

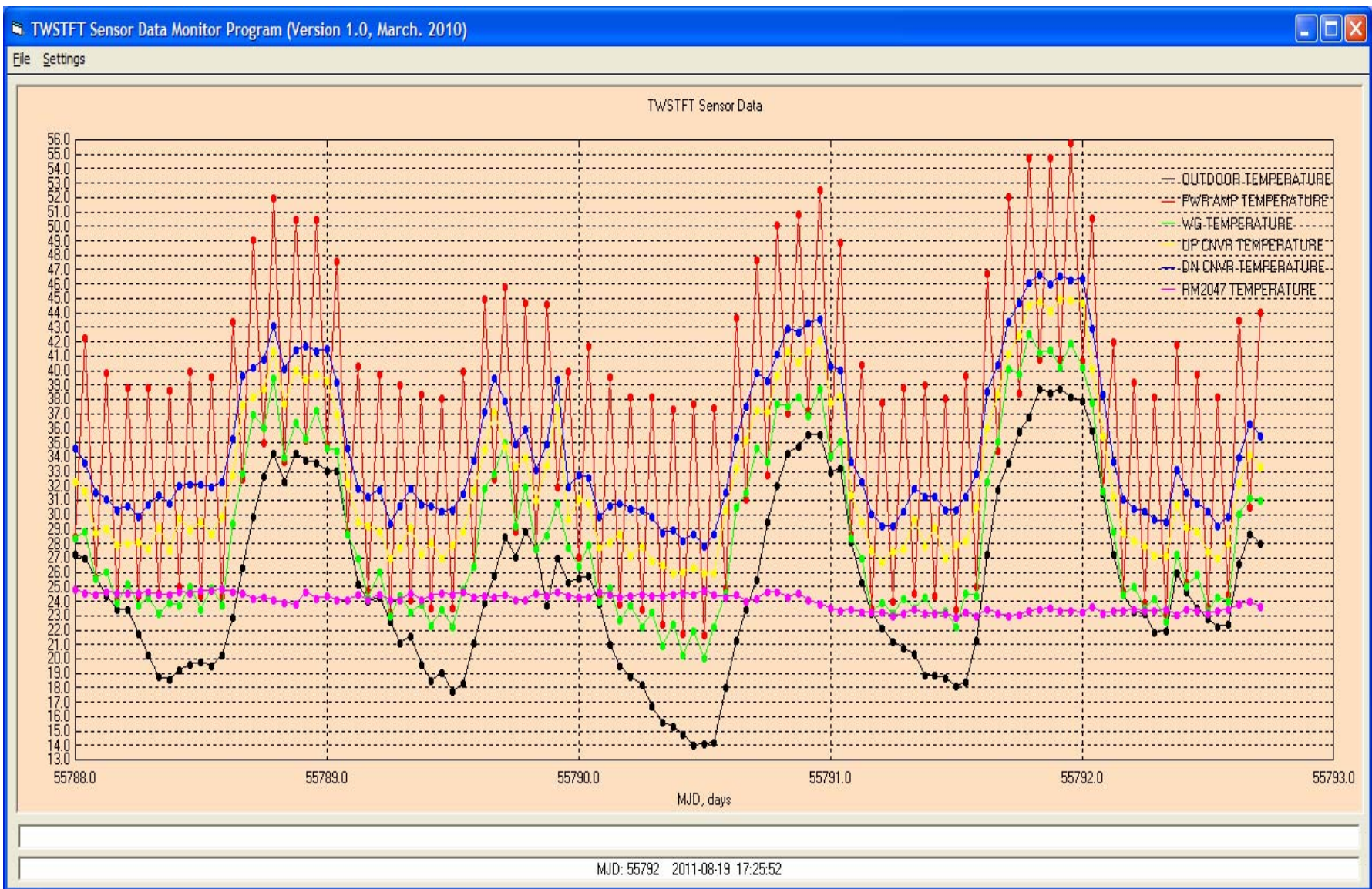
# NIST Station Report

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# Current Status (1)

- 3.7m motorized antenna with Ku-band RF equipment
- Two-channel SATRE MODEMs
  - SATRE #263 (with IIOTIC): *primary*
  - SATRE #78: *backup*
  - SATRE #442 (with IIOTIC): *backup*
- Transatlantic TWSTFT operation
  - TeleSat T-11N satellite, Ku-band, *1.6MHz bandwidth* since July 27, 2011
  - 1 MChip/s codes (since July 30, 2009)
  - AOS, CH, IPQ, IT, OCA, OP, PTB, ROA, SP, VSL



# Recent Activities (1)

- Completed the study of transatlantic 2.5 MChip/s TWSTFT in 2.5 MHz bandwidth using SAW filters  
<http://tf.boulder.nist.gov/general/pdf/2547.pdf>
  - the SAW filters can be used for 2.5MChip/s TWSTFT with only 2.5MHz bandwidth
  - noise from SAW filters contributes to short-term TWSTFT instability
  - SAW filter's frequency dependent delay can increase the uncertainty of TWSTFT
  - 2.5MChip/s TWSTFT with SAW filters improves time transfer stability (TDEV) for averaging times less than one day

# Recent Activities (2)

- New satellite contract in place for transatlantic and Europe/Europe links (July 27, 2011 – *July 26, 2016*)
- Implemented 7.123kHz frequency offset in NIST TX signal for most transatlantic links
- Study on the impact of interference from in-band and out-of-band signals to the stability of transatlantic TWSTFT