



Communicating Geoscience Concepts Beyond The Classroom: Who Is Watching Geoscience Videos On YouTube?

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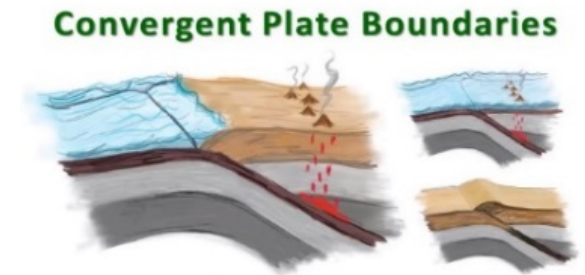


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Introduction

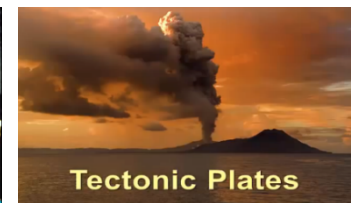
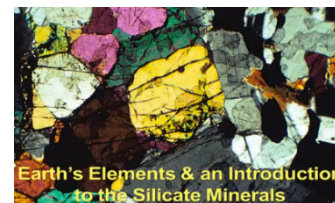
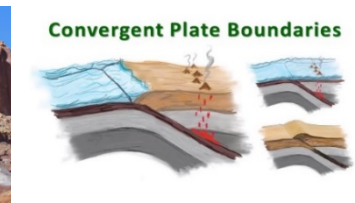
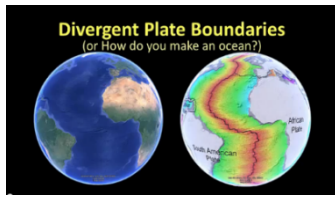
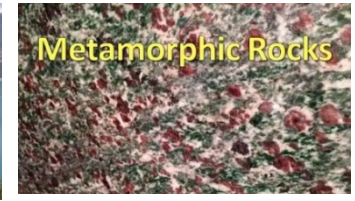
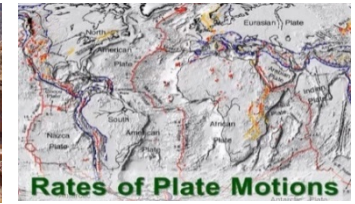
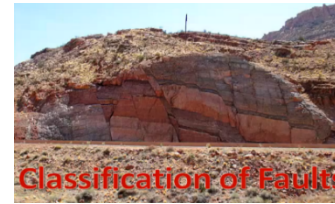
- This project involves creating & using short content-oriented geoscience videos.
- **Characteristics of Videos**
 - 5-7 minutes long
 - Accessible topics (suitable for introductory geoscience classes)
 - Tied to learning objectives





GeoScience Videos

Relatively straight forward and students can use them on their own.



<http://www.youtube.com/c/GeoScienceVideos>

Broadly suitable for a variety of classes (geology, oceanography, et cetera)



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- **Video format supported by multimedia and pedagogical research**
 - Learning objectives
 - Supported by Geoscience Video blog – includes quiz for each video
 - GeoScience video rubric



Why watch our videos?

**Multiple ways to display
content**

**Speaking fairly fast &
enthusiastically**

**Formative &
summative
assessments**

**Personal
feel**

**Learning
Objectives**

**Reflection
Activity**

**Shorter
videos**

**Creative
Commons**





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- **How we use videos**
 - Use videos as pre-class activity
 - Shifts content out of class
 - Free up time for more student-centered exercises



INTRODUCTORY CLASS CONUNDRUM

Students need to learn the basics

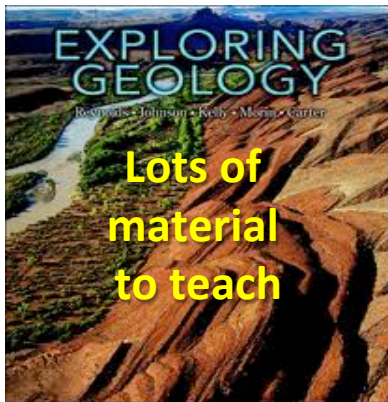


Rock vs. Mineral

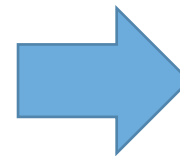
and build a conceptual framework



Interpreting a landscape



+



Shift some of the responsibility for mastering basic content outside of the classroom onto the student.



FLIPPED CLASS AT NC STATE

- Physical geology students at NCSU learn basic lecture material in online preclass “learning journals”
 - Complete low stakes online quiz questions
- Frees 10-15 minutes of class for challenging concepts



- Fall 2012 began with reading assignments
- Fall 2014 began using short videos
- Lesson begins with ‘clicker’ review questions

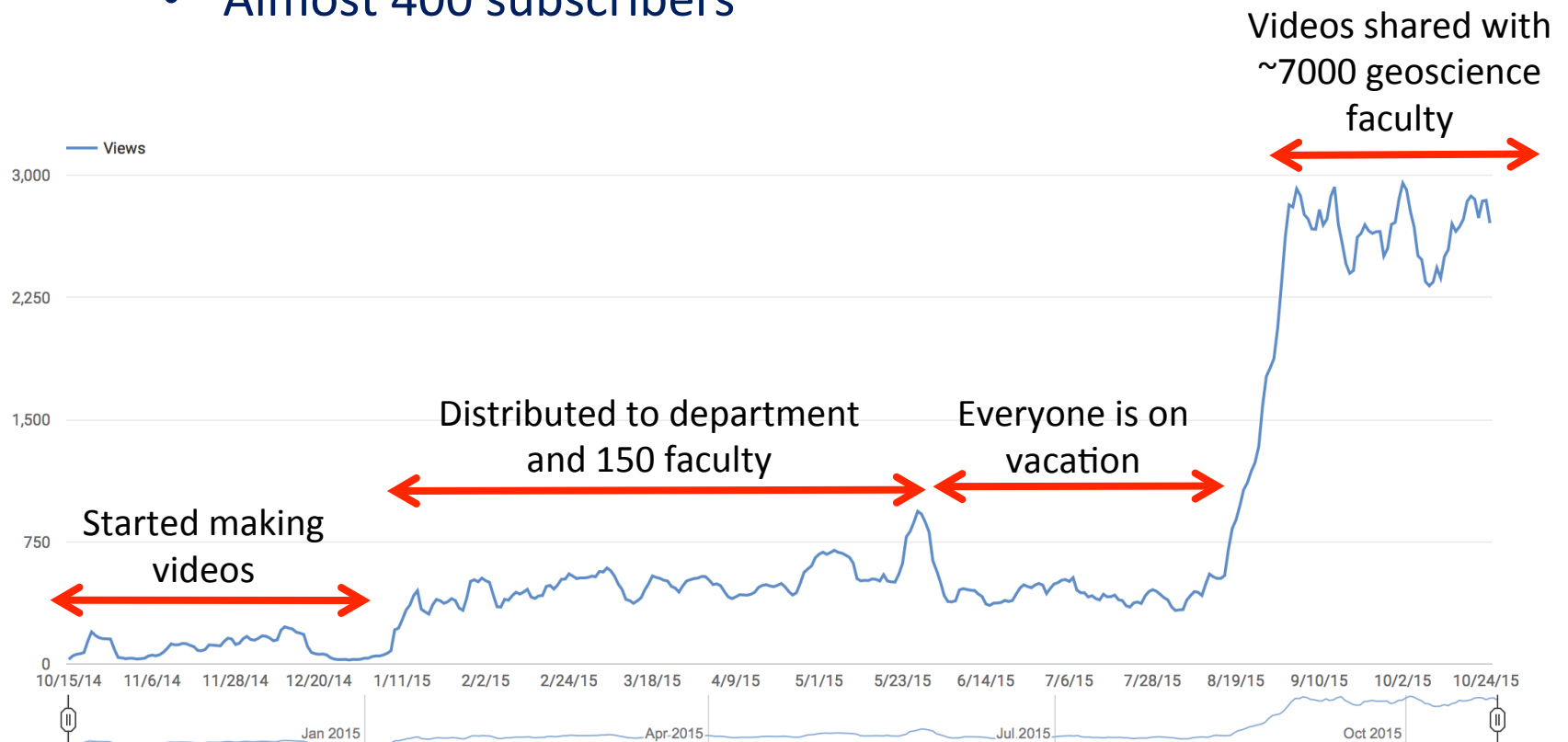
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GeoScience Videos YouTube Channel

1 year old this October! Happy Birthday!

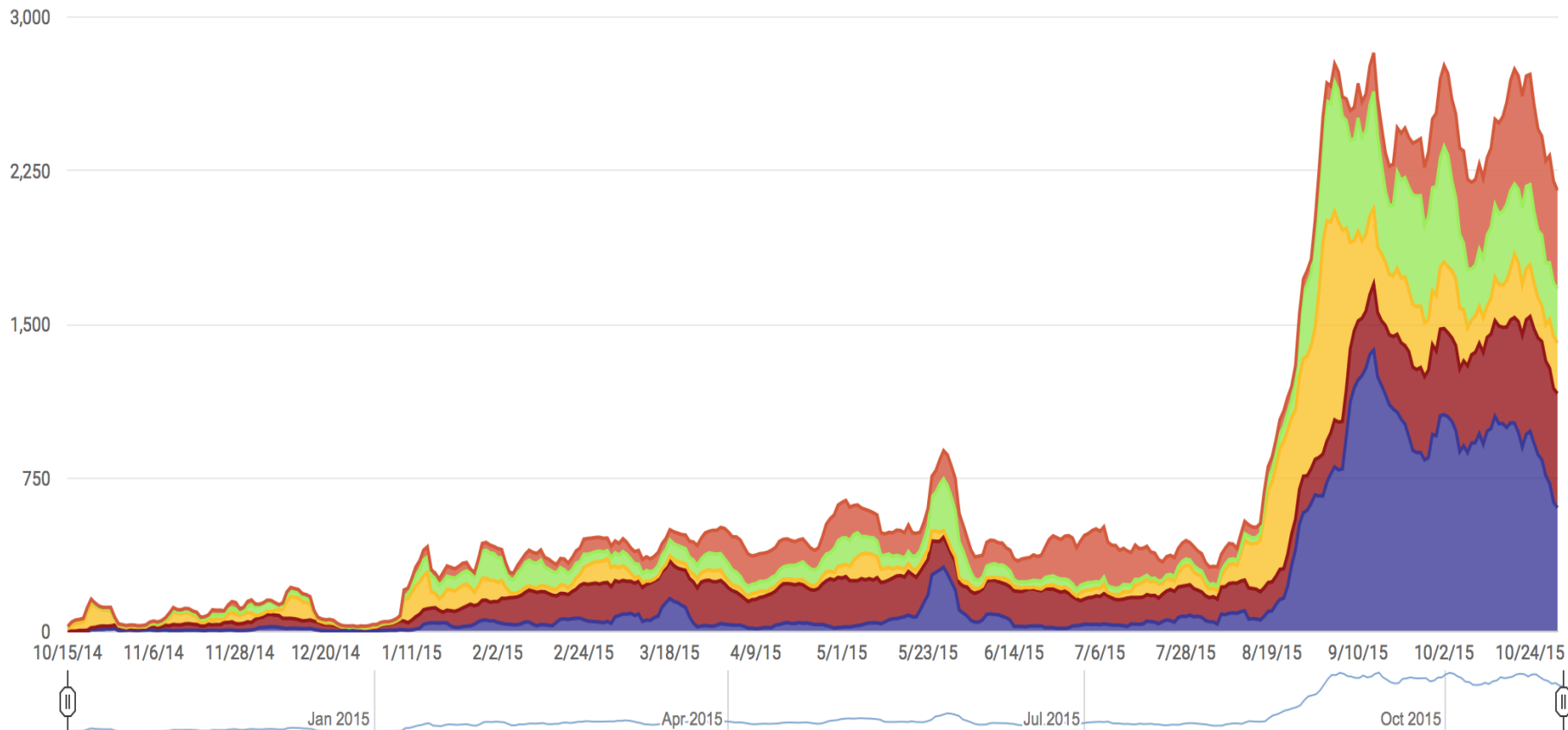
- Today: All videos have >500 views (except 1) and 16 videos with >1000 views
- Today: >43,000 views for all 21 videos
- Almost 400 subscribers





GeoScience Videos YouTube Traffic Source

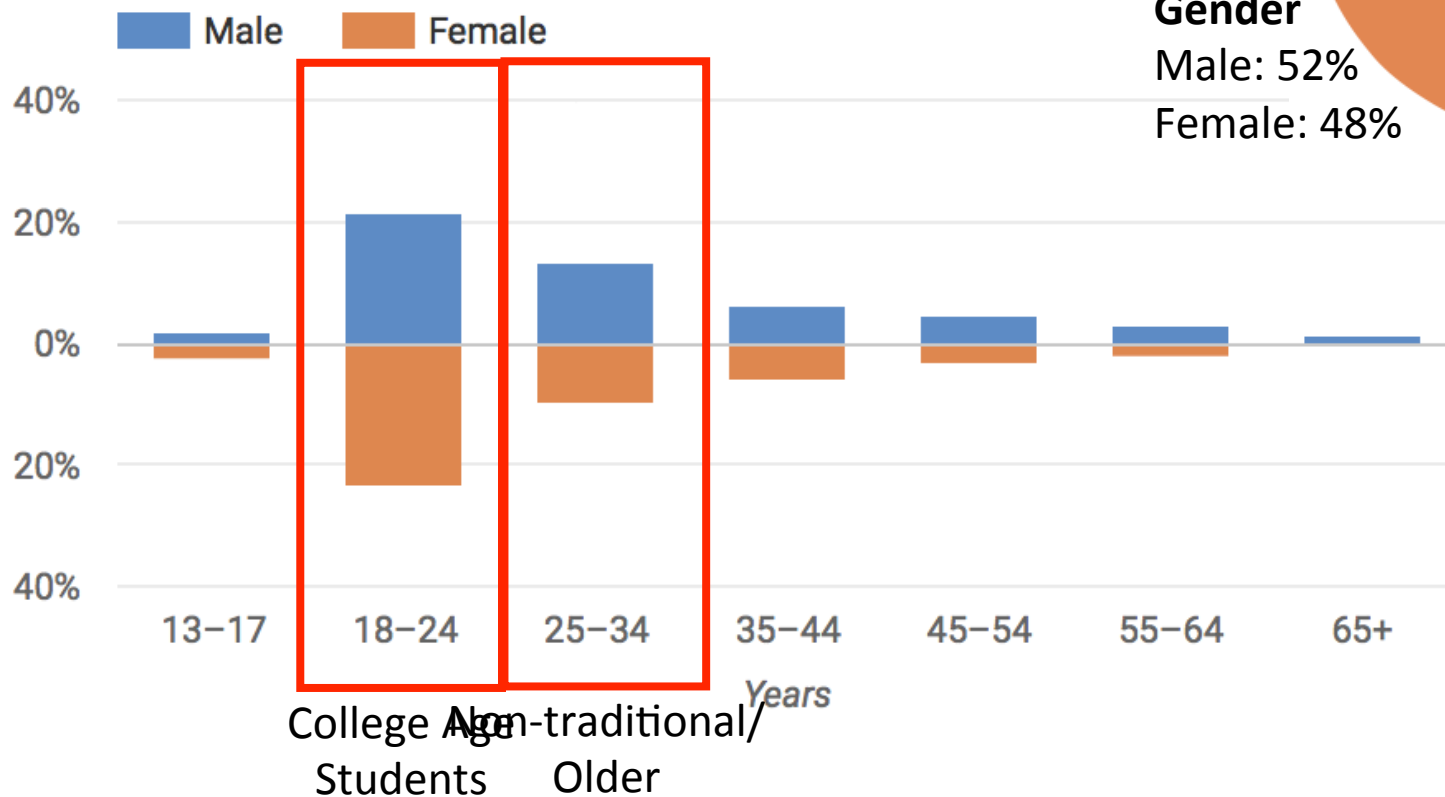
- **Blue**- Embedded Link
- **Red**- YouTube Search
- **Yellow**- YouTube Channel
- **Green**- Direct URL entry/Bookmark
- **Orange**- Suggested video view





Provide information on viewer demographics such as:

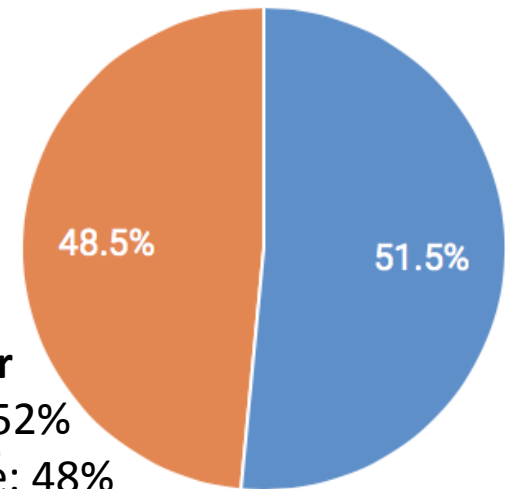
- Gender
- Age range
- Geographic Location



Gender

Male: 52%

Female: 48%

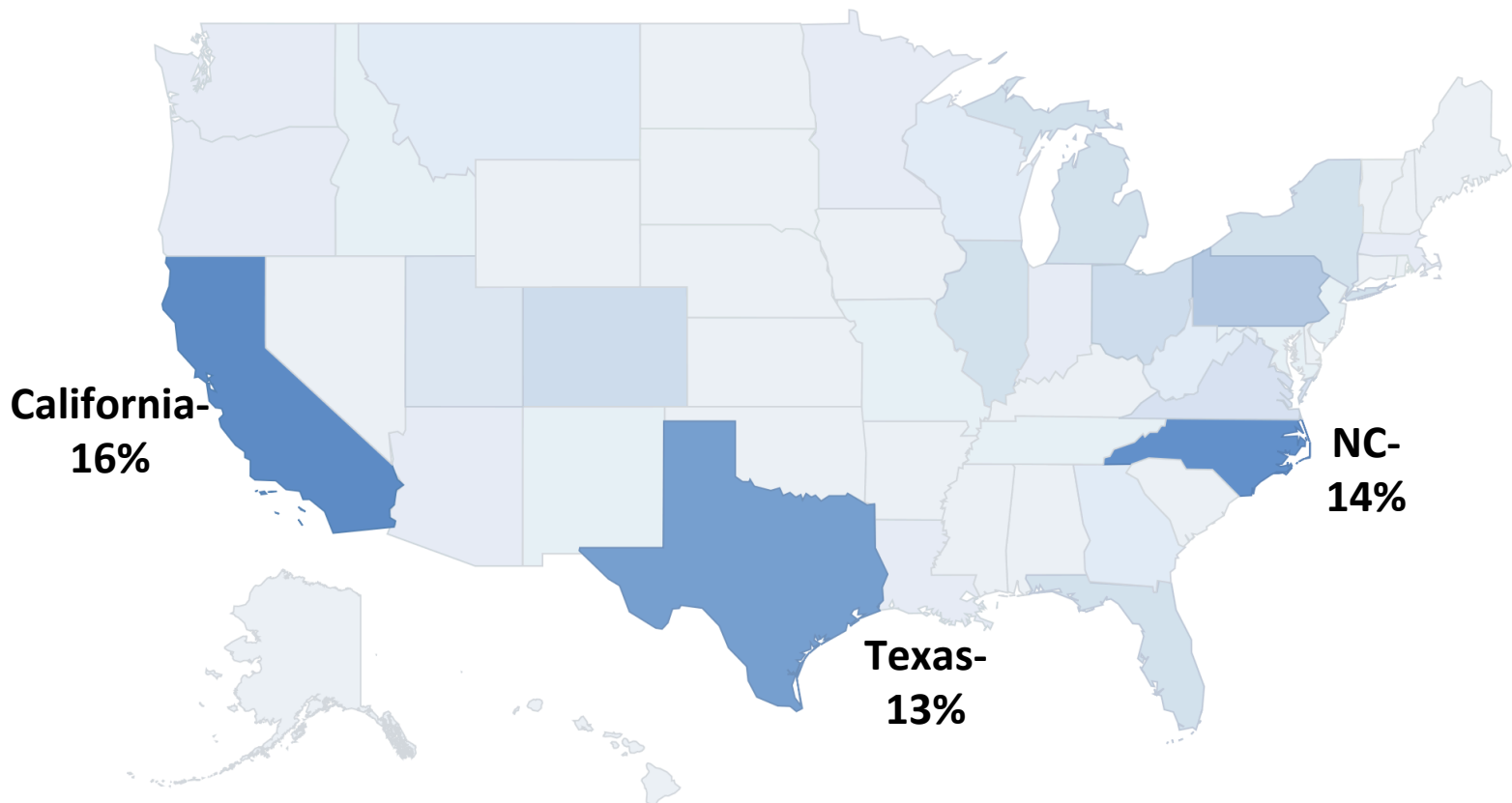




YouTube Geographic Location

- Total Views- 43,000
 - U.S. – 79% (30,026: Cali, Texas, NC)
 - International – 21% (11,453: Canada, Philippines, UK, Australia)

[World](#) > [Americas](#) > [Northern America](#) > [United States](#)





GeoScience Video Rubric

Geoscience Concept	Score				
	4	3	2	1	0
1. Concept Significance.		X			
2. Scientific Accuracy.	X				
3. Alignment of objectives, activity and assessment.		X			
4. Robustness.	X				
5. Activity Description.		X			
Multimedia Design	Score				
	4	3	2	1	0
1. Syncing visuals and narration.		X			
2. Use of multiple modes of communication.	X				
3. Minimized redundancy.		X			
4. Scene, layout, sequence and transition.		X			
5. Lighting and image quality.	X				
Sub-total:					34

Qualities of High Scoring Videos

- Worthwhile concept
- Accurate & error free
- Learning objectives
- Narration & pictures are synced
- Multiple modes of communication
- Organized display
- Minimal redundancy
- High quality images



GeoScience Video Rubric

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5. Activity Description.		X			
Multimedia Design	Score				
	4	3	2	1	0
1. Syncing visuals and narration.		X			
2. Use of multiple modes of communication.	X				
3. Minimized redundancy.		X			
4. Scene, layout, sequence and transition.		X			
5. Lighting and image quality.	X				
Sub-total:					14

Qualities of Low Scoring Videos

- Concept is not clear
- Inaccurate content
- No learning objectives
- Narration & pictures are poorly synced
- Minimal modes of communication
- Disorganized
- Little or no special effects
- Poor quality images



Summary & Questions

GeoScience Videos

- Video format supported by multimedia and pedagogical research
 - 5-7 minutes long
 - Accessible topics (suitable for introductory geoscience classes)
 - Tied to learning objectives
- Supported by Geoscience Video blog
- GeoScience video rubric

GeoScience Videos YouTube Channel-

- 43,000 views
- Viewers- 50/50 Male/Female
- Age Range of Viewers- Primarily 18-24 and 25-34
- Geographic Location-
 - 80% Views- U.S.
 - 20% Views- International

