

— THE 15TH ANNUAL —  
**RIO RESEARCH ROUNDUP**  
A BINATIONAL WATER TESTING PROJECT



OCTOBER 21 - 25, 2024



*With Special Thanks*

TO OUR  
ROUNDUP 2023 FUNDERS

**HEB**

**D.D. HACHAR  
CHARITABLE  
TRUST FUND**



# RIO RESEARCH ROUNDUP

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# RIO RESEARCH ROUNDUP

## Greetings Roundup participants!

Welcome to the 15th annual award-winning Rio Research Roundup! This event promotes environmental awareness in the Rio Grande/Rio Bravo watershed and smaller Texas Basins in an atmosphere of friendly competition.

To conclude this year's event, we will host our 4th Annual RRR Binational Summit and hope you will join us virtually via Zoom again in December. The Summit will highlight the exceptional work that students submit to us and connect participating Roundup schools—just like yours, from Colorado to Mexico and the Gulf Coast!

You are now part of a select cluster of campuses from the U.S. and Mexico that are brought together every fall to test the water quality of multiple basins. Each year, RGISC provides 50 to 60 teams with water testing kits, and in October, students go on a field trip and pull water samples from the Rio Grande or tributary to provide a complete snapshot of the river's health at one moment in time. Students test for 8 to 9 water quality parameters such as coliform bacteria, nitrates, phosphates, pH, and dissolved oxygen. They also measure stream flow and submit short videos and artwork.

Because of Roundup's cross-border work, in 2018, the U.S. EPA named RGISC a Gulf Guardian (Binational category) among all competing nonprofits in the Gulf States. In 2013, RGISC was one of three finalists (among 80 nonprofits along the U.S.-Mexico border) at the Mexican Senate in Mexico City.

This field-based, hands-on activity allows students to connect classroom learning with real-world experience and to gain a deeper understanding and appreciation of the river basins that sustain our communities for teachers and students alike.

On behalf of all of us at the Rio Grande International Study Center, I am thankful for your continued interest and commitment to this unique binational student river monitoring project. We love to connect with returning students and teachers as well as new schools and teams. We thank you for your love of our river science and for enriching the minds of our youth! Good luck! Viva el Rio!

*Ashley Garcia*

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# RIO RESEARCH ROUNDUP

## PROJECT OVERVIEW

We encourage student teams to complete and submit as many of these components as possible, and we recognize that some campuses will not be able to conduct river sampling on-site.

- **Data for eight water quality parameters (9 for schools along the Gulf Coast and Pecos Basin), plus stream flow.**
- **Original work of visual or literary art**
- **90-second video**
- **Social Media Awareness**
- **Field day photos: featuring student teams completing water-testing, with images of their watershed and surrounding ecosystem**
- **Rio Research Roundup Binational Summit and Art Exhibit (Tentative Date: Wednesday, Dec. 18, 2024)**



CBTIS 34 Coahuila - Piedras Negras, COAH, MEX

# RIO RESEARCH ROUNDUP

## TIMELINE

<b>WEEK OF SEPT 23</b>	Water testing kits mailed out to participating teams
<b>SEPT 30 - OCT 18</b>	<ul style="list-style-type: none"> <li>• Schools determine/confirm test site(s) and travel arrangements.</li> <li>• Students familiarize themselves with the kit and perform practice tests, leaving enough materials to run three tests on the day of Roundup.</li> <li>• Teachers can use lesson plans which will be emailed separately.</li> </ul>
<b>OCT 21 - 25</b>	<b>ROUNDUP WEEK!</b> <ul style="list-style-type: none"> <li>• Participating schools initiate water quality testing for 8 parameters, plus stream flow.</li> <li>• 90 second video</li> <li>• Social Media Awareness</li> <li>• Produce original artwork</li> <li>• Take a minimum of 10 Field Day photos.</li> </ul>
<b>OCT 28</b>	Teams obtain and submit results for coliform bacteria.
<b>OCT 30</b>	Teams obtain and submit results for Biological Oxygen Demand
<b>NOV 8</b>	<b>DEADLINE FOR SUBMITTING ALL DATA</b>
<b>NOV 20</b>	<b>DEADLINE FOR SUBMITTING <u>ALL</u> COMPONENTS</b> <ul style="list-style-type: none"> <li>• Deadline to submit 90 second watershed video</li> <li>• Deadline to social media awareness photo</li> <li>• Deadline to submit original artwork</li> <li>• Deadline to submit field photos</li> </ul>
<b>NOV 22 - DEC 6</b>	Judging begins for: <ul style="list-style-type: none"> <li>• 90-second watershed video</li> <li>• Social Media Awareness</li> <li>• Original artwork (literary or visual)</li> </ul>
<b>DEC 9th</b>	Deadline to receive artwork that will be displayed in our first ever RRR Art Exhibit
<b>DEC 18</b>	<b>4th Virtual Rio Research Roundup Binational Summit and Art Exhibit</b>

# RIO RESEARCH ROUNDUP

## WHERE DO YOU LIVE?

The Rio Grande watershed basin is 335,000 sq. miles. The length of the river itself is approximately 1,990 miles. It rests within 3 U.S. states and 5 Mexican states. It still ranks as one of the 10 Most Endangered Rivers in the world (World Wildlife Fund).



SOURCE: Martin Castro/Rio Grande International Study Center

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# RIO RESEARCH ROUNDUP



# WATER TESTING

# RIO RESEARCH ROUNDUP

## FOR SUBMISSION OF DATA + STREAM FLOW

1. Type the following link on your address bar: [bit.ly/RRRData2024](https://bit.ly/RRRData2024)
2. Enter your water testing data.
3. Submit the data entry form.

***Deadline to Submit Data is Friday, November 8th, 2024***

## FOR SUBMISSION OF COMPONENTS

Submit components through a free online service called WeTransfer.

1. Go to <https://wetransfer.com/>
2. Add your files (up to 2 GB).
3. Type in my email: [ashley@rgisc.org](mailto:ashley@rgisc.org)
4. Type in your email.
5. Click “Transfer.”

Please note: If your submission exceeds 2 GB, you can send your components through several transfers.

\*Alternatively, you can also email document links to your RRR files to [ashley@rgisc.org](mailto:ashley@rgisc.org) through google drive.

***Deadline to Submit Components is Wednesday, November 20, 2024***

***If you face any issues, please call or email me at [ashley@rgisc.org](mailto:ashley@rgisc.org) or (956) 774-4760.***

# RIO RESEARCH ROUNDUP

## PARAMETER TESTING

**KIT:** LaMotte: EARTH FORCE Low Cost Water Monitoring Kit

The Kit Includes: A full instructions manual in English & Spanish, and the necessary equipment to test certain water quality parameters.

Factors	# of Tests (included in kit)
pH	10
Dissolved Oxygen	10
Biological Oxygen Demand	10
Nitrate	10
Phosphate	10
Temperature	Unlimited
Turbidity	Unlimited
Coliform Screening	3

For each parameter, teams must take three measurements, and average out a final value with the exception of BOD. Student teams are only required to submit the averaged values for each parameter.

### Reminder

- Coliform Bacteria results will take 48 hours to obtain.
- Biochemical Oxygen Demand (BOD) results will take 5 days to obtain.

### Material NOT Included for Stream Flow

- Flags or markers
- Stopwatch
- Floating object (such as ping pong ball)
- Measuring device (tape or meter stick)



***\*Salinity kits provided for Coastal and Pecos Basin Schools only***

***\*Additional instructions for Stream Flow on Page 11***

# RIO RESEARCH ROUNDUP

## INTERPRETING WATER QUALITY DATA

Water Quality Data	Interpretation	Possible Source
Dissolved oxygen levels below 5 mg/	Oxygen levels below level required to maintain ecological health of waterway	Organic matter, leaves sewage
Phosphorous level above 0.05 mg/L	Nutrient levels above ANZECC guidelines for protection of ecological health of freshwater ecosystems-danger of algal bloom	Fertilizers Detergents Sewage
Turbidity levels above 10 NTU	Excess sediment is washing into waterway	Construction sites Erosion of soil from cleared land
Biochemical Oxygen Demand above 2 mg/L	Excess organic matter in waterway	Excess leaves and other organic matter Sewage Excess growth of water plants and algae
Fecal coliform levels above 600 colonies/100 mL	Water is unsafe for swimming	Sewage Animal droppings Dairy and feedlot contamination
pH level	pH of river water is measured by how acidic or basic the water is on a scale of 0-14. Optimal pH for a river is around 7.4	Acid Rain Limestone along river banks Agricultural runoff Fossil fuel emissions
Nitrate level at 10 mg/L	Excess level of nitrates in water can create conditions that make it difficult for aquatic insects or fish to survive	Organisms excreting waste Death of aquatic plants and organisms Nitrogen fertilizers
Water smells of oil and grease; oily "rainbow" slick on the surface of the water	Water is being contaminated by oils and greases	Oil dripping from cars onto roads and driveways Oil and grease being tipped into stormwater drain Illegal dumping
Rubbish litter	Rubbish on streets being washed into stormwater system	Uncovered rubbish bins Bad attitudes-people littering

# RIO RESEARCH ROUNDUP

## Data Collection Sheet

School Name: \_\_\_\_\_

Team Name: \_\_\_\_\_

Date Collected: \_\_\_\_\_ Time Collected (24-hour clock): \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_

Teacher's Name: \_\_\_\_\_

Teacher's Email: \_\_\_\_\_

# of Participants: \_\_\_\_\_

Latitude of Collection Site (GPS or Degree/m/s): \_\_\_\_\_

Longitude of Collection Site (GPS or Degree/m/s): \_\_\_\_\_

Item	1st Measurement	2nd Measurement	3rd Measurement	Final Determination (Enter this into database)
Temperature (C)				
pH (0-14)				
Nitrate (PPM)				
Phosphate (PPM)				
Dissolved				
Oxygen (PPM)				
Turbidity (NTU)				
Coliform				
Bacteria (CFU/100mL)				
Biological				
Oxygen				
Demand				
Salinity (mg/L) <sup>1</sup>				
Water Quality Grade: Testing Site(A-F)				
Water Quality Grade Region: (A-F)				
Water Quality Grade Entire Watershed (A-F)				

*\* Salinity – measured only at coastal locations and Pecos basin.*

# RIO RESEARCH ROUNDUP

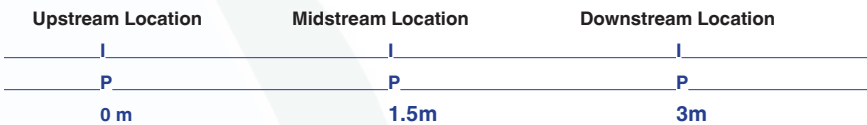
## Stream Flow Measurement

**Stream flow** is the measure of how much water passes a point in a given period of time. Use the following steps to measure stream flow at your Rio Grande test site.

**Purpose:** To determine stream flow at a given location on the Rio Grande or one of its tributaries using the formula,  $\text{stream velocity} \times \text{stream area} = \text{stream flow}$

**Equipment:** Three flags or sticks, a measuring tape or meter stick, a floating object, and a stopwatch

1. Measure a 3-meter section of the stream. Mark the Upstream Location (0 m point) with a flag or stick. Mark the Midstream Location (1.5m point) with another flag or stick. Mark the Downstream Location (3m point) with a third flag or stick.



2. Measure the depth in centimeters at the Upstream Location. \_\_\_\_\_  
 Measure the depth in centimeters at the Midstream Location. \_\_\_\_\_  
 Measure the depth in centimeters at the Downstream Location. \_\_\_\_\_  
 Average these values to find the **Mean Depth (cm)**. \_\_\_\_\_

3. Measure the width of the stream in centimeters at the Upstream Location. \_\_\_\_\_  
 Measure the width of the stream in centimeters at the Midstream Location. \_\_\_\_\_  
 Measure the width of the stream in centimeters at the Downstream Location. \_\_\_\_\_  
 Average these values to find the Mean Width (cm). \_\_\_\_\_

4. Place a small floating object in the water at the Upstream Location. (This could be a small plastic ball or whatever can float down the stream.)

Let the floating object go and time the speed of the floating object as it moves to the Downstream Location. \_\_\_\_\_  
 Float the object downstream for a second trial. \_\_\_\_\_  
 Float the object downstream for a third trial. \_\_\_\_\_  
 Average these values to find the Mean Time (sec). \_\_\_\_\_

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# RIO RESEARCH ROUNDUP

## ADDITIONAL COMPONENTS



ART



90 SECOND VIDEO



SOCIAL MEDIA AWARENESS

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# RIO RESEARCH ROUNDUP

## Social Media Awareness Guidelines

Students will use social media platforms including Facebook, Twitter, Instagram, and TikTok.



- Students must post photos/videos and write captions highlighting their experiences with the Roundup and the program's importance. They must also raise awareness about environmental concerns prevalent in their region and community.
- Students must tag us (@RGISCLaredo on all social media platforms) and use the hashtag #RRR2024 so we can find your posts!
- Students can create a page for their school, roundup team or post from their accounts. There is no limit to the number of posts allowed, so get creative and have fun!

## Criteria

Students' social media awareness posts will be judged based on:

- Creativity (content AND caption)
- Connection to the Rio Research Roundup and environmental concern
- Highest number of likes and interactions



Harmony School of Excellence - Laredo, TX, USA

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# RIO RESEARCH ROUNDUP

## 90-second Video Guidelines

Student teams should allow their creativity to flow for their 90-second video.

Students are free to add unique visual and sound effects as long as the video contains the following elements:

- Name of the watershed testing site (can be GPS points and physical description)
- Name of school and, if applicable, name of Roundup team and city and state.
- Panorama of the ecology of the testing site
- Evidence of the team conducting a parameter measurement.



*CETis 87 - Delicias, Chihuahua, MEX*

# RIO RESEARCH ROUNDUP

## Water Quality Grades Guidelines

Student teams evaluate data and assign Grade A-F for water quality at:

- 1) **your individual site;**
- 2) **your region - listed on page 21**
- 3) **the entire watershed basin.**

Grades can be rated + or – for more accuracy, for example, B+, C-.

<b>Grade A</b>	<b>Extremely good water quality</b>
<b>Grade B</b>	<b>Relatively good water quality</b>
<b>Grade C</b>	<b>Relatively poor water quality</b>
<b>Grade D</b>	<b>Extremely compromised water quality</b>
<b>Grade F</b>	<b>Hypoxia (Extremely low, or no, oxygen levels with very little or no life)</b>

A link to view updated student water-quality submissions will be sent via e-mail to each Roundup teacher.

### Students will be judged on:

Water quality data submitted for all parameters

- Individual: Grade is relative to data
- Region: Grade is relative to data
- Watershed: Grade is relative to data



Lamar Middle School - Laredo, TX, USA

# RIO RESEARCH ROUNDUP

## Literary Art or Visual Art Guidelines

Each student team can recreate their observations on the river basin by creating an original work of art.

Student teams can submit a piece in the Literary or Visual Arts categories. If multiple pieces are submitted, the judges will retain the highest-scoring piece.

***\*\*All works must focus on the Rio Grande Basin or on the Texas Basin for Texas Basin schools.***

**Literary art** includes any form of written art. This can include but not be limited to the following genres: song (written or sung), short play, short fiction story (2 pages max), and poem, among others.

**Visual art** includes any form of art that will be judged on its overall look. The artist(s) can keep the art, but we must receive clear photos of the work. This can include, but not be limited to, painting/drawing (any media, including digital art) and sculpture, among others.

Students will be judged on:

- Creativity
- Originality



Alexander High School - Laredo, TX

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Navajo Preparatory School - Farmington, NM, USA



CBTIS 34 - Piedras Negras, COAH, MEX



Alexander High School - Laredo, TX, USA



Univ. Tecnológica de Matamoros - Matamoros, TAMPS, MEX



CBTIS 276 - Reynosa, TAMPS, MEX



CBTIS 234 - Nuevo Laredo, TAMPS, MEX

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# RIO RESEARCH ROUNDUP

## US 2023 DATA

STATE	CITY	SCHOOL	TEACHER	Latitude	DATE & TIME OF TESTING	Temp (°F)	pH (0-14)	NITRATE (PPM)
<b>UPPER BASIN HEADWATERS</b>								
CO	Alamosa	Alamosa HS	Consuelo Reyes	Latitude: 39°14'55.9N Longitude: -105.890448	10/13/23 9:00	7.3	7	4.1
CO	Leadville	Lake County High School	Nicci Condon	Latitude: 39°14'55.9"N Longitude: 106°20'52.5"W	11/30/2023 2:00 PM	1	7	5
<b>UPPER NEW MEXICO BASIN</b>								
NM	Albuquerque	Cibola High School	William Siefert	Latitude: 35.18694 N Longitude: -106.65170 W	10/13/2023 11:15 AM	18	7	5
NM	Farmington	Navajo Preparatory School	Kevin Keely	Latitude: 36.732692 N Longitude: -108.249173 W	10/11/2023 2:00 PM	14	7	7.5
NM	Santa Fe	Santa Fe Indian School	Mark Ericson	Latitude: 35.600647N Longitude: 106.340106W	10/12/2023 2:02 PM	10	8	5
<b>LOWER NEW MEXICO BASIN &amp; EL PASO</b>								
NM	Truth or Consequence	Hot Springs High School	Mark Hedge	Latitude: 39°27'36"N Longitude: 107°9'21"W	10/11/2023 11:00 AM	18.6	8	6
<b>LOWER TEXAS BASIN</b>								
TX	Corpus Christi	Grant Middle School	Yolanda Aviles	Latitude: 27.8917 N Longitude: 97.6288 W	10/21/2023 10:00 AM	24- 26 C	8	5
TX	Eagle Pass	CC Winn High School	Sonia Delgado	Latitude: 100.47953 Longitude: 28.70822	11/06/2023 1:06 PM	24	8	5
TX	Ingleside	Science & Spanish Club Network, Inc.	Robin Flores	Latitude: 27 50 15 N Longitude: 97 13 14 W	11/17/2023 2:20 PM	22	8	5
TX	Portland	Gregory-Portland Middle School	Laura Turner	Latitude: 27°51'49"N Longitude: 97°20'2"W	10/21/2023 10:30 AM	26.7	8	5
TX	Portland	Gregory-Portland Middle School	Mara Davis	Latitude: 27°51'49"N Longitude: 97°20'2"W	10/21/2023 9:45 AM	23.4	8	5
<b>PECOS TRIBUTARY</b>								
NM	Carlsbad	Southwest New Mexico State College	Rick Wiedenmann	Latitude: 32.444787°N Longitude: 104.254681°W	10/12/2023	22	8	5
<b>LAREDO AREA</b>								
TX	Laredo	Alexander High School	Veronica R. Villarreal	Latitude: 27.58526 N Longitude: -100.47953	10/23/2023 9:35 AM	24	8	5
TX	Laredo	Alexander High School	Andrea Herrera-Soto	Latitude: 27.58527 N Longitude: 99.53207 W	10/23/2023 9:35 AM	35 C	9	5
TX	Laredo	Cigarroa High School	Arturo S. Garcia	Latitude: 27.493325 Longitude: -99.470924	10/11/2023 10:04 AM	21	7	5
TX	Laredo	Harmony School of Excellence-Laredo	Maria Martinez	Latitude: 27.50109 N Longitude: -99.527096	10/17/2023	24.4	7	5
TX	Laredo	Hector J. Garcia Early College	Gaona Gabriela	Latitude: 27.57228 N Longitude: 99.43879 W	10/13/2023 8:30 AM	27.6	8	5
TX	Laredo	J.W Nixon High School	Leslie Salinas	Latitude: 27.50220 N Longitude: 99.49544 W	08/25/2023 10:00 AM	26	7	5
TX	Laredo	St. Augustine Middle School	Art Smith	Latitude: 27.4987 Longitude: -99.5078	10/13/2023 9:45 AM	25C	8	5
TX	Laredo	M.B. Lamar Middle School	Abel E. Garcia	Latitude: 27.537023 N Longitude: -99.448494	10/12/2023 10:20 AM	25	7	5
TX	Laredo	Memorial Middle School	Clarissa Carrillo	Latitude: 27.537023 N Longitude: -99.448494		22	6	40

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# RIO RESEARCH ROUNDUP

## US 2023 DATA

PHOSPHATE (PPM)	DISSOLVED OXYGEN (PPM)	TURBIDITY (NTU)	COLIFORM BACTERIA (CFU/100ml)	BIOLOGICAL OXYGEN DEMAND	SALINITY (UPPER TEXAS BASINS ONLY)	FLOW RATE (CUBIC METERS/SECOND) <sup>2</sup>	Site Grade (A-F)	Region Grade (A-F)	Watershed Grade (A-F)
<b>UPPER BASIN HEADWATERS</b>									
1	3.2	40	present	NA	0	0.49	NA	NA	NA
1	5	16.7	Positive	2	N/A	NA	B	B	B-
<b>UPPER NEW MEXICO BASIN</b>									
1.8	3	100	Positive	3	n/a	n/a	C	C	C
1.4	4	100	positive	3.3	NA	20.05	B	B	B
2	4	40	POSITIVE	3ppm	NA	8.79	B	B-	C
<b>LOWER NEW MEXICO BASIN &amp; EL PASO</b>									
3.6	7.3	>240	Positive	5.6	N/A	2.404	C	C-	C
<b>LOWER TEXAS BASIN</b>									
2	4	40	positive	N/A	N/A	N/A	N/A	N/A	N/A
2	8	40	positive	4	368	NA	NA	NA	NA
2	8	40	positive	0	1800	NA	B+	B+	B+
1	8	40	Positive	0	22	NA	A	C	C
1.5	8	40	Positive	0	15.3	NA	B+	C	C
<b>PECOS TRIBUTARY</b>									
3	4	25	Positive	1	NA	6	A	B	B
<b>LAREDO AREA</b>									
2	8	40	positive	4	368	n/a	n/a	n/a	n/a
1	4	40	Positive	9.6	N/A	4.992	A	A	A
2.5	1	55	Positive	3	NA	12.7	C	B	B
4	8	40	Positive	0	NA	0.094	B	B	B
1	8	40	Positive	1	0	0	B	B	B
2.66	8	0	positive	n/a	N/a	N/a	N/a	N/a	N/a
2	6	100	Positive	2	N/A	41	C	C	C
3	4	41	Positive	0	NA	0	B	B	B
2	8	0	Positive	0	230	0	C	C	C

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# RIO RESEARCH ROUNDUP

## MEXICO 2023 DATA

Estado	Ciudad	Escuela	Maestro	Latitud/Longitud	Fecha y Tiempo Colectada	Temp (C)	pH (0-14)	Nitrato (PPM)
<b>ALTA CUENCA</b>								
CHIH	Delicias	CETIS 87	María de la Luz Duron Terrazas	Latitud: 28.25273°N Longitud: 105.30060° O	10/13/2023 9:45 AM	26	7	5
CHIH	Cuidad Juarez	Instituto Tesla de Ciudad Juárez	Daniela Nieto	Latitud: 31°45'39.8"N Longitud: 106°30'36.7"W	10/21/2023 10:00 AM	20	8	5
<b>Testa de Ciudad Juárez"</b>								
COAH	Pierdas Negras	CBTIS 34	Lidia Paola Mendez Jimenez	Latitud: 28.70035°N Longitud: 100.5123°O	10/13/2023 8:50 AM	18	8	5
COAH	Pierdas Negras	Grupo Ecológico Green Tec-Osos	M. C. Victor Manuel Ibarra Balderas	Latitud: 29°18'36" N Longitud: 100°34'48" W	10/21/2023 8:30 AM	21.66	8	5
<b>BAJA CUENCA</b>								
TAMP	Nuevo Laredo	CBTIS 234	Victor David Rojas Garcia	Latitud: 27°28'42 N Longitud: 99°28'46 W	10/18/2023 10:00 AM	22	7	5
TAMP	Matamoros	Colegio de Bachilleres del Estado de Tamaulipas; Plantel 02 "Prof. Hilarino Jimenez Leon"	Tomas Eduardo Mejia Perez	Latitud: 25.885042 Longitud: -97.487629	10/14/2023 12:00 PM	25	7	5
TAMP	Matamoros	Universidad Tecnológica de Matamoros	Dr Adán W. Echeverría-García	Latitud: 25/51/48.8 Longitud: 97/29/42.1	10/13/2023 8:00 AM	26	7	4
TAMP	Matamoros	Universidad Tecnológica de Matamoros	Gerardo Servin Tovar	Latitud: 25/53/09.7 Longitud: 97/29/52.6	10/13/2023 8:00 AM	26	7	4
TAMP	Matamoros	Universidad Tecnológica de Matamoros	Johnatan Ahisamac Salazar Pérez	Latitud: 25/53/06.4 Longitud: 97/29/52.4	10/13/2023 8:00 AM	28	7	5
TAMP	Reynosa	CBTis 276: Group 1	Sergio Antonio Teran Trevino	Latitud: 26°08'23" N Longitud: 98°20'10" W	10/23/2023 10:28 AM	33	8	5
TAMP	Reynosa	CBTis 276: Group 2	Sergio Antonio Teran Trevino	Latitud: 26°07'53"N Longitud: 98°19'52"W	10/23/2023 10:52 AM	26	7	5
TAMP	Matamoros	Secundaria General No.2 Adolfo Lopez Mateos	Karina Almazan Florea	Latitud: 25° 52' 46.092" N Longitud: 97° 29' 45.996" W	10/17/2023 7:50 AM	19	7	5

# RIO RESEARCH ROUNDUP

## MEXICO 2023 DATA

Fosfato (PPM)	Oxígeno disuelto (PPM)	Turbidity (NTU)	Coli-form Bacteria (CFU/100mL)	DBO (Demanda Biológica de Oxígeno)	Salinidad (mg/L)	Velocidad de flujo (metros cúbicos/segundo) <sup>2</sup>	Grado del sitio	Grado de la región	Grado de la Cuenca
<b>ALTA CUENCA</b>									
1.5	4	40	Positivo	0	0	1.15	C	C	C
1	4	>100	20	4	530	0.165	C-	B	B
<b>MEDIA CUENCA</b>									
2	2	40	Positivo	0	0	0.06	B-	B-	B+
2	4	0-40	Positivo	0	N/A	15.16	(B-)	(C+)	(C+)
<b>BAJA CUENCA</b>									
4	4	100	Positivo	4	0	102.24 m3/s	B-	B-	B
2	4	40	Positivo	0	1.25	1.5	C	D	C-
2	8	0	Positivo	7	-	-	C	C	C
1	8	0	Positivo	4	-	-	C-	C	C
1	8	0	Positivo	6	-	-	C	C	C
1	99%	40	Positivo	8	1.2	24.1	C	B	B
1	4.9	40	Positivo	4	1.3	23.56	D	C	C
2	8	40	Positivo	0	360	13.815	C	C	C

2024

# RIO RESEARCH ROUNDUP

## 2023 ROUNDUP WINNERS

### USA - BEST OF COUNTRY

Navajo Preparatory School  
Farmington, NM  
Teacher: Kevin Keeley

### VISUAL ART

Navajo Preparatory School  
Farmington, NM  
Student: Landon S.  
Teacher: Kevin Keeley

### LITERARY ART

Navajo Preparatory School  
Farmington, NM  
Student: Landon S.  
Teacher: Kevin Keeley

### SOCIAL MEDIA AWARENESS

Harmony Schol of Excellence  
Laredo, TX  
Teacher: Maria Martinez

### 90-SECOND VIDEO

Gregory Portland Middle School  
Portland, TX  
Teacher: Mara Davis



**USA - Navajo Preparatory School  
Farmington, NM,**

2024

# RIO RESEARCH ROUNDUP

## 2023 ROUNDUP WINNERS

### MEX - MEJOR DEL PAIS

CETis 87

Delicias, CHH

Profesora: Maria De La Luz Duron

### MEJOR ARTE VISUAL

CETis 87

Delicias, CHH

Estudiante: Jesus S.

Profesora: Maria De La Luz Duron

### MEJOR ARTE LITERARIA

Instituto Tesla de Ciudad Juárez

Ciudad Juárez, CHH

Estudiante: Iris M.

Profesora: Daniela Nieto

### REDES SOCIALES

Secundaria General No.2

Adolfo Lopez Mateos

Matamoros, TAMP S.

Profesora: Karina Almazan

### MEJOR VIDEO

Secundaria General No.2

Adolfo Lopez Mateos

Matamoros, TAMP S.

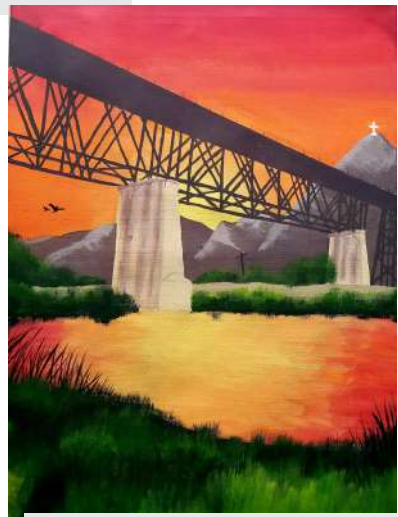
Profesora: Karina Almazan



**MEX - CETis 87**  
**Delicias, CHH**



*Hot Springs High School, Truth or Consequences, NM, USA*



*Franklin High School - Franklin, TX, USA*



*Gregory Portland Middle School - Portland, TX, USA*



CETIS 87 - Delicias, CHH, MEX



CBTIS 128 - Ciudad Juárez, CHIH, MEX



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## **RGISC Mission Statement**

To preserve and protect the Rio Grande-Rio Bravo, its watershed and environment, through awareness, advocacy, research, education, stewardship and bi-national collaboration for the benefit of present and future generations.

## **RGISC Purpose & Activities**

RGISC, a 501c3, was established in 1994 by citizens from Laredo and Nuevo Laredo in response to the deteriorating quality of water in the Rio Grande, our only source of drinking water. The Rio Grande still ranks as one of the 10 Most Endangered Rivers in the world (World Wildlife Fund).

RGISC is Laredo's only environmental nonprofit organization. Our focus is water security and preventing and reducing the introduction of toxins and other waste into the river, as well as preserving green spaces, regional wetlands and other fragile eco-habitats



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