

SAVING BY INNOVATING

Building science-based flood management system for the nation

In the face of disasters, being resilient is not enough, but being innovative saves lives.

Every monsoon season, the familiar sight of flooded streets, submerged homes, and crowded evacuation centers fill every corner of the news.

Thus, in response to this crisis, researchers from University of the Philippines Resilience Institute (UPRI) built a science and technology-based system to help strengthen the nation's disaster risk reduction and management by providing nationwide hazard information and analytics for flood, landslides, storm surges, tsunamis, and coastal hazards, titled "NOAH."

This project utilizes geospatial technologies to provide detailed information on waterways and communities in flood vulnerable areas and artificial intelligence combined with advanced analytics to serve as a decision-support tool for identifying effective interventions for disaster aftermath.

After the launch of the project until now, the project had already served approximately 19.7% LGUs and more than 3.2 million users online, showing how useful data provide insights for the better.

There is no solution to natural calamities but there are multiple ways to respond to it.

Project NOAH highlights the nation's need for more preparedness-based approaches to support the nation and its people.

"We hope that it will be sustained because our country needs it. We can't just spend and spend and spend na tantsa lang nang tantsa. We have to be smart about it. We have to be evidence-based. We have to use science," UPRI Executive Director Mahar Lagmay explained.

Through innovation, saving lives from the cruel calamities won't be a challenge anymore and soon enough, no more Filipinos will suffer from it with the help of science.

2nd Spending to Help: UPRI-NOAH's ₱1 Billion Budget Plan

As disasters come and go, many people suffer and face many struggles due to floods, typhoons and many more; however a plan to build science-based systems to overcome these environmental problems have resurfaced.

The UP Resilience Institute - NOAH Center will utilize the ₱1 billion budget to strengthen the country's capacity to generate, manage, communicate, and apply scientific information for disaster risk reduction, flood management, environmental protection, and climate resilience, based on their official statement on August 27, 2026. Instead of a stand-alone project fund, they aim to expand systems that translate research into practical information for better public investment decisions.

In addition, they plan to utilize the budget on High-resolution mapping of major river basins, support for Oplan Kontra Baha, Simulation of major detention basins, LIDAR drone surveys with state colleges and universities, Native-tree mapping and tree inventory, sediment erosion and delivery assessment, mapping hidden waterways and undocumented drainage paths, nature-based solutions and artificial intelligence for disaster management.

Through this, it may result in detecting and helping vulnerable communities, early warnings and interventions that are effective and capable of protecting many people. Like angels sent from above, they intend to help and maximize their use of science for more effective investments, showing wise spending.

"With limited resources in the country, we want to maximize the use of science so that we will be more effective in our investments. That is where we will use the ₱1 billion, and we hope that it's not only for this year," said by University of the Philippines Resilience Institute (UPRI) Executive Director Maharlagmay said.

Moreover, this project ensures transparency and accountability to help. As the UP system will document and monitor fund disbursements.

The bottom line is the \$1 billion allocation will be measured by better information, transparency, and evidence-based decisions. The VPRI-NOAH will expand the coverage, resolution, accuracy, and usefulness of its services.

Moreover, NOAH has served more than 3.2 million users, recorded approximately 12.9 million location searches in 2025, and reached as many as 2.3 million engagements in a single day.

"We hope that it will be sustained because our country needs it," said by VPRI Executive Director Mahar Lagmay.





Mapping Modern Mayhem

Forecasting Floods, Preparing the Philippines

Due to its geological location, the Philippines is very prone to natural calamities. Often seen as "blessings", rain may fade away easily, but floods do not. However, even if surrounded by numerous problems and nonstop down pour, the country still strives for a light of hope — a map to battle against this modern mayhem.

Recently, the University of the Philippines Resilience Institute - NOAH center are using the allocated ₱1 billion budget to build science-based systems for flood management, climate resilience, and disaster risk reduction. Stated on the 27th day of August 2026, this budget will expand systems and acquire practical information, aiming for better public investment decisions.

According to Republic Act No. 9500, or the UP Charter of 2008, it mandates the University to provide assistance to government, the private sector, and civil society. This act rests on UP's legal mandate to advance research, public service, and national development — allowing it to stay consistent and support the budget plan.

"With limited resources in the country, we want to maximize the use of science so that we will be more effective in our investments. That is where we will use the ₱1 billion, and we hope that it's not only for this year," said by the UP Resilience Institute Executive Director, Mahar Lagmay.

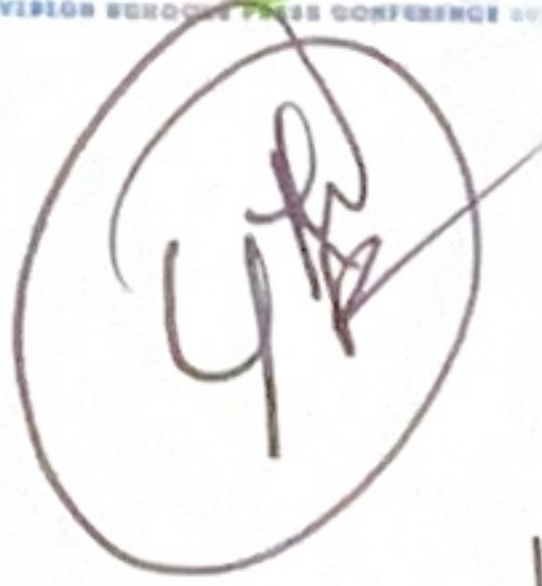
He also stated that he wishes the plan to be sustained, not just spend carelessly based on estimates. "We have to be smart about it. We have to be evidence-based", he added.

Looking at the areas for budget utilization, many factors can be stated, Support for Oplan Kontra Baha for example. In cooperation with the DPWH, the MMDA, local governments, and private sectors, UPRI-NOAH will integrate water shed science, model floods, terrain, infrastructure, in order to identify structural and non-structural solutions.

Also, High resolution mapping of major river basins are also included. This helps the country to map more efficiently and accordingly since detailed informations are to be observed. Waterways, floodplains, landuse, water sheds, and exposed communities will be supported and be prepared.

From the statement, hidden waterways and undocumented drainage paths will also be mapped to hopefully improve urban planning and flood modeling. Given the benefits brought by this plan, the country will be protected from the jaws of flood, saving hundreds of Filipino communities, sustaining the budget, and snatching a stalemate from nature's wrath.

Truth be told at the end of the day, natural calamities cannot be avoided, but preparing for it is another story. As non stop downpour continues, the country is slowly, but surely preparing for it. Forecasting floods, sustaining fully — and mapping the modern mayhem.



Resilient Revolution:

How UP uplifts science-based climate resilient systems

In a country where the government lacks support to flood management, and disaster risk reduction systems, a university from the country itself takes action and fills in the gap where the government lacks—University of the Philippines (UP).

In August 2020, floods affected the lands of Luzon, with that, the UPRI-NOAH conducted a Utilization Plan for the ₱1 billion budget, this aims to strengthen the Philippines' capacity to manage and apply scientific information for disaster risk reduction, flood management, environmental protection, and climate resilience, in order for Filipinos to suffer less or land to end the suffering from floods.

In accordance with the Republic Act No. 9500, or the UP Charter of 2008, it mandates the University to provide scholarly and technical assistance to government, the private sector, and civil society. Therefore, the funding rests on UP's legal mandate to advance research, public service, and national development. Instead of a stand-alone project fund, the budget will expand systems that translate research into practical information for better public decisions. This approach recognizes that resilience requires the integration of natural systems, scientific data, and evidence-based governance.

"With limited resources in the country, we want to maximize the use of science so that we will be more effective in our investments. That is where we will use the P1 billion, and we hope that it's not only for this year," University of the Philippines Resilience Institute (UPRI) Executive Director Mahar Lagmay said. She also added that we can't just spend and spend just based on estimates, we have to be smart about it, we have to be evidence-based. We have to use science.

Meanwhile, the UPRI-NOAH uses the budget for utilizing high-resolution mapping of major river basins using advanced geospatial technologies with up to one-by-one meter pixel resolution. They also supported Oplan Kontra Baha with collaboration with the DPWH, and other local governments.

Moreover, they also utilized simulation of major detention basins, LiDAR drone surveys with state colleges and universities, native-tree mapping and tree inventory, sediment erosion and delivery assessment, mapping hidden waterways and undocumented drainage paths, and artificial intelligence (AI) for Disaster Management.

Further, all the conservation efforts that the UPRI-NOAH planned has one purpose - to help the country and Filipinos to be more prepared when flooding with the use of smarter decisions with science-based systems.

All the utilizations/efforts that the UPRI-NOAH mentioned were all science-based, in a sense that they used science to improve/build allocations by including researching, observations, precise measurements, and science itself, to prevent or at be prepared for inevitable floods.

This also promotes transparency and accountability among Filipinos, for every major expenditure will be connected to a defined program, public purpose, implementation plans, technical outputs, measurable indicators, and monitoring and evaluation. The UP system will document and monitor fund disbursements.

With UPRI-NOAH's utilization plan in continued collaboration with government agencies, local governments, universities, and communities support, this utilization plan won't only succeed but make a history in the country for flood is indeed one of the country's biggest problems/obstacle faced, and with this efforts, the Philippines will no longer suffer from lands filled with floods in the gaps are and will be filled in, resulting to a more resilient resolution.

OVERFLOW



The Big Budget for the Hazard prevention System

Project NOAH

Like seeing a rainbow after rain, this project makes every Filipino gain hope for a chance of survival. With this big budget surely the engineers will have bigger hope.

The UPRI or University of the Philippines Resilience Institute will provide a ₱1 billion budget to help the country with scientific information about disaster risk.

UPRI-NOAH will update river-basin maps with the help and use of advanced geospatial technologies. By producing updated hazard maps with one-by-one meter pixel.

That includes detailed information on waterways, flood plans, land use, watersheds, infrastructures and many exposed communities who will be supporting hazard assessments.

The support for Oplan Kontra Baha, in cooperation with the Department of Public works and highways, the Metropolitan Manila Development Authority will integrate proper scientific information to identify the appropriate structural and non-structural solutions.

The ₱1 billion will be measured by better information, transparency, evidence based decisions that give our a lot of community hope.

Partnerships with government agencies, local governments, universities and the communities support of forecasting.

Intrusting the government to do a new project isn't risky, by making them do their job we will have a better economy.

By trusting UPRI-NOAH with a big budget they will do all their power to make the Philippines more safe. Continuing to let them do massive projects is a sign that our economy is getting better and that the Philippines is better when hightech has purpose.