

From the Field to the Feed: Engaging the Public with Real-time Paleontological Research on the Pilcomayo Megafan in Paraguay

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Introduction

Successful educational outreach can improve scientific literacy and generate much-needed excitement and support for the sciences. Education has been the focus of the Grand Rapids Public Museum (GRPM) since the museum was founded in 1854. This mission, coupled with a large, engaged online audience, positioned the GRPM to lead the education and outreach strategy for an international collaborative project called Future Fossils on Fans (FFF).

The FFF project is studying modern bone distribution along Paraguay's Pilcomayo megafan river system, testing the hypothesis that a megafan system is a modern analogue for much of the terrestrial fossil record. July 2025 was the project's 4th field season, and the team planned an ambitious outreach schedule. **Our goal was to provide a behind-the-scenes look at field research to learners of all ages, making science accessible, exciting, and inspiring. We believe that this type of outreach offers strong educational connections and career exploration opportunities.**

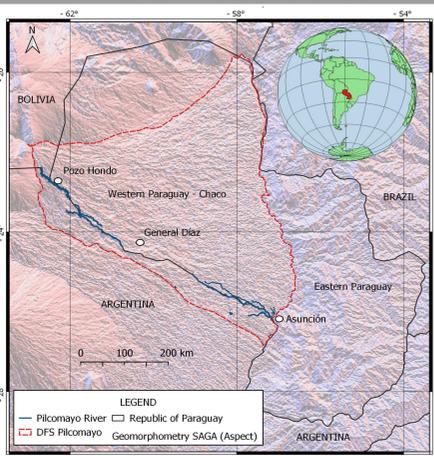


Figure 1. Field work occurred in the Pilcomayo DFS, primarily in Pozo Hondo and General Diaz.

Engagement Strategies

The GRPM and collaborating institutions used a multi-tiered approach of digital engagement, inviting learners to follow along with the FFF field work and providing creative opportunities for at-home audiences to interact with the scientists.

Videos were edited with Instagram and Capcut on cell phone. Prior to each streaming event, an outline and storyboard were created and roles were assigned amongst team members.



Figure 2. Outreach equipment used to capture content in the field.

Engagement Strategy	Description	Total Views	Avg views/engagement
Streaming to in-person audience	The field crew Zoomed with a live audience at the GRPM. Attendees included summer campers, K-12 summer school students, and families. The program included a project overview, field work demo, and audience Q&A. ~45 mins.	96	96
Instagram Live (IGL)	3 live streaming events. Field crews demonstrated their work and shared insights, ending with a Q&A. ~30 mins each.	164	55
Instagram posts to feed (IG)	Multimedia updates shared to the account profile page. Used to share permanent content, including photos, videos, and carousels with mixed media.	32,630	2,719
Instagram Stories (IGS)	Short-lived visual posts, images or videos, that disappear after 24 hours. Used to share timely or interactive content. A "highlight" for research was made on the GRPM account, where this content is archived and visible long-term.	8,824	294
Local news channel	A TV reporter with evening news coverage in Grand Rapids (WZZM 13 On Your Side) interviewed GRPM staff before, during, and after the field season.	-	-
Webpage	Shares project goals, partners, study site info, field techniques, and initial findings. Social media accounts, publications, and recordings of live events are anchored here. https://www.grpm.org/paraguay/	2,237	2,237

Table 1. Engagement strategies used, with descriptions and information on audience engagement for each. Posts to the Instagram feed generated the most total views and the highest average views per engagement.

Date	Engagement Strategy + Topic	Views
June 18	Local news interview	-
June 23	IGS: Share link to news interview	268
June 24	IGS: Share UNM Honors College post	407
June 25	IG Photo: Announce upcoming Instagram takeover	3,443
June 28	IG Video: Kickoff takeover	2,160
	IGS: Share Kickoff takeover post	458
	IGS (3): Provisioning, packing, and driving off into the field	473 (avg)
June 29	IG Carousel: Taphonomy	4,313
	IG Video: Recap our day	1,796
	IGS: Share taphonomy post	608
	IGS: Share IG Video	335
June 30	IGS (8): What's in my field bag?	286 (avg)
	Local News Interview	-
July 1	IG Video: What is FUN about field work?	1,561
	IGS: Share FUN field work post	282
	IGS: Share Link to news interview	310
	IGS (10): Q&A interactive at camp	200 (avg)
	IGL: UNM Honors College account	~60
	IG Video: UNM IGL posted to feed	1,097
July 2	IG Carousel: Field techniques	6,951
	IG Video: STEM Career Inspiration	1,229
	IGS: Share field techniques post	218
July 3	IG Photo: Thanks for following!	3,046
	IG Video: Recap trip with video voiceover	1,575
	IGS: Video message thanking viewers for following along	232
July 5	IGL: UNM Honors College account	~40
	IG Video: UNM IGL posted to feed	1,022
July 7	IG Carousel: Recap field season, announce July 9 + 10 events	4,437
July 9	Streaming event with in-person audience at GRPM	96
July 10	IGL: GRPM account	64
October 2	Local news interview	-

Table 2. Calendar of engagement types and topics, listing views per engagement. The highest engagement was the July 2 IG carousel. Shorter content achieved higher views, with photos performing better than reels or live streaming events.



Figure 3. Photographs and screenshots of engagements during 2025 field season.

- A. Local news interview in studio
- B. Sample Instagram post to feed
- C. Set-up during an Instagram Live in Pozo Hondo
- D-F. Various content posted to Instagram Story
- G. In-person audience at the GRPM during the July 9 streaming event. Field crew was live in General Diaz

Insights

Question Category	Representative Question	Number Received
FFF Project	What differences have you noted in your study site from year to year?	14
General Field Work	What supplies, food, and provisions do you need to prepare for this type of work?	10
Career Exploration	What inspired you to become a paleontologist?	9
About Paraguay	What is your favorite story so far of experiencing a new culture?	8

Table 3. Questions from interactive engagements were reviewed with an informal thematic analysis. 41 questions were coded and sorted into categories. Results show a balanced range of interests across topics that the FFF project is well-positioned to address. Questions were overwhelmingly on-topic and thoughtful.

- This outreach successfully demonstrated science careers in action with a multigenerational field crew composed of undergraduates, graduate students, professionals, and academic research faculty.
- This approach to education and outreach allowed us to humanize the science and share examples of problem-solving, teamwork, cross-cultural communication, STEM role models, and fun aspects of field research.
- Based on the quality and breadth of questions received, as well as significant engagement numbers, we believe we achieved our aim of making this science accessible, exciting, and inspiring for our audience.

Future Directions

- Outreach and engagement during upcoming FFF field work seasons will continue.
- Educator resource package: Content gathered in the field will be used to create a series of videos designed for classroom teachers along with a resource guide, in a format consistent with existing GRPM resources.
- Hands-on program at the GRPM: An activity with bones that simulates taphonomy field research techniques is in development and has been piloted with several groups of learners.



Figure 4. Bones and materials used in a hands-on taphonomy simulation at the GRPM.

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