

# Mississippi River Navigation Book Gets an Updated Low Water Reference Plane

---

Inland river waterways form a vital transportation network for commerce throughout the United States and must be maintained for the navigation of ships and the goods that they carry. Natural flowing waterways are subject to constant change in channel morphology, especially in the Mississippi River, and the river channel must be maintained at minimum depth to ensure ship traffic does not run aground. Channel depths are maintained as measured from the Low Water Reference Plane (LWRP). The Mississippi River LWRP is a hydraulic datum reference plane represented by a zero foot low water elevation based on a five year window of observations of the river's stages, discharge rates, and flow duration periods. Since river channels and capacities are so dynamic, it is necessary to calculate a new LWRP every five to ten years. In the past, the LWRP was interpreted along the channel based on time-consuming manual processing of sparse river channel cross-sections. Utilizing LIDAR and Multi-Beam SONAR data, U.S. Army Corps of Engineers has developed a new process to quickly generate a more accurate and more detailed Low Water Reference Plane.