

# Abstract

Due to the inherent limitations of the satellites used to generate flood inundation maps, a key tool to mitigate damages and deal with floods, the creation of high-spatial-high-temporal resolution flood maps is limited. In recent years, there has been increasing amount of research using satellite sensor fusion to generate synthetic bands [1–3]. Even more recently, studies using video frame interpolation across a single/multiple bands have been used to augment inputs to remote sensing tools [4]. We introduce the synthesis of these two methods through proposing different pipeline architectures of varying complexities to half the revisit rate of Landsat 8 imagery, generating high-spatial-high-temporal imagery through merging insights from the MODIS satellite tools and past and future Landsat 8 imagery. Experiments on a custom dataset show that the combination of video frame interpolation and satellite sensor fusion outperforms standard methods across almost all metrics. Furthermore, experiments show that pipelines composed of as few as a single model perform comparably to the top performing pipelines.