

# **Time and Frequency Activities at the U.S. Naval Observatory**

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The U. S. Naval Observatory (USNO) has provided timing for the Navy and the Department of Defense since 1830 and, in cooperation with other institutions, has also provided timing for the United States and the international community. The data used to generate UTC(USNO) are based upon about 70 HP5071 cesium and over 20 hydrogen maser frequency standards in three buildings at two sites. The USNO disseminates time via voice, telephone modem, LORAN, Network Time Protocol (NTP), GPS and Two-Way Satellite Time Transfer (TWSTT). The USNO would not be able to meet all the requirements of its users had it kept to the same technology it had 10 years ago. This paper will describe some of the changes being made to meet the anticipated needs of our users, one of the most significant being our new clock building. While we aim to increase our accuracy and precision, we deem it equally important to bring about robustness, and we recommend this for our users as well. Further details and explanations of our services can be found on-line at <http://www.usno.navy.mil>, or by contacting the author directly.