Preparation	37.9%	7.4%
Adequately Prepared/Adequate Preparation	31.0%	44.4%
Extensively Prepared/Extensive Preparation	31.0%	48.1%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0303$

1-way Test, ChiSquare Approximation:  $p = 0.0297$

**t) Hybrid Faculty vs. Hybrid Non-Academic Professionals (Importance)**

Response	Hybrid Faculty	NA Profs - Importance
Not Prepared/Not Important	5.6%	0.0%
Somewhat Prepared/Somewhat Important	38.9%	3.7%
Adequately Prepared/Important	33.3%	37.0%
Extensively Prepared/Very Important	22.2%	59.3%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0015$

1-way Test, ChiSquare Approximation:  $p = 0.0015$

**u) Hybrid Faculty vs. Hybrid Non-Academic Professionals (Preparedness)**

Response	Hybrid Faculty	NA Profs - Preparedness
Not Prepared/No Preparation	5.6%	0.0%
Somewhat Prepared/Some Preparation	38.9%	7.4%
Adequately Prepared/Adequate Preparation	33.3%	44.4%



Extensively Prepared/Extensive Preparation	22.2%	48.1%
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Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0090$

1-way Test, ChiSquare Approximation:  $p = 0.0086$

## 6) Critical Thinking

Comparisons **NOT** significantly different:

- Geology Faculty vs. Geology Students
- Geography Faculty vs. Geography Students
- Hybrid Faculty vs. Hybrid Students
- Geology Faculty vs. Geography Faculty
- Geography Faculty vs. Hybrid Faculty
- Geology Faculty vs. Hybrid Faculty
- Geology Students vs. Geography Students
- Geography Students vs. Hybrid Students
- Geology Students vs. Hybrid Students
- Geography Students vs. Geography Non-Academic Professionals (Preparedness)

Comparisons **SIGNIFICANTLY** different:

### k) Geology Students vs. Geology Non-Academic Professionals (Importance)

Response	Geol Students	NA Profs - Importance
Not Prepared/Not Important	0.0%	0.0%
Somewhat Prepared/Somewhat Important	22.6%	2.8%
Adequately Prepared/Important	54.8%	15.3%
Extensively Prepared/Very Important	22.6%	81.9%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p < 0.0001$

1-way Test, ChiSquare Approximation:  $p < 0.0001$

### l) Geology Students vs. Geology Non-Academic Professionals (Preparedness)

Response	Geol Students	NA Profs - Preparedness
Not Prepared/No Preparation	0.0%	1.4%
Somewhat Prepared/Some Preparation	22.6%	4.2%
Adequately Prepared/Adequate Preparation	54.8%	40.3%
Extensively Prepared/Extensive Preparation	22.6%	54.2%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0010$

1-way Test, ChiSquare Approximation:  $p = 0.0009$

**m) Geology Faculty vs. Geology Non-Academic Professionals (Importance)**

Response	Geol Faculty	NA Profs - Importance
Not Prepared/Not Important	1.7%	0.0%
Somewhat Prepared/Somewhat Important	19.0%	2.8%
Adequately Prepared/Important	56.9%	15.3%
Extensively Prepared/Very Important	22.4%	81.9%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p < 0.0001$

1-way Test, ChiSquare Approximation:  $p < 0.0001$

**n) Geology Faculty vs. Geology Non-Academic Professionals (Preparedness)**

Response	Geol Faculty	NA Profs - Preparedness
Not Prepared/No Preparation	1.7%	1.4%
Somewhat Prepared/Some Preparation	19.0%	4.2%
Adequately Prepared/Adequate Preparation	56.9%	40.3%
Extensively Prepared/Extensive Preparation	22.4%	54.2%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p < 0.0001$

1-way Test, ChiSquare Approximation:  $p < 0.0001$

**o) Geography Students vs. Geography Non-Academic Professionals (Importance)**

Response	Geog Students	NA Profs - Importance
Not Prepared/Not Important	2.6%	0.0%
Somewhat Prepared/Somewhat Important	17.9%	4.2%
Adequately Prepared/Important	48.7%	37.5%
Extensively Prepared/Very Important	30.8%	58.3%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0163$

1-way Test, ChiSquare Approximation:  $p = 0.0160$

**p) Geography Faculty vs. Geography Non-Academic Professionals (Importance)**

Response	Geog Faculty	NA Profs - Importance
Not Prepared/Not Important	0.0%	0.0%

Somewhat Prepared/Somewhat Important	28.8%	4.2%
Adequately Prepared/Important	49.2%	37.5%
Extensively Prepared/Very Important	22.0%	58.3%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0006$

1-way Test, ChiSquare Approximation:  $p = 0.0005$

**q) Geography Faculty vs. Geography Non-Academic Professionals (Preparedness)**

Response	Geog Faculty	NA Profs - Preparedness
Not Prepared/No Preparation	0.0%	0.0%
Somewhat Prepared/Some Preparation	28.8%	4.2%
Adequately Prepared/Adequate Preparation	49.2%	54.2%
Extensively Prepared/Extensive Preparation	22.0%	41.7%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0101$

1-way Test, ChiSquare Approximation:  $p = 0.0100$

**r) Hybrid Students vs. Hybrid Non-Academic Professionals (Importance)**

Response	Hybrid Students	NA Profs - Importance
Not Prepared/Not Important	0.0%	0.0%
Somewhat Prepared/Somewhat Important	27.6%	3.7%
Adequately Prepared/Important	41.4%	18.5%
Extensively Prepared/Very Important	31.0%	77.8%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0004$

1-way Test, ChiSquare Approximation:  $p = 0.0003$

**s) Hybrid Students vs. Hybrid Non-Academic Professionals (Preparedness)**

Response	Hybrid Students	NA Profs - Preparedness
Not Prepared/No Preparation	0.0%	0.0%
Somewhat Prepared/Some Preparation	27.6%	3.7%
Adequately Prepared/Adequate Preparation	41.4%	25.9%
Extensively Prepared/Extensive Preparation	31.0%	70.4%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0016$

1-way Test, ChiSquare Approximation:  $p = 0.0016$

**t) Hybrid Faculty vs. Hybrid Non-Academic Professionals (Importance)**

Response	Hybrid Faculty	NA Profs - Importance
Not Prepared/Not Important	0.0%	0.0%
Somewhat Prepared/Somewhat Important	16.7%	3.7%
Adequately Prepared/Important	61.1%	18.5%
Extensively Prepared/Very Important	22.2%	77.8%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0004$

1-way Test, ChiSquare Approximation:  $p = 0.0003$

**u) Hybrid Faculty vs. Hybrid Non-Academic Professionals (Preparedness)**

Response	Hybrid Faculty	NA Profs - Preparedness
Not Prepared/No Preparation	0.0%	0.0%
Somewhat Prepared/Some Preparation	16.7%	3.7%
Adequately Prepared/Adequate Preparation	61.1%	25.9%
Extensively Prepared/Extensive Preparation	22.2%	70.4%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0017$

1-way Test, ChiSquare Approximation:  $p = 0.0016$

**7) Problem Solving**

Comparisons **NOT** significantly different:

- a) Geology Faculty vs. Geology Students
- b) Geography Faculty vs. Geography Students
- c) Hybrid Faculty vs. Hybrid Students
- d) Geology Faculty vs. Geography Faculty
- e) Geography Faculty vs. Hybrid Faculty
- f) Geology Faculty vs. Hybrid Faculty
- g) Geology Students vs. Geography Students
- h) Geography Students vs. Hybrid Students
- i) Geology Students vs. Hybrid Students
- j) Geography Students vs. Geography Non-Academic Professionals (Preparedness)

Comparisons **SIGNIFICANTLY** different:

**k) Geology Students vs. Geology Non-Academic Professionals (Importance)**

Response	Geol	NA Profs -
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	Students	Importance
Not Prepared/Not Important	0.0%	0.0%
Somewhat Prepared/Somewhat Important	25.8%	4.2%
Adequately Prepared/Important	48.4%	15.3%
Extensively Prepared/Very Important	25.8%	80.6%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p < 0.0001$

1-way Test, ChiSquare Approximation:  $p < 0.0001$

**l) Geology Students vs. Geology Non-Academic Professionals (Preparedness)**

Response	Geol Students	NA Profs - Preparedness
Not Prepared/No Preparation	0.0%	0.0%
Somewhat Prepared/Some Preparation	25.8%	5.6%
Adequately Prepared/Adequate Preparation	48.4%	47.2%
Extensively Prepared/Extensive Preparation	25.8%	47.2%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0063$

1-way Test, ChiSquare Approximation:  $p = 0.0063$

**m) Geology Faculty vs. Geology Non-Academic Professionals (Importance)**

Response	Geol Faculty	NA Profs - Importance
Not Prepared/Not Important	1.7%	0.0%
Somewhat Prepared/Somewhat Important	12.1%	4.2%
Adequately Prepared/Important	67.2%	15.3%
Extensively Prepared/Very Important	19.0%	80.6%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p < 0.0001$

1-way Test, ChiSquare Approximation:  $p < 0.0001$

**n) Geology Faculty vs. Geology Non-Academic Professionals (Preparedness)**

Response	Geol Faculty	NA Profs - Preparedness
Not Prepared/No Preparation	1.7%	0.0%
Somewhat Prepared/Some Preparation	12.1%	5.6%
Adequately Prepared/Adequate Preparation	67.2%	47.2%
Extensively Prepared/Extensive Preparation	19.0%	47.2%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0006$

1-way Test, ChiSquare Approximation:  $p = 0.0006$

**o) Geography Students vs. Geography Non-Academic Professionals (Importance)**

Response	Geog Students	NA Profs - Importance
Not Prepared/Not Important	5.1%	0.0%
Somewhat Prepared/Somewhat Important	15.4%	4.2%
Adequately Prepared/Important	43.6%	33.3%
Extensively Prepared/Very Important	35.9%	62.5%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0217$

1-way Test, ChiSquare Approximation:  $p = 0.0213$

**p) Geography Faculty vs. Geography Non-Academic Professionals (Importance)**

Response	Geog Faculty	NA Profs - Importance
Not Prepared/Not Important	0.0%	0.0%
Somewhat Prepared/Somewhat Important	20.3%	4.2%
Adequately Prepared/Important	52.5%	33.3%
Extensively Prepared/Very Important	27.1%	62.5%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0020$

1-way Test, ChiSquare Approximation:  $p = 0.0019$

**q) Geography Faculty vs. Geography Non-Academic Professionals (Preparedness)**

Response	Geog Faculty	NA Profs - Preparedness
Not Prepared/No Preparation	0.0%	0.0%
Somewhat Prepared/Some Preparation	20.3%	0.0%
Adequately Prepared/Adequate Preparation	52.5%	50.0%
Extensively Prepared/Extensive Preparation	27.1%	50.0%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0096$

1-way Test, ChiSquare Approximation:  $p = 0.0094$

**r) Hybrid Students vs. Hybrid Non-Academic Professionals (Importance)**

Response	Hybrid Students	NA Profs - Importance
Not Prepared/Not Important	3.4%	0.0%

Somewhat Prepared/Somewhat Important	17.2%	7.4%
Adequately Prepared/Important	44.8%	14.8%
Extensively Prepared/Very Important	34.5%	77.8%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0020$

1-way Test, ChiSquare Approximation:  $p = 0.0019$

**s) Hybrid Students vs. Hybrid Non-Academic Professionals (Preparedness)**

Response	Hybrid Students	NA Profs - Preparedness
Not Prepared/No Preparation	3.4%	0.0%
Somewhat Prepared/Some Preparation	17.2%	3.7%
Adequately Prepared/Adequate Preparation	44.8%	22.2%
Extensively Prepared/Extensive Preparation	34.5%	74.1%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0024$

1-way Test, ChiSquare Approximation:  $p = 0.0023$

**t) Hybrid Faculty vs. Hybrid Non-Academic Professionals (Importance)**

Response	Hybrid Faculty	NA Profs - Importance
Not Prepared/Not Important	5.6%	0.0%
Somewhat Prepared/Somewhat Important	27.8%	7.4%
Adequately Prepared/Important	38.9%	14.8%
Extensively Prepared/Very Important	27.8%	77.8%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0009$

1-way Test, ChiSquare Approximation:  $p = 0.0009$

**u) Hybrid Faculty vs. Hybrid Non-Academic Professionals (Preparedness)**

Response	Hybrid Faculty	NA Profs - Preparedness
Not Prepared/No Preparation	5.6%	0.0%
Somewhat Prepared/Some Preparation	27.8%	3.7%
Adequately Prepared/Adequate Preparation	38.9%	22.2%
Extensively Prepared/Extensive Preparation	27.8%	74.1%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0010$

1-way Test, ChiSquare Approximation:  $p = 0.0010$

## 8) Research Planning

Comparisons **NOT** significantly different:

- a) Geology Faculty vs. Geology Students
- b) Geography Faculty vs. Geography Students
- c) Hybrid Faculty vs. Hybrid Students
- d) Geology Faculty vs. Geography Faculty
- e) Geography Faculty vs. Hybrid Faculty
- f) Geology Faculty vs. Hybrid Faculty
- g) Geology Students vs. Geography Students
- h) Geography Students vs. Hybrid Students
- i) Geology Students vs. Hybrid Students
- j) Geology Students vs. Geology Non-Academic Professionals (Importance)
- k) Geology Students vs. Geology Non-Academic Professionals (Preparedness)
- l) Geology Faculty vs. Geology Non-Academic Professionals (Importance)
- m) Geography Students vs. Geography Non-Academic Professionals (Importance)
- n) Geography Faculty vs. Geography Non-Academic Professionals (Importance)
- o) Geography Students vs. Geography Non-Academic Professionals (Preparedness)
- p) Geography Faculty vs. Geography Non-Academic Professionals (Preparedness)
- q) Hybrid Students vs. Hybrid Non-Academic Professionals (Importance)
- r) Hybrid Students vs. Hybrid Non-Academic Professionals (Preparedness)
- s) Hybrid Faculty vs. Hybrid Non-Academic Professionals (Importance)
- t) Hybrid Faculty vs. Hybrid Non-Academic Professionals (Preparedness)

Comparisons **SIGNIFICANTLY** different:

### u) Geology Faculty vs. Geology Non-Academic Professionals (Preparedness)

Response	Geol Faculty	NA Profs - Preparedness
Not Prepared/No Preparation	3.4%	0.0%
Somewhat Prepared/Some Preparation	19.0%	5.6%
Adequately Prepared/Adequate Preparation	56.9%	47.2%
Extensively Prepared/Extensive Preparation	20.7%	47.2%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0292$

1-way Test, ChiSquare Approximation:  $p = 0.0291$

## 9) Qualitative Skills

Comparisons **NOT** significantly different:

- a) Geology Faculty vs. Geology Students



- b) Geography Faculty vs. Geography Students
- c) Hybrid Faculty vs. Hybrid Students
- d) Geology Faculty vs. Geography Faculty
- e) Geography Faculty vs. Hybrid Faculty
- f) Geology Faculty vs. Hybrid Faculty
- g) Geology Students vs. Geography Students
- h) Geography Students vs. Hybrid Students
- i) Geology Students vs. Hybrid Students
- j) Geography Students vs. Geography Non-Academic Professionals (Importance)
- k) Geography Students vs. Geography Non-Academic Professionals (Preparedness)
- l) Hybrid Students vs. Hybrid Non-Academic Professionals (Importance)
- m) Hybrid Students vs. Hybrid Non-Academic Professionals (Preparedness)**

Comparisons **SIGNIFICANTLY** different:

**n) Geology Students vs. Geology Non-Academic Professionals (Importance)**

Response	Geol Students	NA Profs - Importance
Not Prepared/Not Important	3.2%	2.8%
Somewhat Prepared/Somewhat Important	25.8%	13.9%
Adequately Prepared/Important	58.1%	37.5%
Extensively Prepared/Very Important	12.9%	45.8%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0035$

1-way Test, ChiSquare Approximation:  $p = 0.0035$

**o) Geology Students vs. Geology Non-Academic Professionals (Preparedness)**

Response	Geol Students	NA Profs - Preparedness
Not Prepared/No Preparation	3.2%	2.8%
Somewhat Prepared/Some Preparation	25.8%	11.1%
Adequately Prepared/Adequate Preparation	58.1%	44.4%
Extensively Prepared/Extensive Preparation	12.9%	41.7%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0038$

1-way Test, ChiSquare Approximation:  $p = 0.0037$

**p) Geology Faculty vs. Geology Non-Academic Professionals (Importance)**

Response	Geol Faculty	NA Profs - Importance
Not Prepared/Not Important	7.3%	2.8%
Somewhat Prepared/Somewhat Important	25.5%	13.9%

Adequately Prepared/Important	50.9%	37.5%
Extensively Prepared/Very Important	16.4%	45.8%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0006$

1-way Test, ChiSquare Approximation:  $p = 0.0006$

**q) Geology Faculty vs. Geology Non-Academic Professionals (Preparedness)**

Response	Geol Faculty	NA Profs - Preparedness
Not Prepared/No Preparation	7.3%	2.8%
Somewhat Prepared/Some Preparation	25.5%	11.1%
Adequately Prepared/Adequate Preparation	50.9%	44.4%
Extensively Prepared/Extensive Preparation	16.4%	41.7%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0006$

1-way Test, ChiSquare Approximation:  $p = 0.0006$

**r) Geography Faculty vs. Geography Non-Academic Professionals (Importance)**

Response	Geog Faculty	NA Profs - Importance
Not Prepared/Not Important	12.3%	0.0%
Somewhat Prepared/Somewhat Important	33.3%	20.8%
Adequately Prepared/Important	47.4%	54.2%
Extensively Prepared/Very Important	7.0%	25.0%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0068$

1-way Test, ChiSquare Approximation:  $p = 0.0067$

**s) Geography Faculty vs. Geography Non-Academic Professionals (Preparedness)**

Response	Geog Faculty	NA Profs - Preparedness
Not Prepared/No Preparation	12.3%	4.2%
Somewhat Prepared/Some Preparation	33.3%	20.8%
Adequately Prepared/Adequate Preparation	47.4%	50.0%
Extensively Prepared/Extensive Preparation	7.0%	25.0%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0219$

1-way Test, ChiSquare Approximation:  $p = 0.0216$

**t) Hybrid Faculty vs. Hybrid Non-Academic Professionals (Importance)**

Response	Hybrid Faculty	NA Profs - Importance
Not Prepared/Not Important	22.2%	7.4%
Somewhat Prepared/Somewhat Important	22.2%	11.1%
Adequately Prepared/Important	44.4%	44.4%
Extensively Prepared/Very Important	11.1%	37.0%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0229$

1-way Test, ChiSquare Approximation:  $p = 0.0222$

**u) Hybrid Faculty vs. Hybrid Non-Academic Professionals (Preparedness)**

Response	Hybrid Faculty	NA Profs – Preparedness
Not Prepared/No Preparation	22.2%	0.0%
Somewhat Prepared/Some Preparation	22.2%	22.2%
Adequately Prepared/Adequate Preparation	44.4%	48.1%
Extensively Prepared/Extensive Preparation	11.1%	29.6%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0365$

1-way Test, ChiSquare Approximation:  $p = 0.0354$

## 10) Quantitative Skills

Comparisons **NOT** significantly different:

- Geology Faculty vs. Geology Students
- Geography Faculty vs. Geography Students
- Geology Faculty vs. Geography Faculty
- Geography Faculty vs. Hybrid Faculty
- Geology Faculty vs. Hybrid Faculty
- Geology Students vs. Geography Students
- Geography Students vs. Hybrid Students
- Geology Students vs. Hybrid Students
- Geology Students vs. Geology Non-Academic Professionals (Preparedness)
- Geography Students vs. Geography Non-Academic Professionals (Importance)
- Geography Students vs. Geography Non-Academic Professionals (Preparedness)
- Geography Faculty vs. Geography Non-Academic Professionals (Preparedness)
- Hybrid Students vs. Hybrid Non-Academic Professionals (Importance)
- Hybrid Students vs. Hybrid Non-Academic Professionals (Preparedness)

Comparisons **SIGNIFICANTLY** different:

**o) Hybrid Faculty vs. Hybrid Students**

Response	Hybrid Faculty	Hybrid Students
Not Prepared/No Preparation	5.6%	6.9%
Somewhat Prepared/Some Preparation	44.4%	20.7%
Adequately Prepared/Adequate Preparation	38.9%	27.6%
Extensively Prepared/Extensive Preparation	11.1%	44.8%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0377$

1-way Test, ChiSquare Approximation:  $p = 0.0367$

**p) Geology Students vs. Geology Non-Academic Professionals (Importance)**

Response	Geol Students	NA Profs - Importance
Not Prepared/Not Important	3.2%	0.0%
Somewhat Prepared/Somewhat Important	16.1%	12.5%
Adequately Prepared/Important	61.3%	34.7%
Extensively Prepared/Very Important	19.4%	52.8%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0041$

1-way Test, ChiSquare Approximation:  $p = 0.0040$

**q) Geology Faculty vs. Geology Non-Academic Professionals (Importance)**

Response	Geol Faculty	NA Profs - Importance
Not Prepared/Not Important	0.0%	0.0%
Somewhat Prepared/Somewhat Important	36.2%	12.5%
Adequately Prepared/Important	44.8%	34.7%
Extensively Prepared/Very Important	19.0%	52.8%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p < 0.0001$

1-way Test, ChiSquare Approximation:  $p < 0.0001$

**r) Geology Faculty vs. Geology Non-Academic Professionals (Preparedness)**

Response	Geol Faculty	NA Profs - Preparedness
Not Prepared/No Preparation	0.0%	2.8%
Somewhat Prepared/Some Preparation	36.2%	11.1%

Adequately Prepared/Adequate Preparation	44.8%	56.9%
Extensively Prepared/Extensive Preparation	19.0%	29.2%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0118$

1-way Test, ChiSquare Approximation:  $p = 0.0117$

**s) Geography Faculty vs. Geography Non-Academic Professionals (Importance)**

Response	Geog Faculty	NA Profs - Importance
Not Prepared/Not Important	0.0%	0.0%
Somewhat Prepared/Somewhat Important	37.3%	12.5%
Adequately Prepared/Important	40.7%	33.3%
Extensively Prepared/Very Important	22.0%	54.2%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0029$

1-way Test, ChiSquare Approximation:  $p = 0.0028$

**t) Hybrid Faculty vs. Hybrid Non-Academic Professionals (Importance)**

Response	Hybrid Faculty	NA Profs - Importance
Not Prepared/Not Important	5.6%	0.0%
Somewhat Prepared/Somewhat Important	44.4%	18.5%
Adequately Prepared/Important	38.9%	29.6%
Extensively Prepared/Very Important	11.1%	51.9%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0034$

1-way Test, ChiSquare Approximation:  $p = 0.0033$

**u) Hybrid Faculty vs. Hybrid Non-Academic Professionals (Preparedness)**

Response	Hybrid Faculty	NA Profs - Preparedness
Not Prepared/No Preparation	5.6%	0.0%
Somewhat Prepared/Some Preparation	44.4%	18.5%
Adequately Prepared/Adequate Preparation	38.9%	48.1%
Extensively Prepared/Extensive Preparation	11.1%	33.3%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0162$

1-way Test, ChiSquare Approximation:  $p = 0.0157$

## 11) Visioning

Comparisons **NOT** significantly different:

- a) Geology Faculty vs. Geology Students
- b) Geography Faculty vs. Geography Students
- c) Hybrid Faculty vs. Hybrid Students
- d) Geology Faculty vs. Geography Faculty
- e) Geography Faculty vs. Hybrid Faculty
- f) Geology Faculty vs. Hybrid Faculty
- g) Geology Students vs. Geography Students
- h) Geography Students vs. Hybrid Students
- i) Geology Students vs. Hybrid Students
- j) Geography Students vs. Geography Non-Academic Professionals (Importance)

Comparisons **SIGNIFICANTLY** different:

### k) Geology Students vs. Geology Non-Academic Professionals (Importance)

Response	Geol Students	NA Profs - Importance
Not Prepared/Not Important	10.3%	4.3%
Somewhat Prepared/Somewhat Important	51.7%	14.3%
Adequately Prepared/Important	31.0%	34.3%
Extensively Prepared/Very Important	6.9%	47.1%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p < 0.0001$

1-way Test, ChiSquare Approximation:  $p < 0.0001$

### l) Geology Students vs. Geology Non-Academic Professionals (Preparedness)

Response	Geol Students	NA Profs - Preparedness
Not Prepared/No Preparation	10.3%	5.6%
Somewhat Prepared/Some Preparation	51.7%	22.5%
Adequately Prepared/Adequate Preparation	31.0%	45.1%
Extensively Prepared/Extensive Preparation	6.9%	26.8%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0014$

1-way Test, ChiSquare Approximation:  $p = 0.0014$

### m) Geology Faculty vs. Geology Non-Academic Professionals (Importance)

Response	Geol	NA Profs -
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	Faculty	Importance
Not Prepared/Not Important	13.5%	4.3%
Somewhat Prepared/Somewhat Important	48.1%	14.3%
Adequately Prepared/Important	38.5%	34.3%
Extensively Prepared/Very Important	0.0%	47.1%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p < 0.0001$

1-way Test, ChiSquare Approximation:  $p < 0.0001$

**n) Geology Faculty vs. Geology Non-Academic Professionals (Preparedness)**

Response	Geol Faculty	NA Profs - Preparedness
Not Prepared/No Preparation	13.5%	5.6%
Somewhat Prepared/Some Preparation	48.1%	22.5%
Adequately Prepared/Adequate Preparation	38.5%	45.1%
Extensively Prepared/Extensive Preparation	0.0%	26.8%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p < 0.0001$

1-way Test, ChiSquare Approximation:  $p < 0.0001$

**o) Geography Faculty vs. Geography Non-Academic Professionals (Importance)**

Response	Geog Faculty	NA Profs - Importance
Not Prepared/Not Important	13.0%	8.3%
Somewhat Prepared/Somewhat Important	53.7%	25.0%
Adequately Prepared/Important	24.1%	37.5%
Extensively Prepared/Very Important	9.3%	29.2%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0079$

1-way Test, ChiSquare Approximation:  $p = 0.0078$

**p) Geography Students vs. Geography Non-Academic Professionals (Preparedness)**

Response	Geog Students	NA Profs - Preparedness
Not Prepared/No Preparation	24.3%	4.2%
Somewhat Prepared/Some Preparation	32.4%	16.7%
Adequately Prepared/Adequate Preparation	27.0%	50.0%
Extensively Prepared/Extensive Preparation	16.2%	29.2%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0089$

1-way Test, ChiSquare Approximation:  $p = 0.0087$

**q) Geography Faculty vs. Geography Non-Academic Professionals (Preparedness)**

Response	Geog Faculty	NA Profs - Preparedness
Not Prepared/No Preparation	13.0%	4.2%
Somewhat Prepared/Some Preparation	53.7%	16.7%
Adequately Prepared/Adequate Preparation	24.1%	50.0%
Extensively Prepared/Extensive Preparation	9.3%	29.2%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0003$

1-way Test, ChiSquare Approximation:  $p = 0.0003$

**r) Hybrid Students vs. Hybrid Non-Academic Professionals (Importance)**

Response	Hybrid Students	NA Profs - Importance
Not Prepared/Not Important	14.3%	0.0%
Somewhat Prepared/Somewhat Important	32.1%	14.8%
Adequately Prepared/Important	50.0%	51.9%
Extensively Prepared/Very Important	3.6%	33.3%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0008$

1-way Test, ChiSquare Approximation:  $p = 0.0008$

**s) Hybrid Students vs. Hybrid Non-Academic Professionals (Preparedness)**

Response	Hybrid Students	NA Profs - Preparedness
Not Prepared/No Preparation	14.3%	3.8%
Somewhat Prepared/Some Preparation	32.1%	19.2%
Adequately Prepared/Adequate Preparation	50.0%	34.6%
Extensively Prepared/Extensive Preparation	3.6%	42.3%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0029$

1-way Test, ChiSquare Approximation:  $p = 0.0028$

**t) Hybrid Faculty vs. Hybrid Non-Academic Professionals (Importance)**

Response	Hybrid Faculty	NA Profs - Importance
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Not Prepared/Not Important	0.0%	0.0%
Somewhat Prepared/Somewhat Important	75.0%	14.8%
Adequately Prepared/Important	18.8%	51.9%
Extensively Prepared/Very Important	6.3%	33.3%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0003$

1-way Test, ChiSquare Approximation:  $p = 0.0002$

**u) Hybrid Faculty vs. Hybrid Non-Academic Professionals (Preparedness)**

Response	Hybrid Faculty	NA Profs - Preparedness
Not Prepared/No Preparation	0.0%	3.8%
Somewhat Prepared/Some Preparation	75.0%	19.2%
Adequately Prepared/Adequate Preparation	18.8%	34.6%
Extensively Prepared/Extensive Preparation	6.3%	42.3%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0018$

1-way Test, ChiSquare Approximation:  $p = 0.0017$

## 12) Supervising

Comparisons **NOT** significantly different:

- Geology Faculty vs. Geology Students
- Geography Faculty vs. Geography Students
- Hybrid Faculty vs. Hybrid Students
- Geology Faculty vs. Geography Faculty
- Geography Faculty vs. Hybrid Faculty
- Geology Faculty vs. Hybrid Faculty
- Geology Students vs. Geography Students
- Geography Students vs. Hybrid Students
- Geology Students vs. Hybrid Students
- Geography Students vs. Geography Non-Academic Professionals (Preparedness)
- Geography Faculty vs. Geography Non-Academic Professionals (Preparedness)

Comparisons **SIGNIFICANTLY** different:

**l) Geology Students vs. Geology Non-Academic Professionals (Importance)**

Response	Geol Students	NA Profs - Importance
Not Prepared/Not Important	40.0%	10.3%
Somewhat Prepared/Somewhat Important	36.7%	13.2%

Adequately Prepared/Important	16.7%	39.7%
Extensively Prepared/Very Important	6.7%	36.8%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p < 0.0001$

1-way Test, ChiSquare Approximation:  $p < 0.0001$

**m) Geology Students vs. Geology Non-Academic Professionals (Preparedness)**

Response	Geol Students	NA Profs - Preparedness
Not Prepared/No Preparation	40.0%	14.7%
Somewhat Prepared/Some Preparation	36.7%	25.0%
Adequately Prepared/Adequate Preparation	16.7%	38.2%
Extensively Prepared/Extensive Preparation	6.7%	22.0%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0005$

1-way Test, ChiSquare Approximation:  $p = 0.0005$

**n) Geology Faculty vs. Geology Non-Academic Professionals (Importance)**

Response	Geol Faculty	NA Profs - Importance
Not Prepared/Not Important	25.5%	10.3%
Somewhat Prepared/Somewhat Important	50.9%	13.2%
Adequately Prepared/Important	21.8%	39.7%
Extensively Prepared/Very Important	1.8%	36.8%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p < 0.0001$

1-way Test, ChiSquare Approximation:  $p < 0.0001$

**o) Geology Faculty vs. Geology Non-Academic Professionals (Preparedness)**

Response	Geol Faculty	NA Profs - Preparedness
Not Prepared/No Preparation	25.5%	14.7%
Somewhat Prepared/Some Preparation	50.9%	25.0%
Adequately Prepared/Adequate Preparation	21.8%	38.2%
Extensively Prepared/Extensive Preparation	1.8%	22.0%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p < 0.0001$

1-way Test, ChiSquare Approximation:  $p < 0.0001$

**p) Geography Students vs. Geography Non-Academic Professionals (Importance)**

Response	Geog Students	NA Profs - Importance
Not Prepared/Not Important	41.0%	14.3%
Somewhat Prepared/Somewhat Important	30.8%	38.1%
Adequately Prepared/Important	15.4%	28.6%
Extensively Prepared/Very Important	12.8%	19.0%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0487$

1-way Test, ChiSquare Approximation:  $p = 0.0478$

**q) Geography Faculty vs. Geography Non-Academic Professionals (Importance)**

Response	Geog Faculty	NA Profs - Importance
Not Prepared/Not Important	19.2%	14.3%
Somewhat Prepared/Somewhat Important	57.7%	38.1%
Adequately Prepared/Important	23.1%	28.6%
Extensively Prepared/Very Important	0.0%	19.0%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0424$

1-way Test, ChiSquare Approximation:  $p = 0.0417$

**r) Hybrid Students vs. Hybrid Non-Academic Professionals (Importance)**

Response	Hybrid Students	NA Profs - Importance
Not Prepared/Not Important	29.6%	15.4%
Somewhat Prepared/Somewhat Important	48.1%	19.2%
Adequately Prepared/Important	18.5%	19.2%
Extensively Prepared/Very Important	3.7%	46.2%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0014$

1-way Test, ChiSquare Approximation:  $p = 0.0014$

**s) Hybrid Students vs. Hybrid Non-Academic Professionals (Preparedness)**

Response	Hybrid Students	NA Profs - Preparedness
Not Prepared/No Preparation	29.6%	18.5%
Somewhat Prepared/Some Preparation	48.1%	22.2%
Adequately Prepared/Adequate Preparation	18.5%	37.0%
Extensively Prepared/Extensive Preparation	3.7%	22.2%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0141$

1-way Test, ChiSquare Approximation:  $p = 0.0138$

**t) Hybrid Faculty vs. Hybrid Non-Academic Professionals (Importance)**

Response	Hybrid Faculty	NA Profs - Importance
Not Prepared/Not Important	27.8%	15.4%
Somewhat Prepared/Somewhat Important	61.1%	19.2%
Adequately Prepared/Important	11.1%	19.2%
Extensively Prepared/Very Important	0.0%	46.2%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0013$

1-way Test, ChiSquare Approximation:  $p = 0.0013$

**u) Hybrid Faculty vs. Hybrid Non-Academic Professionals (Preparedness)**

Response	Hybrid Faculty	NA Profs - Preparedness
Not Prepared/No Preparation	27.8%	18.5%
Somewhat Prepared/Some Preparation	61.1%	22.2%
Adequately Prepared/Adequate Preparation	11.1%	37.0%
Extensively Prepared/Extensive Preparation	0.0%	22.2%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0077$

1-way Test, ChiSquare Approximation:  $p = 0.0074$

**13) Entrepreneurial Skills**

Comparisons **NOT** significantly different:

- Geology Faculty vs. Geology Students
- Hybrid Faculty vs. Hybrid Students
- Geology Faculty vs. Geography Faculty
- Geography Faculty vs. Hybrid Faculty
- Geology Faculty vs. Hybrid Faculty
- Geology Students vs. Geography Students
- Geography Students vs. Hybrid Students
- Geology Students vs. Hybrid Students
- Geography Students vs. Geography Non-Academic Professionals (Preparedness)

Comparisons **SIGNIFICANTLY** different:

**j) Geography Faculty vs. Geography Students**

Response	Geog Faculty	Geog Students
Not Prepared/No Preparation	73.6%	54.1%
Somewhat Prepared/Some Preparation	22.6%	32.4%
Adequately Prepared/Adequate Preparation	3.8%	8.1%
Extensively Prepared/Extensive Preparation	0.0%	5.4%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0385$

1-way Test, ChiSquare Approximation:  $p = 0.0381$

**k) Geology Students vs. Geology Non-Academic Professionals (Importance)**

Response	Geol Students	NA Profs - Importance
Not Prepared/Not Important	69.0%	17.9%
Somewhat Prepared/Somewhat Important	24.1%	31.3%
Adequately Prepared/Important	3.4%	29.9%
Extensively Prepared/Very Important	3.4%	20.9%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p < 0.0001$

1-way Test, ChiSquare Approximation:  $p < 0.0001$

**l) Geology Students vs. Geology Non-Academic Professionals (Preparedness)**

Response	Geol Students	NA Profs - Preparedness
Not Prepared/No Preparation	69.0%	31.8%
Somewhat Prepared/Some Preparation	24.1%	30.3%
Adequately Prepared/Adequate Preparation	3.4%	25.8%
Extensively Prepared/Extensive Preparation	3.4%	12.1%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0003$

1-way Test, ChiSquare Approximation:  $p = 0.0003$

**m) Geology Faculty vs. Geology Non-Academic Professionals (Importance)**

Response	Geol Faculty	NA Profs - Importance
Not Prepared/Not Important	60.0%	17.9%
Somewhat Prepared/Somewhat Important	30.0%	31.3%
Adequately Prepared/Important	8.0%	29.9%

Extensively Prepared/Very Important	2.0%	20.9%
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Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p < 0.0001$

1-way Test, ChiSquare Approximation:  $p < 0.0001$

**n) Geology Faculty vs. Geology Non-Academic Professionals (Preparedness)**

Response	Geol Faculty	NA Profs - Preparedness
Not Prepared/No Preparation	60.0%	31.8%
Somewhat Prepared/Some Preparation	30.0%	30.3%
Adequately Prepared/Adequate Preparation	8.0%	25.8%
Extensively Prepared/Extensive Preparation	2.0%	12.1%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0003$

1-way Test, ChiSquare Approximation:  $p = 0.0003$

**o) Geography Students vs. Geography Non-Academic Professionals (Importance)**

Response	Geog Students	NA Profs - Importance
Not Prepared/Not Important	54.1%	25.0%
Somewhat Prepared/Somewhat Important	32.4%	40.0%
Adequately Prepared/Important	8.1%	15.0%
Extensively Prepared/Very Important	5.4%	20.0%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0180$

1-way Test, ChiSquare Approximation:  $p = 0.0176$

**p) Geography Faculty vs. Geography Non-Academic Professionals (Importance)**

Response	Geog Faculty	NA Profs - Importance
Not Prepared/Not Important	73.6%	25.0%
Somewhat Prepared/Somewhat Important	22.6%	40.0%
Adequately Prepared/Important	3.8%	15.0%
Extensively Prepared/Very Important	0.0%	20.0%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p < 0.0001$

1-way Test, ChiSquare Approximation:  $p < 0.0001$

**q) Geography Faculty vs. Geography Non-Academic Professionals (Preparedness)**

Response	Geog Faculty	NA Profs - Preparedness
Not Prepared/No Preparation	73.6%	33.3%
Somewhat Prepared/Some Preparation	22.6%	33.3%
Adequately Prepared/Adequate Preparation	3.8%	22.2%
Extensively Prepared/Extensive Preparation	0.0%	11.1%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0005$

1-way Test, ChiSquare Approximation:  $p = 0.0005$

**r) Hybrid Students vs. Hybrid Non-Academic Professionals (Importance)**

Response	Hybrid Students	NA Profs - Importance
Not Prepared/Not Important	59.3%	22.2%
Somewhat Prepared/Somewhat Important	29.6%	18.5%
Adequately Prepared/Important	11.1%	33.3%
Extensively Prepared/Very Important	0.0%	25.9%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0002$

1-way Test, ChiSquare Approximation:  $p = 0.0002$

**s) Hybrid Students vs. Hybrid Non-Academic Professionals (Preparedness)**

Response	Hybrid Students	NA Profs - Preparedness
Not Prepared/No Preparation	59.3%	36.0%
Somewhat Prepared/Some Preparation	29.6%	12.0%
Adequately Prepared/Adequate Preparation	11.1%	44.0%
Extensively Prepared/Extensive Preparation	0.0%	8.0%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0112$

1-way Test, ChiSquare Approximation:  $p = 0.0109$

**t) Hybrid Faculty vs. Hybrid Non-Academic Professionals (Importance)**

Response	Hybrid Faculty	NA Profs - Importance
Not Prepared/Not Important	62.5%	22.2%
Somewhat Prepared/Somewhat Important	25.0%	18.5%
Adequately Prepared/Important	12.5%	33.3%
Extensively Prepared/Very Important	0.0%	25.9%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0016$

1-way Test, ChiSquare Approximation:  $p = 0.0015$

**u) Hybrid Faculty vs. Hybrid Non-Academic Professionals (Preparedness)**

Response	Hybrid Faculty	NA Profs - Preparedness
Not Prepared/No Preparation	62.5%	36.0%
Somewhat Prepared/Some Preparation	25.0%	12.0%
Adequately Prepared/Adequate Preparation	12.5%	44.0%
Extensively Prepared/Extensive Preparation	0.0%	8.0%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0259$

1-way Test, ChiSquare Approximation:  $p = 0.0249$

**14) Teamwork**

Comparisons **NOT** significantly different:

- Geology Faculty vs. Geology Students
- Geography Faculty vs. Geography Students
- Hybrid Faculty vs. Hybrid Students
- Geology Faculty vs. Geography Faculty
- Geography Faculty vs. Hybrid Faculty
- Geology Faculty vs. Hybrid Faculty
- Geology Students vs. Geography Students
- Geography Students vs. Hybrid Students
- Geology Students vs. Hybrid Students
- Geology Students vs. Geology Non-Academic Professionals (Preparedness)
- Geology Faculty vs. Geology Non-Academic Professionals (Preparedness)
- Geography Students vs. Geography Non-Academic Professionals (Preparedness)

Comparisons **SIGNIFICANTLY** different:

**m) Geology Students vs. Geology Non-Academic Professionals (Importance)**

Response	Geol Students	NA Profs - Importance
Not Prepared/Not Important	3.4%	0.0%
Somewhat Prepared/Somewhat Important	24.1%	5.6%
Adequately Prepared/Important	41.4%	30.6%
Extensively Prepared/Very Important	31.0%	63.9%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)



2-Sample Test, Normal Approximation:  $p = 0.0006$

1-way Test, ChiSquare Approximation:  $p = 0.0006$

**n) Geology Faculty vs. Geology Non-Academic Professionals (Importance)**

Response	Geol Faculty	NA Profs - Importance
Not Prepared/Not Important	0.0%	0.0%
Somewhat Prepared/Somewhat Important	25.9%	5.6%
Adequately Prepared/Important	43.1%	30.6%
Extensively Prepared/Very Important	31.0%	63.9%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p < 0.0001$

1-way Test, ChiSquare Approximation:  $p < 0.0001$

**o) Geography Students vs. Geography Non-Academic Professionals (Importance)**

Response	Geog Students	NA Profs - Importance
Not Prepared/Not Important	12.8%	0.0%
Somewhat Prepared/Somewhat Important	15.4%	8.3%
Adequately Prepared/Important	51.3%	41.7%
Extensively Prepared/Very Important	20.5%	50.0%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0067$

1-way Test, ChiSquare Approximation:  $p = 0.0065$

**p) Geography Faculty vs. Geography Non-Academic Professionals (Importance)**

Response	Geog Faculty	NA Profs - Importance
Not Prepared/Not Important	1.7%	0.0%
Somewhat Prepared/Somewhat Important	27.1%	8.3%
Adequately Prepared/Important	52.5%	41.7%
Extensively Prepared/Very Important	18.6%	50.0%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0026$

1-way Test, ChiSquare Approximation:  $p = 0.0025$

**q) Geography Faculty vs. Geography Non-Academic Professionals (Preparedness)**

Response	Geog Faculty	NA Profs - Preparedness
Not Prepared/No Preparation	1.7%	4.2%

Somewhat Prepared/Some Preparation	27.1%	4.2%
Adequately Prepared/Adequate Preparation	52.5%	58.3%
Extensively Prepared/Extensive Preparation	18.6%	33.3%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0413$

1-way Test, ChiSquare Approximation:  $p = 0.0407$

**r) Hybrid Students vs. Hybrid Non-Academic Professionals (Importance)**

Response	Hybrid Students	NA Profs - Importance
Not Prepared/Not Important	7.4%	0.0%
Somewhat Prepared/Somewhat Important	33.3%	7.4%
Adequately Prepared/Important	48.1%	18.5%
Extensively Prepared/Very Important	11.1%	74.1%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p < 0.0001$

1-way Test, ChiSquare Approximation:  $p < 0.0001$

**s) Hybrid Students vs. Hybrid Non-Academic Professionals (Preparedness)**

Response	Hybrid Students	NA Profs - Preparedness
Not Prepared/No Preparation	7.4%	3.7%
Somewhat Prepared/Some Preparation	33.3%	3.7%
Adequately Prepared/Adequate Preparation	48.1%	48.1%
Extensively Prepared/Extensive Preparation	11.1%	44.4%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0010$

1-way Test, ChiSquare Approximation:  $p = 0.0010$

**t) Hybrid Faculty vs. Hybrid Non-Academic Professionals (Importance)**

Response	Hybrid Faculty	NA Profs - Importance
Not Prepared/Not Important	0.0%	0.0%
Somewhat Prepared/Somewhat Important	27.8%	7.4%
Adequately Prepared/Important	55.6%	18.5%
Extensively Prepared/Very Important	16.7%	74.1%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0003$

1-way Test, ChiSquare Approximation:  $p = 0.0003$

**u) Hybrid Faculty vs. Hybrid Non-Academic Professionals (Preparedness)**

Response	Hybrid Faculty	NA Profs - Preparedness
Not Prepared/No Preparation	0.0%	3.7%
Somewhat Prepared/Some Preparation	27.8%	3.7%
Adequately Prepared/Adequate Preparation	55.6%	48.1%
Extensively Prepared/Extensive Preparation	16.7%	44.4%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0267$

1-way Test, ChiSquare Approximation:  $p = 0.0258$

**15) Coaching & Advising**

Comparisons **NOT** significantly different:

- a) Geology Faculty vs. Geology Students
- b) Geography Faculty vs. Geography Students
- c) Hybrid Faculty vs. Hybrid Students
- d) Geology Faculty vs. Geography Faculty
- e) Geography Faculty vs. Hybrid Faculty
- f) Geology Faculty vs. Hybrid Faculty
- g) Geology Students vs. Geography Students
- h) Geography Students vs. Hybrid Students
- i) Geology Students vs. Hybrid Students
- j) Geography Students vs. Geography Non-Academic Professionals (Importance)
- k) Geography Faculty vs. Geography Non-Academic Professionals (Importance)
- l) Geography Students vs. Geography Non-Academic Professionals (Preparedness)

Comparisons **SIGNIFICANTLY** different:

**m) Geology Students vs. Geology Non-Academic Professionals (Importance)**

Response	Geol Students	NA Profs - Importance
Not Prepared/Not Important	23.3%	13.0%
Somewhat Prepared/Somewhat Important	43.3%	24.6%
Adequately Prepared/Important	16.7%	36.2%
Extensively Prepared/Very Important	16.7%	26.1%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0253$

1-way Test, ChiSquare Approximation:  $p = 0.0250$

**n) Geology Students vs. Geology Non-Academic Professionals (Preparedness)**

Response	Geol Students	NA Profs - Preparedness
Not Prepared/No Preparation	23.3%	10.0%
Somewhat Prepared/Some Preparation	43.3%	22.9%
Adequately Prepared/Adequate Preparation	16.7%	51.4%
Extensively Prepared/Extensive Preparation	16.7%	15.7%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0165$

1-way Test, ChiSquare Approximation:  $p = 0.0163$

**o) Geology Faculty vs. Geology Non-Academic Professionals (Importance)**

Response	Geol Faculty	NA Profs - Importance
Not Prepared/Not Important	27.5%	13.0%
Somewhat Prepared/Somewhat Important	47.1%	24.6%
Adequately Prepared/Important	17.6%	36.2%
Extensively Prepared/Very Important	7.8%	26.1%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0001$

1-way Test, ChiSquare Approximation:  $p = 0.0001$

**p) Geology Faculty vs. Geology Non-Academic Professionals (Preparedness)**

Response	Geol Faculty	NA Profs - Preparedness
Not Prepared/No Preparation	27.5%	10.0%
Somewhat Prepared/Some Preparation	47.1%	22.9%
Adequately Prepared/Adequate Preparation	17.6%	51.4%
Extensively Prepared/Extensive Preparation	7.8%	15.7%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p < 0.0001$

1-way Test, ChiSquare Approximation:  $p < 0.0001$

**q) Geography Faculty vs. Geography Non-Academic Professionals (Preparedness)**

Response	Geog Faculty	NA Profs - Preparedness
Not Prepared/No Preparation	30.8%	10.0%
Somewhat Prepared/Some Preparation	48.1%	50.0%
Adequately Prepared/Adequate Preparation	17.3%	35.0%
Extensively Prepared/Extensive Preparation	3.8%	5.0%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0418$

1-way Test, ChiSquare Approximation:  $p = 0.0412$

**r) Hybrid Students vs. Hybrid Non-Academic Professionals (Importance)**

Response	Hybrid Students	NA Profs - Importance
Not Prepared/Not Important	33.3%	19.2%
Somewhat Prepared/Somewhat Important	37.0%	19.2%
Adequately Prepared/Important	22.2%	38.5%
Extensively Prepared/Very Important	7.4%	23.1%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0307$

1-way Test, ChiSquare Approximation:  $p = 0.0300$

**s) Hybrid Students vs. Hybrid Non-Academic Professionals (Preparedness)**

Response	Hybrid Students	NA Profs - Preparedness
Not Prepared/No Preparation	33.3%	15.4%
Somewhat Prepared/Some Preparation	37.0%	19.2%
Adequately Prepared/Adequate Preparation	22.2%	53.8%
Extensively Prepared/Extensive Preparation	7.4%	11.5%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0222$

1-way Test, ChiSquare Approximation:  $p = 0.0217$

**t) Hybrid Faculty vs. Hybrid Non-Academic Professionals (Importance)**

Response	Hybrid Faculty	NA Profs - Importance
Not Prepared/Not Important	17.6%	19.2%
Somewhat Prepared/Somewhat Important	64.7%	19.2%
Adequately Prepared/Important	17.6%	38.5%
Extensively Prepared/Very Important	0.0%	23.1%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0262$

1-way Test, ChiSquare Approximation:  $p = 0.0253$

**u) Hybrid Faculty vs. Hybrid Non-Academic Professionals (Preparedness)**

Response	Hybrid	NA Profs -
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	Faculty	Preparedness
Not Prepared/No Preparation	17.6%	15.4%
Somewhat Prepared/Some Preparation	64.7%	19.2%
Adequately Prepared/Adequate Preparation	17.6%	53.8%
Extensively Prepared/Extensive Preparation	0.0%	11.5%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0120$

1-way Test, ChiSquare Approximation:  $p = 0.0116$

## 16) Relationship Building

Comparisons **NOT** significantly different:

- a) Geology Faculty vs. Geology Students
- b) Geography Faculty vs. Geography Students
- c) Hybrid Faculty vs. Hybrid Students
- d) Geology Faculty vs. Geography Faculty
- e) Geography Faculty vs. Hybrid Faculty
- f) Geology Faculty vs. Hybrid Faculty
- g) Geology Students vs. Geography Students
- h) Geography Students vs. Hybrid Students
- i) Geology Students vs. Hybrid Students
- j) Geology Students vs. Geology Non-Academic Professionals (Preparedness)
- k) Geology Faculty vs. Geology Non-Academic Professionals (Preparedness)
- l) Geography Students vs. Geography Non-Academic Professionals (Preparedness)
- m) Geography Faculty vs. Geography Non-Academic Professionals (Preparedness)

Comparisons **SIGNIFICANTLY** different:

### n) Geology Students vs. Geology Non-Academic Professionals (Importance)

Response	Geol Students	NA Profs - Importance
Not Prepared/Not Important	3.3%	4.2%
Somewhat Prepared/Somewhat Important	40.0%	9.9%
Adequately Prepared/Important	43.3%	31.0%
Extensively Prepared/Very Important	13.3%	54.9%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p < 0.0001$

1-way Test, ChiSquare Approximation:  $p < 0.0001$

### o) Geology Faculty vs. Geology Non-Academic Professionals (Importance)

Response	Geol	NA Profs -
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	Faculty	Importance
Not Prepared/Not Important	9.1%	4.2%
Somewhat Prepared/Somewhat Important	41.8%	9.9%
Adequately Prepared/Important	40.0%	31.0%
Extensively Prepared/Very Important	9.1%	54.9%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p < 0.0001$

1-way Test, ChiSquare Approximation:  $p < 0.0001$

**p) Geography Students vs. Geography Non-Academic Professionals (Importance)**

Response	Geog Students	NA Profs - Importance
Not Prepared/Not Important	26.3%	0.0%
Somewhat Prepared/Somewhat Important	31.6%	20.8%
Adequately Prepared/Important	34.2%	45.8%
Extensively Prepared/Very Important	7.9%	33.3%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0005$

1-way Test, ChiSquare Approximation:  $p = 0.0005$

**q) Geography Faculty vs. Geography Non-Academic Professionals (Importance)**

Response	Geog Faculty	NA Profs - Importance
Not Prepared/Not Important	7.4%	0.0%
Somewhat Prepared/Somewhat Important	50.0%	20.8%
Adequately Prepared/Important	35.2%	45.8%
Extensively Prepared/Very Important	7.4%	33.3%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0005$

1-way Test, ChiSquare Approximation:  $p = 0.0005$

**r) Hybrid Students vs. Hybrid Non-Academic Professionals (Importance)**

Response	Hybrid Students	NA Profs - Importance
Not Prepared/Not Important	21.4%	0.0%
Somewhat Prepared/Somewhat Important	35.7%	7.4%
Adequately Prepared/Important	35.7%	33.3%
Extensively Prepared/Very Important	7.1%	59.3%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p < 0.0001$

1-way Test, ChiSquare Approximation:  $p < 0.0001$

**s) Hybrid Students vs. Hybrid Non-Academic Professionals (Preparedness)**

Response	Hybrid Students	NA Profs - Preparedness
Not Prepared/No Preparation	21.4%	3.7%
Somewhat Prepared/Some Preparation	35.7%	14.8%
Adequately Prepared/Adequate Preparation	35.7%	55.6%
Extensively Prepared/Extensive Preparation	7.1%	25.9%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0020$

1-way Test, ChiSquare Approximation:  $p = 0.0019$

**t) Hybrid Faculty vs. Hybrid Non-Academic Professionals (Importance)**

Response	Hybrid Faculty	NA Profs - Importance
Not Prepared/Not Important	0.0%	0.0%
Somewhat Prepared/Somewhat Important	58.8%	7.4%
Adequately Prepared/Important	35.3%	33.3%
Extensively Prepared/Very Important	5.9%	59.3%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p < 0.0001$

1-way Test, ChiSquare Approximation:  $p < 0.0001$

**u) Hybrid Faculty vs. Hybrid Non-Academic Professionals (Preparedness)**

Response	Hybrid Faculty	NA Profs - Preparedness
Not Prepared/No Preparation	0.0%	3.7%
Somewhat Prepared/Some Preparation	58.8%	14.8%
Adequately Prepared/Adequate Preparation	35.3%	55.6%
Extensively Prepared/Extensive Preparation	5.9%	25.9%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0087$

1-way Test, ChiSquare Approximation:  $p = 0.0084$

**17) Intercultural Skills**

Comparisons **NOT** significantly different:

- a) Geology Faculty vs. Geology Students



- b) Geography Faculty vs. Geography Students
- c) Hybrid Faculty vs. Hybrid Students
- d) Geology Faculty vs. Geography Faculty
- e) Geography Faculty vs. Hybrid Faculty
- f) Geology Faculty vs. Hybrid Faculty
- g) Geology Students vs. Geography Students
- h) Geography Students vs. Hybrid Students
- i) Geology Students vs. Hybrid Students
- j) Geology Students vs. Geology Non-Academic Professionals (Importance)
- k) Geology Students vs. Geology Non-Academic Professionals (Preparedness)
- l) Geology Faculty vs. Geology Non-Academic Professionals (Importance)
- m) Geology Faculty vs. Geology Non-Academic Professionals (Preparedness)
- n) Geography Students vs. Geography Non-Academic Professionals (Importance)
- o) Geography Faculty vs. Geography Non-Academic Professionals (Importance)
- p) Geography Faculty vs. Geography Non-Academic Professionals (Preparedness)
- q) Hybrid Faculty vs. Hybrid Non-Academic Professionals (Importance)

Comparisons **SIGNIFICANTLY** different:

**r) Geography Students vs. Geography Non-Academic Professionals (Preparedness)**

Response	Geog Students	NA Profs - Preparedness
Not Prepared/No Preparation	26.3%	13.0%
Somewhat Prepared/Some Preparation	31.6%	13.0%
Adequately Prepared/Adequate Preparation	28.9%	43.5%
Extensively Prepared/Extensive Preparation	13.2%	30.4%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0213$

1-way Test, ChiSquare Approximation:  $p = 0.0209$

**s) Hybrid Students vs. Hybrid Non-Academic Professionals (Importance)**

Response	Hybrid Students	NA Profs - Importance
Not Prepared/Not Important	28.6%	7.4%
Somewhat Prepared/Somewhat Important	42.9%	37.0%
Adequately Prepared/Important	21.4%	29.6%
Extensively Prepared/Very Important	7.1%	25.9%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0119$

1-way Test, ChiSquare Approximation:  $p = 0.0116$

**t) Hybrid Students vs. Hybrid Non-Academic Professionals (Preparedness)**

Response	Hybrid Students	NA Profs - Preparedness
Not Prepared/No Preparation	28.6%	7.4%
Somewhat Prepared/Some Preparation	42.9%	22.2%
Adequately Prepared/Adequate Preparation	21.4%	37.0%
Extensively Prepared/Extensive Preparation	7.1%	33.3%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0011$

1-way Test, ChiSquare Approximation:  $p = 0.0011$

**u) Hybrid Faculty vs. Hybrid Non-Academic Professionals (Preparedness)**

Response	Hybrid Faculty	NA Profs - Preparedness
Not Prepared/No Preparation	18.8%	7.4%
Somewhat Prepared/Some Preparation	43.8%	22.2%
Adequately Prepared/Adequate Preparation	37.5%	37.0%
Extensively Prepared/Extensive Preparation	0.0%	33.3%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0088$

1-way Test, ChiSquare Approximation:  $p = 0.0085$

**18) Teaching**

Comparisons **NOT** significantly different:

- a) Geography Faculty vs. Geography Students
- b) Hybrid Faculty vs. Hybrid Students
- c) Geology Faculty vs. Hybrid Faculty
- d) Geology Students vs. Geography Students
- e) Geography Students vs. Hybrid Students
- f) Geology Students vs. Hybrid Students
- g) Geology Students vs. Geology Non-Academic Professionals (Importance)
- h) Geology Faculty vs. Geology Non-Academic Professionals (Preparedness)
- i) Geography Students vs. Geography Non-Academic Professionals (Importance)
- j) Geography Faculty vs. Geography Non-Academic Professionals (Importance)
- k) Hybrid Students vs. Hybrid Non-Academic Professionals (Importance)
- l) Hybrid Students vs. Hybrid Non-Academic Professionals (Preparedness)
- m) Hybrid Faculty vs. Hybrid Non-Academic Professionals (Importance)
- n)** Hybrid Faculty vs. Hybrid Non-Academic Professionals (Preparedness)

Comparisons **SIGNIFICANTLY** different:

**o) Geology Faculty vs. Geology Students**

Response	Geol Faculty	Geol Students
Not Prepared/No Preparation	10.9%	25.8%
Somewhat Prepared/Some Preparation	30.9%	38.7%
Adequately Prepared/Adequate Preparation	47.3%	25.8%
Extensively Prepared/Extensive Preparation	10.9%	9.7%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0458$

1-way Test, ChiSquare Approximation:  $p = 0.0453$

**p) Geology Faculty vs. Geography Faculty**

Response	Geol Faculty	Geog Faculty
Not Prepared/No Preparation	10.9%	26.4%
Somewhat Prepared/Some Preparation	30.9%	47.2%
Adequately Prepared/Adequate Preparation	47.3%	20.8%
Extensively Prepared/Extensive Preparation	10.9%	5.7%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0011$

1-way Test, ChiSquare Approximation:  $p = 0.0011$

**q) Geography Faculty vs. Hybrid Faculty**

Response	Geog Faculty	Hybrid Faculty
Not Prepared/No Preparation	26.4%	11.1%
Somewhat Prepared/Some Preparation	47.2%	33.3%
Adequately Prepared/Adequate Preparation	20.8%	44.4%
Extensively Prepared/Extensive Preparation	5.7%	11.1%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0300$

1-way Test, ChiSquare Approximation:  $p = 0.0295$

**r) Geology Students vs. Geology Non-Academic Professionals (Preparedness)**

Response	Geol Students	NA Profs - Preparedness
Not Prepared/No Preparation	25.8%	12.1%
Somewhat Prepared/Some Preparation	38.7%	31.0%

Adequately Prepared/Adequate Preparation	25.8%	43.1%
Extensively Prepared/Extensive Preparation	9.7%	13.8%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0499$

1-way Test, ChiSquare Approximation:  $p = 0.0494$

**s) Geology Faculty vs. Geology Non-Academic Professionals (Importance)**

Response	Geol Faculty	NA Profs - Importance
Not Prepared/Not Important	10.9%	37.3%
Somewhat Prepared/Somewhat Important	30.9%	32.2%
Adequately Prepared/Important	47.3%	22.0%
Extensively Prepared/Very Important	10.9%	8.5%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0010$

1-way Test, ChiSquare Approximation:  $p = 0.0010$

**t) Geography Students vs. Geography Non-Academic Professionals (Preparedness)**

Response	Geog Students	NA Profs - Preparedness
Not Prepared/No Preparation	40.0%	0.0%
Somewhat Prepared/Some Preparation	25.7%	44.4%
Adequately Prepared/Adequate Preparation	11.4%	27.8%
Extensively Prepared/Extensive Preparation	22.9%	27.8%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0284$

1-way Test, ChiSquare Approximation:  $p = 0.0277$

**u) Geography Faculty vs. Geography Non-Academic Professionals (Preparedness)**

Response	Geog Faculty	NA Profs - Preparedness
Not Prepared/No Preparation	26.4%	0.0%
Somewhat Prepared/Some Preparation	47.2%	44.4%
Adequately Prepared/Adequate Preparation	20.8%	27.8%
Extensively Prepared/Extensive Preparation	5.7%	27.8%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0025$

1-way Test, ChiSquare Approximation:  $p = 0.0024$

## 19) Computer & Tech Skills

Comparisons **NOT** significantly different:

- a) Geography Faculty vs. Geography Students
- b) Hybrid Faculty vs. Hybrid Students
- c) Geography Faculty vs. Hybrid Faculty
- d) Geology Faculty vs. Hybrid Faculty
- e) Geography Students vs. Hybrid Students
- f) Geology Students vs. Hybrid Students
- g) Geology Students vs. Geology Non-Academic Professionals (Preparedness)
- h) Geology Faculty vs. Geology Non-Academic Professionals (Preparedness)
- i) Geography Students vs. Geography Non-Academic Professionals (Preparedness)
- j) Geography Faculty vs. Geography Non-Academic Professionals (Preparedness)
- k) Hybrid Students vs. Hybrid Non-Academic Professionals (Preparedness)

Comparisons **SIGNIFICANTLY** different:

### l) Geology Faculty vs. Geology Students

Response	Geol Faculty	Geol Students
Not Prepared/No Preparation	0.0%	6.5%
Somewhat Prepared/Some Preparation	22.4%	41.9%
Adequately Prepared/Adequate Preparation	60.3%	38.7%
Extensively Prepared/Extensive Preparation	17.2%	12.9%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0252$

1-way Test, ChiSquare Approximation:  $p = 0.0249$

### m) Geology Faculty vs. Geography Faculty

Response	Geol Faculty	Geog Faculty
Not Prepared/No Preparation	0.0%	0.0%
Somewhat Prepared/Some Preparation	22.4%	11.9%
Adequately Prepared/Adequate Preparation	60.3%	42.4%
Extensively Prepared/Extensive Preparation	17.2%	45.8%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0016$

1-way Test, ChiSquare Approximation:  $p = 0.0016$

### n) Geology Students vs. Geography Students

Response	Geol Students	Geog Students
Not Prepared/No Preparation	6.5%	5.1%
Somewhat Prepared/Some Preparation	41.9%	17.9%
Adequately Prepared/Adequate Preparation	38.7%	41.0%
Extensively Prepared/Extensive Preparation	12.9%	35.9%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0131$

1-way Test, ChiSquare Approximation:  $p = 0.0129$

**o) Geology Students vs. Geology Non-Academic Professionals (Importance)**

Response	Geol Students	NA Profs - Importance
Not Prepared/Not Important	6.5%	0.0%
Somewhat Prepared/Somewhat Important	41.9%	9.7%
Adequately Prepared/Important	38.7%	34.7%
Extensively Prepared/Very Important	12.9%	55.6%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p < 0.0001$

1-way Test, ChiSquare Approximation:  $p < 0.0001$

**p) Geology Faculty vs. Geology Non-Academic Professionals (Importance)**

Response	Geol Faculty	NA Profs - Importance
Not Prepared/Not Important	0.0%	0.0%
Somewhat Prepared/Somewhat Important	22.4%	9.7%
Adequately Prepared/Important	60.3%	34.7%
Extensively Prepared/Very Important	17.2%	55.6%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p < 0.0001$

1-way Test, ChiSquare Approximation:  $p < 0.0001$

**q) Geography Students vs. Geography Non-Academic Professionals (Importance)**

Response	Geog Students	NA Profs - Importance
Not Prepared/Not Important	5.1%	0.0%
Somewhat Prepared/Somewhat Important	17.9%	8.3%
Adequately Prepared/Important	41.0%	16.7%
Extensively Prepared/Very Important	35.9%	75.0%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0039$

1-way Test, ChiSquare Approximation:  $p = 0.0038$

**r) Geography Faculty vs. Geography Non-Academic Professionals (Importance)**

Response	Geog Faculty	NA Profs - Importance
Not Prepared/Not Important	0.0%	0.0%
Somewhat Prepared/Somewhat Important	11.9%	8.3%
Adequately Prepared/Important	42.4%	16.7%
Extensively Prepared/Very Important	45.8%	75.0%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0278$

1-way Test, ChiSquare Approximation:  $p = 0.0274$

**s) Hybrid Students vs. Hybrid Non-Academic Professionals (Importance)**

Response	Hybrid Students	NA Profs - Importance
Not Prepared/Not Important	3.4%	0.0%
Somewhat Prepared/Somewhat Important	24.1%	7.4%
Adequately Prepared/Important	41.4%	40.7%
Extensively Prepared/Very Important	31.0%	51.9%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0435$

1-way Test, ChiSquare Approximation:  $p = 0.0426$

**t) Hybrid Faculty vs. Hybrid Non-Academic Professionals (Importance)**

Response	Hybrid Faculty	NA Profs - Importance
Not Prepared/Not Important	0.0%	0.0%
Somewhat Prepared/Somewhat Important	11.1%	7.4%
Adequately Prepared/Important	72.2%	40.7%
Extensively Prepared/Very Important	16.7%	51.9%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0309$

1-way Test, ChiSquare Approximation:  $p = 0.0299$

**u) Hybrid Faculty vs. Hybrid Non-Academic Professionals (Preparedness)**

Response	Hybrid Faculty	NA Profs - Preparedness
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Not Prepared/No Preparation	0.0%	0.0%
Somewhat Prepared/Some Preparation	11.1%	3.7%
Adequately Prepared/Adequate Preparation	72.2%	51.9%
Extensively Prepared/Extensive Preparation	16.7%	44.4%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0458$

1-way Test, ChiSquare Approximation:  $p = 0.0444$

## 20) Publishing

Comparisons **NOT** significantly different:

- a) Geography Faculty vs. Geography Students
- b) Hybrid Faculty vs. Hybrid Students
- c) Geology Faculty vs. Geography Faculty
- d) Geography Faculty vs. Hybrid Faculty
- e) Geology Faculty vs. Hybrid Faculty
- f) Geology Students vs. Geography Students
- g) Geography Students vs. Hybrid Students
- h) Geology Students vs. Hybrid Students
- i) Geology Students vs. Geology Non-Academic Professionals (Importance)
- j) Geology Faculty vs. Geology Non-Academic Professionals (Importance)
- k) Geology Faculty vs. Geology Non-Academic Professionals (Preparedness)
- l) Geography Students vs. Geography Non-Academic Professionals (Importance)
- m) Geography Faculty vs. Geography Non-Academic Professionals (Importance)
- n) Geography Students vs. Geography Non-Academic Professionals (Preparedness)
- o) Geography Faculty vs. Geography Non-Academic Professionals (Preparedness)
- p) Hybrid Students vs. Hybrid Non-Academic Professionals (Importance)
- q) Hybrid Faculty vs. Hybrid Non-Academic Professionals (Importance)

Comparisons **SIGNIFICANTLY** different:

### r) Geology Faculty vs. Geology Students

Response	Geol Faculty	Geol Students
Not Prepared/No Preparation	6.9%	19.4%
Somewhat Prepared/Some Preparation	50.0%	54.8%
Adequately Prepared/Adequate Preparation	34.5%	25.8%
Extensively Prepared/Extensive Preparation	8.6%	0.0%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0311$

1-way Test, ChiSquare Approximation:  $p = 0.0307$



**s) Geology Students vs. Geology Non-Academic Professionals (Preparedness)**

Response	Geol Students	NA Profs - Preparedness
Not Prepared/No Preparation	19.4%	8.8%
Somewhat Prepared/Some Preparation	54.8%	30.9%
Adequately Prepared/Adequate Preparation	25.8%	41.2%
Extensively Prepared/Extensive Preparation	0.0%	19.1%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0006$

1-way Test, ChiSquare Approximation:  $p = 0.0006$

**t) Hybrid Students vs. Hybrid Non-Academic Professionals (Preparedness)**

Response	Hybrid Students	NA Profs - Preparedness
Not Prepared/No Preparation	22.2%	8.0%
Somewhat Prepared/Some Preparation	59.3%	24.0%
Adequately Prepared/Adequate Preparation	14.8%	48.0%
Extensively Prepared/Extensive Preparation	3.7%	20.0%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0008$

1-way Test, ChiSquare Approximation:  $p = 0.0008$

**u) Hybrid Faculty vs. Hybrid Non-Academic Professionals (Preparedness)**

Response	Hybrid Faculty	NA Profs - Preparedness
Not Prepared/No Preparation	16.7%	8.0%
Somewhat Prepared/Some Preparation	44.4%	24.0%
Adequately Prepared/Adequate Preparation	33.3%	48.0%
Extensively Prepared/Extensive Preparation	5.6%	20.0%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0501$  (not sig.)

1-way Test, ChiSquare Approximation:  $p = 0.0486$

**21) Information Management**

Comparisons **NOT** significantly different:

- a) Geology Faculty vs. Geology Students
- b) Hybrid Faculty vs. Hybrid Students
- c) Geology Faculty vs. Geography Faculty

- d) Geography Faculty vs. Hybrid Faculty
- e) Geology Faculty vs. Hybrid Faculty
- f) Geology Students vs. Geography Students
- g) Geography Students vs. Hybrid Students
- h) Geology Students vs. Hybrid Students
- i) Geography Faculty vs. Geography Non-Academic Professionals (Preparedness)
- j) Hybrid Faculty vs. Hybrid Non-Academic Professionals (Preparedness)

Comparisons **SIGNIFICANTLY** different:

**k) Geography Faculty vs. Geography Students**

Response	Geog Faculty	Geog Students
Not Prepared/No Preparation	0.0%	5.3%
Somewhat Prepared/Some Preparation	16.9%	28.9%
Adequately Prepared/Adequate Preparation	54.2%	47.4%
Extensively Prepared/Extensive Preparation	28.8%	18.4%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0488$

1-way Test, ChiSquare Approximation:  $p = 0.0484$

**l) Geology Students vs. Geology Non-Academic Professionals (Importance)**

Response	Geol Students	NA Profs - Importance
Not Prepared/Not Important	6.5%	0.0%
Somewhat Prepared/Somewhat Important	32.3%	12.5%
Adequately Prepared/Important	51.6%	34.7%
Extensively Prepared/Very Important	9.7%	52.8%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p < 0.0001$

1-way Test, ChiSquare Approximation:  $p < 0.0001$

**m) Geology Students vs. Geology Non-Academic Professionals (Preparedness)**

Response	Geol Students	NA Profs - Preparedness
Not Prepared/No Preparation	6.5%	4.2%
Somewhat Prepared/Some Preparation	32.3%	12.5%
Adequately Prepared/Adequate Preparation	51.6%	47.2%
Extensively Prepared/Extensive Preparation	9.7%	36.1%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0021$

1-way Test, ChiSquare Approximation:  $p = 0.0020$

**n) Geology Faculty vs. Geology Non-Academic Professionals (Importance)**

Response	Geol Faculty	NA Profs - Importance
Not Prepared/Not Important	0.0%	0.0%
Somewhat Prepared/Somewhat Important	27.6%	12.5%
Adequately Prepared/Important	53.4%	34.7%
Extensively Prepared/Very Important	19.0%	52.8%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0001$

1-way Test, ChiSquare Approximation:  $p = 0.0001$

**o) Geology Faculty vs. Geology Non-Academic Professionals (Preparedness)**

Response	Geol Faculty	NA Profs - Preparedness
Not Prepared/No Preparation	0.0%	4.2%
Somewhat Prepared/Some Preparation	27.6%	12.5%
Adequately Prepared/Adequate Preparation	53.4%	47.2%
Extensively Prepared/Extensive Preparation	19.0%	36.1%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0326$

1-way Test, ChiSquare Approximation:  $p = 0.0323$

**p) Geography Students vs. Geography Non-Academic Professionals (Importance)**

Response	Geog Students	NA Profs - Importance
Not Prepared/Not Important	5.3%	0.0%
Somewhat Prepared/Somewhat Important	28.9%	8.3%
Adequately Prepared/Important	47.4%	29.2%
Extensively Prepared/Very Important	18.4%	62.5%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0004$

1-way Test, ChiSquare Approximation:  $p = 0.0004$

**q) Geography Faculty vs. Geography Non-Academic Professionals (Importance)**

Response	Geog Faculty	NA Profs - Importance
Not Prepared/Not Important	0.0%	0.0%
Somewhat Prepared/Somewhat Important	16.9%	8.3%

Adequately Prepared/Important	54.2%	29.2%
Extensively Prepared/Very Important	28.8%	62.5%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0081$

1-way Test, ChiSquare Approximation:  $p = 0.0080$

**r) Geography Students vs. Geography Non-Academic Professionals (Preparedness)**

Response	Geog Students	NA Profs - Preparedness
Not Prepared/No Preparation	5.3%	4.2%
Somewhat Prepared/Some Preparation	28.9%	8.3%
Adequately Prepared/Adequate Preparation	47.4%	50.0%
Extensively Prepared/Extensive Preparation	18.4%	37.5%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0368$

1-way Test, ChiSquare Approximation:  $p = 0.0361$

**s) Hybrid Students vs. Hybrid Non-Academic Professionals (Importance)**

Response	Hybrid Students	NA Profs - Importance
Not Prepared/Not Important	0.0%	0.0%
Somewhat Prepared/Somewhat Important	20.7%	0.0%
Adequately Prepared/Important	55.2%	48.1%
Extensively Prepared/Very Important	24.1%	51.9%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0073$

1-way Test, ChiSquare Approximation:  $p = 0.0071$

**t) Hybrid Students vs. Hybrid Non-Academic Professionals (Preparedness)**

Response	Hybrid Students	NA Profs - Preparedness
Not Prepared/No Preparation	0.0%	3.7%
Somewhat Prepared/Some Preparation	20.7%	3.7%
Adequately Prepared/Adequate Preparation	55.2%	44.4%
Extensively Prepared/Extensive Preparation	24.1%	48.1%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0464$

1-way Test, ChiSquare Approximation:  $p = 0.0454$

**u) Hybrid Faculty vs. Hybrid Non-Academic Professionals (Importance)**

Response	Hybrid Faculty	NA Profs - Importance
Not Prepared/Not Important	0.0%	0.0%
Somewhat Prepared/Somewhat Important	22.2%	0.0%
Adequately Prepared/Important	55.6%	48.1%
Extensively Prepared/Very Important	22.2%	51.9%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0117$

1-way Test, ChiSquare Approximation:  $p = 0.0112$

## 22) Grant Proposals

Comparisons **NOT** significantly different:

- Geology Faculty vs. Geology Students
- Geography Faculty vs. Geography Students
- Geology Faculty vs. Hybrid Faculty
- Geography Students vs. Hybrid Students
- Geology Students vs. Geology Non-Academic Professionals (Preparedness)
- Geology Faculty vs. Geology Non-Academic Professionals (Importance)
- Geology Faculty vs. Geology Non-Academic Professionals (Preparedness)
- Geography Students vs. Geography Non-Academic Professionals (Importance)
- Geography Faculty vs. Geography Non-Academic Professionals (Importance)
- Geography Students vs. Geography Non-Academic Professionals (Preparedness)
- Geography Faculty vs. Geography Non-Academic Professionals (Preparedness)
- Hybrid Students vs. Hybrid Non-Academic Professionals (Importance)
- Hybrid Students vs. Hybrid Non-Academic Professionals (Preparedness)
- Hybrid Faculty vs. Hybrid Non-Academic Professionals (Importance)
- Hybrid Faculty vs. Hybrid Non-Academic Professionals (Preparedness)

Comparisons **SIGNIFICANTLY** different:

**p) Hybrid Faculty vs. Hybrid Students**

Response	Hybrid Faculty	Hybrid Students
Not Prepared/No Preparation	16.7%	42.3%
Somewhat Prepared/Some Preparation	44.4%	42.3%
Adequately Prepared/Adequate Preparation	38.9%	15.4%
Extensively Prepared/Extensive Preparation	0.0%	0.0%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0361$

1-way Test, ChiSquare Approximation:  $p = 0.0350$

**q) Geology Faculty vs. Geography Faculty**

Response	Geol Faculty	Geog Faculty
Not Prepared/No Preparation	19.3%	41.1%
Somewhat Prepared/Some Preparation	56.1%	50.0%
Adequately Prepared/Adequate Preparation	19.3%	8.9%
Extensively Prepared/Extensive Preparation	5.3%	0.0%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0029$

1-way Test, ChiSquare Approximation:  $p = 0.0028$

**r) Geography Faculty vs. Hybrid Faculty**

Response	Geog Faculty	Hybrid Faculty
Not Prepared/No Preparation	41.1%	16.7%
Somewhat Prepared/Some Preparation	50.0%	44.4%
Adequately Prepared/Adequate Preparation	8.9%	38.9%
Extensively Prepared/Extensive Preparation	0.0%	0.0%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0058$

1-way Test, ChiSquare Approximation:  $p = 0.0057$

**s) Geology Students vs. Geography Students**

Response	Geol Students	Geog Students
Not Prepared/No Preparation	19.4%	60.5%
Somewhat Prepared/Some Preparation	35.5%	13.2%
Adequately Prepared/Adequate Preparation	35.5%	21.1%
Extensively Prepared/Extensive Preparation	9.7%	5.3%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0044$

1-way Test, ChiSquare Approximation:  $p = 0.0043$

**t) Geology Students vs. Hybrid Students**

Response	Geol Students	Hybrid Students
Not Prepared/No Preparation	19.4%	42.3%

Somewhat Prepared/Some Preparation	35.5%	42.3%
Adequately Prepared/Adequate Preparation	35.5%	15.4%
Extensively Prepared/Extensive Preparation	9.7%	0.0%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0097$

1-way Test, ChiSquare Approximation:  $p = 0.0094$

**u) Geology Students vs. Geology Non-Academic Professionals (Importance)**

Response	Geol Students	NA Profs - Importance
Not Prepared/Not Important	19.4%	51.7%
Somewhat Prepared/Somewhat Important	35.5%	19.0%
Adequately Prepared/Important	35.5%	19.0%
Extensively Prepared/Very Important	9.7%	10.3%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0196$

1-way Test, ChiSquare Approximation:  $p = 0.0194$

**23) Time Management**

Comparisons **NOT** significantly different:

- Geology Faculty vs. Geology Students
- Geography Faculty vs. Geography Students
- Hybrid Faculty vs. Hybrid Students
- Geology Faculty vs. Geography Faculty
- Geography Faculty vs. Hybrid Faculty
- Geology Faculty vs. Hybrid Faculty
- Geology Students vs. Geography Students
- Geography Students vs. Hybrid Students
- Geology Students vs. Hybrid Students
- Geography Students vs. Geography Non-Academic Professionals (Preparedness)

Comparisons **SIGNIFICANTLY** different:

**k) Geology Students vs. Geology Non-Academic Professionals (Importance)**

Response	Geol Students	NA Profs - Importance
Not Prepared/Not Important	0.0%	0.0%
Somewhat Prepared/Somewhat Important	41.9%	1.4%
Adequately Prepared/Important	41.9%	23.6%
Extensively Prepared/Very Important	16.1%	75.0%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p < 0.0001$

1-way Test, ChiSquare Approximation:  $p < 0.0001$

**l) Geology Students vs. Geology Non-Academic Professionals (Preparedness)**

Response	Geol Students	NA Profs - Preparedness
Not Prepared/No Preparation	0.0%	2.8%
Somewhat Prepared/Some Preparation	41.9%	9.7%
Adequately Prepared/Adequate Preparation	41.9%	43.1%
Extensively Prepared/Extensive Preparation	16.1%	44.4%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0006$

1-way Test, ChiSquare Approximation:  $p = 0.0006$

**m) Geology Faculty vs. Geology Non-Academic Professionals (Importance)**

Response	Geol Faculty	NA Profs - Importance
Not Prepared/Not Important	1.8%	0.0%
Somewhat Prepared/Somewhat Important	36.8%	1.4%
Adequately Prepared/Important	45.6%	23.6%
Extensively Prepared/Very Important	15.8%	75.0%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p < 0.0001$

1-way Test, ChiSquare Approximation:  $p < 0.0001$

**n) Geology Faculty vs. Geology Non-Academic Professionals (Preparedness)**

Response	Geol Faculty	NA Profs - Preparedness
Not Prepared/No Preparation	1.8%	2.8%
Somewhat Prepared/Some Preparation	36.8%	9.7%
Adequately Prepared/Adequate Preparation	45.6%	43.1%
Extensively Prepared/Extensive Preparation	15.8%	44.4%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p < 0.0001$

1-way Test, ChiSquare Approximation:  $p < 0.0001$

**o) Geography Students vs. Geography Non-Academic Professionals (Importance)**

Response	Geog	NA Profs -
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	Students	Importance
Not Prepared/Not Important	15.4%	0.0
Somewhat Prepared/Somewhat Important	20.5%	8.3
Adequately Prepared/Important	33.3%	16.7
Extensively Prepared/Very Important	30.8%	75.0

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0005$

1-way Test, ChiSquare Approximation:  $p = 0.0005$

**p) Geography Faculty vs. Geography Non-Academic Professionals (Importance)**

Response	Geog Faculty	NA Profs - Importance
Not Prepared/Not Important	1.7%	0.0
Somewhat Prepared/Somewhat Important	46.6%	8.3
Adequately Prepared/Important	37.9%	16.7
Extensively Prepared/Very Important	13.8%	75.0

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p < 0.0001$

1-way Test, ChiSquare Approximation:  $p < 0.0001$

**q) Geography Faculty vs. Geography Non-Academic Professionals (Preparedness)**

Response	Geog Faculty	NA Profs - Preparedness
Not Prepared/No Preparation	1.7%	8.3%
Somewhat Prepared/Some Preparation	46.6%	4.2%
Adequately Prepared/Adequate Preparation	37.9%	45.8%
Extensively Prepared/Extensive Preparation	13.8%	41.7%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0018$

1-way Test, ChiSquare Approximation:  $p = 0.0018$

**r) Hybrid Students vs. Hybrid Non-Academic Professionals (Importance)**

Response	Hybrid Students	NA Profs - Importance
Not Prepared/Not Important	0.0%	0.0%
Somewhat Prepared/Somewhat Important	44.8%	3.7%
Adequately Prepared/Important	27.6%	14.8%
Extensively Prepared/Very Important	27.6%	81.5%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p < 0.0001$

1-way Test, ChiSquare Approximation:  $p < 0.0001$

**s) Hybrid Students vs. Hybrid Non-Academic Professionals (Preparedness)**

Response	Hybrid Students	NA Profs - Preparedness
Not Prepared/No Preparation	0.0%	3.7%
Somewhat Prepared/Some Preparation	44.8%	11.1%
Adequately Prepared/Adequate Preparation	27.6%	40.7%
Extensively Prepared/Extensive Preparation	27.6%	44.4%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0469$

1-way Test, ChiSquare Approximation:  $p = 0.0459$

**t) Hybrid Faculty vs. Hybrid Non-Academic Professionals (Importance)**

Response	Hybrid Faculty	NA Profs - Importance
Not Prepared/Not Important	0.0%	0.0%
Somewhat Prepared/Somewhat Important	33.3%	3.7%
Adequately Prepared/Important	61.1%	14.8%
Extensively Prepared/Very Important	5.6%	81.5%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p < 0.0001$

1-way Test, ChiSquare Approximation:  $p < 0.0001$

**u) Hybrid Faculty vs. Hybrid Non-Academic Professionals (Preparedness)**

Response	Hybrid Faculty	NA Profs - Preparedness
Not Prepared/No Preparation	0.0%	3.7%
Somewhat Prepared/Some Preparation	33.3%	11.1%
Adequately Prepared/Adequate Preparation	61.1%	40.7%
Extensively Prepared/Extensive Preparation	5.6%	44.4%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0104$

1-way Test, ChiSquare Approximation:  $p = 0.0101$

**24) Adaptability**

Comparisons **NOT** significantly different:

- a) Geology Faculty vs. Geology Students

- b) Geography Faculty vs. Geography Students
- c) Hybrid Faculty vs. Hybrid Students
- d) Geology Faculty vs. Geography Faculty
- e) Geography Faculty vs. Hybrid Faculty
- f) Geology Faculty vs. Hybrid Faculty
- g) Geology Students vs. Geography Students
- h) Geography Students vs. Hybrid Students
- i) Geology Students vs. Hybrid Students

Comparisons **SIGNIFICANTLY** different:

**j) Geology Students vs. Geology Non-Academic Professionals (Importance)**

Response	Geol Students	NA Profs - Importance
Not Prepared/Not Important	3.3%	1.4%
Somewhat Prepared/Somewhat Important	43.3%	8.3%
Adequately Prepared/Important	40.0%	22.2%
Extensively Prepared/Very Important	13.3%	68.1%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p < 0.0001$

1-way Test, ChiSquare Approximation:  $p < 0.0001$

**k) Geology Students vs. Geology Non-Academic Professionals (Preparedness)**

Response	Geol Students	NA Profs - Preparedness
Not Prepared/No Preparation	3.3%	1.4%
Somewhat Prepared/Some Preparation	43.3%	11.4%
Adequately Prepared/Adequate Preparation	40.0%	44.3%
Extensively Prepared/Extensive Preparation	13.3%	42.9%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0002$

1-way Test, ChiSquare Approximation:  $p = 0.0002$

**l) Geology Faculty vs. Geology Non-Academic Professionals (Importance)**

Response	Geol Faculty	NA Profs - Importance
Not Prepared/Not Important	7.7%	1.4%
Somewhat Prepared/Somewhat Important	34.6%	8.3%
Adequately Prepared/Important	48.1%	22.2%
Extensively Prepared/Very Important	9.6%	68.1%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p < 0.0001$

1-way Test, ChiSquare Approximation:  $p < 0.0001$

**m) Geology Faculty vs. Geology Non-Academic Professionals (Preparedness)**

Response	Geol Faculty	NA Profs - Preparedness
Not Prepared/No Preparation	7.7%	1.4%
Somewhat Prepared/Some Preparation	34.6%	11.4%
Adequately Prepared/Adequate Preparation	48.1%	44.3%
Extensively Prepared/Extensive Preparation	9.6%	42.9%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p < 0.0001$

1-way Test, ChiSquare Approximation:  $p < 0.0001$

**n) Geography Students vs. Geography Non-Academic Professionals (Importance)**

Response	Geog Students	NA Profs - Importance
Not Prepared/Not Important	15.4%	4.2%
Somewhat Prepared/Somewhat Important	28.2%	12.5%
Adequately Prepared/Important	30.8%	29.2%
Extensively Prepared/Very Important	25.6%	54.2%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0108$

1-way Test, ChiSquare Approximation:  $p = 0.0106$

**o) Geography Faculty vs. Geography Non-Academic Professionals (Importance)**

Response	Geog Faculty	NA Profs - Importance
Not Prepared/Not Important	3.7%	4.2%
Somewhat Prepared/Somewhat Important	58.2%	12.5%
Adequately Prepared/Important	29.1%	29.2%
Extensively Prepared/Very Important	9.1%	54.2%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p < 0.0001$

1-way Test, ChiSquare Approximation:  $p < 0.0001$

**p) Geography Students vs. Geography Non-Academic Professionals (Preparedness)**

Response	Geog Students	NA Profs - Preparedness
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Not Prepared/No Preparation	15.4%	4.3%
Somewhat Prepared/Some Preparation	28.2%	4.3%
Adequately Prepared/Adequate Preparation	30.8%	47.8%
Extensively Prepared/Extensive Preparation	25.6%	43.5%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0153$

1-way Test, ChiSquare Approximation:  $p = 0.0150$

**q) Geography Faculty vs. Geography Non-Academic Professionals (Preparedness)**

Response	Geog Faculty	NA Profs - Preparedness
Not Prepared/No Preparation	3.7%	4.3%
Somewhat Prepared/Some Preparation	58.2%	4.3%
Adequately Prepared/Adequate Preparation	29.1%	47.8%
Extensively Prepared/Extensive Preparation	9.1%	43.5%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p < 0.0001$

1-way Test, ChiSquare Approximation:  $p < 0.0001$

**r) Hybrid Students vs. Hybrid Non-Academic Professionals (Importance)**

Response	Hybrid Students	NA Profs - Importance
Not Prepared/Not Important	7.1%	0.0%
Somewhat Prepared/Somewhat Important	32.1%	3.7%
Adequately Prepared/Important	46.4%	22.2%
Extensively Prepared/Very Important	14.3%	74.1%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p < 0.0001$

1-way Test, ChiSquare Approximation:  $p < 0.0001$

**s) Hybrid Students vs. Hybrid Non-Academic Professionals (Preparedness)**

Response	Hybrid Students	NA Profs - Preparedness
Not Prepared/No Preparation	7.1%	7.4%
Somewhat Prepared/Some Preparation	32.1%	3.7%
Adequately Prepared/Adequate Preparation	46.4%	40.7%
Extensively Prepared/Extensive Preparation	14.3%	48.1%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0040$

1-way Test, ChiSquare Approximation:  $p = 0.0039$

**t) Hybrid Faculty vs. Hybrid Non-Academic Professionals (Importance)**

Response	Hybrid Faculty	NA Profs - Importance
Not Prepared/Not Important	0.0%	0.0%
Somewhat Prepared/Somewhat Important	50.0%	3.7%
Adequately Prepared/Important	50.0%	22.2%
Extensively Prepared/Very Important	0.0%	74.1%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p < 0.0001$

1-way Test, ChiSquare Approximation:  $p < 0.0001$

**u) Hybrid Faculty vs. Hybrid Non-Academic Professionals (Preparedness)**

Response	Hybrid Faculty	NA Profs - Preparedness
Not Prepared/No Preparation	0.0%	7.4%
Somewhat Prepared/Some Preparation	50.0%	3.7%
Adequately Prepared/Adequate Preparation	50.0%	40.7%
Extensively Prepared/Extensive Preparation	0.0%	48.1%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0004$

1-way Test, ChiSquare Approximation:  $p = 0.0004$

**25) Self-Awareness**

Comparisons **NOT** significantly different:

- a) Geology Faculty vs. Geology Students
- b) Geography Faculty vs. Geography Students
- c) Hybrid Faculty vs. Hybrid Students
- d) Geology Faculty vs. Geography Faculty
- e) Geography Faculty vs. Hybrid Faculty
- f) Geology Faculty vs. Hybrid Faculty
- g) Geology Students vs. Geography Students
- h) Geography Students vs. Hybrid Students
- i) Geology Students vs. Hybrid Students

Comparisons **SIGNIFICANTLY** different:

**j) Geology Students vs. Geology Non-Academic Professionals (Importance)**

Response	Geol	NA Profs -
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	Students	Importance
Not Prepared/Not Important	0.0%	2.8%
Somewhat Prepared/Somewhat Important	50.0%	11.1%
Adequately Prepared/Important	33.3%	33.3%
Extensively Prepared/Very Important	16.7%	52.8%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p < 0.0001$

1-way Test, ChiSquare Approximation:  $p < 0.0001$

**k) Geology Students vs. Geology Non-Academic Professionals (Preparedness)**

Response	Geol Students	NA Profs - Preparedness
Not Prepared/No Preparation	0.0%	2.9%
Somewhat Prepared/Some Preparation	50.0%	17.1%
Adequately Prepared/Adequate Preparation	33.3%	48.6%
Extensively Prepared/Extensive Preparation	16.7%	31.4%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0091$

1-way Test, ChiSquare Approximation:  $p = 0.0090$

**l) Geology Faculty vs. Geology Non-Academic Professionals (Importance)**

Response	Geol Faculty	NA Profs - Importance
Not Prepared/Not Important	7.0%	2.8%
Somewhat Prepared/Somewhat Important	40.4%	11.1%
Adequately Prepared/Important	49.1%	33.3%
Extensively Prepared/Very Important	3.5%	52.8%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p < 0.0001$

1-way Test, ChiSquare Approximation:  $p < 0.0001$

**m) Geology Faculty vs. Geology Non-Academic Professionals (Preparedness)**

Response	Geol Faculty	NA Profs - Preparedness
Not Prepared/No Preparation	7.0%	2.9%
Somewhat Prepared/Some Preparation	40.4%	17.1%
Adequately Prepared/Adequate Preparation	49.1%	48.6%
Extensively Prepared/Extensive Preparation	3.5%	31.4%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p < 0.0001$

1-way Test, ChiSquare Approximation:  $p < 0.0001$

**n) Geography Students vs. Geography Non-Academic Professionals (Importance)**

Response	Geog Students	NA Profs - Importance
Not Prepared/Not Important	15.4%	0.0%
Somewhat Prepared/Somewhat Important	28.2%	12.5%
Adequately Prepared/Important	35.9%	29.2%
Extensively Prepared/Very Important	20.5%	58.3%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0009$

1-way Test, ChiSquare Approximation:  $p = 0.0009$

**o) Geography Faculty vs. Geography Non-Academic Professionals (Importance)**

Response	Geog Faculty	NA Profs - Importance
Not Prepared/Not Important	4.1%	0.0%
Somewhat Prepared/Somewhat Important	53.1%	12.5%
Adequately Prepared/Important	32.7%	29.2%
Extensively Prepared/Very Important	10.2%	58.3%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p < 0.0001$

1-way Test, ChiSquare Approximation:  $p < 0.0001$

**p) Geography Students vs. Geography Non-Academic Professionals (Preparedness)**

Response	Geog Students	NA Profs - Preparedness
Not Prepared/No Preparation	15.4%	4.2%
Somewhat Prepared/Some Preparation	28.2%	12.5%
Adequately Prepared/Adequate Preparation	35.9%	50.0%
Extensively Prepared/Extensive Preparation	20.5%	33.3%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0411$

1-way Test, ChiSquare Approximation:  $p = 0.0404$

**q) Geography Faculty vs. Geography Non-Academic Professionals (Preparedness)**

Response	Geog Faculty	NA Profs - Preparedness
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Not Prepared/No Preparation	4.1%	4.2%
Somewhat Prepared/Some Preparation	53.1%	12.5%
Adequately Prepared/Adequate Preparation	32.7%	50.0%
Extensively Prepared/Extensive Preparation	10.2%	33.3%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0010$

1-way Test, ChiSquare Approximation:  $p = 0.0010$

**r) Hybrid Students vs. Hybrid Non-Academic Professionals (Importance)**

Response	Hybrid Students	NA Profs - Importance
Not Prepared/Not Important	3.4%	0.0%
Somewhat Prepared/Somewhat Important	48.3%	7.4%
Adequately Prepared/Important	34.5%	33.3%
Extensively Prepared/Very Important	13.8%	59.3%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p < 0.0001$

1-way Test, ChiSquare Approximation:  $p < 0.0001$

**s) Hybrid Students vs. Hybrid Non-Academic Professionals (Preparedness)**

Response	Hybrid Students	NA Profs - Preparedness
Not Prepared/No Preparation	3.4%	3.7%
Somewhat Prepared/Some Preparation	48.3%	3.7%
Adequately Prepared/Adequate Preparation	34.5%	44.4%
Extensively Prepared/Extensive Preparation	13.8%	48.1%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0003$

1-way Test, ChiSquare Approximation:  $p = 0.0003$

**t) Hybrid Faculty vs. Hybrid Non-Academic Professionals (Importance)**

Response	Hybrid Faculty	NA Profs - Importance
Not Prepared/Not Important	5.9%	0.0%
Somewhat Prepared/Somewhat Important	41.2%	7.4%
Adequately Prepared/Important	52.9%	33.3%
Extensively Prepared/Very Important	0.0%	59.3%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p < 0.0001$

1-way Test, ChiSquare Approximation:  $p < 0.0001$

**u) Hybrid Faculty vs. Hybrid Non-Academic Professionals (Preparedness)**

Response	Hybrid Faculty	NA Profs - Preparedness
Not Prepared/No Preparation	5.9%	3.7%
Somewhat Prepared/Some Preparation	41.2%	3.7%
Adequately Prepared/Adequate Preparation	52.9%	44.4%
Extensively Prepared/Extensive Preparation	0.0%	48.1%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0001$

1-way Test, ChiSquare Approximation:  $p = 0.0001$

**26) Ethical Practices**

Comparisons **NOT** significantly different:

- Geology Faculty vs. Geology Students (*but close;  $p = 0.065$* )
- Geography Faculty vs. Geography Students
- Hybrid Faculty vs. Hybrid Students
- Geology Faculty vs. Geography Faculty
- Geography Faculty vs. Hybrid Faculty
- Geology Faculty vs. Hybrid Faculty
- Geology Students vs. Geography Students
- Geography Students vs. Hybrid Students
- Geology Students vs. Hybrid Students

Comparisons **SIGNIFICANTLY** different:

**j) Geology Students vs. Geology Non-Academic Professionals (Importance)**

Response	Geol Students	NA Profs - Importance
Not Prepared/Not Important	13.3%	1.4%
Somewhat Prepared/Somewhat Important	33.3%	2.8%
Adequately Prepared/Important	40.0%	18.1%
Extensively Prepared/Very Important	13.3%	77.8%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p < 0.0001$

1-way Test, ChiSquare Approximation:  $p < 0.0001$

**k) Geology Students vs. Geology Non-Academic Professionals (Preparedness)**

Response	Geol	NA Profs -
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	Students	Preparedness
Not Prepared/No Preparation	13.3%	1.4%
Somewhat Prepared/Some Preparation	33.3%	4.2%
Adequately Prepared/Adequate Preparation	40.0%	43.7%
Extensively Prepared/Extensive Preparation	13.3%	50.7%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p < 0.0001$

1-way Test, ChiSquare Approximation:  $p < 0.0001$

**l) Geology Faculty vs. Geology Non-Academic Professionals (Importance)**

Response	Geol Faculty	NA Profs - Importance
Not Prepared/Not Important	3.6%	1.4%
Somewhat Prepared/Somewhat Important	23.2%	2.8%
Adequately Prepared/Important	53.6%	18.1%
Extensively Prepared/Very Important	19.6%	77.8%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p < 0.0001$

1-way Test, ChiSquare Approximation:  $p < 0.0001$

**m) Geology Faculty vs. Geology Non-Academic Professionals (Preparedness)**

Response	Geol Faculty	NA Profs - Preparedness
Not Prepared/No Preparation	3.6%	1.4%
Somewhat Prepared/Some Preparation	23.2%	4.2%
Adequately Prepared/Adequate Preparation	53.6%	43.7%
Extensively Prepared/Extensive Preparation	19.6%	50.7%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p < 0.0001$

1-way Test, ChiSquare Approximation:  $p < 0.0001$

**n) Geography Students vs. Geography Non-Academic Professionals (Importance)**

Response	Geog Students	NA Profs - Importance
Not Prepared/Not Important	15.4%	4.2%
Somewhat Prepared/Somewhat Important	30.8%	12.5%
Adequately Prepared/Important	30.8%	29.2%
Extensively Prepared/Very Important	23.1%	54.2%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0057$

1-way Test, ChiSquare Approximation:  $p = 0.0055$

**o) Geography Faculty vs. Geography Non-Academic Professionals (Importance)**

Response	Geog Faculty	NA Profs - Importance
Not Prepared/Not Important	1.8%	4.2%
Somewhat Prepared/Somewhat Important	31.6%	12.5%
Adequately Prepared/Important	52.6%	29.2%
Extensively Prepared/Very Important	14.0%	54.2%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0025$

1-way Test, ChiSquare Approximation:  $p = 0.0024$

**p) Geography Students vs. Geography Non-Academic Professionals (Preparedness)**

Response	Geog Students	NA Profs - Preparedness
Not Prepared/No Preparation	15.4%	0.0%
Somewhat Prepared/Some Preparation	30.8%	8.7%
Adequately Prepared/Adequate Preparation	30.8%	43.5%
Extensively Prepared/Extensive Preparation	23.1%	47.8%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0030$

1-way Test, ChiSquare Approximation:  $p = 0.0029$

**q) Geography Faculty vs. Geography Non-Academic Professionals (Preparedness)**

Response	Geog Faculty	NA Profs - Preparedness
Not Prepared/No Preparation	1.8%	0.0%
Somewhat Prepared/Some Preparation	31.6%	8.7%
Adequately Prepared/Adequate Preparation	52.6%	43.5%
Extensively Prepared/Extensive Preparation	14.0%	47.8%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0009$

1-way Test, ChiSquare Approximation:  $p = 0.0009$

**r) Hybrid Students vs. Hybrid Non-Academic Professionals (Importance)**

Response	Hybrid Students	NA Profs - Importance
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Not Prepared/Not Important	7.1%	0.0%
Somewhat Prepared/Somewhat Important	28.6%	3.7%
Adequately Prepared/Important	42.9%	22.2%
Extensively Prepared/Very Important	21.4%	74.1%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p < 0.0001$

1-way Test, ChiSquare Approximation:  $p < 0.0001$

**s) Hybrid Students vs. Hybrid Non-Academic Professionals (Preparedness)**

Response	Hybrid Students	NA Profs - Preparedness
Not Prepared/No Preparation	7.1%	3.7%
Somewhat Prepared/Some Preparation	28.6%	7.4%
Adequately Prepared/Adequate Preparation	42.9%	33.3%
Extensively Prepared/Extensive Preparation	21.4%	55.6%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0060$

1-way Test, ChiSquare Approximation:  $p = 0.0058$

**t) Hybrid Faculty vs. Hybrid Non-Academic Professionals (Importance)**

Response	Hybrid Faculty	NA Profs - Importance
Not Prepared/Not Important	0.0%	0.0%
Somewhat Prepared/Somewhat Important	23.5%	3.7%
Adequately Prepared/Important	70.6%	22.2%
Extensively Prepared/Very Important	5.9%	74.1%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p < 0.0001$

1-way Test, ChiSquare Approximation:  $p < 0.0001$

**u) Hybrid Faculty vs. Hybrid Non-Academic Professionals (Preparedness)**

Response	Hybrid Faculty	NA Profs - Preparedness
Not Prepared/No Preparation	0.0%	3.7%
Somewhat Prepared/Some Preparation	23.5%	7.4%
Adequately Prepared/Adequate Preparation	70.6%	33.3%
Extensively Prepared/Extensive Preparation	5.9%	55.6%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0034$

1-way Test, ChiSquare Approximation:  $p = 0.0032$

## 27) Project Management

Comparisons **NOT** significantly different:

- a) Geology Faculty vs. Geology Students
- b) Geography Faculty vs. Geography Students
- c) Hybrid Faculty vs. Hybrid Students
- d) Geology Faculty vs. Geography Faculty
- e) Geography Faculty vs. Hybrid Faculty
- f) Geology Faculty vs. Hybrid Faculty
- g) Geology Students vs. Geography Students
- h) Geography Students vs. Hybrid Students
- i) Geology Students vs. Hybrid Students
- j) Geography Students vs. Geography Non-Academic Professionals (Preparedness)

Comparisons **SIGNIFICANTLY** different:

### k) Geology Students vs. Geology Non-Academic Professionals (Importance)

Response	Geol Students	NA Profs - Importance
Not Prepared/Not Important	13.8%	2.8%
Somewhat Prepared/Somewhat Important	58.6%	9.7%
Adequately Prepared/Important	20.7%	30.6%
Extensively Prepared/Very Important	6.9%	56.9%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p < 0.0001$

1-way Test, ChiSquare Approximation:  $p < 0.0001$

### l) Geology Students vs. Geology Non-Academic Professionals (Preparedness)

Response	Geol Students	NA Profs - Preparedness
Not Prepared/No Preparation	13.8%	2.8%
Somewhat Prepared/Some Preparation	58.6%	18.3%
Adequately Prepared/Adequate Preparation	20.7%	46.5%
Extensively Prepared/Extensive Preparation	6.9%	32.4%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p < 0.0001$

1-way Test, ChiSquare Approximation:  $p < 0.0001$

### m) Geology Faculty vs. Geology Non-Academic Professionals (Importance)

Response	Geol Faculty	NA Profs - Importance
Not Prepared/Not Important	9.1%	2.8%
Somewhat Prepared/Somewhat Important	40.0%	9.7%
Adequately Prepared/Important	47.3%	30.6%
Extensively Prepared/Very Important	3.6%	56.9%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p < 0.0001$

1-way Test, ChiSquare Approximation:  $p < 0.0001$

**n) Geology Faculty vs. Geology Non-Academic Professionals (Preparedness)**

Response	Geol Faculty	NA Profs - Preparedness
Not Prepared/No Preparation	9.1%	2.8%
Somewhat Prepared/Some Preparation	40.0%	18.3%
Adequately Prepared/Adequate Preparation	47.3%	46.5%
Extensively Prepared/Extensive Preparation	3.6%	32.4%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p < 0.0001$

1-way Test, ChiSquare Approximation:  $p < 0.0001$

**o) Geography Students vs. Geography Non-Academic Professionals (Importance)**

Response	Geog Students	NA Profs - Importance
Not Prepared/Not Important	20.5%	4.5%
Somewhat Prepared/Somewhat Important	25.6%	18.2%
Adequately Prepared/Important	30.8%	27.3%
Extensively Prepared/Very Important	23.1%	50.0%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0191$

1-way Test, ChiSquare Approximation:  $p = 0.0187$

**p) Geography Faculty vs. Geography Non-Academic Professionals (Importance)**

Response	Geog Faculty	NA Profs - Importance
Not Prepared/Not Important	13.0%	4.5%
Somewhat Prepared/Somewhat Important	35.2%	18.2%
Adequately Prepared/Important	46.3%	27.3%
Extensively Prepared/Very Important	5.6%	50.0%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0006$

1-way Test, ChiSquare Approximation:  $p = 0.0006$

**q) Geography Faculty vs. Geography Non-Academic Professionals (Preparedness)**

Response	Geog Faculty	NA Profs - Preparedness
Not Prepared/No Preparation	13.0%	9.1%
Somewhat Prepared/Some Preparation	35.2%	18.2%
Adequately Prepared/Adequate Preparation	46.3%	45.5%
Extensively Prepared/Extensive Preparation	5.6%	27.3%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0285$

1-way Test, ChiSquare Approximation:  $p = 0.0281$

**r) Hybrid Students vs. Hybrid Non-Academic Professionals (Importance)**

Response	Hybrid Students	NA Profs - Importance
Not Prepared/Not Important	11.1%	3.7%
Somewhat Prepared/Somewhat Important	44.4%	7.4%
Adequately Prepared/Important	25.9%	25.9%
Extensively Prepared/Very Important	18.5%	63.0%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0003$

1-way Test, ChiSquare Approximation:  $p = 0.0002$

**s) Hybrid Students vs. Hybrid Non-Academic Professionals (Preparedness)**

Response	Hybrid Students	NA Profs - Preparedness
Not Prepared/No Preparation	11.1%	3.7%
Somewhat Prepared/Some Preparation	44.4%	7.4%
Adequately Prepared/Adequate Preparation	25.9%	44.4%
Extensively Prepared/Extensive Preparation	18.5%	44.4%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0020$

1-way Test, ChiSquare Approximation:  $p = 0.0019$

**t) Hybrid Faculty vs. Hybrid Non-Academic Professionals (Importance)**

Response	Hybrid Faculty	NA Profs - Importance
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Not Prepared/Not Important	0.0%	3.7%
Somewhat Prepared/Somewhat Important	38.9%	7.4%
Adequately Prepared/Important	55.6%	25.9%
Extensively Prepared/Very Important	5.6%	63.0%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0003$

1-way Test, ChiSquare Approximation:  $p = 0.0003$

**u) Hybrid Faculty vs. Hybrid Non-Academic Professionals (Preparedness)**

Response	Hybrid Faculty	NA Profs - Preparedness
Not Prepared/No Preparation	0.0%	3.7%
Somewhat Prepared/Some Preparation	38.9%	7.4%
Adequately Prepared/Adequate Preparation	55.6%	44.4%
Extensively Prepared/Extensive Preparation	5.6%	44.4%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0032$

1-way Test, ChiSquare Approximation:  $p = 0.0030$

**28) Fiscal Management**

Comparisons **NOT** significantly different:

- Geology Faculty vs. Geology Students
- Geography Faculty vs. Geography Students
- Hybrid Faculty vs. Hybrid Students
- Geography Faculty vs. Hybrid Faculty
- Geology Faculty vs. Hybrid Faculty
- Geology Students vs. Geography Students
- Geography Students vs. Hybrid Students
- Geology Students vs. Hybrid Students
- Geography Students vs. Geography Non-Academic Professionals (Preparedness)
- Geography Faculty vs. Geography Non-Academic Professionals (Preparedness)

Comparisons **SIGNIFICANTLY** different:

**k) Geology Faculty vs. Geography Faculty**

Response	Geol Faculty	Geog Faculty
Not Prepared/No Preparation	36.0%	65.2%
Somewhat Prepared/Some Preparation	54.0%	32.6%
Adequately Prepared/Adequate Preparation	6.0%	2.2%

Extensively Prepared/Extensive Preparation	4.0%	0.0%
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Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0030$

1-way Test, ChiSquare Approximation:  $p = 0.0029$

**l) Geology Students vs. Geology Non-Academic Professionals (Importance)**

Response	Geol Students	NA Profs - Importance
Not Prepared/Not Important	53.6%	5.8%
Somewhat Prepared/Somewhat Important	32.1%	18.8%
Adequately Prepared/Important	10.7%	36.2%
Extensively Prepared/Very Important	3.6%	39.1%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p < 0.0001$

1-way Test, ChiSquare Approximation:  $p < 0.0001$

**m) Geology Students vs. Geology Non-Academic Professionals (Preparedness)**

Response	Geol Students	NA Profs - Preparedness
Not Prepared/No Preparation	53.6%	11.6%
Somewhat Prepared/Some Preparation	32.1%	23.2%
Adequately Prepared/Adequate Preparation	10.7%	46.4%
Extensively Prepared/Extensive Preparation	3.6%	18.8%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p < 0.0001$

1-way Test, ChiSquare Approximation:  $p < 0.0001$

**n) Geology Faculty vs. Geology Non-Academic Professionals (Importance)**

Response	Geol Faculty	NA Profs - Importance
Not Prepared/Not Important	36.0%	5.8%
Somewhat Prepared/Somewhat Important	54.0%	18.8%
Adequately Prepared/Important	6.0%	36.2%
Extensively Prepared/Very Important	4.0%	39.1%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p < 0.0001$

1-way Test, ChiSquare Approximation:  $p < 0.0001$

**o) Geology Faculty vs. Geology Non-Academic Professionals (Preparedness)**

Response	Geol Faculty	NA Profs - Preparedness
Not Prepared/No Preparation	36.0%	11.6%
Somewhat Prepared/Some Preparation	54.0%	23.2%
Adequately Prepared/Adequate Preparation	6.0%	46.4%
Extensively Prepared/Extensive Preparation	4.0%	18.8%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p < 0.0001$

1-way Test, ChiSquare Approximation:  $p < 0.0001$

**p) Geography Students vs. Geography Non-Academic Professionals (Importance)**

Response	Geog Students	NA Profs - Importance
Not Prepared/Not Important	51.3%	30.0%
Somewhat Prepared/Somewhat Important	30.8%	25.0%
Adequately Prepared/Important	12.8%	15.0%
Extensively Prepared/Very Important	5.1%	30.0%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0258$

1-way Test, ChiSquare Approximation:  $p = 0.0253$

**q) Geography Faculty vs. Geography Non-Academic Professionals (Importance)**

Response	Geog Faculty	NA Profs - Importance
Not Prepared/Not Important	65.2%	30.0%
Somewhat Prepared/Somewhat Important	32.6%	25.0%
Adequately Prepared/Important	2.2%	15.0%
Extensively Prepared/Very Important	0.0%	30.0%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0004$

1-way Test, ChiSquare Approximation:  $p = 0.0004$

**r) Hybrid Students vs. Hybrid Non-Academic Professionals (Importance)**

Response	Hybrid Students	NA Profs - Importance
Not Prepared/Not Important	48.0%	11.5%
Somewhat Prepared/Somewhat Important	28.0%	26.9%
Adequately Prepared/Important	20.0%	26.9%
Extensively Prepared/Very Important	4.0%	34.6%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0008$

1-way Test, ChiSquare Approximation:  $p = 0.0008$

**s) Hybrid Students vs. Hybrid Non-Academic Professionals (Preparedness)**

Response	Hybrid Students	NA Profs - Preparedness
Not Prepared/No Preparation	48.0%	7.7%
Somewhat Prepared/Some Preparation	28.0%	38.5%
Adequately Prepared/Adequate Preparation	20.0%	38.5%
Extensively Prepared/Extensive Preparation	4.0%	15.4%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0024$

1-way Test, ChiSquare Approximation:  $p = 0.0023$

**t) Hybrid Faculty vs. Hybrid Non-Academic Professionals (Importance)**

Response	Hybrid Faculty	NA Profs - Importance
Not Prepared/Not Important	58.8%	11.5%
Somewhat Prepared/Somewhat Important	23.5%	26.9%
Adequately Prepared/Important	17.6%	26.9%
Extensively Prepared/Very Important	0.0%	34.6%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0004$

1-way Test, ChiSquare Approximation:  $p = 0.0003$

**u) Hybrid Faculty vs. Hybrid Non-Academic Professionals (Preparedness)**

Response	Hybrid Faculty	NA Profs - Preparedness
Not Prepared/No Preparation	58.8%	7.7%
Somewhat Prepared/Some Preparation	23.5%	38.5%
Adequately Prepared/Adequate Preparation	17.6%	38.5%
Extensively Prepared/Extensive Preparation	0.0%	15.4%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0006$

1-way Test, ChiSquare Approximation:  $p = 0.0006$

**Asked to Faculty:** Indicate the amount of preparation students receive in your degree program for each of the following geology competencies.

**Asked to Students:** Indicate the amount of preparation you receive in your Master's degree program for each of the following geology competencies.

**Asked to Non-Academic Professionals:**

1) **Preparedness:** Indicate the amount of preparation you received in your Master's degree program for each of the following competencies.

2) **Importance:** Now that you've indicated how prepared you feel for each of these items, please indicate how important each skill area is for employment in your current position.

**Ordinal Scale of Responses** (*Number in parentheses represents coded response used for data analysis*)

**Faculty & Non-Academic Professional Question #1 Responses:** No Preparation (1); Some Preparation (2); Adequate Preparation (3); Extensive Preparation (4)

**Student Responses:** No Preparation (1); Some Preparation (2); Adequate Preparation (3); Extensive Preparation (4)

**Non-Academic Professional Question #2 Responses:** Not Important (1); Somewhat Important (2); Important (3); Very Important (4)

### 36 Skills Surveyed

**Statistical Test: Nonparametric Wilcoxon Test** (*aka the Mann-Whitney test; called Kruskal-Wallis for more than 2 categories/data factors*)

## 1) Plan and conduct geological investigations considering human health, safety, the environment, regulations, and quality assurance/quality control (QA/QC)

Comparisons **NOT** significantly different:

- a) Geology Faculty vs. Geology Non-Academic Professionals (Preparedness)
- b) Geology Students vs. Geology Non-Academic Professionals (Preparedness)

Comparisons **SIGNIFICANTLY** different:

### c) Geology Faculty vs. Geology Students

Response	Geol Faculty	Geol Students
Not Prepared/Not Prepared	14.8%	46.4%
Somewhat Prepared/Somewhat Prepared	55.5%	35.7%
Adequately Prepared/Adequately Prepared	18.5%	17.9%
Extensively Prepared/Extensively Prepared	11.1%	0.0%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0064$

1-way Test, ChiSquare Approximation:  $p = 0.0063$

**d) Geology Faculty vs. Geology Non-Academic Professionals (Importance)**

Response	Geol Faculty	NA Profs - Importance
Not Prepared/Not Important	14.8%	9.9%
Somewhat Prepared/Somewhat Important	55.5%	18.3%
Adequately Prepared/Important	18.5%	29.6%
Extensively Prepared/Very Important	11.1%	42.3%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p < 0.001$

1-way Test, ChiSquare Approximation:  $p < 0.001$

**e) Geology Students vs. Geology Non-Academic Professionals (Importance)**

Response	Geol Students	NA Profs - Importance
Not Prepared/Not Important	46.4%	9.9%
Somewhat Prepared/Somewhat Important	35.7%	18.3%
Adequately Prepared/Important	17.9%	29.6%
Extensively Prepared/Very Important	0.0%	42.3%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p < 0.001$

1-way Test, ChiSquare Approximation:  $p < 0.001$

**2) Collect, compile, and interpret historic information to plan geological investigations**

Comparisons **NOT** significantly different:

- a) Geology Faculty vs. Geology Students
- b) Geology Faculty vs. Geology Non-Academic Professionals (Preparedness)

Comparisons **SIGNIFICANTLY** different:

**c) Geology Faculty vs. Geology Non-Academic Professionals (Importance)**

Response	Geol Faculty	NA Profs - Importance
Not Prepared/Not Important	11.1%	5.6%
Somewhat Prepared/Somewhat Important	29.6%	20.8%
Adequately Prepared/Important	44.4%	23.6%
Extensively Prepared/Very Important	14.8%	50.0%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0007$

1-way Test, ChiSquare Approximation:  $p = 0.0007$

**d) Geology Students vs. Geology Non-Academic Professionals (Preparedness)**

Response	Geol Students	NA Profs - Preparedness
Not Prepared/Not Prepared	7.1%	8.3%
Somewhat Prepared/Somewhat Prepared	50.0%	18.1%
Adequately Prepared/Adequately Prepared	35.7%	55.6%
Extensively Prepared/Extensively Prepared	7.1%	18.1%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0110$

1-way Test, ChiSquare Approximation:  $p = 0.0109$

**e) Geology Students vs. Geology Non-Academic Professionals (Importance)**

Response	Geol Students	NA Profs - Importance
Not Prepared/Not Important	7.1%	5.6%
Somewhat Prepared/Somewhat Important	50.0%	20.8%
Adequately Prepared/Important	35.7%	23.6%
Extensively Prepared/Very Important	7.1%	50.0%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0002$

1-way Test, ChiSquare Approximation:  $p = 0.0002$

**3) Interpret and analyze available geological and geophysical data, maps, sections, and reports**

Comparisons **NOT** significantly different:

- a) Geology Faculty vs. Geology Students
- b) Geology Faculty vs. Geology Non-Academic Professionals (Preparedness)
- c) Geology Students vs. Geology Non-Academic Professionals (Preparedness)

Comparisons **SIGNIFICANTLY** different:

**d) Geology Faculty vs. Geology Non-Academic Professionals (Importance)**

Response	Geol Faculty	NA Profs - Importance
Not Prepared/Not Important	0.0%	5.6%
Somewhat Prepared/Somewhat Important	12.1%	9.7%
Adequately Prepared/Important	55.2%	18.1%
Extensively Prepared/Very Important	32.8%	66.7%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0036$

1-way Test, ChiSquare Approximation:  $p = 0.0036$

**e) Geology Students vs. Geology Non-Academic Professionals (Importance)**

Response	Geol Students	NA Profs - Importance
Not Prepared/Not Important	0.0%	5.6%
Somewhat Prepared/Somewhat Important	30.3%	9.7%
Adequately Prepared/Important	40.0%	18.1%
Extensively Prepared/Very Important	30.0%	66.7%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0025$

1-way Test, ChiSquare Approximation:  $p = 0.0025$

**4) Determine scales, distances, and elevations from imagery, surveys, maps, and GIS applications**

Comparisons **NOT** significantly different:

- a) Geology Faculty vs. Geology Non-Academic Professionals (Preparedness)
- b) Geology Faculty vs. Geology Non-Academic Professionals (Importance)
- c) Geology Students vs. Geology Non-Academic Professionals (Preparedness)

Comparisons **SIGNIFICANTLY** different:

**d) Geology Faculty vs. Geology Students**

Response	Geol Faculty	Geol Students
Not Prepared/Not Prepared	0.0%	0.0%
Somewhat Prepared/Somewhat Prepared	9.1%	33.3%
Adequately Prepared/Adequately Prepared	60.0%	43.3%
Extensively Prepared/Extensively Prepared	30.9%	23.3%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0474$

1-way Test, ChiSquare Approximation:  $p = 0.0468$

**e) Geology Students vs. Geology Non-Academic Professionals (Importance)**

Response	Geol Students	NA Profs - Importance
Not Prepared/Not Important	0.0%	8.3%
Somewhat Prepared/Somewhat Important	33.3%	6.9%
Adequately Prepared/Important	43.3%	31.9%



Extensively Prepared/Very Important	23.3%	52.8%
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Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0090$

1-way Test, ChiSquare Approximation:  $p = 0.0089$

**5) Prepare, analyze, and interpret logs, cross-sections, maps, and other graphics derived from field investigations and GIS applications**

Comparisons **NOT** significantly different:

- a) Geology Faculty vs. Geology Students
- b) Geology Faculty vs. Geology Non-Academic Professionals (Preparedness)
- c) Geology Students vs. Geology Non-Academic Professionals (Preparedness)

Comparisons **SIGNIFICANTLY** different:

**d) Geology Faculty vs. Geology Non-Academic Professionals (Importance)**

Response	Geol Faculty	NA Profs - Importance
Not Prepared/Not Important	0.0%	6.9%
Somewhat Prepared/Somewhat Important	12.7%	6.9%
Adequately Prepared/Important	55.2%	22.2%
Extensively Prepared/Very Important	32.8%	63.9%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0064$

1-way Test, ChiSquare Approximation:  $p = 0.0064$

**e) Geology Students vs. Geology Non-Academic Professionals (Importance)**

Response	Geol Students	NA Profs - Importance
Not Prepared/Not Important	3.3%	6.9%
Somewhat Prepared/Somewhat Important	26.7%	6.9%
Adequately Prepared/Important	43.3%	22.2%
Extensively Prepared/Very Important	26.7%	63.9%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0016$

1-way Test, ChiSquare Approximation:  $p = 0.0016$

**6) Plan and conduct mineralogical, petrological, and geochemical investigations, including the use of modeling and geophysics**

Comparisons **NOT** significantly different:

- a) Geology Faculty vs. Geology Students
- b) Geology Faculty vs. Geology Non-Academic Professionals (Preparedness)
- c) Geology Students vs. Geology Non-Academic Professionals (Preparedness)
- d) Geology Students vs. Geology Non-Academic Professionals (Importance)

Comparisons **SIGNIFICANTLY** different:

**e) Geology Faculty vs. Geology Non-Academic Professionals (Importance)**

Response	Geol Faculty	NA Profs - Importance
Not Prepared/Not Important	7.0%	38.2%
Somewhat Prepared/Somewhat Important	47.4%	27.9%
Adequately Prepared/Important	26.3%	19.1%
Extensively Prepared/Very Important	19.3%	14.7%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0055$

1-way Test, ChiSquare Approximation:  $p = 0.0054$

## 7) Identify minerals and rocks and their characteristics

Comparisons **NOT** significantly different:

- a) Geology Faculty vs. Geology Students
- b) Geology Faculty vs. Geology Non-Academic Professionals (Preparedness)
- c) Geology Faculty vs. Geology Non-Academic Professionals (Importance)
- d) Geology Students vs. Geology Non-Academic Professionals (Preparedness)
- e) Geology Students vs. Geology Non-Academic Professionals (Importance)

## 8) Identify and interpret rock and mineral sequences, associations, and genesis

Comparisons **NOT** significantly different:

- a) Geology Faculty vs. Geology Students
- b) Geology Faculty vs. Geology Non-Academic Professionals (Preparedness)
- c) Geology Students vs. Geology Non-Academic Professionals (Preparedness)
- d) Geology Students vs. Geology Non-Academic Professionals (Importance)

Comparisons **SIGNIFICANTLY** different:

**e) Geology Faculty vs. Geology Non-Academic Professionals (Importance)**

Response	Geol Faculty	NA Profs - Importance
Not Prepared/Not Important	3.5%	27.5%
Somewhat Prepared/Somewhat Important	29.8%	31.9%

Adequately Prepared/Important	40.4%	15.9%
Extensively Prepared/Very Important	26.3%	24.6%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0061$

1-way Test, ChiSquare Approximation:  $p = 0.0061$

## 9) Evaluate geochemical and isotopic data and construct geochemical models related to rocks and minerals

Comparisons **NOT** significantly different:

- a) Geology Faculty vs. Geology Students
- b) Geology Faculty vs. Geology Non-Academic Professionals (Preparedness)
- c) Geology Students vs. Geology Non-Academic Professionals (Preparedness)
- d) Geology Students vs. Geology Non-Academic Professionals (Importance)

Comparisons **SIGNIFICANTLY** different:

### e) Geology Faculty vs. Geology Non-Academic Professionals (Importance)

Response	Geol Faculty	NA Profs - Importance
Not Prepared/Not Important	3.6%	38.2%
Somewhat Prepared/Somewhat Important	46.4%	32.4%
Adequately Prepared/Important	33.9%	14.7%
Extensively Prepared/Very Important	16.1%	14.7%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0006$

1-way Test, ChiSquare Approximation:  $p = 0.0006$

## 10) Determine type, degree, and effects of rock and mineral alteration

Comparisons **NOT** significantly different:

- a) Geology Faculty vs. Geology Students
- b) Geology Faculty vs. Geology Non-Academic Professionals (Preparedness)
- c) Geology Faculty vs. Geology Non-Academic Professionals (Importance)
- d) Geology Students vs. Geology Non-Academic Professionals (Preparedness)
- e) Geology Students vs. Geology Non-Academic Professionals (Importance)

## 11) Plan and conduct sedimentologic, stratigraphic, or paleontological investigations, including the use of modeling and geophysics

Comparisons **NOT** significantly different:

- a) Geology Students vs. Geology Non-Academic Professionals (Preparedness)
- b) Geology Students vs. Geology Non-Academic Professionals (Importance)

Comparisons **SIGNIFICANTLY** different:

**c) Geology Faculty vs. Geology Students**

Response	Geol Faculty	Geol Students
Not Prepared/Not Prepared	3.5%	22.2%
Somewhat Prepared/Somewhat Prepared	29.8%	44.4%
Adequately Prepared/Adequately Prepared	42.1%	25.9%
Extensively Prepared/Extensively Prepared	24.6%	7.4%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0012$

1-way Test, ChiSquare Approximation:  $p = 0.0012$

**d) Geology Faculty vs. Geology Non-Academic Professionals (Preparedness)**

Response	Geol Faculty	NA Profs - Preparedness
Not Prepared/Not Prepared	3.5%	21.7%
Somewhat Prepared/Somewhat Prepared	29.8%	42.0%
Adequately Prepared/Adequately Prepared	42.1%	17.4%
Extensively Prepared/Extensively Prepared	24.6%	18.8%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0014$

1-way Test, ChiSquare Approximation:  $p = 0.0014$

**e) Geology Faculty vs. Geology Non-Academic Professionals (Importance)**

Response	Geol Faculty	NA Profs - Importance
Not Prepared/Not Important	3.5%	23.9%
Somewhat Prepared/Somewhat Important	29.8%	46.3%
Adequately Prepared/Important	42.1%	17.9%
Extensively Prepared/Very Important	24.6%	11.9%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p < 0.0001$

1-way Test, ChiSquare Approximation:  $p < 0.0001$

**12) Select and apply appropriate stratigraphic nomenclature and establish correlations**

Comparisons **NOT** significantly different:

- a) Geology Students vs. Geology Non-Academic Professionals (Preparedness)
- b) Geology Students vs. Geology Non-Academic Professionals (Importance)

Comparisons **SIGNIFICANTLY** different:

**c) Geology Faculty vs. Geology Students**

Response	Geol Faculty	Geol Students
Not Prepared/Not Prepared	0.0%	13.8%
Somewhat Prepared/Somewhat Prepared	27.3%	48.3%
Adequately Prepared/Adequately Prepared	34.5%	31.0%
Extensively Prepared/Extensively Prepared	38.2%	6.9%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0002$

1-way Test, ChiSquare Approximation:  $p = 0.0002$

**d) Geology Faculty vs. Geology Non-Academic Professionals (Preparedness)**

Response	Geol Faculty	NA Profs - Preparedness
Not Prepared/Not Prepared	0.0%	13.0%
Somewhat Prepared/Somewhat Prepared	27.3%	33.3%
Adequately Prepared/Adequately Prepared	34.5%	36.2%
Extensively Prepared/Extensively Prepared	38.2%	17.4%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0023$

1-way Test, ChiSquare Approximation:  $p = 0.0023$

**e) Geology Faculty vs. Geology Non-Academic Professionals (Importance)**

Response	Geol Faculty	NA Profs - Importance
Not Prepared/Not Important	0.0%	21.5%
Somewhat Prepared/Somewhat Important	27.3%	33.8%
Adequately Prepared/Important	34.5%	27.7%
Extensively Prepared/Very Important	38.2%	16.9%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0001$

1-way Test, ChiSquare Approximation:  $p = 0.0001$

**13) Identify and interpret sedimentary processes and structures, depositional environments, and sediment provenance**

Comparisons **NOT** significantly different:

- a) Geology Students vs. Geology Non-Academic Professionals (Preparedness)
- b) Geology Students vs. Geology Non-Academic Professionals (Importance)

Comparisons **SIGNIFICANTLY** different:

**c) Geology Faculty vs. Geology Students**

Response	Geol Faculty	Geol Students
Not Prepared/Not Prepared	1.8%	17.2%
Somewhat Prepared/Somewhat Prepared	21.1%	27.6%
Adequately Prepared/Adequately Prepared	38.6%	44.8%
Extensively Prepared/Extensively Prepared	38.6%	10.3%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0022$

1-way Test, ChiSquare Approximation:  $p = 0.0021$

**d) Geology Faculty vs. Geology Non-Academic Professionals (Preparedness)**

Response	Geol Faculty	NA Profs - Preparedness
Not Prepared/Not Prepared	1.8%	11.4%
Somewhat Prepared/Somewhat Prepared	21.1%	28.6%
Adequately Prepared/Adequately Prepared	38.6%	32.9%
Extensively Prepared/Extensively Prepared	38.6%	27.1%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0306$

1-way Test, ChiSquare Approximation:  $p = 0.0304$

**e) Geology Faculty vs. Geology Non-Academic Professionals (Importance)**

Response	Geol Faculty	NA Profs - Importance
Not Prepared/Not Important	1.8%	15.2%
Somewhat Prepared/Somewhat Important	21.1%	34.8%
Adequately Prepared/Important	38.6%	34.8%
Extensively Prepared/Very Important	38.6%	15.2%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0002$

1-way Test, ChiSquare Approximation:  $p = 0.0002$

**14) Identify and interpret sediment or rock sequences, positions, and ages**

Comparisons **NOT** significantly different:

- a) Geology Students vs. Geology Non-Academic Professionals (Preparedness)
- b) Geology Students vs. Geology Non-Academic Professionals (Importance)

Comparisons **SIGNIFICANTLY** different:

**c) Geology Faculty vs. Geology Students**

Response	Geol Faculty	Geol Students
Not Prepared/Not Prepared	0.0%	20.7%
Somewhat Prepared/Somewhat Prepared	17.5%	31.0%
Adequately Prepared/Adequately Prepared	52.6%	34.5%
Extensively Prepared/Extensively Prepared	29.8%	13.8%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0010$

1-way Test, ChiSquare Approximation:  $p = 0.0010$

**d) Geology Faculty vs. Geology Non-Academic Professionals (Preparedness)**

Response	Geol Faculty	NA Profs - Preparedness
Not Prepared/Not Prepared	0.0%	11.4%
Somewhat Prepared/Somewhat Prepared	17.5%	21.4%
Adequately Prepared/Adequately Prepared	52.6%	47.1%
Extensively Prepared/Extensively Prepared	29.8%	20.0%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0294$

1-way Test, ChiSquare Approximation:  $p = 0.0293$

**e) Geology Faculty vs. Geology Non-Academic Professionals (Importance)**

Response	Geol Faculty	NA Profs - Importance
Not Prepared/Not Important	0.0%	15.4%
Somewhat Prepared/Somewhat Important	17.5%	36.9%
Adequately Prepared/Important	52.6%	29.2%
Extensively Prepared/Very Important	29.8%	18.5%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0003$

1-way Test, ChiSquare Approximation:  $p = 0.0003$

**15) Identify and interpret fossils and fossil assemblages for age or paleoenvironmental interpretations**

Comparisons **NOT** significantly different:

- a) Geology Students vs. Geology Non-Academic Professionals (Preparedness)
- b) Geology Students vs. Geology Non-Academic Professionals (Importance)

Comparisons **SIGNIFICANTLY** different:

**c) Geology Faculty vs. Geology Students**

Response	Geol Faculty	Geol Students
Not Prepared/Not Prepared	10.5%	37.9%
Somewhat Prepared/Somewhat Prepared	36.8%	20.7%
Adequately Prepared/Adequately Prepared	31.6%	31.0%
Extensively Prepared/Extensively Prepared	21.1%	10.3%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0393$

1-way Test, ChiSquare Approximation:  $p = 0.0389$

**d) Geology Faculty vs. Geology Non-Academic Professionals (Preparedness)**

Response	Geol Faculty	NA Profs - Preparedness
Not Prepared/Not Prepared	10.5%	32.8%
Somewhat Prepared/Somewhat Prepared	36.8%	34.3%
Adequately Prepared/Adequately Prepared	31.6%	23.9%
Extensively Prepared/Extensively Prepared	21.1%	9.0%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0024$

1-way Test, ChiSquare Approximation:  $p = 0.0024$

**e) Geology Faculty vs. Geology Non-Academic Professionals (Importance)**

Response	Geol Faculty	NA Profs - Importance
Not Prepared/Not Important	10.5%	47.6%
Somewhat Prepared/Somewhat Important	36.8%	33.3%
Adequately Prepared/Important	31.6%	12.7%
Extensively Prepared/Very Important	21.1%	6.3%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p < 0.0001$

1-way Test, ChiSquare Approximation:  $p < 0.0001$



## 16) Plan and conduct geomorphic investigations, including the use of modeling and geophysics

Comparisons **NOT** significantly different:

- a) Geology Faculty vs. Geology Students
- b) Geology Faculty vs. Geology Non-Academic Professionals (Preparedness)
- c) Geology Faculty vs. Geology Non-Academic Professionals (Importance)
- d) Geology Students vs. Geology Non-Academic Professionals (Preparedness)
- e) Geology Students vs. Geology Non-Academic Professionals (Importance)

## 17) Identify, classify, and interpret landforms, surficial materials, and processes

Comparisons **NOT** significantly different:

- a) Geology Faculty vs. Geology Students
- b) Geology Faculty vs. Geology Non-Academic Professionals (Preparedness)
- c) Geology Faculty vs. Geology Non-Academic Professionals (Importance)
- d) Geology Students vs. Geology Non-Academic Professionals (Preparedness)
- e) Geology Students vs. Geology Non-Academic Professionals (Importance)

## 18) Determine absolute or relative age relationships of landforms, sediments, and soils

Comparisons **NOT** significantly different:

- a) Geology Faculty vs. Geology Students
- b) Geology Students vs. Geology Non-Academic Professionals (Preparedness)
- c) Geology Students vs. Geology Non-Academic Professionals (Importance)

Comparisons **SIGNIFICANTLY** different:

### d) Geology Faculty vs. Geology Non-Academic Professionals (Preparedness)

Response	Geol Faculty	NA Profs - Preparedness
Not Prepared/Not Prepared	10.5%	21.7%
Somewhat Prepared/Somewhat Prepared	24.6%	34.8%
Adequately Prepared/Adequately Prepared	45.6%	31.9%
Extensively Prepared/Extensively Prepared	19.3%	11.6%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0155$

1-way Test, ChiSquare Approximation:  $p = 0.0154$

### e) Geology Faculty vs. Geology Non-Academic Professionals (Importance)

Response	Geol Faculty	NA Profs - Importance
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Not Prepared/Not Important	10.5%	33.3%
Somewhat Prepared/Somewhat Important	24.6%	39.7%
Adequately Prepared/Important	45.6%	17.5%
Extensively Prepared/Very Important	19.3%	9.5%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p < 0.0001$

1-way Test, ChiSquare Approximation:  $p < 0.0001$

### 19) Evaluate geomorphic processes and development of landforms, sediments, and soils, including watershed functions

Comparisons **NOT** significantly different:

- a) Geology Faculty vs. Geology Students
- b) Geology Faculty vs. Geology Non-Academic Professionals (Preparedness)
- c) Geology Faculty vs. Geology Non-Academic Professionals (Importance)
- d) Geology Students vs. Geology Non-Academic Professionals (Preparedness)
- e) Geology Students vs. Geology Non-Academic Professionals (Importance)

### 20) Interpret geomorphic conditions and processes based on remote sensing and GIS

Comparisons **NOT** significantly different:

- a) Geology Faculty vs. Geology Non-Academic Professionals (Importance)
- b) Geology Students vs. Geology Non-Academic Professionals (Preparedness)
- c) Geology Students vs. Geology Non-Academic Professionals (Importance)

Comparisons **SIGNIFICANTLY** different:

#### d) Geology Faculty vs. Geology Students

Response	Geol Faculty	Geol Students
Not Prepared/Not Prepared	12.3%	38.5%
Somewhat Prepared/Somewhat Prepared	35.1%	30.8%
Adequately Prepared/Adequately Prepared	40.4%	26.9%
Extensively Prepared/Extensively Prepared	12.3%	3.8%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0110$

1-way Test, ChiSquare Approximation:  $p = 0.0108$

#### e) Geology Faculty vs. Geology Non-Academic Professionals (Preparedness)

Response	Geol Faculty	NA Profs - Preparedness
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Not Prepared/Not Prepared	12.3%	32.9%
Somewhat Prepared/Somewhat Prepared	35.1%	35.7%
Adequately Prepared/Adequately Prepared	40.4%	24.3%
Extensively Prepared/Extensively Prepared	12.3%	7.1%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0040$

1-way Test, ChiSquare Approximation:  $p = 0.0039$

## 21) Plan and conduct structural, tectonic, or seismologic investigations, including the use of modeling and geophysics

Comparisons **NOT** significantly different:

- a) Geology Faculty vs. Geology Students
- b) Geology Students vs. Geology Non-Academic Professionals (Preparedness)

Comparisons **SIGNIFICANTLY** different:

### c) Geology Faculty vs. Geology Non-Academic Professionals (Preparedness)

Response	Geol Faculty	NA Profs - Preparedness
Not Prepared/Not Prepared	6.9%	30.9%
Somewhat Prepared/Somewhat Prepared	41.4%	36.8%
Adequately Prepared/Adequately Prepared	44.8%	23.5%
Extensively Prepared/Extensively Prepared	6.9%	8.8%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0054$

1-way Test, ChiSquare Approximation:  $p = 0.0054$

### d) Geology Faculty vs. Geology Non-Academic Professionals (Importance)

Response	Geol Faculty	NA Profs - Importance
Not Prepared/Not Important	6.9%	46.0%
Somewhat Prepared/Somewhat Important	41.4%	30.2%
Adequately Prepared/Important	44.8%	12.7%
Extensively Prepared/Very Important	6.9%	11.1%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p < 0.0001$

1-way Test, ChiSquare Approximation:  $p < 0.0001$

### e) Geology Students vs. Geology Non-Academic Professionals (Importance)

Response	Geol Students	NA Profs - Importance
Not Prepared/Not Important	22.2%	46.0%
Somewhat Prepared/Somewhat Important	40.7%	30.2%
Adequately Prepared/Important	14.8%	12.7%
Extensively Prepared/Very Important	22.2%	11.1%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0371$

1-way Test, ChiSquare Approximation:  $p = 0.0367$

## 22) Identify and define structural features and relations, including constructing and interpreting structural projections and statistical analyses

Comparisons **NOT** significantly different:

- Geology Students vs. Geology Non-Academic Professionals (Preparedness)
- Geology Students vs. Geology Non-Academic Professionals (Importance)

Comparisons **SIGNIFICANTLY** different:

### c) Geology Faculty vs. Geology Students

Response	Geol Faculty	Geol Students
Not Prepared/Not Prepared	6.9%	30.8%
Somewhat Prepared/Somewhat Prepared	31.0%	42.3%
Adequately Prepared/Adequately Prepared	46.6%	15.4%
Extensively Prepared/Extensively Prepared	15.5%	11.5%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0029$

1-way Test, ChiSquare Approximation:  $p = 0.0029$

### d) Geology Faculty vs. Geology Non-Academic Professionals (Preparedness)

Response	Geol Faculty	NA Profs - Preparedness
Not Prepared/Not Prepared	6.9%	20.3%
Somewhat Prepared/Somewhat Prepared	31.0%	36.2%
Adequately Prepared/Adequately Prepared	46.6%	30.4%
Extensively Prepared/Extensively Prepared	15.5%	13.0%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0321$

1-way Test, ChiSquare Approximation:  $p = 0.0319$

**e) Geology Faculty vs. Geology Non-Academic Professionals (Importance)**

Response	Geol Faculty	NA Profs - Importance
Not Prepared/Not Important	6.9%	38.1%
Somewhat Prepared/Somewhat Important	31.0%	25.4%
Adequately Prepared/Important	46.6%	19.0%
Extensively Prepared/Very Important	15.5%	17.5%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0027$

1-way Test, ChiSquare Approximation:  $p = 0.0027$

**23) Interpret deformational history through structural and tectonic analyses**

Comparisons **NOT** significantly different:

- a) Geology Faculty vs. Geology Non-Academic Professionals (Preparedness)
- b) Geology Students vs. Geology Non-Academic Professionals (Preparedness)
- c) Geology Students vs. Geology Non-Academic Professionals (Importance)

Comparisons **SIGNIFICANTLY** different:

**d) Geology Faculty vs. Geology Students**

Response	Geol Faculty	Geol Students
Not Prepared/Not Prepared	6.9%	26.9%
Somewhat Prepared/Somewhat Prepared	29.3%	34.6%
Adequately Prepared/Adequately Prepared	43.1%	26.9%
Extensively Prepared/Extensively Prepared	20.7%	11.5%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0163$

1-way Test, ChiSquare Approximation:  $p = 0.0161$

**e) Geology Faculty vs. Geology Non-Academic Professionals (Importance)**

Response	Geol Faculty	NA Profs - Importance
Not Prepared/Not Important	6.9%	42.9%
Somewhat Prepared/Somewhat Important	29.3%	25.4%
Adequately Prepared/Important	43.1%	17.5%
Extensively Prepared/Very Important	20.7%	14.3%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p < 0.0001$

1-way Test, ChiSquare Approximation:  $p < 0.0001$

## 24) Develop and apply tectonic models to identify geologic processes and history

Comparisons **NOT** significantly different:

- a) Geology Students vs. Geology Non-Academic Professionals (Preparedness)
- b) Geology Students vs. Geology Non-Academic Professionals (Importance)

Comparisons **SIGNIFICANTLY** different:

### c) Geology Faculty vs. Geology Students

Response	Geol Faculty	Geol Students
Not Prepared/Not Prepared	8.8%	30.8%
Somewhat Prepared/Somewhat Prepared	28.1%	38.5%
Adequately Prepared/Adequately Prepared	50.9%	19.2%
Extensively Prepared/Extensively Prepared	12.3%	11.5%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0088$

1-way Test, ChiSquare Approximation:  $p = 0.0087$

### d) Geology Faculty vs. Geology Non-Academic Professionals (Preparedness)

Response	Geol Faculty	NA Profs - Preparedness
Not Prepared/Not Prepared	8.8%	19.4%
Somewhat Prepared/Somewhat Prepared	28.1%	43.3%
Adequately Prepared/Adequately Prepared	50.9%	25.4%
Extensively Prepared/Extensively Prepared	12.3%	11.9%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0132$

1-way Test, ChiSquare Approximation:  $p = 0.0131$

### e) Geology Faculty vs. Geology Non-Academic Professionals (Importance)

Response	Geol Faculty	NA Profs - Importance
Not Prepared/Not Important	8.8%	46.0%
Somewhat Prepared/Somewhat Important	28.1%	28.6%
Adequately Prepared/Important	50.9%	14.3%
Extensively Prepared/Very Important	12.3%	11.1%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p < 0.0001$

1-way Test, ChiSquare Approximation:  $p < 0.0001$

## 25) Evaluate earthquake mechanisms, paleoseismic history, and hazards

Comparisons **NOT** significantly different:

- a) Geology Faculty vs. Geology Students
- b) Geology Students vs. Geology Non-Academic Professionals (Preparedness)

Comparisons **SIGNIFICANTLY** different:

### c) Geology Faculty vs. Geology Non-Academic Professionals (Preparedness)

Response	Geol Faculty	NA Profs - Preparedness
Not Prepared/Not Prepared	21.1%	36.8%
Somewhat Prepared/Somewhat Prepared	36.8%	41.2%
Adequately Prepared/Adequately Prepared	31.6%	16.2%
Extensively Prepared/Extensively Prepared	10.5%	5.9%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0123$

1-way Test, ChiSquare Approximation:  $p = 0.0122$

### d) Geology Faculty vs. Geology Non-Academic Professionals (Importance)

Response	Geol Faculty	NA Profs - Importance
Not Prepared/Not Important	21.1%	65.1%
Somewhat Prepared/Somewhat Important	36.8%	15.9%
Adequately Prepared/Important	31.6%	11.1%
Extensively Prepared/Very Important	10.5%	7.9%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p < 0.0001$

1-way Test, ChiSquare Approximation:  $p < 0.0001$

### e) Geology Students vs. Geology Non-Academic Professionals (Importance)

Response	Geol Students	NA Profs - Importance
Not Prepared/Not Important	34.6%	65.1%
Somewhat Prepared/Somewhat Important	34.6%	15.9%
Adequately Prepared/Important	23.1%	11.1%
Extensively Prepared/Very Important	7.7%	7.9%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0228$

1-way Test, ChiSquare Approximation:  $p = 0.0225$

**26) Plan and conduct hydrogeological, geochemical, and environmental investigations, including the use of modeling, geophysics, and isotopic and tracer studies**

Comparisons **NOT** significantly different:

- a) Geology Faculty vs. Geology Students
- b) Geology Faculty vs. Geology Non-Academic Professionals (Preparedness)
- c) Geology Faculty vs. Geology Non-Academic Professionals (Importance)
- d) Geology Students vs. Geology Non-Academic Professionals (Preparedness)
- e) Geology Students vs. Geology Non-Academic Professionals (Importance)

**27) Define and characterize hydraulic properties of saturated and vadose zone flow systems**

Comparisons **NOT** significantly different:

- a) Geology Faculty vs. Geology Students
- b) Geology Faculty vs. Geology Non-Academic Professionals (Preparedness)
- c) Geology Faculty vs. Geology Non-Academic Professionals (Importance)
- d) Geology Students vs. Geology Non-Academic Professionals (Preparedness)
- e) Geology Students vs. Geology Non-Academic Professionals (Importance)

**28) Design groundwater monitoring, observation, extraction, production, or injection wells**

Comparisons **NOT** significantly different:

- a) Geology Faculty vs. Geology Students
- b) Geology Faculty vs. Geology Non-Academic Professionals (Importance)
- c) Geology Students vs. Geology Non-Academic Professionals (Preparedness)
- d) Geology Students vs. Geology Non-Academic Professionals (Importance)

Comparisons **SIGNIFICANTLY** different:

- e) **Geology Faculty vs. Geology Non-Academic Professionals (Preparedness)**

Response	Geol Faculty	NA Profs - Preparedness
Not Prepared/Not Prepared	12.7%	41.2%
Somewhat Prepared/Somewhat Prepared	34.5%	29.4%
Adequately Prepared/Adequately Prepared	25.5%	17.6%
Extensively Prepared/Extensively Prepared	27.3%	11.8%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0004$

1-way Test, ChiSquare Approximation:  $p = 0.0004$

**29) Evaluate water resources and assess aquifer yield and sustainability**



Comparisons **NOT** significantly different:

- a) Geology Faculty vs. Geology Students
- b) Geology Faculty vs. Geology Non-Academic Professionals (Importance)
- c) Geology Students vs. Geology Non-Academic Professionals (Preparedness)
- d) Geology Students vs. Geology Non-Academic Professionals (Importance)

Comparisons **SIGNIFICANTLY** different:

**e) Geology Faculty vs. Geology Non-Academic Professionals (Preparedness)**

Response	Geol Faculty	NA Profs - Preparedness
Not Prepared/Not Prepared	16.7%	34.8%
Somewhat Prepared/Somewhat Prepared	31.5%	26.1%
Adequately Prepared/Adequately Prepared	31.5%	29.0%
Extensively Prepared/Extensively Prepared	20.4%	10.1%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0300$

1-way Test, ChiSquare Approximation:  $p = 0.0298$

### 30) Characterize water quality and assess chemical fate and transport

Comparisons **NOT** significantly different:

- a) Geology Faculty vs. Geology Students
- b) Geology Faculty vs. Geology Non-Academic Professionals (Importance)
- c) Geology Students vs. Geology Non-Academic Professionals (Preparedness)

Comparisons **SIGNIFICANTLY** different:

**d) Geology Faculty vs. Geology Non-Academic Professionals (Preparedness)**

Response	Geol Faculty	NA Profs - Preparedness
Not Prepared/Not Prepared	15.8%	39.7%
Somewhat Prepared/Somewhat Prepared	26.3%	25.0%
Adequately Prepared/Adequately Prepared	38.6%	20.6%
Extensively Prepared/Extensively Prepared	19.3%	14.7%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0064$

1-way Test, ChiSquare Approximation:  $p = 0.0064$

**e) Geology Students vs. Geology Non-Academic Professionals (Importance)**

Response	Geol	NA Profs -
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	Students	Importance
Not Prepared/Not Important	40.0%	26.2%
Somewhat Prepared/Somewhat Important	20.0%	9.2%
Adequately Prepared/Important	24.0%	16.9%
Extensively Prepared/Very Important	16.0%	47.7%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0146$

1-way Test, ChiSquare Approximation:  $p = 0.0144$

### 31) Manage, develop, protect, or remediate surface water or groundwater resources

Comparisons **NOT** significantly different:

- a) Geology Faculty vs. Geology Students
- b) Geology Faculty vs. Geology Non-Academic Professionals (Importance)
- c) Geology Students vs. Geology Non-Academic Professionals (Preparedness)

Comparisons **SIGNIFICANTLY** different:

#### d) Geology Faculty vs. Geology Non-Academic Professionals (Preparedness)

Response	Geol Faculty	NA Profs - Preparedness
Not Prepared/Not Prepared	18.5%	41.8%
Somewhat Prepared/Somewhat Prepared	31.5%	28.4%
Adequately Prepared/Adequately Prepared	31.5%	20.9%
Extensively Prepared/Extensively Prepared	18.5%	9.0%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0043$

1-way Test, ChiSquare Approximation:  $p = 0.0043$

#### e) Geology Students vs. Geology Non-Academic Professionals (Importance)

Response	Geol Students	NA Profs - Importance
Not Prepared/Not Important	44.0%	24.6%
Somewhat Prepared/Somewhat Important	12.0%	13.8%
Adequately Prepared/Important	28.0%	12.3%
Extensively Prepared/Very Important	16.0%	49.2%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0124$

1-way Test, ChiSquare Approximation:  $p = 0.0123$

**32) Plan and conduct mineral or energy resource exploration, evaluation, and environmental programs including the use of modeling, geophysics, and geochemistry**

Comparisons **NOT** significantly different:

- a) Geology Faculty vs. Geology Non-Academic Professionals (Preparedness)
- b) Geology Faculty vs. Geology Non-Academic Professionals (Importance)
- c) Geology Students vs. Geology Non-Academic Professionals (Preparedness)
- d) Geology Students vs. Geology Non-Academic Professionals (Importance)

Comparisons **SIGNIFICANTLY** different:

**e) Geology Faculty vs. Geology Students**

Response	Geol Faculty	Geol Students
Not Prepared/Not Prepared	25.0%	48.1%
Somewhat Prepared/Somewhat Prepared	41.1%	33.3%
Adequately Prepared/Adequately Prepared	25.0%	11.1%
Extensively Prepared/Extensively Prepared	8.9%	7.4%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0445$

1-way Test, ChiSquare Approximation:  $p = 0.0440$

**33) Compile, assess, and evaluate the data necessary to explore for mineral and energy resources**

Comparisons **NOT** significantly different:

- a) Geology Faculty vs. Geology Non-Academic Professionals (Preparedness)
- b) Geology Faculty vs. Geology Non-Academic Professionals (Importance)
- c) Geology Students vs. Geology Non-Academic Professionals (Preparedness)
- d) Geology Students vs. Geology Non-Academic Professionals (Importance)

Comparisons **SIGNIFICANTLY** different:

**e) Geology Faculty vs. Geology Students**

Response	Geol Faculty	Geol Students
Not Prepared/Not Prepared	23.2%	46.4%
Somewhat Prepared/Somewhat Prepared	41.1%	39.3%
Adequately Prepared/Adequately Prepared	19.6%	3.6%
Extensively Prepared/Extensively Prepared	16.1%	10.7%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0194$

1-way Test, ChiSquare Approximation:  $p = 0.0191$

**34) Estimate the distribution of resources based on surface and subsurface data, including imagery and GIS applications**

Comparisons **NOT** significantly different:

- a) Geology Faculty vs. Geology Non-Academic Professionals (Preparedness)
- b) Geology Faculty vs. Geology Non-Academic Professionals (Importance)
- c) Geology Students vs. Geology Non-Academic Professionals (Preparedness)
- d) Geology Students vs. Geology Non-Academic Professionals (Importance)

Comparisons **SIGNIFICANTLY** different:

**e) Geology Faculty vs. Geology Students**

Response	Geol Faculty	Geol Students
Not Prepared/Not Prepared	30.9%	55.6%
Somewhat Prepared/Somewhat Prepared	29.1%	33.3%
Adequately Prepared/Adequately Prepared	29.1%	7.4%
Extensively Prepared/Extensively Prepared	10.9%	3.7%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0079$

1-way Test, ChiSquare Approximation:  $p = 0.0078$

**35) Determine quantity and quality of resources and reserves from laboratory, surface, and subsurface data**

Comparisons **NOT** significantly different:

- a) Geology Faculty vs. Geology Non-Academic Professionals (Importance)
- b) Geology Students vs. Geology Non-Academic Professionals (Preparedness)
- c) Geology Students vs. Geology Non-Academic Professionals (Importance)

Comparisons **SIGNIFICANTLY** different:

**d) Geology Faculty vs. Geology Students**

Response	Geol Faculty	Geol Students
Not Prepared/Not Prepared	32.7%	51.9%
Somewhat Prepared/Somewhat Prepared	34.5%	33.3%
Adequately Prepared/Adequately Prepared	16.4%	11.1%
Extensively Prepared/Extensively Prepared	16.4%	3.7%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0437$

1-way Test, ChiSquare Approximation:  $p = 0.0431$

**e) Geology Faculty vs. Geology Non-Academic Professionals (Preparedness)**

Response	Geol Faculty	NA Profs - Preparedness
Not Prepared/Not Prepared	32.7%	53.7%
Somewhat Prepared/Somewhat Prepared	34.5%	20.9%
Adequately Prepared/Adequately Prepared	16.4%	14.9%
Extensively Prepared/Extensively Prepared	16.4%	10.4%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0465$

1-way Test, ChiSquare Approximation:  $p = 0.0462$

**36) Perform geological evaluations for design, abandonment, closure, and reclamation and restoration of energy development or mineral extraction operations**

Comparisons **NOT** significantly different:

- a) Geology Faculty vs. Geology Students
- b) Geology Faculty vs. Geology Non-Academic Professionals (Importance)
- c) Geology Students vs. Geology Non-Academic Professionals (Preparedness)
- d) Geology Students vs. Geology Non-Academic Professionals (Importance)

Comparisons **SIGNIFICANTLY** different:

**e) Geology Faculty vs. Geology Non-Academic Professionals (Preparedness)**

Response	Geol Faculty	NA Profs - Preparedness
Not Prepared/Not Prepared	50.0%	67.7%
Somewhat Prepared/Somewhat Prepared	27.8%	24.6%
Adequately Prepared/Adequately Prepared	14.8%	4.6%
Extensively Prepared/Extensively Prepared	7.4%	3.1%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0257$

1-way Test, ChiSquare Approximation:  $p = 0.0255$

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**TECHNICAL SKILLS - GEOGRAPHY**

**Asked to Faculty:** Indicate the amount of preparation students receive in your degree program for each of the following geology competencies. (Theme: General and Field Geology)

**Asked to Students:** Indicate the amount of preparation you receive in your Master's degree program for each of the following geology competencies.

**Asked to Non-Academic Professionals:**

1) **Preparedness:** Indicate the amount of preparation you received in your Master's degree program for each of the following competencies.

2) **Importance:** Now that you've indicated how prepared you feel for each of these items, please indicate how important each skill area is for employment in your current position.

**Ordinal Scale of Responses** (*Number in parentheses represents coded response used for data analysis*)

**Faculty & Non-Academic Professional Question #1 Responses:** No Preparation (1); Some Preparation (2); Adequate Preparation (3); Extensive Preparation (4)

**Student Responses:** No Preparation (1); Some Preparation (2); Adequate Preparation (3); Extensive Preparation (4)

**Non-Academic Professional Question #2 Responses:** Not Important (1); Somewhat Important (2); Important (3); Very Important (4)

## 20 Skills Surveyed

**Statistical Test: Nonparametric Wilcoxon Test** (*aka the Mann-Whitney test; called Kruskal-Wallis for more than 2 categories/data factors*)

### 1) **Knowing and applying geographic information about geology and the processes that shape physical landscapes (e.g., soils, hydrology, topography, erosion)**

Comparisons **NOT** significantly different:

- a) Geography Faculty vs. Geography Students
- b) Geography Faculty vs. Geography Non-Academic Professionals (Preparedness)

Comparisons **SIGNIFICANTLY** different:

#### c) **Geography Faculty vs. Geography Non-Academic Professionals (Importance)**

Response	Geog Faculty	NA Profs - Importance
Not Prepared/Not Important	10.3%	13.0%
Somewhat Prepared/Somewhat Important	37.9%	8.7%
Adequately Prepared/Important	36.2%	21.7%
Extensively Prepared/Very Important	15.5%	56.5%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0040$

1-way Test, ChiSquare Approximation:  $p = 0.0239$

**d) Geography Students vs. Geography Non-Academic Professionals (Preparedness)**

Response	Geog Students	NA Profs - Preparedness
Not Prepared/Not Prepared	15.8%	4.3%
Somewhat Prepared/Somewhat Prepared	47.4%	26.1%
Adequately Prepared/Adequately Prepared	23.7%	39.1%
Extensively Prepared/Extensively Prepared	13.2%	30.4%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0120$

1-way Test, ChiSquare Approximation:  $p = 0.0118$

**e) Geography Students vs. Geography Non-Academic Professionals (Importance)**

Response	Geog Students	NA Profs - Importance
Not Prepared/Not Important	15.8%	13.0%
Somewhat Prepared/Somewhat Important	47.4%	8.7%
Adequately Prepared/Important	23.7%	21.7%
Extensively Prepared/Very Important	13.2%	56.5%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0015$

1-way Test, ChiSquare Approximation:  $p = 0.0014$

**2) Knowing and applying geographic information about weather, climate, and atmospheric processes (e.g., temperature, precipitation, air quality)**

Comparisons **NOT** significantly different:

- a) Geography Faculty vs. Geography Students
- b) Geography Faculty vs. Geography Non-Academic Professionals (Importance)
- c) Geography Faculty vs. Geography Non-Academic Professionals (Preparedness)
- d) Geography Students vs. Geography Non-Academic Professionals (Preparedness)
- e) Geography Students vs. Geography Non-Academic Professionals (Importance)

**3) Knowing and applying geographic information about ecosystems and ecological processes (e.g., vegetation, wildlife, natural habitats)**

Comparisons **NOT** significantly different:

- a) Geography Faculty vs. Geography Students
- b) Geography Faculty vs. Geography Non-Academic Professionals (Preparedness)
- c) Geography Students vs. Geography Non-Academic Professionals (Preparedness)

Comparisons **SIGNIFICANTLY** different:

**d) Geography Faculty vs. Geography Non-Academic Professionals (Importance)**

Response	Geog Faculty	NA Profs - Importance
Not Prepared/Not Important	10.2%	8.3%
Somewhat Prepared/Somewhat Important	40.7%	25.0%
Adequately Prepared/Important	35.6%	25.0%
Extensively Prepared/Very Important	13.6%	41.7%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0363$

1-way Test, ChiSquare Approximation:  $p = 0.0359$

**e) Geography Students vs. Geography Non-Academic Professionals (Importance)**

Response	Geog Students	NA Profs - Importance
Not Prepared/Not Important	12.8%	8.3%
Somewhat Prepared/Somewhat Important	48.7%	25.0%
Adequately Prepared/Important	25.6%	25.0%
Extensively Prepared/Very Important	12.8%	41.7%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0157$

1-way Test, ChiSquare Approximation:  $p = 0.0154$

**4) Knowing and applying geographic information about natural hazards (e.g., hurricanes, floods, earthquakes, fires)**

Comparisons **NOT** significantly different:

- a) Geography Faculty vs. Geography Students
- b) Geography Faculty vs. Geography Non-Academic Professionals (Importance)
- c) Geography Faculty vs. Geography Non-Academic Professionals (Preparedness)
- d) Geography Students vs. Geography Non-Academic Professionals (Preparedness)
- e) Geography Students vs. Geography Non-Academic Professionals (Importance)

**5) Knowing and applying geographic information about the economy and economic processes (e.g., labor, development, industry, agriculture, transportation, trade, resources, land use, technology change)**

Comparisons **NOT** significantly different:

- a) Geography Faculty vs. Geography Non-Academic Professionals (Preparedness)



- b) Geography Faculty vs. Geography Non-Academic Professionals (Importance)
- c) Geography Students vs. Geography Non-Academic Professionals (Preparedness)

Comparisons **SIGNIFICANTLY** different:

**d) Geography Faculty vs. Geography Students**

Response	Geog Faculty	Geog Students
Not Prepared/Not Prepared	11.9%	26.3%
Somewhat Prepared/Somewhat Prepared	44.1%	55.3%
Adequately Prepared/Adequately Prepared	39.0%	13.2%
Extensively Prepared/Extensively Prepared	5.1%	5.3%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0088$

1-way Test, ChiSquare Approximation:  $p = 0.0287$

**e) Geography Students vs. Geography Non-Academic Professionals (Importance)**

Response	Geog Students	NA Profs - Importance
Not Prepared/Not Important	26.3%	17.4%
Somewhat Prepared/Somewhat Important	55.3%	30.4%
Adequately Prepared/Important	13.2%	34.8%
Extensively Prepared/Very Important	5.3%	17.4%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0243$

1-way Test, ChiSquare Approximation:  $p = 0.0239$

**6) Knowing and applying geographic information about political systems and processes (e.g., governments, political activism, nongovernmental organizations, nations, states, international relations, nationalism)**

Comparisons **NOT** significantly different:

- a) Geography Faculty vs. Geography Students
- b) Geography Faculty vs. Geography Non-Academic Professionals (Importance)
- c) Geography Faculty vs. Geography Non-Academic Professionals (Preparedness)
- d) Geography Students vs. Geography Non-Academic Professionals (Preparedness)
- e) Geography Students vs. Geography Non-Academic Professionals (Importance)

**7) Knowing and applying geographic information about culture and cultural processes (e.g., religion, language, ethnicity, diffusion, meaning of landscapes, cultural significance of place)**

Comparisons **NOT** significantly different:

- a) Geography Faculty vs. Geography Students
- b) Geography Faculty vs. Geography Non-Academic Professionals (Importance)
- c) Geography Faculty vs. Geography Non-Academic Professionals (Preparedness)
- d) Geography Students vs. Geography Non-Academic Professionals (Preparedness)
- e) Geography Students vs. Geography Non-Academic Professionals (Importance)

**8) Knowing and applying geographic information about population, demography, and demographic processes (e.g., population density, migration, birth and death rates, fertility rates)**

Comparisons **NOT** significantly different:

- a) Geography Faculty vs. Geography Students
- b) Geography Faculty vs. Geography Non-Academic Professionals (Importance)
- c) Geography Faculty vs. Geography Non-Academic Professionals (Preparedness)
- d) Geography Students vs. Geography Non-Academic Professionals (Preparedness)
- e) Geography Students vs. Geography Non-Academic Professionals (Importance)

**9) Knowing and applying geographic information about relationships between nature and society (e.g., pollution from industrial development, economic effects of drought)**

Comparisons **NOT** significantly different:

- a) Geography Faculty vs. Geography Non-Academic Professionals (Importance)
- b) Geography Faculty vs. Geography Non-Academic Professionals (Preparedness)
- c) Geography Students vs. Geography Non-Academic Professionals (Preparedness)
- d) Geography Students vs. Geography Non-Academic Professionals (Importance)

Comparisons **SIGNIFICANTLY** different:

**e) Geography Faculty vs. Geography Students**

Response	Geog Faculty	Geog Students
Not Prepared/Not Prepared	3.4%	15.8%
Somewhat Prepared/Somewhat Prepared	33.9%	42.1%
Adequately Prepared/Adequately Prepared	49.2%	31.6%
Extensively Prepared/Extensively Prepared	13.6%	10.5%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0362$

1-way Test, ChiSquare Approximation:  $p = 0.0359$

## 10) Designing paper or digital maps

Comparisons **NOT** significantly different:

- a) Geography Faculty vs. Geography Students
- b) Geography Faculty vs. Geography Non-Academic Professionals (Preparedness)
- c) Geography Students vs. Geography Non-Academic Professionals (Preparedness)

Comparisons **SIGNIFICANTLY** different:

### d) Geography Faculty vs. Geography Non-Academic Professionals (Importance)

Response	Geog Faculty	NA Profs - Importance
Not Prepared/Not Important	3.4%	0.0%
Somewhat Prepared/Somewhat Important	12.1%	12.5%
Adequately Prepared/Important	37.9%	12.5%
Extensively Prepared/Very Important	46.6%	75.0%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0397$

1-way Test, ChiSquare Approximation:  $p = 0.0392$

### e) Geography Students vs. Geography Non-Academic Professionals (Importance)

Response	Geog Students	NA Profs - Importance
Not Prepared/Not Important	2.6%	0.0%
Somewhat Prepared/Somewhat Important	17.9%	12.5%
Adequately Prepared/Important	48.7%	12.5%
Extensively Prepared/Very Important	30.8%	75.0%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0032$

1-way Test, ChiSquare Approximation:  $p = 0.0031$

## 11) Using GIS to acquire, manage, display, and analyze spatial data in digital form

Comparisons **NOT** significantly different:

- a) Geography Faculty vs. Geography Non-Academic Professionals (Importance)
- b) Geography Faculty vs. Geography Non-Academic Professionals (Preparedness)
- c) Geography Students vs. Geography Non-Academic Professionals (Preparedness)

Comparisons **SIGNIFICANTLY** different:

**d) Geography Faculty vs. Geography Students**

Response	Geog Faculty	Geog Students
Not Prepared/Not Prepared	1.7%	2.6%
Somewhat Prepared/Somewhat Prepared	5.2%	23.1%
Adequately Prepared/Adequately Prepared	25.9%	33.3%
Extensively Prepared/Extensively Prepared	67.2%	41.0%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0047$

1-way Test, ChiSquare Approximation:  $p = 0.0046$

**e) Geography Students vs. Geography Non-Academic Professionals (Importance)**

Response	Geog Students	NA Profs - Importance
Not Prepared/Not Important	2.6%	0.0%
Somewhat Prepared/Somewhat Important	23.1%	12.5%
Adequately Prepared/Important	33.3%	16.7%
Extensively Prepared/Very Important	41.0%	70.8%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0285$

1-way Test, ChiSquare Approximation:  $p = 0.0279$

**12) Recording, measuring, and plotting electromagnetic radiation data from aerial photographs and remote sensing systems against land features identified in ground control surveys, generally to produce planimetric, topographic, and contour map**

Comparisons **NOT** significantly different:

- a) Geography Faculty vs. Geography Students
- b) Geography Faculty vs. Geography Non-Academic Professionals (Importance)
- c) Geography Faculty vs. Geography Non-Academic Professionals (Preparedness)
- d) Geography Students vs. Geography Non-Academic Professionals (Preparedness)
- e) Geography Students vs. Geography Non-Academic Professionals (Importance)

**13) Understanding the underlying theories and methods related to acquiring an object without contacting it physically (e.g., aerial photography, radar, and satellite imaging)**

Comparisons **NOT** significantly different:

- a) Geography Faculty vs. Geography Students
- b) Geography Faculty vs. Geography Non-Academic Professionals (Preparedness)

Comparisons **SIGNIFICANTLY** different:

**c) Geography Faculty vs. Geography Non-Academic Professionals (Importance)**

Response	Geog Faculty	NA Profs - Importance
Not Prepared/Not Important	5.2%	0.0%
Somewhat Prepared/Somewhat Important	31.0%	21.7%
Adequately Prepared/Important	37.9%	26.1%
Extensively Prepared/Very Important	25.9%	52.2%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0353$

1-way Test, ChiSquare Approximation:  $p = 0.0349$

**d) Geography Students vs. Geography Non-Academic Professionals (Preparedness)**

Response	Geog Students	NA Profs - Preparedness
Not Prepared/Not Prepared	10.5%	0.0%
Somewhat Prepared/Somewhat Prepared	36.8%	26.1%
Adequately Prepared/Adequately Prepared	34.2%	39.1%
Extensively Prepared/Extensively Prepared	18.4%	34.8%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0503$  (not sig.)

1-way Test, ChiSquare Approximation:  $p = 0.0494$

**e) Geography Students vs. Geography Non-Academic Professionals (Importance)**

Response	Geog Students	NA Profs - Importance
Not Prepared/Not Important	10.5%	0.0%
Somewhat Prepared/Somewhat Important	36.8%	21.7%
Adequately Prepared/Important	34.2%	26.1%
Extensively Prepared/Very Important	18.4%	52.2%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0053$

1-way Test, ChiSquare Approximation:  $p = 0.0052$

**14) Using interviews, questionnaires, observations, photography, maps, and other techniques for measuring geographic information in the field**

Comparisons **NOT** significantly different:

- a) Geography Faculty vs. Geography Students
- b) Geography Faculty vs. Geography Non-Academic Professionals (Importance)
- c) Geography Faculty vs. Geography Non-Academic Professionals (Preparedness)
- d) Geography Students vs. Geography Non-Academic Professionals (Preparedness)
- e) Geography Students vs. Geography Non-Academic Professionals (Importance)

**15) Using quantitative methods to process spatial data for the purpose of making calculations, models, and inferences about space, spatial patterns, and spatial relationships**

Comparisons **NOT** significantly different:

- a) Geography Faculty vs. Geography Students
- b) Geography Faculty vs. Geography Non-Academic Professionals (Importance)
- c) Geography Faculty vs. Geography Non-Academic Professionals (Preparedness)
- d) Geography Students vs. Geography Non-Academic Professionals (Preparedness)
- e) Geography Students vs. Geography Non-Academic Professionals (Importance)

**16) Possessing and applying knowledge of the physical and human geography of a specific country or world region**

Comparisons **NOT** significantly different:

- a) Geography Faculty vs. Geography Students
- b) Geography Faculty vs. Geography Non-Academic Professionals (Importance)
- c) Geography Students vs. Geography Non-Academic Professionals (Preparedness)
- d) Geography Students vs. Geography Non-Academic Professionals (Importance)

Comparisons **SIGNIFICANTLY** different:

**e) Geography Faculty vs. Geography Non-Academic Professionals (Preparedness)**

Response	Geog Faculty	NA Profs - Preparedness
Not Prepared/Not Prepared	16.4%	13.0%
Somewhat Prepared/Somewhat Prepared	50.9%	17.4%
Adequately Prepared/Adequately Prepared	21.8%	52.2%
Extensively Prepared/Extensively Prepared	10.9%	17.4%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0229$

1-way Test, ChiSquare Approximation:  $p = 0.0226$

**17) Drawing on and synthesizing the information, concepts, and methods of the natural and social sciences for geographic research and applications**

Comparisons **NOT** significantly different:

- a) Geography Faculty vs. Geography Students
- b) Geography Faculty vs. Geography Non-Academic Professionals (Importance)
- c) Geography Faculty vs. Geography Non-Academic Professionals (Preparedness)
- d) Geography Students vs. Geography Non-Academic Professionals (Preparedness)
- e) Geography Students vs. Geography Non-Academic Professionals (Importance)

**18) Identifying, explaining, and finding meaning in spatial patterns and relationships (e.g., site conditions, how places are similar or different, the influence of a land feature on its neighbors, the nature of transitions between place**

Comparisons **NOT** significantly different:

- a) Geography Faculty vs. Geography Students
- b) Geography Faculty vs. Geography Non-Academic Professionals (Importance)
- c) Geography Students vs. Geography Non-Academic Professionals (Preparedness)
- d) Geography Students vs. Geography Non-Academic Professionals (Importance)

Comparisons **SIGNIFICANTLY** different:

**e) Geography Faculty vs. Geography Non-Academic Professionals (Preparedness)**

Response	Geog Faculty	NA Profs - Preparedness
Not Prepared/Not Prepared	0.0%	4.2%
Somewhat Prepared/Somewhat Prepared	37.3%	16.7%
Adequately Prepared/Adequately Prepared	49.2%	41.7%
Extensively Prepared/Extensively Prepared	13.6%	37.5%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0339$

1-way Test, ChiSquare Approximation:  $p = 0.0335$

**19) Possessing and applying knowledge of how people, places, and regions are linked by global networks and processes (e.g., globalization, international trade, immigration, Internet technology, global climate system)**

Comparisons **NOT** significantly different:

- a) Geography Faculty vs. Geography Students
- b) Geography Faculty vs. Geography Non-Academic Professionals (Importance)
- c) Geography Faculty vs. Geography Non-Academic Professionals (Preparedness)
- d) Geography Students vs. Geography Non-Academic Professionals (Preparedness)
- e) Geography Students vs. Geography Non-Academic Professionals (Importance)

**20) Using knowledge about population diversity (e.g., gender, ethnicity, race, sexuality, disability) to interpret social, economic, and political issues in different place**

Comparisons **NOT** significantly different:

- a) Geography Faculty vs. Geography Students
- b) Geography Faculty vs. Geography Non-Academic Professionals (Preparedness)
- c) Geography Students vs. Geography Non-Academic Professionals (Preparedness)
- d) Geography Students vs. Geography Non-Academic Professionals (Importance)

Comparisons **SIGNIFICANTLY** different:

- e) **Geography Faculty vs. Geography Non-Academic Professionals (Importance)**

Response	Geog Faculty	NA Profs - Importance
Not Prepared/Not Important	16.4%	43.5%
Somewhat Prepared/Somewhat Important	50.9%	34.8%
Adequately Prepared/Important	21.8%	13.0%
Extensively Prepared/Very Important	10.9%	8.7%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0470$

1-way Test, ChiSquare Approximation:  $p = 0.0463$

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## TECHNICAL SKILLS - HYBRID

**Asked to Faculty:** Indicate the amount of preparation students receive in your degree program for each of the following geology competencies. (Theme: General and Field Geology)

**Asked to Students:** Indicate the amount of preparation you receive in your Master's degree program for each of the following geology competencies.

**Asked to Non-Academic Professionals:**

- 1) **Preparedness:** Indicate the amount of preparation you received in your Master's degree program for each of the following competencies.
- 2) **Importance:** Now that you've indicated how prepared you feel for each of these items, please indicate how important each skill area is for employment in your current position.

**Ordinal Scale of Responses** (*Number in parentheses represents coded response used for data analysis*)

**Faculty & Non-Academic Professional Question #1 Responses:** No Preparation (1); Some Preparation (2); Adequate Preparation (3); Extensive Preparation (4)

**Student Responses:** No Preparation (1); Some Preparation (2); Adequate Preparation (3); Extensive Preparation (4)

**Non-Academic Professional Question #2 Responses:** Not Important (1); Somewhat Important (2); Important (3); Very Important (4)



### **30 Skills Surveyed**

**Statistical Test: Nonparametric Wilcoxon Test** (*aka the Mann-Whitney test; called Kruskal-Wallis for more than 2 categories/data factors*)

#### **1) Interpret and analyze available geographical, geological, and/or geophysical data, maps, sections, and reports**

Comparisons **NOT** significantly different:

- a) Hybrid Faculty vs. Hybrid Students
- b) Hybrid Faculty vs. Hybrid Non-Academic Professionals (Importance)
- c) Hybrid Faculty vs. Hybrid Non-Academic Professionals (Preparedness)
- d) Hybrid Students vs. Hybrid Non-Academic Professionals (Preparedness)
- e) Hybrid Students vs. Hybrid Non-Academic Professionals (Importance)

#### **2) Determine scales, distances, and elevations from imagery, surveys, maps, and GIS applications**

Comparisons **NOT** significantly different:

- a) Hybrid Faculty vs. Hybrid Students
- b) Hybrid Faculty vs. Hybrid Non-Academic Professionals (Importance)
- c) Hybrid Faculty vs. Hybrid Non-Academic Professionals (Preparedness)
- d) Hybrid Students vs. Hybrid Non-Academic Professionals (Preparedness)
- e) Hybrid Students vs. Hybrid Non-Academic Professionals (Importance)

#### **3) Prepare, analyze, and interpret logs, cross-sections, maps, and other graphics derived from field investigations and GIS applications**

Comparisons **NOT** significantly different:

- a) Hybrid Faculty vs. Hybrid Students
- b) Hybrid Faculty vs. Hybrid Non-Academic Professionals (Importance)
- c) Hybrid Faculty vs. Hybrid Non-Academic Professionals (Preparedness)
- d) Hybrid Students vs. Hybrid Non-Academic Professionals (Preparedness)
- e) Hybrid Students vs. Hybrid Non-Academic Professionals (Importance)

#### **4) Design paper or digital maps**

Comparisons **NOT** significantly different:

- a) Hybrid Faculty vs. Hybrid Students
- b) Hybrid Faculty vs. Hybrid Non-Academic Professionals (Preparedness)
- c) Hybrid Students vs. Hybrid Non-Academic Professionals (Preparedness)
- d) Hybrid Students vs. Hybrid Non-Academic Professionals (Importance)

Comparisons **SIGNIFICANTLY** different:

**e) Hybrid Faculty vs. Hybrid Non-Academic Professionals (Importance)**

Response	Hybrid Faculty	NA Profs - Importance
Not Prepared/Not Important	0.0%	7.4%
Somewhat Prepared/Somewhat Important	27.8%	11.1%
Adequately Prepared/Important	55.6%	25.9%
Extensively Prepared/Very Important	16.7%	55.6%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0437$

1-way Test, ChiSquare Approximation:  $p = 0.0425$

**5) Use GIS to acquire, manage, display, and analyze spatial data in digital form**

Comparisons **NOT** significantly different:

- a) Hybrid Faculty vs. Hybrid Students
- b) Hybrid Faculty vs. Hybrid Non-Academic Professionals (Importance)
- c) Hybrid Faculty vs. Hybrid Non-Academic Professionals (Preparedness)
- d) Hybrid Students vs. Hybrid Non-Academic Professionals (Preparedness)
- e) Hybrid Students vs. Hybrid Non-Academic Professionals (Importance)

**6) Record, measure, and plot electromagnetic radiation data from aerial photographs and remote sensing systems against land features identified in ground control surveys, generally to produce planimetric, topographic, and contour maps**

Comparisons **NOT** significantly different:

- a) Hybrid Faculty vs. Hybrid Students
- b) Hybrid Faculty vs. Hybrid Non-Academic Professionals (Importance)
- c) Hybrid Faculty vs. Hybrid Non-Academic Professionals (Preparedness)
- d) Hybrid Students vs. Hybrid Non-Academic Professionals (Preparedness)
- e) Hybrid Students vs. Hybrid Non-Academic Professionals (Importance)

**7) Understand the underlying theories and methods related to acquiring an object without contacting it physically (e.g., aerial photography, radar, and satellite imaging)**

Comparisons **NOT** significantly different:

- a) Hybrid Faculty vs. Hybrid Students
- b) Hybrid Faculty vs. Hybrid Non-Academic Professionals (Importance)
- c) Hybrid Faculty vs. Hybrid Non-Academic Professionals (Preparedness)
- d) Hybrid Students vs. Hybrid Non-Academic Professionals (Preparedness)

- e) Hybrid Students vs. Hybrid Non-Academic Professionals (Importance)

**8) Identify, explain, and find meaning in spatial patterns and relationships (e.g., site conditions, how places are similar or different, the influence of a land feature on its neighbors, the nature of transitions between places, how places are linked at local, regional, and/or global scales)**

Comparisons **NOT** significantly different:

- a) Hybrid Faculty vs. Hybrid Students
- b) Hybrid Faculty vs. Hybrid Non-Academic Professionals (Importance)
- c) Hybrid Faculty vs. Hybrid Non-Academic Professionals (Preparedness)
- d) Hybrid Students vs. Hybrid Non-Academic Professionals (Preparedness)
- e) Hybrid Students vs. Hybrid Non-Academic Professionals (Importance)

**9) Use quantitative methods to process spatial data for the purpose of making calculations, models, and inferences about space, spatial patterns, and spatial relationships**

Comparisons **NOT** significantly different:

- a) Hybrid Faculty vs. Hybrid Students
- b) Hybrid Faculty vs. Hybrid Non-Academic Professionals (Importance)
- c) Hybrid Faculty vs. Hybrid Non-Academic Professionals (Preparedness)
- d) Hybrid Students vs. Hybrid Non-Academic Professionals (Preparedness)
- e) Hybrid Students vs. Hybrid Non-Academic Professionals (Importance)

**10) Identify minerals and rocks and their characteristics**

Comparisons **NOT** significantly different:

- a) Hybrid Faculty vs. Hybrid Non-Academic Professionals (Preparedness)
- b) Hybrid Students vs. Hybrid Non-Academic Professionals (Preparedness)
- c) Hybrid Students vs. Hybrid Non-Academic Professionals (Importance)

Comparisons **SIGNIFICANTLY** different:

**d) Hybrid Faculty vs. Hybrid Students**

Response	Hybrid Faculty	Hybrid Students
Not Prepared/Not Prepared	0.0%	33.3%
Somewhat Prepared/Somewhat Prepared	28.6%	38.1%
Adequately Prepared/Adequately Prepared	50.0%	4.8%
Extensively Prepared/Extensively Prepared	21.4%	23.8%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0345$

1-way Test, ChiSquare Approximation:  $p = 0.0330$

**e) Hybrid Faculty vs. Hybrid Non-Academic Professionals (Importance)**

Response	Hybrid Faculty	NA Profs - Importance
Not Prepared/Not Important	0.0%	45.5%
Somewhat Prepared/Somewhat Important	28.6%	13.6%
Adequately Prepared/Important	50.0%	31.8%
Extensively Prepared/Very Important	21.4%	9.1%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0173$

1-way Test, ChiSquare Approximation:  $p = 0.0165$

**11) Identify and interpret rock and mineral sequences, associations, and genesis**

Comparisons **NOT** significantly different:

- a) Hybrid Faculty vs. Hybrid Students
- b) Hybrid Faculty vs. Hybrid Non-Academic Professionals (Importance)
- c) Hybrid Faculty vs. Hybrid Non-Academic Professionals (Preparedness)
- d) Hybrid Students vs. Hybrid Non-Academic Professionals (Preparedness)
- e) Hybrid Students vs. Hybrid Non-Academic Professionals (Importance)

**12) Select and apply appropriate stratigraphic nomenclature and establish correlations**

Comparisons **NOT** significantly different:

- a) Hybrid Faculty vs. Hybrid Students
- b) Hybrid Faculty vs. Hybrid Non-Academic Professionals (Preparedness)
- c) Hybrid Students vs. Hybrid Non-Academic Professionals (Preparedness)
- d) Hybrid Students vs. Hybrid Non-Academic Professionals (Importance)

Comparisons **SIGNIFICANTLY** different:

**e) Hybrid Faculty vs. Hybrid Non-Academic Professionals (Importance)**

Response	Hybrid Faculty	NA Profs - Importance
Not Prepared/Not Important	7.1%	52.2%
Somewhat Prepared/Somewhat Important	28.6%	13.0%
Adequately Prepared/Important	42.9%	21.7%
Extensively Prepared/Very Important	21.4%	13.0%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0264$

1-way Test, ChiSquare Approximation:  $p = 0.0253$

**13) Identify and interpret sedimentary processes and structures, depositional environments, and sediment provenance**

Comparisons **NOT** significantly different:

- a) Hybrid Faculty vs. Hybrid Students
- b) Hybrid Faculty vs. Hybrid Non-Academic Professionals (Importance)
- c) Hybrid Faculty vs. Hybrid Non-Academic Professionals (Preparedness)
- d) Hybrid Students vs. Hybrid Non-Academic Professionals (Preparedness)
- e) Hybrid Students vs. Hybrid Non-Academic Professionals (Importance)

**14) Determine absolute or relative age relationships of landforms, sediments, and soils**

Comparisons **NOT** significantly different:

- a) Hybrid Faculty vs. Hybrid Non-Academic Professionals (Preparedness)
- b) Hybrid Students vs. Hybrid Non-Academic Professionals (Preparedness)
- c) Hybrid Students vs. Hybrid Non-Academic Professionals (Importance)

Comparisons **SIGNIFICANTLY** different:

**d) Hybrid Faculty vs. Hybrid Students**

Response	Hybrid Faculty	Hybrid Students
Not Prepared/Not Prepared	0.0%	31.6%
Somewhat Prepared/Somewhat Prepared	42.9%	31.6%
Adequately Prepared/Adequately Prepared	42.9%	36.8%
Extensively Prepared/Extensively Prepared	14.3%	0.0%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0462$

1-way Test, ChiSquare Approximation:  $p = 0.0441$

**e) Hybrid Faculty vs. Hybrid Non-Academic Professionals (Importance)**

Response	Hybrid Faculty	NA Profs - Importance
Not Prepared/Not Important	0.0%	40.9%
Somewhat Prepared/Somewhat Important	42.9%	31.8%
Adequately Prepared/Important	42.9%	18.2%
Extensively Prepared/Very Important	14.3%	9.1%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0168$

1-way Test, ChiSquare Approximation:  $p = 0.0160$

**15) Evaluate geomorphic processes and development of landforms, sediments, and soils, including watershed functions**

Comparisons **NOT** significantly different:

- a) Hybrid Faculty vs. Hybrid Non-Academic Professionals (Importance)
- b) Hybrid Faculty vs. Hybrid Non-Academic Professionals (Preparedness)
- c) Hybrid Students vs. Hybrid Non-Academic Professionals (Preparedness)
- d) Hybrid Students vs. Hybrid Non-Academic Professionals (Importance)

Comparisons **SIGNIFICANTLY** different:

**e) Hybrid Faculty vs. Hybrid Students**

Response	Hybrid Faculty	Hybrid Students
Not Prepared/Not Prepared	0.0%	20.0%
Somewhat Prepared/Somewhat Prepared	33.3%	50.0%
Adequately Prepared/Adequately Prepared	53.3%	25.0%
Extensively Prepared/Extensively Prepared	13.3%	5.0%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0191$

1-way Test, ChiSquare Approximation:  $p = 0.0182$

**16) Interpret geomorphic conditions and processes based on remote sensing and GIS**

Comparisons **NOT** significantly different:

- a) Hybrid Faculty vs. Hybrid Students
- b) Hybrid Faculty vs. Hybrid Non-Academic Professionals (Importance)
- c) Hybrid Faculty vs. Hybrid Non-Academic Professionals (Preparedness)
- d) Hybrid Students vs. Hybrid Non-Academic Professionals (Preparedness)
- e) Hybrid Students vs. Hybrid Non-Academic Professionals (Importance)

**17) Know and apply geographic information about geology and the processes that shape physical landscapes (e.g., soils, hydrology, topography, erosion)**

Comparisons **NOT** significantly different:

- a) Hybrid Faculty vs. Hybrid Students
- b) Hybrid Faculty vs. Hybrid Non-Academic Professionals (Importance)
- c) Hybrid Faculty vs. Hybrid Non-Academic Professionals (Preparedness)

- d) Hybrid Students vs. Hybrid Non-Academic Professionals (Preparedness)
- e) Hybrid Students vs. Hybrid Non-Academic Professionals (Importance)

# 18) Identify and define structural features and relations, including constructing and interpreting structural projections and statistical analyses

Comparisons **NOT** significantly different:

- a) Hybrid Faculty vs. Hybrid Non-Academic Professionals (Importance)
- b) Hybrid Faculty vs. Hybrid Non-Academic Professionals (Preparedness)
- c) Hybrid Students vs. Hybrid Non-Academic Professionals (Importance)

Comparisons **SIGNIFICANTLY** different:

## d) Hybrid Faculty vs. Hybrid Students

Response	Hybrid Faculty	Hybrid Students
Not Prepared/Not Prepared	13.3%	47.1%
Somewhat Prepared/Somewhat Prepared	20.0%	35.3%
Adequately Prepared/Adequately Prepared	60.0%	11.8%
Extensively Prepared/Extensively Prepared	6.7%	5.9%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0106$

1-way Test, ChiSquare Approximation:  $p = 0.0100$

## e) Hybrid Students vs. Hybrid Non-Academic Professionals (Preparedness)

Response	Hybrid Students	NA Profs - Preparedness
Not Prepared/Not Prepared	47.1%	13.6%
Somewhat Prepared/Somewhat Prepared	35.3%	27.3%
Adequately Prepared/Adequately Prepared	11.8%	36.4%
Extensively Prepared/Extensively Prepared	5.9%	22.7%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0063$

1-way Test, ChiSquare Approximation:  $p = 0.0060$

# 19) Interpret deformational history through structural and tectonic analyses

Comparisons **NOT** significantly different:

- a) Hybrid Faculty vs. Hybrid Non-Academic Professionals (Importance)
- b) Hybrid Faculty vs. Hybrid Non-Academic Professionals (Preparedness)
- c) Hybrid Students vs. Hybrid Non-Academic Professionals (Importance)

Comparisons **SIGNIFICANTLY** different:

**d) Hybrid Faculty vs. Hybrid Students**

Response	Hybrid Faculty	Hybrid Students
Not Prepared/Not Prepared	21.4%	47.1%
Somewhat Prepared/Somewhat Prepared	21.4%	41.2%
Adequately Prepared/Adequately Prepared	50.0%	5.9%
Extensively Prepared/Extensively Prepared	7.1%	5.9%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0300$

1-way Test, ChiSquare Approximation:  $p = 0.0285$

**e) Hybrid Students vs. Hybrid Non-Academic Professionals (Preparedness)**

Response	Hybrid Students	NA Profs - Preparedness
Not Prepared/Not Prepared	47.1%	20.0%
Somewhat Prepared/Somewhat Prepared	41.2%	35.0%
Adequately Prepared/Adequately Prepared	5.9%	20.0%
Extensively Prepared/Extensively Prepared	5.9%	25.0%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0240$

1-way Test, ChiSquare Approximation:  $p = 0.0230$

**20) Develop and apply tectonic models to identify geologic processes and history**

Comparisons **NOT** significantly different:

- a) Hybrid Faculty vs. Hybrid Non-Academic Professionals (Importance)
- b) Hybrid Faculty vs. Hybrid Non-Academic Professionals (Preparedness)
- c) Hybrid Students vs. Hybrid Non-Academic Professionals (Preparedness)
- d) Hybrid Students vs. Hybrid Non-Academic Professionals (Importance)

Comparisons **SIGNIFICANTLY** different:

**e) Hybrid Faculty vs. Hybrid Students**

Response	Hybrid Faculty	Hybrid Students
Not Prepared/Not Prepared	21.4%	47.1%
Somewhat Prepared/Somewhat Prepared	21.4%	41.2%
Adequately Prepared/Adequately Prepared	42.9%	5.9%
Extensively Prepared/Extensively Prepared	14.3%	5.9%



Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0275$

1-way Test, ChiSquare Approximation:  $p = 0.0260$

**21) Know and apply geographic information about natural hazards (e.g., hurricanes, floods, earthquakes, fire)**

Comparisons **NOT** significantly different:

- a) Hybrid Faculty vs. Hybrid Non-Academic Professionals (Importance)
- b) Hybrid Faculty vs. Hybrid Non-Academic Professionals (Preparedness)

Comparisons **SIGNIFICANTLY** different:

**c) Hybrid Faculty vs. Hybrid Students**

Response	Hybrid Faculty	Hybrid Students
Not Prepared/Not Prepared	6.7%	35.0%
Somewhat Prepared/Somewhat Prepared	40.0%	50.0%
Adequately Prepared/Adequately Prepared	53.3%	10.0%
Extensively Prepared/Extensively Prepared	0.0%	5.0%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0137$

1-way Test, ChiSquare Approximation:  $p = 0.0130$

**d) Hybrid Students vs. Hybrid Non-Academic Professionals (Preparedness)**

Response	Hybrid Students	NA Profs - Preparedness
Not Prepared/Not Prepared	35.0%	16.0%
Somewhat Prepared/Somewhat Prepared	50.0%	44.0%
Adequately Prepared/Adequately Prepared	10.0%	24.0%
Extensively Prepared/Extensively Prepared	5.0%	16.0%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0469$

1-way Test, ChiSquare Approximation:  $p = 0.0455$

**e) Hybrid Students vs. Hybrid Non-Academic Professionals (Importance)**

Response	Hybrid Students	NA Profs - Importance
Not Prepared/Not Important	35.0%	24.0%
Somewhat Prepared/Somewhat Important	50.0%	24.0%
Adequately Prepared/Important	10.0%	24.0%
Extensively Prepared/Very Important	5.0%	28.0%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0383$

1-way Test, ChiSquare Approximation:  $p = 0.0372$

## 22) Evaluate earthquake mechanisms, paleoseismic history, and hazards

Comparisons **NOT** significantly different:

- a) Hybrid Faculty vs. Hybrid Non-Academic Professionals (Importance)
- b) Hybrid Faculty vs. Hybrid Non-Academic Professionals (Preparedness)
- c) Hybrid Students vs. Hybrid Non-Academic Professionals (Preparedness)
- d) Hybrid Students vs. Hybrid Non-Academic Professionals (Importance)

Comparisons **SIGNIFICANTLY** different:

### e) Hybrid Faculty vs. Hybrid Students

Response	Hybrid Faculty	Hybrid Students
Not Prepared/Not Prepared	7.1%	68.8%
Somewhat Prepared/Somewhat Prepared	85.7%	25.0%
Adequately Prepared/Adequately Prepared	7.1%	0.0%
Extensively Prepared/Extensively Prepared	0.0%	6.3%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0027$

1-way Test, ChiSquare Approximation:  $p = 0.0025$

## 23) Design groundwater monitoring, observation, extraction, production, or injection wells

Comparisons **NOT** significantly different:

- a) Hybrid Faculty vs. Hybrid Students
- b) Hybrid Faculty vs. Hybrid Non-Academic Professionals (Importance)
- c) Hybrid Students vs. Hybrid Non-Academic Professionals (Preparedness)
- d) Hybrid Students vs. Hybrid Non-Academic Professionals (Importance)

Comparisons **SIGNIFICANTLY** different:

### e) Hybrid Faculty vs. Hybrid Non-Academic Professionals (Preparedness)

Response	Hybrid Faculty	NA Profs - Preparedness
Not Prepared/Not Prepared	6.3%	57.1%
Somewhat Prepared/Somewhat Prepared	62.5%	14.3%
Adequately Prepared/Adequately Prepared	18.8%	19.0%
Extensively Prepared/Extensively Prepared	12.5%	9.5%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0408$

1-way Test, ChiSquare Approximation:  $p = 0.0393$

## 24) Evaluate water resources and assess aquifer yield and sustainability

Comparisons **NOT** significantly different:

- a) Hybrid Faculty vs. Hybrid Students
- b) Hybrid Students vs. Hybrid Non-Academic Professionals (Preparedness)
- c) Hybrid Students vs. Hybrid Non-Academic Professionals (Importance)

Comparisons **SIGNIFICANTLY** different:

### d) Hybrid Faculty vs. Hybrid Non-Academic Professionals (Importance)

Response	Hybrid Faculty	NA Profs - Importance
Not Prepared/Not Important	6.3%	54.4%
Somewhat Prepared/Somewhat Important	43.8%	9.1%
Adequately Prepared/Important	37.5%	27.3%
Extensively Prepared/Very Important	12.5%	9.1%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0462$

1-way Test, ChiSquare Approximation:  $p = 0.0445$

### e) Hybrid Faculty vs. Hybrid Non-Academic Professionals (Preparedness)

Response	Hybrid Faculty	NA Profs - Preparedness
Not Prepared/Not Prepared	6.3%	57.1%
Somewhat Prepared/Somewhat Prepared	43.8%	19.0%
Adequately Prepared/Adequately Prepared	37.5%	9.5%
Extensively Prepared/Extensively Prepared	12.5%	14.3%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0144$

1-way Test, ChiSquare Approximation:  $p = 0.0138$

## 25) Characterize water quality and assess chemical fate and transport

Comparisons **NOT** significantly different:

- a) Hybrid Faculty vs. Hybrid Students
- b) Hybrid Faculty vs. Hybrid Non-Academic Professionals (Importance)

- c) Hybrid Students vs. Hybrid Non-Academic Professionals (Preparedness)
- d) Hybrid Students vs. Hybrid Non-Academic Professionals (Importance)

Comparisons **SIGNIFICANTLY** different:

**e) Hybrid Faculty vs. Hybrid Non-Academic Professionals (Preparedness)**

Response	Hybrid Faculty	NA Profs - Preparedness
Not Prepared/Not Prepared	6.3%	47.6%
Somewhat Prepared/Somewhat Prepared	31.3%	33.3%
Adequately Prepared/Adequately Prepared	43.8%	4.8%
Extensively Prepared/Extensively Prepared	18.8%	14.3%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0068$

1-way Test, ChiSquare Approximation:  $p = 0.0064$

**26) Manage, develop, protect, or remediate surface water or groundwater resources**

Comparisons **NOT** significantly different:

- a) Hybrid Faculty vs. Hybrid Students
- b) Hybrid Faculty vs. Hybrid Non-Academic Professionals (Importance)
- c) Hybrid Students vs. Hybrid Non-Academic Professionals (Preparedness)
- d) Hybrid Students vs. Hybrid Non-Academic Professionals (Importance)

Comparisons **SIGNIFICANTLY** different:

**e) Hybrid Faculty vs. Hybrid Non-Academic Professionals (Preparedness)**

Response	Hybrid Faculty	NA Profs - Preparedness
Not Prepared/Not Prepared	6.3%	57.1%
Somewhat Prepared/Somewhat Prepared	43.8%	14.3%
Adequately Prepared/Adequately Prepared	43.8%	14.3%
Extensively Prepared/Extensively Prepared	6.3%	14.3%

Wilcoxon/Kruskal Wallis Tests (Rank Sums)

2-Sample Test, Normal Approximation:  $p = 0.0319$

1-way Test, ChiSquare Approximation:  $p = 0.0307$

**27) Compile, assess, and evaluate the data necessary to explore for mineral and energy resources**

Comparisons **NOT** significantly different:

- a) Hybrid Faculty vs. Hybrid Students

- b) Hybrid Faculty vs. Hybrid Non-Academic Professionals (Importance)
- c) Hybrid Faculty vs. Hybrid Non-Academic Professionals (Preparedness)
- d) Hybrid Students vs. Hybrid Non-Academic Professionals (Preparedness)
- e) Hybrid Students vs. Hybrid Non-Academic Professionals (Importance)

**28) Estimate the distribution of resources based on surface and subsurface data, including imagery and GIS applications**

Comparisons **NOT** significantly different:

- a) Hybrid Faculty vs. Hybrid Students
- b) Hybrid Faculty vs. Hybrid Non-Academic Professionals (Importance)
- c) Hybrid Faculty vs. Hybrid Non-Academic Professionals (Preparedness)
- d) Hybrid Students vs. Hybrid Non-Academic Professionals (Preparedness)
- e) Hybrid Students vs. Hybrid Non-Academic Professionals (Importance)

**29) Determine quantity and quality of resources and reserves from laboratory, surface, and subsurface data**

Comparisons **NOT** significantly different:

- a) Hybrid Faculty vs. Hybrid Students
- b) Hybrid Faculty vs. Hybrid Non-Academic Professionals (Importance)
- c) Hybrid Faculty vs. Hybrid Non-Academic Professionals (Preparedness)
- d) Hybrid Students vs. Hybrid Non-Academic Professionals (Preparedness)
- e) Hybrid Students vs. Hybrid Non-Academic Professionals (Importance)

**30) Know and apply geographic information about the economy and economic processes (e.g., labor, development, industry, agriculture, transportation, trade, resources, land use, technology change)**

Comparisons **NOT** significantly different:

- a) Hybrid Faculty vs. Hybrid Students
- b) Hybrid Faculty vs. Hybrid Non-Academic Professionals (Importance)
- c) Hybrid Faculty vs. Hybrid Non-Academic Professionals (Preparedness)
- d) Hybrid Students vs. Hybrid Non-Academic Professionals (Preparedness)
- e) Hybrid Students vs. Hybrid Non-Academic Professionals (Importance)