



**American  
Red Cross**

# Hurricane Maria: Two-Year Update

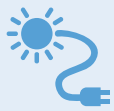
September 2019



“I did not know the magnitude of the help of the Red Cross until I had to be helped...I urge everyone to donate so they can continue to help others.”

Carlos Cruz, Toa Baja, Puerto Rico

Powered by the compassion and generosity of our donors, the American Red Cross is implementing solutions in four major focus areas to help residents recover and become more resilient against future crises.



**Consistent Power:** The Red Cross works with partner organizations to deliver solar power sources to schools across Puerto Rico that serve as shelters during emergencies.



**Clean Water:** We also work to restore safe drinking water in communities that rely solely on wells—something that many people lost after Maria.



**Community Health:** Access to health services and emotional support is an ongoing need in Puerto Rico—with our partners, we help to deliver basic services, medical supplies and education.



**Community Resiliency:** By providing preparedness and economic recovery programs with our partners, we are supporting small business farmers and building stronger communities.

Cover: Maribel Torres explains how a solar micro-grid system now powers her town's well in Barranquitas, Puerto Rico.

Above: Carmen Umpierre and Carlos Cruz talk with Red Cross workers, Humberto Román and Iris Medero about the drone assessment they received for their farm, Finca Noa, as part of Hurricane Maria recovery efforts.

Photos by the American Red Cross.

## A Message from Harvey Johnson, President, Humanitarian Services, American Red Cross

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In September 2017, Hurricane Maria struck Puerto Rico, the U.S. Virgin Islands and the Caribbean with devastating and historic power. Maria was Puerto Rico's most intense hurricane in more than 80 years, bringing widespread damage across the island and upending the everyday lives of its residents. The storm severely disabled or destroyed key systems and services. In the face of these life-altering challenges, the American Red Cross quickly mobilized to provide support and relief.

In the first days and weeks, power outages crippled Puerto Rico, and many neighborhoods were difficult to reach due to road damage and other destruction. With the help of countless volunteers and supporters, the Red Cross served millions of meals and snacks, and delivered bottled water, bulk food and cooking equipment, as well as critical relief supplies. In addition, through our donor-supported RC View system, we identified which

communities were most in need and supplied water filters to help create safe drinking water, alongside tarps and comfort kits.

Sometimes, however, the biggest need goes beyond supplies. Due to complications from the storm, many people had trouble reaching friends and family on the island. Likewise, many Puerto Rico residents were unable to charge their own phones or gain access to the internet. With support from sister Red Cross organizations, we set up mobile satellite phone banks to reconnect more than 14,900 families—people who were otherwise unable to reach out to someone they love.

The Red Cross remains committed to Maria survivors—and to implementing solutions that will contribute to the resiliency of their communities as they recover from this catastrophic storm. Working with partner organizations, we are supporting wide-ranging, community-focused recovery programs that include installing solar systems at schools, providing consistent access to clean water, supporting community health with education and wellness checks for children, providing vital medical equipment and supplies, supporting after-school programs for children and helping vulnerable communities become economically resilient, for example, through micro-grants to small business farmers who are still struggling to bounce back after Maria's impact.

The Red Cross can only stand ready—and remain throughout recovery—with the incredible generosity of donors and supporters. When we need to provide relief and comfort, you are there to support us. Thanks to you, the Red Cross remains in Puerto Rico today, making a difference for those who lost so much in Maria's wake—those who are still recovering today. We are deeply grateful for your trust and partnership in this mission.

A handwritten signature in black ink that reads "Harvey Johnson". The signature is written in a cursive, flowing style.

Harvey Johnson

## Help and Hope in the Path of Destruction

Two years ago, Hurricane Maria became the third major hurricane to strike the U.S. in less than a month. This powerful storm brought further destruction to the U.S. Virgin Islands before making a crushing impact on Puerto Rico. Survivors saw homes, businesses and crops wiped out, and many were left without power or access to vital services—including safe drinking water.

In response, the Red Cross worked around the clock to support survivors and help them cope with the unique complications left behind by Maria. Aided by our donor-supported technology, disaster workers fanned out across Puerto Rico for months to provide urgently needed support and relief supplies, navigating difficult conditions to reach the most remote areas of the island's interior.

### Meeting Essential Needs in Maria's Wake

In the face of natural disasters, the most basic needs can seem out of reach for survivors. Maria left many Puerto Ricans reeling from devastating personal losses, as well the loss of access to safe drinking water, power or phone service.

With partner organizations and emergency agencies, Red Cross disaster relief workers provided meals and bulk food items, snacks and bottled water, as well as cleanup supplies, tarps and comfort kits. We also delivered thousands of water purification filters to help provide safe drinking water—an urgent need after Maria damaged water infrastructure across the island.

In addition, we delivered more than 2,700 gas and solar generators to power life-sustaining medical equipment

for survivors with serious health conditions. Some residents reported having thrown away vital medication because they lacked power to refrigerate it. Red Cross-supplied generators made an immediate difference for families like these, and many others.

### Reconnecting Families, Providing Health and Emotional Support

On the island, some survivors faced a heartbreaking challenge: the inability to let friends and loved ones know they were okay after this terrifying, devastating storm. Maria hampered communications to and from the island, leaving many with no way to reach friends and family.

With support from the Spanish and Finnish Red Cross, we set up mobile satellite dishes to help residents reconnect with loved ones, charge phones and gain access to the internet. Red Cross workers on the ground witnessed tearful conversations between people who spoke with loved ones for the first time since Maria came ashore. With this technology, we helped reconnect more than 14,900 families in 51 Puerto Rico municipalities.

In addition to physical and technological needs, the Red Cross provided health services and emotional support via trained health and mental health workers. These critical workers provided basic health services and assessments, and offered comfort for those coping with Maria's devastating impact on their lives and families.

### Response at a Glance



Over **12.8 million meals and snacks** served with partners



More than **5.2 million relief items** distributed



More than **77,000 water purification filters** distributed



More than **40,800 health and mental health contacts** made



More than **2,700 generators** provided for people with medical equipment needs

All numbers are cumulative and reflect Red Cross response efforts since September 20, 2017.

## Focused Recovery Efforts and Programs for Maria Survivors

Hurricane Maria created a unique set of challenges for survivors on the path to recovery. A year after the storm ripped through the island, many communities still did not have consistent access to clean water, electricity, cellular service and essential health care.

Over the last two years, the Red Cross has worked with numerous partners to deliver solutions to these challenges in Puerto Rico. We are also working on individual and community preparedness to help Puerto Ricans become more resilient against hurricanes and other future crises. To date, we have provided preparedness training to more than 100,000 people on the island, through programs such as Prepare with Pedro, the Pillowcase Project and others.

Our recovery efforts include four key areas: consistent power, clean water, community health and community resiliency. With the support of donors and volunteers, and the partnership of federal and local officials, non-profit and other partner organizations, we have been able to identify ongoing needs and develop a community-centered recovery approach in Maria's wake.

This includes installing solar micro-grid power systems, as well as providing nearly 100 pharmaceutical grade refrigerators for health centers. Through a partnership with Americares and the Center for Independent Living (MAVI), we are helping to build the capacity of first responders and integrate emergency services to the



At the Angelita Delgado Sella School in Lares, teacher Ramón Arroyo and a Red Cross worker discuss the positive impact of a newly installed solar micro-grid system. Photo by the American Red Cross.

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**“The joy that we all have is that we [now] know that, if a natural disaster were to come, we will be able to offer services.”**

Blanca González, Lares, Puerto Rico

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disabled. We are also working to supply more than 14,000 Kohler water filters throughout the island.

In addition, many of our recovery efforts focus on children, educators and schools. For communities across Puerto Rico, schools serve as shelter sites and community hubs. With our partners, we are now piloting clean water systems in six schools, with a goal of installing systems in up to 43 schools that will be operated by local agencies during emergencies.

Ongoing challenges caused by Maria continue to impact everyday life in Puerto Rico. Damage to essential infrastructure created a domino effect on home life, families, health and local industries. By focusing on these four recovery areas, we are helping to not only rebuild the island, but also create an even stronger Puerto Rico.

### **Harnessing Solar Energy to Bolster Preparedness**

Solar micro-grid systems are an essential component to recovery in Puerto Rico. Durable enough to withstand 160-mph wind uplifts and flying debris, each micro-grid that we helped provide can generate 50kW of power and has a 10-year life span.

Over the last year, we supported the installation of these systems in 112 schools, and we will continue to install additional systems throughout Puerto Rico. Schools are a central fixture in Puerto Rican communities; with the right resources and technology, these schools will be better prepared to withstand future catastrophic events and serve as shelter sites for local residents.

The Angelita Delgado Sella School in the municipality of Lares has already witnessed the impact of this critical technology. The school now has a solar micro-grid system, thanks to the Red Cross. This system can power eight classrooms, two bathrooms and the school kitchen and lunchroom—areas that are used for sheltering during disasters.

The school's staff and students saw the impact of this system in spring 2019, when they experienced a power outage. With the micro-grid in place, the school automatically switched to its backup power source. Teacher Ramón Arroyo said that, had the lunchroom staff not been told the power was out, "they would not have noticed."

In addition to expanding sheltering capacity on the island, these systems improve resiliency by reducing the risk of lost class time and providing nutrition to those in need. At the Delgado Sella School, 89% of the more than 450 students live at or below poverty level. For many, school lunch is the only hot meal of the day.

"The joy that we all have is that we [now] know that, if a natural disaster were to come, we will be able to offer services," said school director Blanca González. "Classes will continue, everyone will have access to use the bathrooms, and we will be able to offer breakfast, lunch and dinner to the students and the community."

### Micro-Grids Bring Clean Water to Vulnerable Residents

Solar micro-grids are also playing a key role in providing a clean water supply to Maria-impacted communities. With our non-profit partner, Water Mission, the Red Cross is reaching our goal of installing 20 micro-grids to power community wells in Puerto Rico—often the

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**“Without you, there would have been no way to do this project.”**

Maribel Torres, Barranquitas, Puerto Rico

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only source of water for those not connected to the public water system.

That was the case in the Palmarito Cintrón community in Barranquitas. After Maria, the community was left without power for eight months, which also meant no running water. Residents used water from an improvised well, but only for non-drinking purposes. With more than 220 families desperately needing clean water, community leader Maribel Torres knew Palmarito Cintrón needed help—but the community did not have enough money to fund a system.

“That’s where the American Red Cross comes in, to donate the system to us.,” Maribel explained. “We are 100% grateful.”

The micro-grids arrived in February 2019 and now provide a consistent, reliable source of clean water. The well is usually active from 11 a.m. to 7:30 p.m., and monitoring its use is a shared responsibility among residents. Maribel also reported that since the grids have been in place, the community’s average energy bill has decreased by \$600. She remains thankful for the Red Cross support. “Without you,” she said, “there would have been no way to do this project.”



After Hurricane Maria, Yanira Barbosa received a new wheelchair via the Red Cross's partnership with the Community Health Foundation of Puerto Rico. Photo by the American Red Cross.

## Supporting Healthier Communities

In addition to reliable power and clean water, the Red Cross has also been working to expand community health and mental health services in Puerto Rico. By supporting community health centers, we are promoting disease prevention, behavioral health education, health screenings and vaccinations, as well as providing training to support psychological first aid and assistance to vulnerable residents.

The centers also ensure the availability of supplies and equipment for people in need, like Yanira Barbosa Rivera of Bayamón, Puerto Rico. Shortly before Maria struck, Yanira suffered from myositis—an inflammation of the muscles—in her foot. Yanira did not have proper shoes, causing a painful foot ulcer. She had four surgeries and, for more than a year, used a wheelchair that her brother found in the street.

When that chair stopped working, Yanira visited the Community Health Foundation of Puerto Rico, one of the facilities supported by the Red Cross. “Thanks to you, I was able to get my new wheelchair,” said Yanira, who received her new chair a few days after that consultation. “This one is easier, faster, and I feel comfortable in it.”

Young mother Stephanie Narváez also turned to the Community Health Foundation for support after Hurricane Maria. Her 4-year-old son, Jaycob, has a congenital heart condition, needing a pacemaker installed just 24 hours after birth. Three months later, he needed another pacemaker to treat his irregular heartbeats, and he still requires specialized care today.

Thanks to the Red Cross and the Community Health Foundation, Stephanie received a humidifier and an oximeter—an external device that measures oxygen via a person’s heartrate—in December 2018. A few months later, the oximeter showed that Jaycob’s heartbeat dropped significantly. Though he never complained to his mother, Stephanie knew something was wrong and got Jaycob evaluated.

“That was on a Monday, and they operated him on Wednesday,” Stephanie said. “I am very grateful to all of you, because without the oximeter, I would not have noticed that my son’s heartbeats dropped. Many thanks to Red Cross donors...it’s been a big help for us.”



Jaycob, age 4, received a humidifier and an oximeter from the Red Cross after Hurricane Maria—the latter has since helped him avoid a serious health complication. Photo by the American Red Cross.

## Supporting Local Economies to Improve Community Resilience

Maria’s lasting impact goes beyond infrastructure and access to services. Local industries in Puerto Rico also suffered greatly. The farming sector took a particularly hard hit—many farmers saw crops and years of hard work wiped out in a matter of days. Those farmers are now working hard to recover.

Through a partnership with the Puerto Rico Science, Technology and Research Trust, the Red Cross has awarded micro-grants to 450 full-time farmers over the last year. This program, *Recuperación Agrícola*, supports local farmers through educational workshops, technological assessments and financial assistance to rebuild and purchase essential materials. The program prioritizes women, veterans and agroecological farmers.

Farmers Carmen Umpierre and her husband Carlos Cruz have tended Carmen’s 15-acre farm, “Finca Noa,” for five years. Nearly two years after Hurricane Maria, they are only 50% recovered. They did not start to produce harvests again until January 2019, and they are still not producing enough passion fruit, which is their main cash crop.

Recuperación Agrícola helped provide Carmen and Carlos with a technological assessment of their farm. Using drones, these assessments offer scientific data about pests, soil, humidity, erosion and topography to help farmers plan. In addition to technical support, Carmen and Carlos used the program's financial assistance to fix their tractor, buy supplies and soil, and pay the farm's rent. "We are extremely grateful; not only for the financial help, but for the materials we have received... [and] the knowledge we have acquired through the workshop. You can tell it comes from the heart," Carmen said.

Added Carlos, "I did not know the magnitude of the help of the Red Cross until I had to be helped...I urge everyone to donate so they can continue to help others."

U.S. Armed Forces veteran Alexander Coss also received a micro-grant for his half-acre farm, "Eluney," in Ceiba. Alexander keeps around 15 boxes of bees, and, prior to Maria, he grew crops for his own consumption. With support from Recuperación Agrícola, Alexander learned how to protect his land from feral pigs that were causing damage, and purchased supplies and storage equipment needed for his apiary.

"I do not have enough words to show my gratitude for your help," he said. "I had never seen a Red Cross program directly helping farmers and, for me, that has been something innovative."

The Red Cross supports an additional agricultural program through a partnership with local business Agrolnova. We have helped 25 schools implement hydroponic systems and traditional gardens to strengthen their food security.

### Preparedness Training Strengthens Communities

In addition to bolstering infrastructure and supporting local farmers, a key part of our recovery efforts is ensuring that Puerto Rico residents are ready for future events like Maria. To date, we have provided preparedness training to over 100,000 individuals through a variety of programs, including the American Red Cross Pillowcase Project.

A national program for youth in grades three through five, the Pillowcase Project teaches children how to prepare for disasters, focusing on safety, emotional coping skills and personal preparedness. Students create their own supply kits by packing essential items in a pillowcase for easy transport during an emergency.



The Red Cross is working with the Puerto Rico Science, Technology and Research Trust to help farmers like Alexander Coss recover after Hurricane Maria. Photo by the American Red Cross.





# With Your Support, the Red Cross Helps People Rebuild Their Lives

Generous donors have helped provide relief and ongoing recovery support for individuals, families and communities devastated by Hurricane Maria.



## Hurricane Maria Expenses and Commitments (in millions)<sup>1</sup>

As of September 9, 2019 (\$72.0M raised)

Expense Categories	Food and Relief Items	Health and Emotional Support	Individual and Community Recovery	Total	Expense %
Long-term recovery projects	—	—	\$23.9	\$23.9	30%
Food, relief items and other assistance	\$18.9	\$0.2	\$0.3	\$19.4	24%
Long-term recovery disbursements on grants to help meet unmet needs <sup>2</sup>	—	—	\$11.0	\$11.0	14%
Freight, postage, warehousing and other logistics that enable service delivery	\$8.4	—	\$0.7	\$9.1	11%
Deployment of volunteers and staff (includes airfare, lodging, meals and vehicles)	\$5.1	\$0.4	\$0.2	\$5.7	7%
Temporary disaster hires	\$1.5	\$0.1	\$1.0	\$2.6	3%
IT, communications and call centers	\$0.6	\$0.1	—	\$0.7	1%
Full-time Red Cross employees	\$0.3	\$0.1	\$0.1	\$0.5	1%
Equipment, maintenance and fueling of Red Cross emergency vehicles and rented trucks	\$0.2	—	—	\$0.2	0%
<b>Total Program Expenses</b>	<b>\$35.0</b>	<b>\$0.9</b>	<b>\$37.2</b>	<b>\$73.1</b>	<b>91%</b>
Management, general and fundraising <sup>3</sup>				\$7.2	9%
<b>Total Expenses<sup>4</sup></b>				<b>\$80.3</b>	<b>100%</b>

<sup>1</sup>Because the Hurricane Irma response in the U.S. Virgin Islands was already underway when they were impacted by Hurricane Maria, the costs for the response to both storms in the U.S. Virgin Islands were included in the Hurricane Irma budget.

<sup>2</sup>\$2.0 million remaining to be disbursed on grants that are already signed. Does not include partner organizations' administrative costs related to the grant, which are approximately 1-3% of the awarded amount. These costs are reflected in the management, general and fundraising rows.

<sup>3</sup>Management, general and fundraising expenses support our work at its core and are indispensable to running the organization and helping people in need. They include the people and systems to maintain our enterprise-wide computer and telecommunications, HR and payroll systems to support our more than 20,000 employees and approximately 300,000 volunteers, fundraising and communications functions, and other support services across all program lines. 91 cents of every dollar received for Hurricane Maria will be spent on services to people affected by Hurricane Maria.

<sup>4</sup>As of September 9, 2019, we estimate total expenses of approximately \$111 million for our Hurricane Maria response, including allocations from the Hurricanes of 2017 fund. This estimate could change, based on remaining community needs and partner services for Hurricane Maria, as well as the other hurricanes of 2017.

*Thank you!*

The Red Cross must be ready for every disaster, big or small, and we respond to an average of more than 62,000 disasters per year—including single-family or apartment home fires, severe weather, floods and wildfires. Those in need turn to the Red Cross in their darkest hours because they know they can depend on us right after the disaster and through their recovery. Your donation helps us fulfill this promise. We are grateful for your trust.



To learn more about Red Cross response and recovery efforts to help Hurricane Maria survivors, visit [redcross.org/maria](https://redcross.org/maria)



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Above: Blanca González, director of the Angelita Delgado Sella School in Lares, Puerto Rico, and Red Cross worker Iris Medero stand near solar batteries that will help power the school in an emergency. Photo by the American Red Cross.