



Joint Workshop on AIS Analysis Package (AISAP) and Lock Operations Management Application (LOMA)

ERDC Dredging Operations Technical Support Program (DOTS)

U.S. ARMY CORPS OF ENGINEERS

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Response Summary:

The St. Louis District (MVS) requested training on two software packages that allow users to examine vessel behavior on the waterway. The Lock Operations Management Application (LOMA) which is most notably used for real-time monitoring primarily along inland waters and vessel track playback within a 45-day window, and AIS Analysis Package (AISAP) for historical vessel position reports from the U.S. Coast Guard Nationwide Automatic Identification System (NAIS) archive. MVS offered a large training space as part of their DOST request, this allowed the organizing team (led by Dr. Marin Kress (CHL) and Mr. Cory Tabbert (MVS)) to open the training to USACE staff from other Districts, as well as local USCG District 8 personnel.



Figure 1. Training Location: Applied River Engineering Center, St. Louis, Missouri.

Period of Performance:

The workshop was held at the Applied River Engineering Center (Figure 1) in St. Louis, Missouri, from November 28th to 30th, 2018. The workshop was attended by personnel from five USACE Divisions (LRD, MVD, NWD, SAD, SWD) and USCG District 8. The format included direct training on software by Dr. Marin Kress, Dr. Patricia DiJoseph, Mr. Brian Tetreault (all CHL), and Mr. Lee Whitlow (ITL) as well as peer presentations by District staff to show how they were applying these tools to their own District operations.



Figure 2. Screenshot of one year of historical vessel tracks through Lock & Dam 25, displayed in AISAP.

Benefits of the Response to the USACE Dredging/Navigation Program:

This DOTS request benefits the USACE Navigation program by giving users the tools to access and analyze historical data about vessel navigation behavior along inland and coastal waterways, including the potential for highly detailed information around lock structures. St. Louis District staff are using this data to evaluate channel alignment, and potential engineering/river control structures in the Mississippi River to improve navigation. U.S. Coast Guard staff are using this capability to investigate reported incidents and improve the safety of on-water navigation operations.

Deliverable:

The main deliverable was technical training on the Lock Operations Management Application (LOMA) (<https://loma.usace.army.mil>) and AIS Analysis Package (AISAP) software, for USACE personnel at (<http://ais-portal.usace.army.mil/>) and U.S. Coast Guard personnel at (https://aisap.usacegis.us/aisap_portal/home.html). AISAP training included how to retrieve data from the USCG archives, setup a project, visualize data (Figure 2), identify statistical outputs, and export the data for use in other programs. For the LOMA program users learned how to setup accounts, customize their user interface, setup watch areas relevant to their own areas of interest, playback vessel positions as animations (Figure 3), and how MVS is expanding the coverage network in their District.



Figure 3. Screenshot from LOMA showing live vessel traffic near Olmstead Lock and Dam.



Providing environmental and engineering technical support to the U.S. Army Corps of Engineers Operations and Maintenance navigation and dredging missions

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