



CROSS-BORDER THREAT SCREENING
AND SUPPLY CHAIN DEFENSE

A Department of Homeland Security Center of Excellence

Newsletter

June 2023 Edition

Panama Canal Water Level



Drought and Lake Gatún :

Source: Michael D. Camphin - pexels.com

The shipping challenges of the past few years were tempered by the increased use of Eastern and Gulf Ports. Many of the increased shipments between the U.S. and Asia passed through the Panama Canal. Unfortunately, Panama is facing of its most serious droughts in the past 70 years. Despite linking the Pacific and Atlantic, a single passage along the Canal relies on roughly 52.8 million gallons of fresh water from the artificial Lake Gatún to move ships between the two oceans. With roughly five-percent of all global trade moving through the Canal the impact might not seem significant, but the Canal represents an important route for U.S. agricultural exports to Asia and plays a role in tempering inflationary pressures in the economy. As the depth of Lake Gatún drops the maximum drafts allowed for ships using the Canal also declines (the normal 50-foot limit was reduced to 43 feet at the end of June). As drafts drop, shipping costs rise because Canal tolls increase, the number of transits may be cuts, and the amount ships can carry decreases (up to 40% in some cases). Reducing volumes means more ships are needed to move the same amount of goods and more ships lead to increased Canal transit times. Shippers have faced similar challenges in the past, but the current impact of a distant drought is a reminder that risks to our supply chains take many forms.

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Coming Soon a Revamped
Website

<https://cbts.tamu.edu/>

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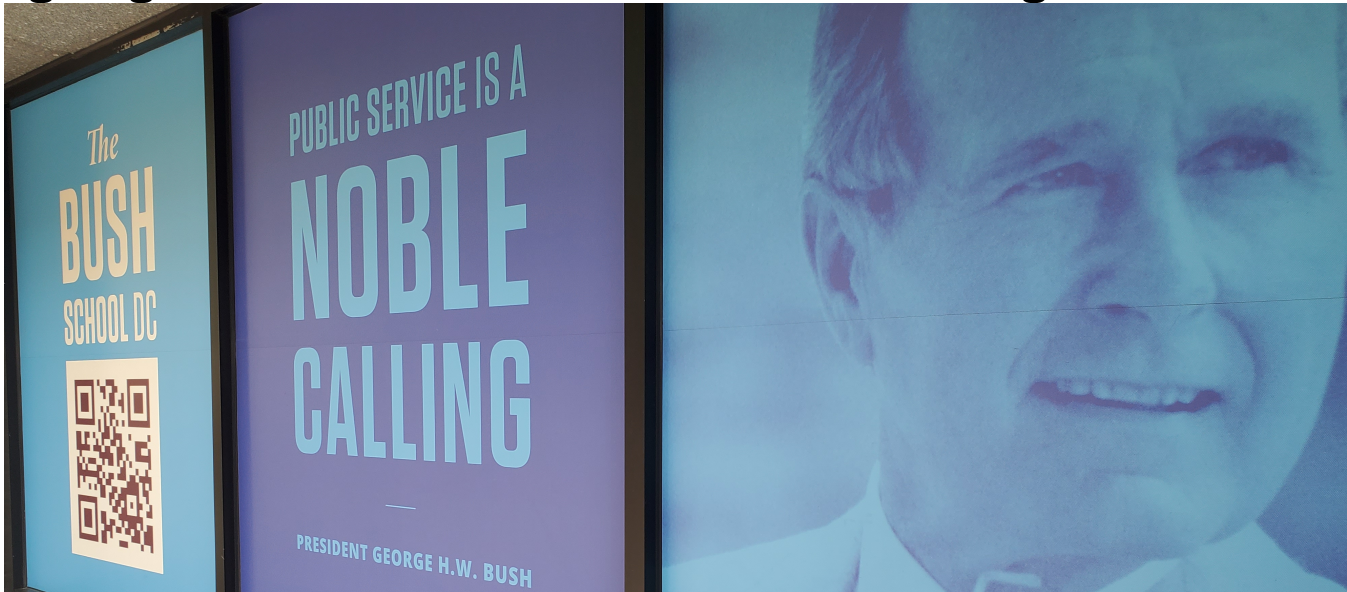
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Highlights from the CBTS Annual Meeting

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This May, the Cross-Border Threat Screening and Supply Chain Defense DHS Center of Excellence held its 2023 Annual Meeting at the Bush School of Government & Public Service's Washington, DC location. This was the first time since the pandemic that the Center held its Annual meeting in-person and it attracted about forty DHS and other federal government stakeholders, and the Principle Investigators from most of the Center's current research projects.

The Center is in the process of adding project summaries and other presentation highlights to its website - <https://cbts.tamu.edu/>, but the following agenda highlights the topics covered over the course of the event.

Overview of the Office of University Programs Centers and Excellence

Rebecca Medina - Director, Office of University Programs (OUP) at DHS S&T Directorate, and Hilary Shackelford, DHS S&T, OUP Program Manager, provided an overview of the Center's collective supply chain defense projects, our projects focusing on novel tools and technology, and the expansion of our education and workforce development efforts continued or initiated in the past year.

CBTS: Research, Education, and Communications Overviews

Center leadership briefly described some of the Center's successes and challenges in the past year. Two of the most notable successes were the on-boarding of our first Communications Director, Gabe Saldana, and our new Education Director, Katlin Shoemaker. Both are bringing new energy and ideas to the Center's management team while advancing the achievement of critical Center objectives.

New Supply Chain Research Project Summaries

The meeting's first project session was devoted to two newly funded new supply chain oriented projects. The first is the *Automated AI Capabilities for Entity Risk Screening to Highlight Supply Chain Vulnerabilities in Pharmaceutical, Chemical and ESG-Sensitive Industries* project with Quantifind and the second is the joint *Borders of the Future* project with MIT and the Migration Policy Institute. In this session the research teams described the issues they are addressing, project objectives and time lines, and provided a sense of the value propositions for their work.

The excellent **Lunch Keynote** talk entitled "**Globalization Border Management and the Future of North America** " was given by Alan Bersin– Chairman of the Altana AI advisory board, senior fellow at the Harvard Belfer Center, and inaugural North America Fellow at the Wilson Center. Former Commissioner of U.S. Customs and Border Protection and DHS Assistant Secretary for International Affairs and Special Representative for Border Affairs.

The full text of this talk will be published by the Center in the coming months, but the talk noted that starting in the 1990s, globalization and the idea of North America germinated and then grew up together. The pandemic a generation later—coupled with the geopolitical splintering of the post-World War II international order—brought the first phase of each to an end. As Globalization 2.0/North America 2.0 (with USMCA) emerge – in dim outline as yet – new and important opportunities are emerging at the North American regional level: whether and how these opportunities are capitalized upon, or not, by the U.S. and its neighboring partners in Canada and Mexico, likely will determine the level of prosperity of them all and the scope and degree of the future influence of U.S. leadership in the world.

North American Taskforce Project Summaries

The afternoon session opened with an extended discussion of two new projects that are extensions and derivations of two the Center's COVID-19 projects started in 2020. The U.S. *Mexico/ Canada Risk Taskforce* and the *Bayesian Risks* projects are led by the Stochastic Geomechanics Laboratory at Texas A&M University. In this session the research teams described how current efforts are building on data lake and modeling advances and will be used to meet project objectives and product transition goals in the final year of the two projects.

Novel Tools and Technologies

The last in-person session was used to describe a mix of projects that are exploring the development and use of new methods for addressing issues faced by the homeland security enterprise. The *A Data-Driven Risk-Based Enterprise for Operational Decision Support* project led by Orion Integrated Biosciences described how the team has collected and organized disparate data to inform the assessment of risks posed by cargo imports. The *Inspection Tools for Improving the Detection of Invasive Species* update by the Stevens Institute of Technology team highlighted experiments designed to improve specific insect detection tool as well as efforts to survey the development of new or improved insect detection methods. The University of Texas team leading the *Sampling Design for Random Inspections* project described their efforts to date to frame random inspection options and assess options using historical data. The investigator for newest project in this category *Development of a Verifiable, Privacy-Controlled Medical Information Exchange Network – System Concept and Testbed*, outlined how he will build on advancements from a recently completed Tuna Tracking project to examine processed needed to ensure traceability and authenticity of raw data and derivatives of the raw data in a protected environment.





African Swine Fever Project Summaries

The opening day of the CBTS Annual meeting ended a brief overview of the Center's four African Swine Fever (ASF) projects. A team from Texas A&M University described their *Threat Assessment of ASF Tick Vectors, Ornithodoros spp.- U.S. Mexico Border and In Proximity to Swine Operations* project described their efforts to trap ticks and assess the potential risks to animal production if these ticks became a vector for ASF. The *User-Friendly Online Dashboard for the Assessment of the Risk of ASF Virus Introduction, Exposure, and Potential spread into the United States* team from U.C. Davis, Iowa State University and Kansas State University described their efforts to assemble key data and build a web-based dashboard. A Kansas State University team outlined their progress in developing *A Validated Method for Environmental Surface Sampling for Detection of ASF Virus*. The Texas A&M University, Kansas State University University of Liverpool and Colorado State University team closed with an overview of their efforts to model the potential up - and down-stream economic impacts of an outbreak in their *Measuring the Economic Impacts of ASF Virus on United States Supply* study.

Coming Soon a Revamped Website

<https://cbts.tamu.edu/>



As part of a coordinated effort by the New CBTS Communications Director, Gabe Saldana, the Center's website is undergoing major refresh designed to modernize the utility of the system and improve user experiences. When completed we think the website will be more flexible, and improve access for users seeking to find information about the Center's research and education programs, both past and present.

This refresh is part of a larger communications effort to improve CBTS outreach efforts through social media, and expanded access to Texas A&M AgriLife news distribution capabilities.

Beginning with the website, the Center is seeking to improve its ability to serve as a thought leader and resource for the homeland security enterprise.