

## Introduction

From November 16 to 19, 2021, the Asháninka Association of the Amônia River (APIWXTA) facilitated the "Apiwtxa International Congress - Threats, Protection, and Development on the Amazon Border" in the indigenous territory of Kampa do Rio Amônia on the Peruvian border in Acre, Brazil. More than 100 people attended, some traveling for days by boat to represent the ten indigenous organizations and various peoples from the borderlands between Peru and Brazil and to speak about the threats to their territories. The congress focused on the threats to indigenous land, well-being, and cultural heritage represented by illegal road construction, logging, mining, land trafficking, drug trafficking, and the corruption that facilitates these activities. The meeting resulted in an eight-point declaration signed by the indigenous participants and addressed to the states of Peru and Brazil. This declaration, now translated into four languages, represents a culmination of centuries-old tensions between the Indigenous inhabitants of this border region and outsiders who intend to exploit the natural resources of this region. The congress also resulted in a Juruá/Yurúa/Tamaya Transboundary Commission.

The SERVIR Amazonia Applied Science Team at the University of Richmond, the Amazonian Border Spatial Analysis Team (ABSAT), talked to participants, and analyzed the conference statement and results to determine how research on forest cover dynamics and ecosystem services could contribute to the transboundary commission. ABSAT had the advantage of already working with several represented Indigenous communities and associations, and now continues working with the Juruá-Yurúa-Tamaya Transboundary Commission created by the conference. ABSAT follows the NASA-SERVIR motto of connecting "space to the village" with a focus on helping local communities use satellite data to address critical water, climate, and land use challenges. This poster shows the collaboration between the communities, transboundary congress, allies, ABSAT and SERVIR Amazonia to make products and processes that realize the goals of the indigenous people of the borders between Ucayali, Peru and Acre, Brazil

## The Congress

The "Apiwtxa International Congress" - Threats, Protection, and Development of the Amazon Border" has the following characteristics:

- 70 Signatories (Figure 1, 3 & 4).
- 3 million hectares of territory represented (figure 1)
- 7 Cultures/Ethnicities (Figure 2)
  - Asháninka
  - Asháninka
  - Apolina-Arara
  - Amahuaca
  - Huni Kuin-Kaxinawá
  - Kuntanawa
  - Yaminahua
- 10 Participating Associations
  - Apiwtxa: Association of Ashaninka of Rio Amônia
  - OPIRJ: Organization of Indigenous Villages of Rio Juruá
  - ORAU: Organización Regional AIDESEP Ucayali
  - ACONADIYSH: Association of Native Communities for the Integral Development of Yurúa Yono Sharakoiaí
  - ACCY: Association for Communal Conservation Yurúa
  - AACAPPY: Environmental Association of the Asháninka Community of Pocharipankoy Pikiyaco Yurúa
  - AARIB: Ashaninka Association of Rio Breu
  - AJRBI: Jaminawa Association of Arara of Rio Bagé
  - AKARIB: Kaxinawá Association of Rio Breu
  - ARARA: Association of the Arara of Rio Amônia

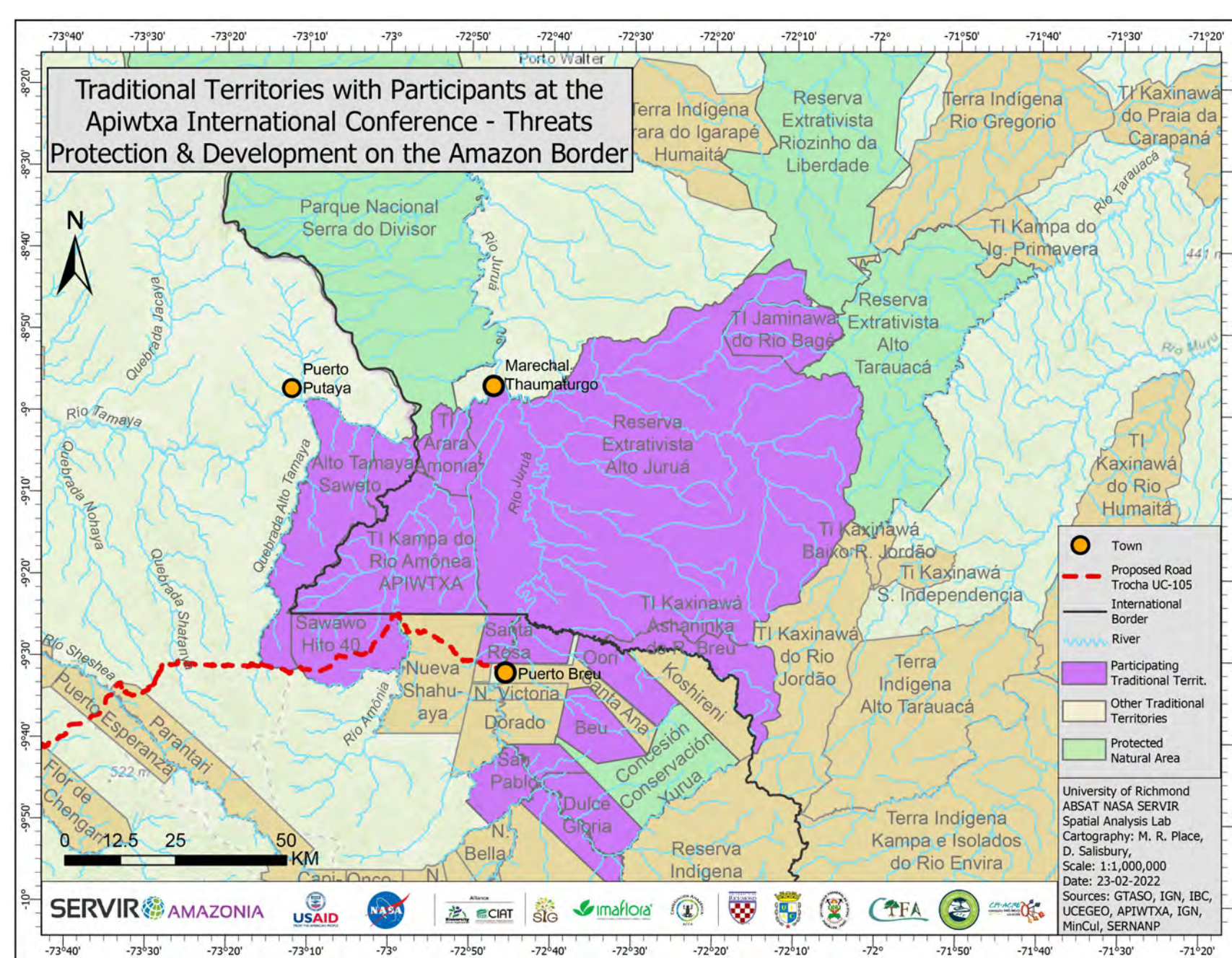


Figure 1. Territories Participating in the Apiwtxa International Congress

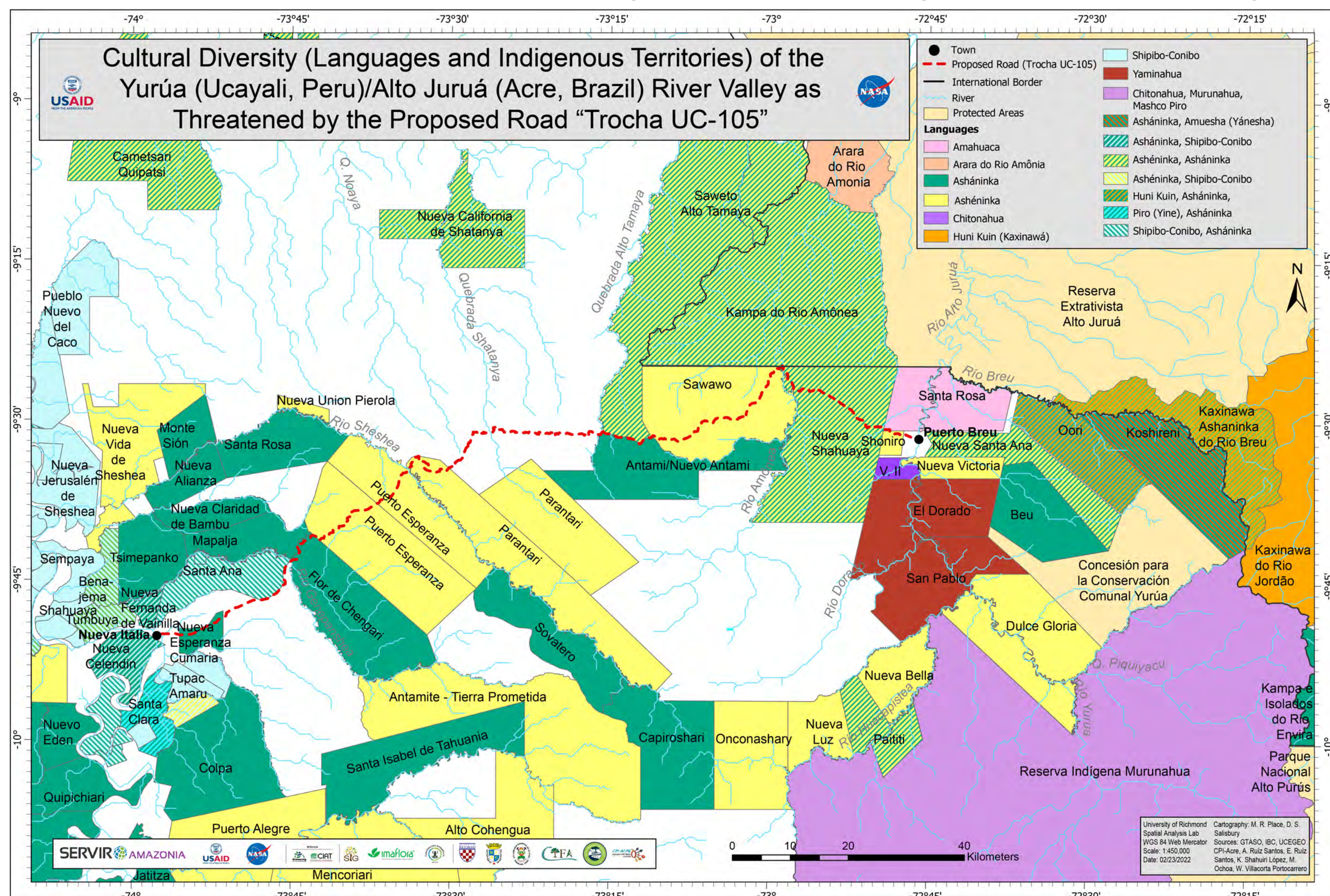


Figure 2. The Alto Juruá/Yurúa has more than ten cultures represented that depend on intact forests, clean rivers, and ecosystem services for their common survival. These cultures, languages, livelihoods, forests, rivers, and ecosystem services are in turn threatened by the proposed highway "Trocha UC-105" also called the "Interoceánica Centro" despite the proposal failing to connect to any road network on the Brazilian side. The road threatens not only the cultures of Indigenous people living in titled territories, but also the cultures living in initial contact in the Murunahua Indigenous Reserve (Lavender).

## Declaration

The Declaration delivers eight main requests to government authorities, allies, and the international community:

1. "We demand that the competent authorities of Brazil and Peru comply with their obligation to protect borders, the rights of Indigenous Peoples and the environment. In Brazil, a greater presence of state authorities and action in defence of those of us who inhabit the country boundaries is required. In Peru, we demand that the State monitor, punish and act on local and regional authorities which are constantly violating the rights of the indigenous population.
2. We demand that the Peruvian Government take immediate action for the rights violations suffered by the Sawawo Hito 40 native community, on the border with Brazil. Despite the clear denunciations and evidence of invasions into its territory by illegal loggers and land traffickers, the Peruvian Judicial Power once again favours the invaders, the criminals, instead of protecting its citizens. We call the attention of the international community for the constant violations of indigenous rights in Peru. We do not accept that impunity for crimes against Indigenous Peoples continues in Peru, Brazil, and other parts of the world.
3. We demand respect for our management of our own development. We do not want an external development model to be imposed on us, which destroys forests, and is abusive and cruel to people. For this reason, we call on the rights recognized by the United Nations and other national and international organizations. It is essential that the rights to health, education, territory, and self-determination are respected. We demand Governments to be at the service of citizens and not to be controlled by companies and other interests that directly affect the self-determination of Indigenous Peoples.
4. We firmly reject that States and companies make decisions about our territories without prior consultation and prior, free, and informed consent, guaranteed by law; as well as other infrastructure and extractive projects that affect us and endanger our existence, such as the planned "Masisea – Alto Tamaya Road" and the "Pucallpa Cruzeiro do Sul Road".
5. We will not allow the advance of illegal projects such as the "Nueva Italia – Sawawo – Puerto Breu Road" and we demand that all existing terrestrial access routes be closed immediately.
6. In the case of the Peruvian district of Yurúa, we demand from the Regional Government of the Ucayali the immediate construction of the airport in Puerto Breu, along with a greater presence of the Peruvian State and improvement of public services for the population.
7. We demand the Peruvian government to meet the needs of the Alto Tamaya – Saweto indigenous community, also on the border between Brazil and Peru. We demand that the Peruvian Judicial Power condemn the murders of the leaders of the community, whose crime has gone unpunished for seven years, and the expulsion of the illegal loggers and invaders who continue to threaten the lives of Saweto's inhabitants.
8. Finally, we reaffirm the bonds of brotherhood between the Peoples of the borderlands of the Yurúa and Upper Tamaya regions of Ucayali, Peru, and the Upper Juruá of Acre, Brazil, with which we strengthen the Alliance to protect the lives of Indigenous Peoples, the forests that are our home, and the source of livelihood, as well as helping to maintain the planet's stable climate on which we all depend. We are committed to working together, as brothers and sisters to face together the threats to our lives and our territories."



Figure 3. Participants of the Apiwtxa International Congress (Photo Apiwtxa 2021)



Figure 4. Participants of the Apiwtxa International Congress (Photo Apiwtxa 2021)

## Analysis

SERVIR Amazonia and ABSAT of the University of Richmond can use science and technology to contribute to some of the objectives our Indigenous collaborators made in the declaration:

- ABSAT maps, built in consultation with Indigenous counterparts, facilitate analyses of border geography:
  - Existing and threatened cultural diversity (Figure 2)
  - The communities and areas threatened by the proposed road Trocha UC-105 (Figure 6)
  - Forest cover (Figure 6)
  - Evapotranspiration produced by forest cover (Figure 5)
  - The variation in temperature according to forest cover (Figure 7)
- These maps and the ABSAT research can also follow the congressional goals to identify where:
  - More state presence is needed (goal 1 of declaration)
  - Road construction, encroachment, and illegal logging are occurring (goals 2, 5, & 7)
  - External development already has a strong impact and future development could have an impact (goals 3 & 4)
  - Health, education, self-determination, territorial defense, and public services can be strengthened (3 & 6)
- ABSAT is building a dynamic GIS portal with dashboards where our Indigenous counterparts, NGOs, and state agencies can see fluctuations in forest cover and climate variables (evapotranspiration, land surface temperature, precipitation, and stream flow) based on quantitative analyses that ABSAT performs on satellite data and meteorological stations (goal 8). Figures 5, 6 and 7 represent static versions of these services.
- ABSAT is also working to strengthen the links between the communities and NASA SERVIR to facilitate long-term sustainability.

## A Sustainable Future?

- The assigned indigenous border peoples promise to strengthen their alliance to protect the communities, the forest, and the planet's climate stability (Point 8)
- Deforestation and climate change threatens to transform the Amazon rainforest into savannah in 50 years (Lovejoy & Nobre, 2019; Walker, 2020)
- Indigenous territories are a key barrier to deforestation and forest degradation (Walker et al., 2020)
- The Communities of the Peruvian Amazon appear more vulnerable to deforestation every year (Finer et al., 2021)
- Pressure on Indigenous territories is increasing, resulting in the loss of not only forests but also the assassination of environmental leaders and defenders who try to protect forests (Global Witness, 2020; ORAU et al., 2022)
- Indigenous peoples require state support to better enforce the protection of their rights and the environment
- ABSAT maps and analyzes connect "space to village" in the Amazonian borderlands and help Indigenous peoples and the state visualize and analyze the relationship between deforestation (Figure 6) and climate variables such as evapotranspiration (Figure 5) and temperature (Figure 7)
- Enoc Ruiz Santos, the Chief of Dulce Gloria, a Yurúa community in Peru, shared, "I am worried about my children's future. The maps strengthen our understanding because they make visible our Yurúa reality where deforestation increases heat and dries our natural springs"
- "It is the pure truth, the map indicates all, for example in... Thaumaturgo there is great deforestation and you can see heat on the map... in the red. We need to use every strategy..." Coordinator of the Sawawo Vigilance Committee, Maria Elena Paredes
- Asháninka leader and President of OPIRJ Francisco Piyáko shares, "The forest is our life, our home, and the reason for everything in our history. We call on all forest people, city people, and youth to help us in our fight to protect our biodiversity" (Piyáko 2021)

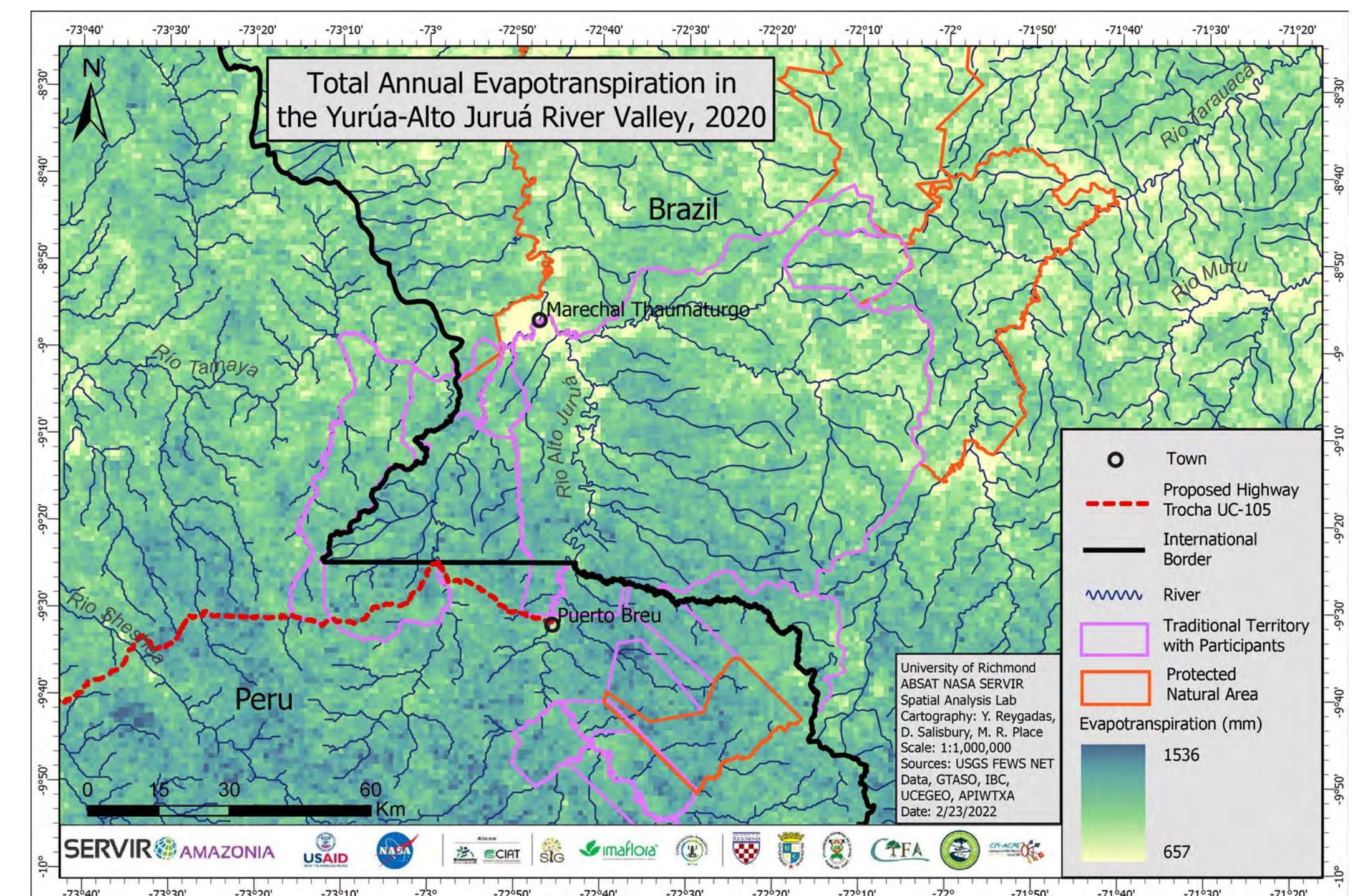


Figure 5. The importance to the climate of intact forest can be understood by comparing the location of deforestation (Fig. 6) with the locations of low evapotranspiration rates above (cream color). Where there is no forest there is less evapotranspiration and therefore less water for the plants, animals, and people that live in the area. Variability in evapotranspiration can contribute to climate instability and extreme events with the capacity to further transform the forest. The proposal to construct a highway from the Ucayali River to the Yurúa River promises to lower evapotranspiration rates and water quality even further.

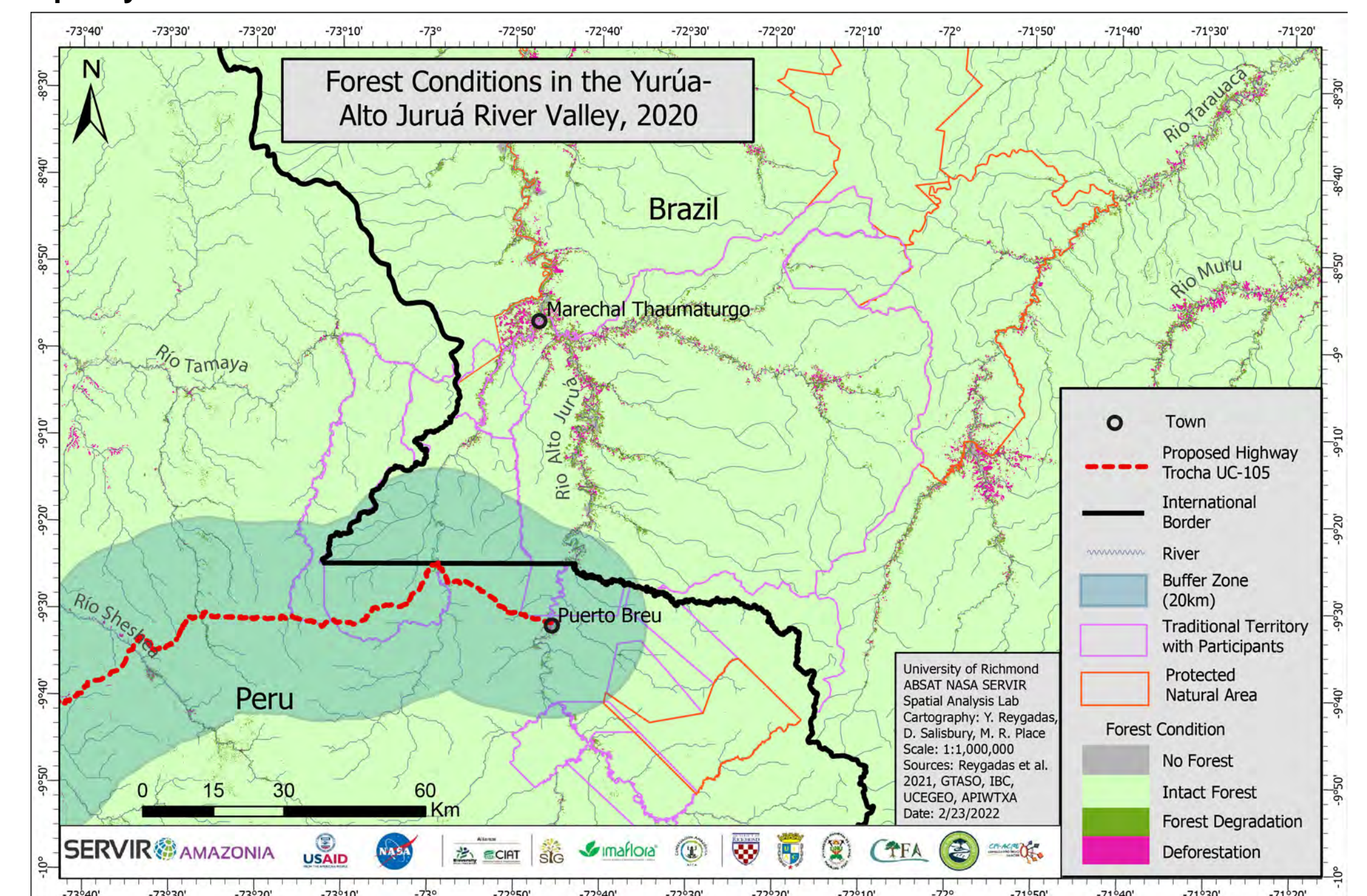


Figure 6. Deforestation and forest degradation appear near riverbanks. The forest degradation and deforestation have not yet reached high rates due to distance, the absence of roads, and the presence and activities of traditional defenders of the forest. The construction of a road will increase deforestation and forest degradation in the 20 kilometer buffer zone on either side of the road (one need remember that roads tend to bring secondary roads) with impacts on evapotranspiration (Fig. 5) and temperature (Fig. 7).

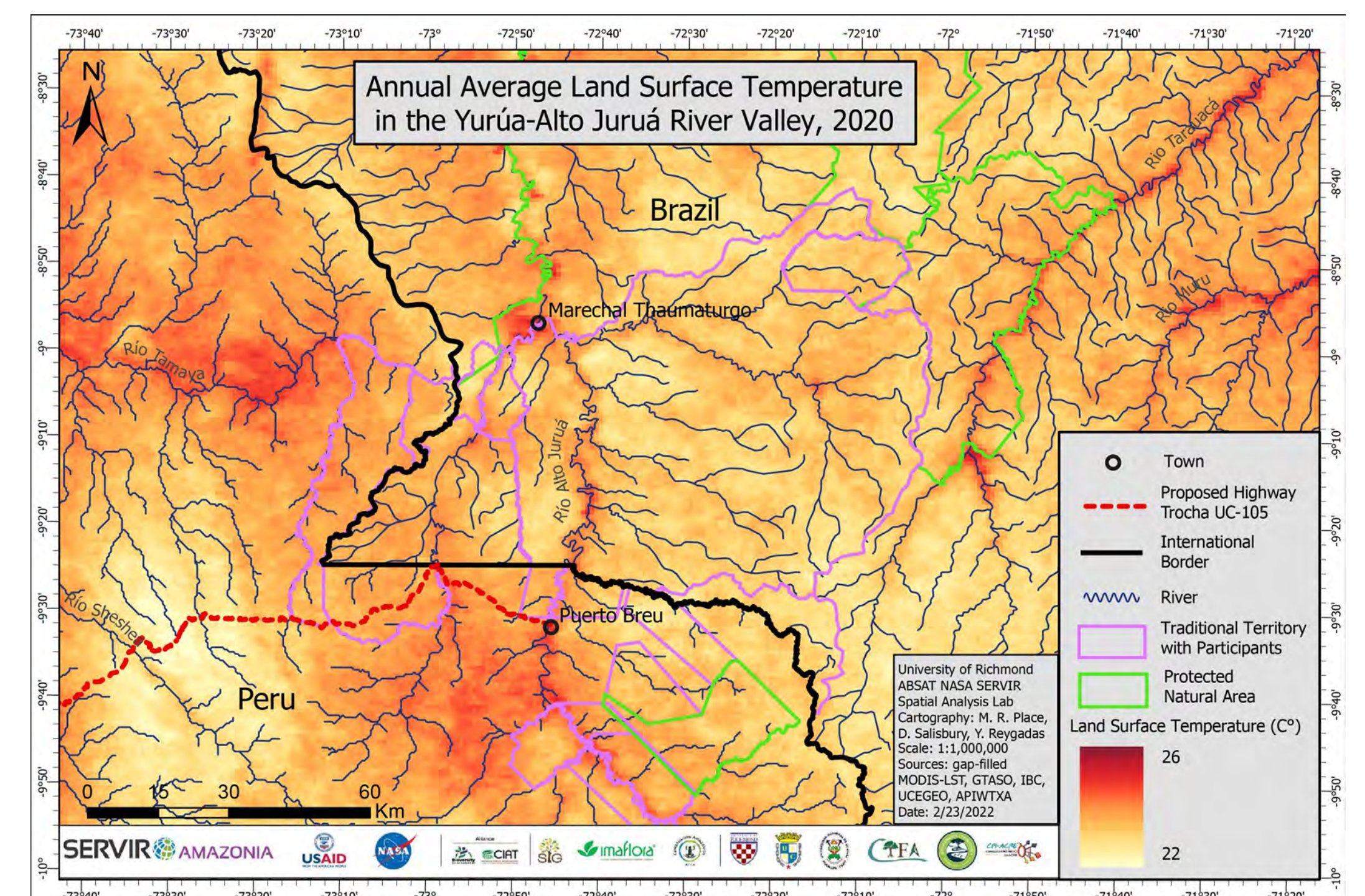


Figure 7. The importance of intact forest to the climate can be understood by comparing the location of deforestation (Fig. 6) with the high temperature values shown in this map. Where there is no forest (Fig. 6), there is more heat that can be stressful for the plants, animals, and people that live in the area. If we project the 20 km buffer zone on both sides of the proposed highway, we can imagine an area with high temperature represented by dark red pixels from the Ucayali River (Nuevo Italia) to the Yurúa-Alto Juruá River (Puerto Breu) on this map.