

**Dengue Fever in Mexico: Public Health Concerns Regarding Nine Mexican States  
DEVELOP National Program at Wise DEVELOP and Monterrey, Mexico  
Earthzine/DEVELOP Virtual Poster Session, Fall 2011**

**Video Transcript**

**Authors: Pedro J. Rodríguez Rivera, Alan A. Gandarilla Huerta, María F. Torres Garza,  
Delores Hayes, Apsara Aryal**

**Scene 1: Title Page, Music – Sample music from the rights free music website [WWW.Beatsuite.com](http://WWW.Beatsuite.com)**

**Scene 2: While sample music is still playing an unprocessed NDVI Mexico map created in Arc GIS appears and it's showing the areas understudy. Then by using Arc Scene the effect of flying over the state of Nuevo León was utilized in order to present our Mexico team.**

**(Scene ends with a Dissolve – pixelate effect)**

**Scene 3: Starts with a Dissolve – pixelate effect and sample music stops. Our Mexico team introduces themselves then they give background information of Dengue fever in Mexico as well as some of the objectives of our project.**

**Shot Medium pan showing Maria F. Torres (Mafer) and Alan A. Gandarilla sitting down at a desk in the Monterrey Office.**

**(In the lower part of the screen there is a caption showing the name of Maria F. Torres “Mafer” and Alan A. Gandarilla while Mafer introduces herself and Alan)**

**Mafer:** Good day! My name is Mafer is this is my colleague Alan, and we are part of the NASA Develop national program team in Mexico. We are both pleased to be collaborating in the Dengue fever project in this fall period in 2011.

**Alan:** According to the National Epidemiologic Vigilance System, SINAVE, by the 40<sup>th</sup> week of the present year, there was a total of 45 791 suspected cases of classic Dengue Fever and Dengue Hemorrhagic Fever.

**Mafer:** Dengue fever is a vector borne disease, caused by any of the four serotypes of Dengue virus, all present in Mexico, transmitted by mosquito bite of the *A. aegypti* female speci

**Alan:** In the case of Mexico, the mosquito has been found in at least 90% of its territory, being the states of: Nuevo León, Tamaulipas, Veracruz, Jalisco, Colima, Michoacán, Guerrero and Yucatán the most affected.

**Mafer:** To counter act the damage being done to the population, Mexican government has state-wide initiatives to stop dengue fever outbreaks. These are all based on a manual made by the national government to set the guidelines on prevention, correction and treatment.

**Alan:** With this project our objective is to support those actions by the correlation of environmental factors and Dengue Fever incidence in several states of the nation; to have a better approach on this epidemic, providing better understanding and preventing future outbreaks.

**Mafer:** We thank your attention

**(Scene ends with a Dissolve – pixelate effect)**

**Scene 4: Starts with a Dissolve – pixelate effect**

**1<sup>st</sup> Shot – zoom on a globe positioned in the United States (Trying to create the effect of going from Mexico to the United States). 2<sup>nd</sup> shot - Zooming out in order to present Wise Develop Dengue fever Team lead, Pedro J. Rodríguez Rivera.**

**(In the lower part of the screen there is a caption showing the name of Pedro J. Rodríguez while he speaks)**

**Pedro:** Welcome to Wise Virginia! My name is Pedro J. Rodríguez and I'm the team leader of the Dengue fever project here at NASA Wise Develop. Along with my team members Dee Hayes and Apsara Aryal, the question is How are we going to address the issues presented by our team members in Mexico.

**(Scene ends with a Cinematic – Blur effect)**

**Scene 5: Apsara walks towards the camera and comes closer to Pedro J. Rodríguez, while he is downloading NDVI images from USGS.GLOVIS.com database. This is to accentuate the applications of remote sensing in Public Health issues.**

**1<sup>st</sup> Shot – Zoom on Apsara's face then a zoom out while she walks this is in order to zoom in on the screen while Pedro works on downloading the NDVI image. (Giving the effect of getting into the computer)**

**(In the lower part of the screen there is a caption showing the name of Apsara Aryal while she speaks)**

**Apsara:** In the past decades a tool utilized by many has been remote sensing.

**(End of the scene with a cinematic – blur effect)**

**Scene 6: Apsara's voice over images showing different applications of Arc GIS as well as the satellites used in this project, correlation numbers obtained through this term, graphs that show correlation comparisons among some of the states under study and an image downloaded from the internet to present an example of some the software programs that run the ARIMA mode- <http://www.rode.co.za/publications/pub-timeseries.php>.**

**(Several effect were used for the transitions of the images)**

**Apsara:** The wise develop team along with our Mexican team members have gathered information through NASA's satellites AQUA and TRRM as well as several government agencies in Mexico. With this data we can identify suitable conditions for the reproduction of *Aedes aegypti* and the spread of Dengue Fever. By correlating the incidence with the environmental factors such as temperature, humidity, precipitation and vegetation indices; we can project a model that will assist public health officials in predicting future Dengue fever outbreaks.

**(Scene ends with Dissolve – crossfade effect)**

**Scene 7: (Scene starts with a Dissolve – crossfade effect) In this scene it is Pedro’s voice going over some images of the projects results. (A couple of effects were used for the transition of the images)**

**Pedro:** With our environmental information along with El Niño Southern Oscillations values, we created several projections for the states under study. Through this process, only the state of Veracruz resulted with an 84% of accuracy. It is based on these inconsistencies, that on this fall term 2011 of NASA Wise Develop, we concentrated on obtaining correlation values among our parameters and with Dengue fever incidence. We came across to the conclusion that each environmental parameter possess its own degree of lagging when it comes to the level of correlation with Dengue fever incidence. Furthermore we were able to notice common trend among all the states under study.

**(Scene ends with Cinematic – blur effect)**

**Scene 8: Starts with a cinematic – blur effect. In this scene Dee Hayes is presenting an overview and the first two phases in the plan of action that was created from the results and observations of our research.**

**1<sup>st</sup> Shot – Medium pan on Dee Hayes.**

**(In the lower part of the screen there is a caption presenting the name of Dee Hayes while she speaks)**

**Dee:** with the information obtained the team here at Wise Develop has created an emergency response plan. This is to assist in the mitigation, preparedness, and recovery as well as the response phases of potential outbreaks. The decisions to include an initial planning are the season of the year, the current weather and the populations that are at risk

**2<sup>nd</sup> Shot - Medium pan on Dee Hayes (Cinematic – blur effect to present the phase 1 in the plan of action)**

**Dee:** This plan was created in a 3 phase graded response. Phase 1 is applied throughout low fever activity months, when environmental factors are presenting increases.

**3<sup>rd</sup> shot – Medium pan on Dee Hayes (Pattern Shapes – slide up spin effect to present phase 2 in the plan of action)**

**Dee:** Phase 2 will be executed when reported cases start to show an increase or start to show a rise, the use of the information gathered in phase I will assist in predicting the areas that will be at a higher risk of potential outbreaks.

**4<sup>th</sup> shot – Medium pan on Dee Hayes (starts with a Cinematic – blur effect)**

**Dee:** Besides the plan of action, How can the Mexican government benefit the most from our research?

**(Scene ends with Pattern Shapes – spin effect)**

**Scene 9: Starts with pattern shapes – spin effect of Dee Hayes going inside a TV in the background showing the first page of our PowerPoint presentation. This is with the purpose of trying to give the feeling that the Mexico government agencies are going to benefit the most with the results in our project; as well as to establish a transition for Apsara to answer the question proposed by Dee Hayes in the previous scene. Then Apsara takes over in order to present the deliverables of our project and a general explanation on how they are going to benefit Mexican government agencies.**

**1<sup>st</sup> Shot – (Medium pan on Apsara) She is standing in the right corner of the shot letting the TV in the background that it's showing the first page of our PowerPoint presentation to be seeing.**

**Apsara:** The benefit from the patterns in the Dengue fever project will be the measurable outcomes of the positive response to increase inactivity.

**2<sup>nd</sup> shot – (Medium pan on Apsara) It starts with a Cinematic – blur effect and Apsara Keeps presenting the project's deliverables.**

**Apsara:** The Wise Develop team will be making all of the research available to the government offices for the confident forecasting of the Dengue fever outbreaks.

**3<sup>rd</sup> Shot – (Medium pan on Apsara) It starts with a Cinematic – blur effect and Apsara presenting the manner in which our deliverables are going to be presented to our partners in Mexico.**

**Apsara:** This will be accomplished by presenting tutorials associated to the computer programs utilized to produce strong results and predictions.

**4<sup>th</sup> and Final Shot - (Medium pan on Apsara) it starts with a cinematic – blur effect and Apsara giving a conclusion statement as a representation of the ultimate goal in our project.**

**Apsara:** With proper planning and surveillance the community can anticipate an improvement in the quality of life.

**(Scene ends with a Cinematic – blur effect while background sample music slowly fades in)  
Music also obtained through the rights free music samples website [www.Beatsuite.com](http://www.Beatsuite.com)**

**Scene 10: Credits while showing some of the images gathered in our project and background sample music is still playing.**