

# Fixating on Fixity: Is Your Choice of Checksum in Conflict with Your Climate Goals?

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With the effects of climate change becoming more apparent with each passing year, libraries and archives are discussing what steps they can take to lessen their carbon footprint. Paradoxically, there has been great focus on accessibility through digitization which requires continuous technological up-grades and data storage. Checksums are necessary to verify that this digital information remains unchanged yet not all cryptographic hashes are created equal. Some do not provide the level of security necessary for the authenticity of a repository to be trusted. However, the more sophisticated the checksum, the more computationally intensive it becomes. This means verifying checksums uses more electricity, increasing the carbon footprint of your archive. So how in this increasingly digital world can we find a balance between making things accessible yet secure without harming the planet? This presentation compares the carbon intensity of common checksums to help you make an informed decision. Because, as the old adage goes, it's more important for everyone to do a little than for a few people to do a lot.

## **About the author:**

*George Blood* has a degree in music theory from the University of Chicago. He has recorded over 250 CDs, 6 of which received Grammy nominations, and recorded over 4,000 live classical concerts, including 21 years as engineer for The Philadelphia Orchestra. He has seen conferences from both sides, as ARSC Program Chair and giving over 150 presentations and workshops. He's a veteran of the ARSC and IASA Technical Committees, author of 2 best practices documents for the Library of Congress, and contributor of two chapters to IASA TC 06 on video preservation. The audio, moving image, and library professionals at George Blood Audio/Video/Film/Data preserve over 20,000 audiovisual media each month. At the end of the day his preservation mindset is applied to restoring his home built in 1768 and relaxing at the harpsichord or reading books on paper.