

Supplementary Material: Two-Step Urban Water Index (TSUWI): A New Technique for High-resolution Mapping of Urban Surface Water

Table S1. List of water indexes. B, G, R and NIR refer to the surface reflectance of the green, red, blue and near infrared bands. SWIR1 and SWIR2 donate the surface reflectance of two shortwave infrared bands (band 5 and band7) in the Landsat TM/ETM+ imagery.

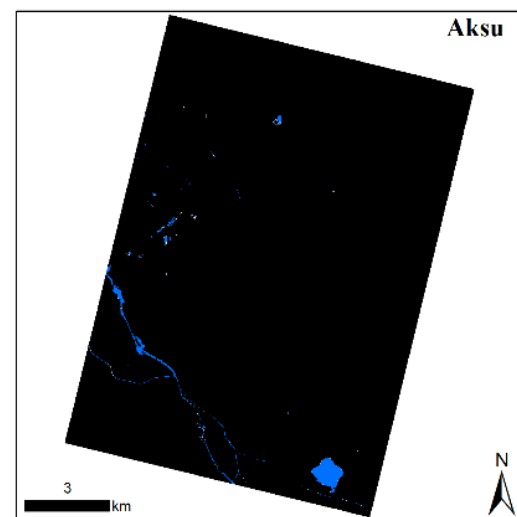
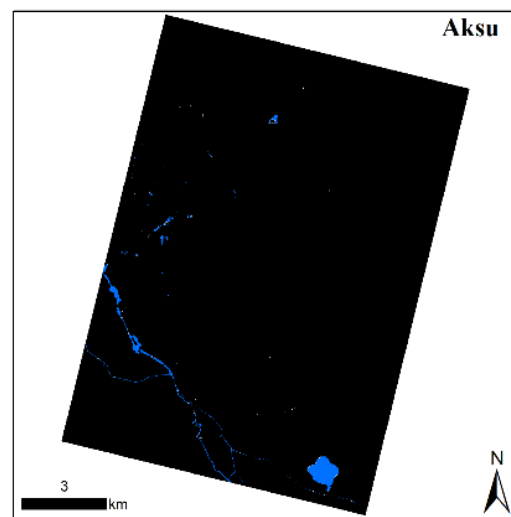
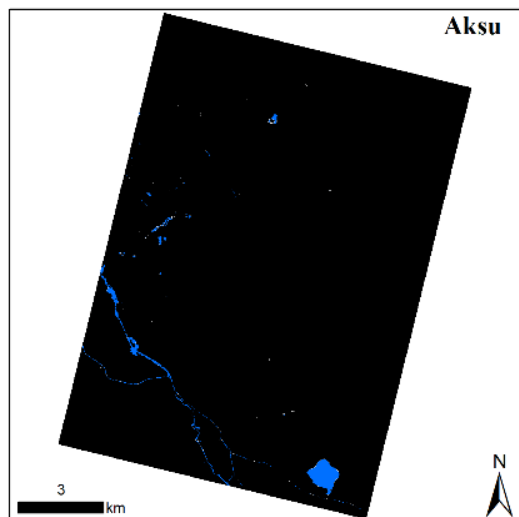
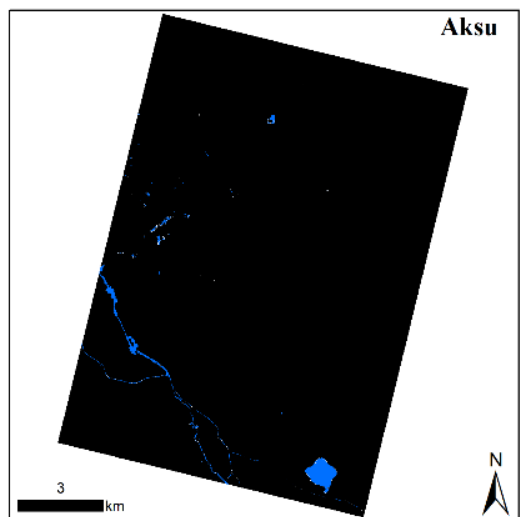
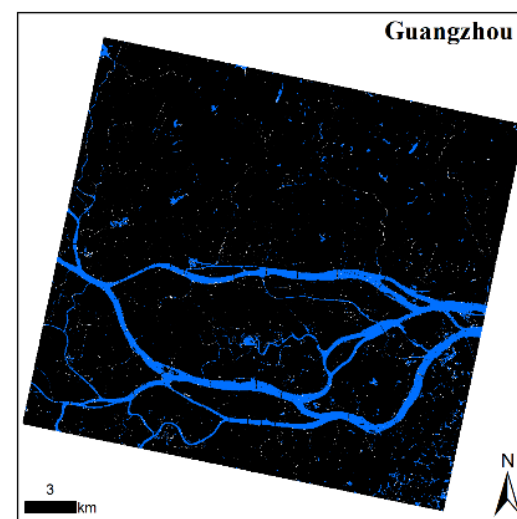
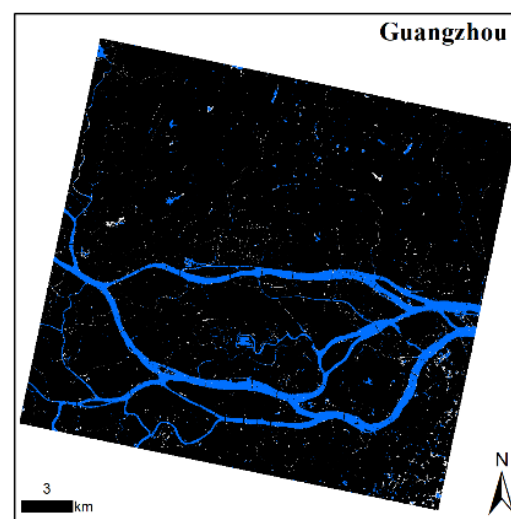
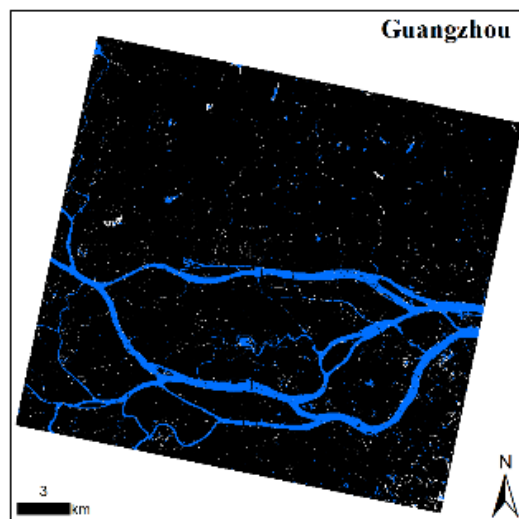
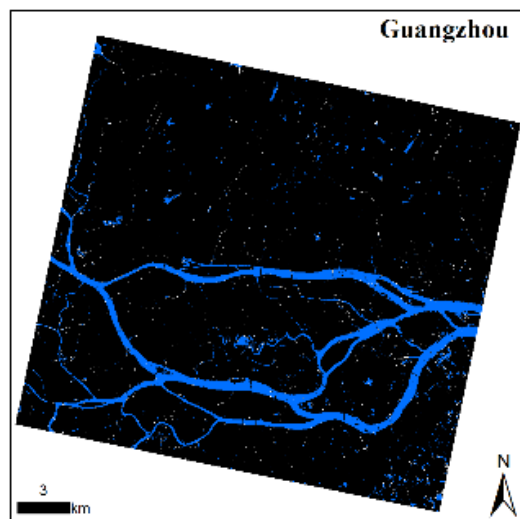
Index	Source	Equation
NDWI	Mcfeters (1996) [23]	$\frac{G - NIR}{G + NIR}$
MNDWI	Xu (2006) [24]	$\frac{G - SWIR1}{G + SWIR1}$
AWEI	Feyisa et al. (2014) [22]	$4 \times (G - SWIR1) - (0.25 \times NIR + 2.75 \times SWIR1)$ $B + 2.5 \times G - 1.5 \times (NIR + SWIR1) - 0.25 \times SWIR2$
HRWI	Yao et al. (2015) [29]	$6 \times G - R - 6.5 \times NIR + 0.2$

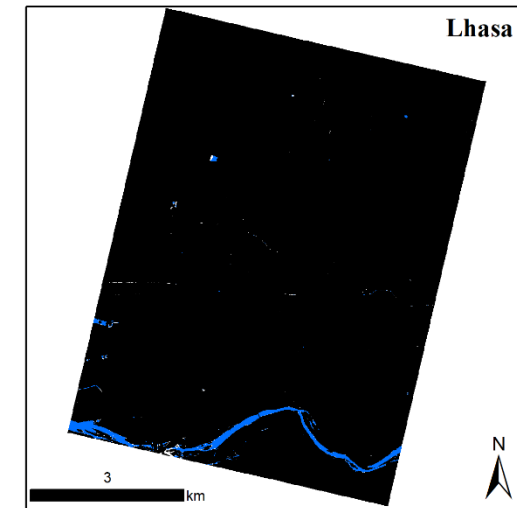
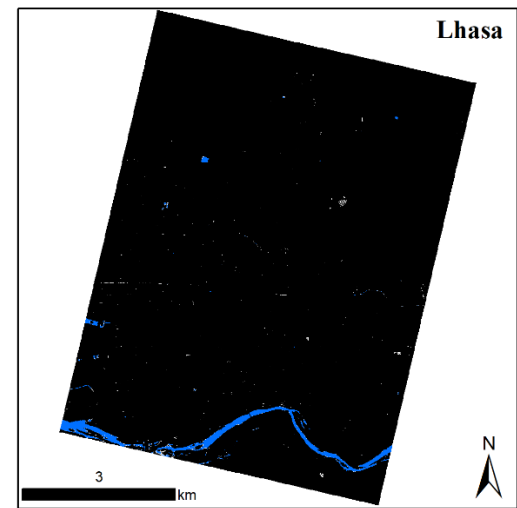
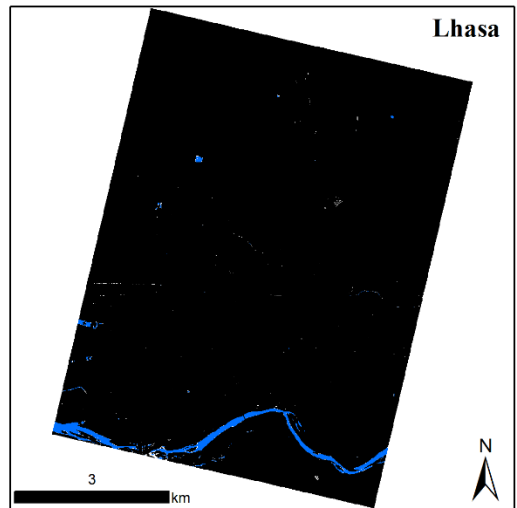
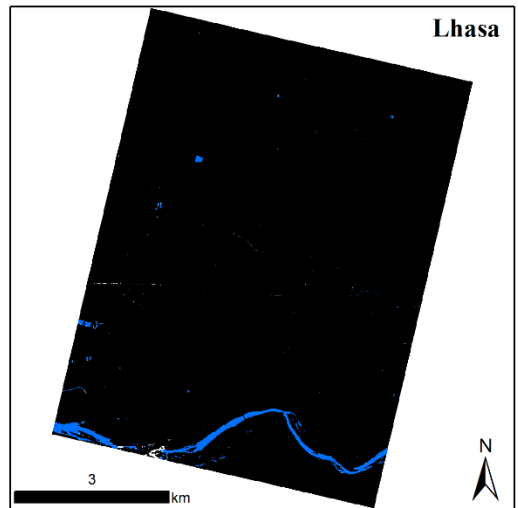
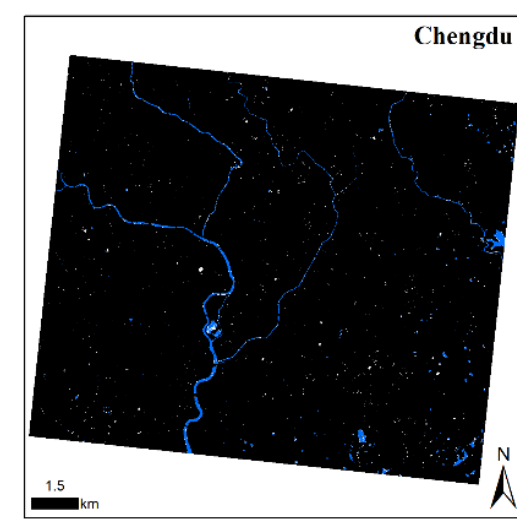
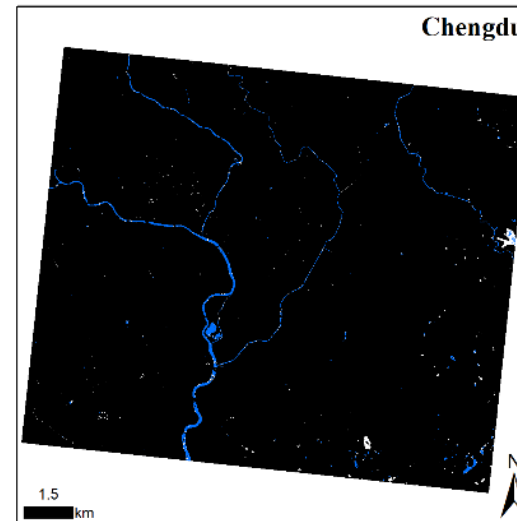
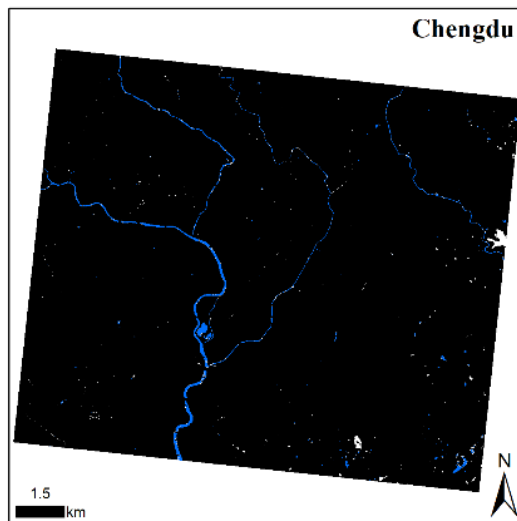
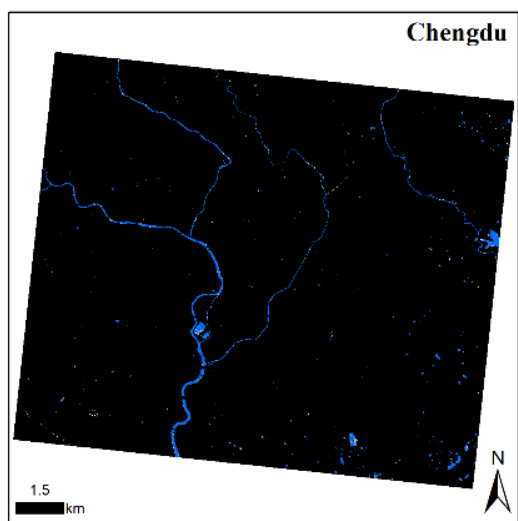
TSUWI

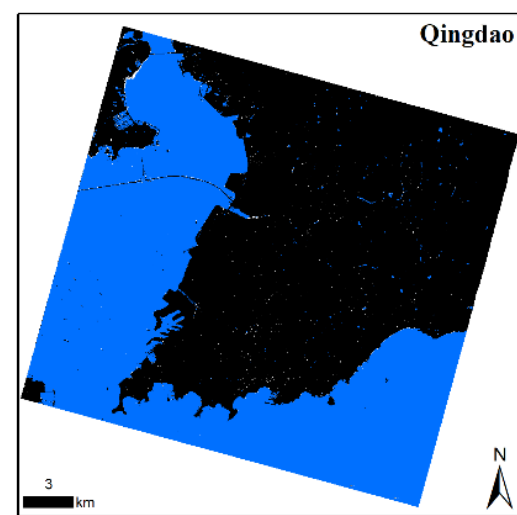
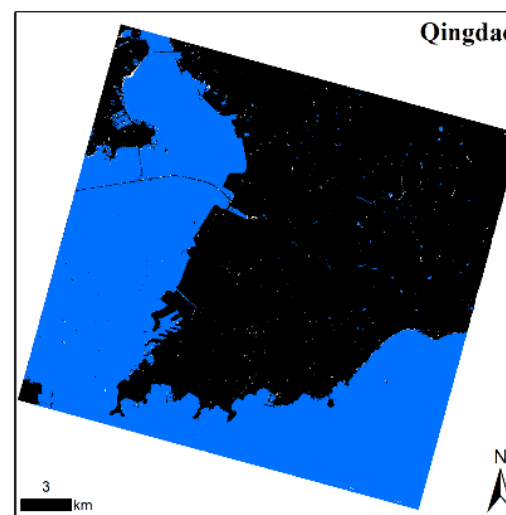
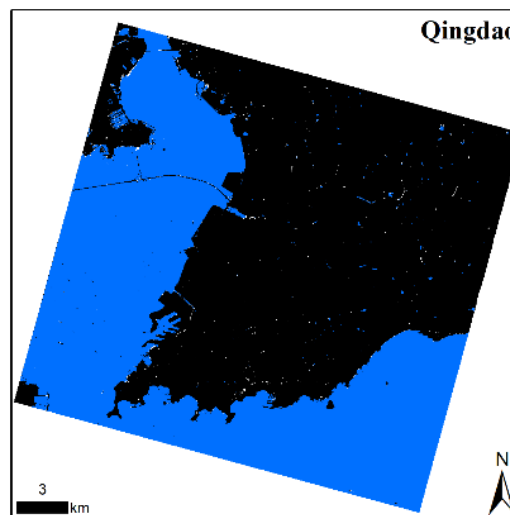
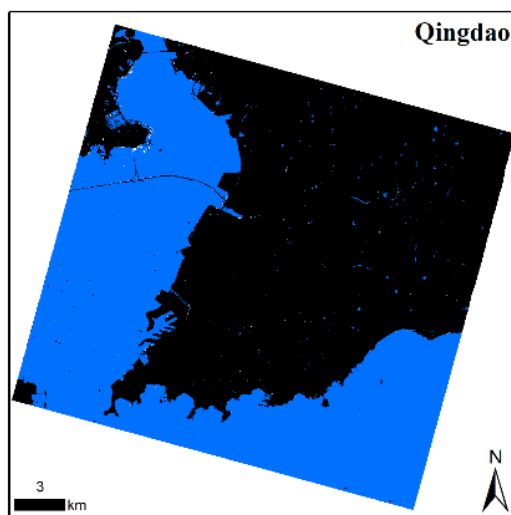
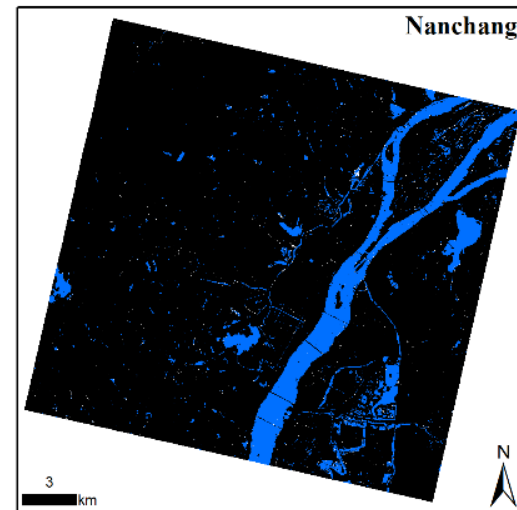
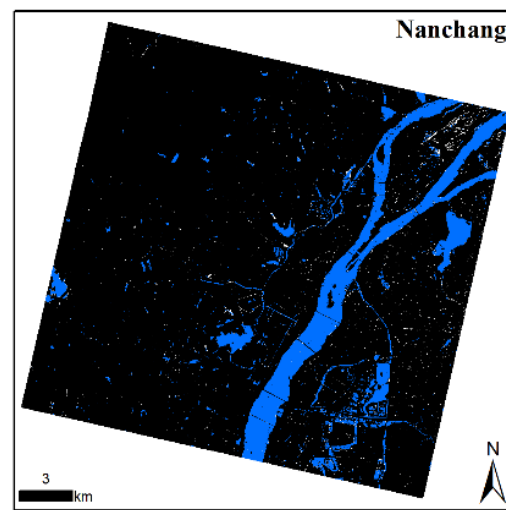
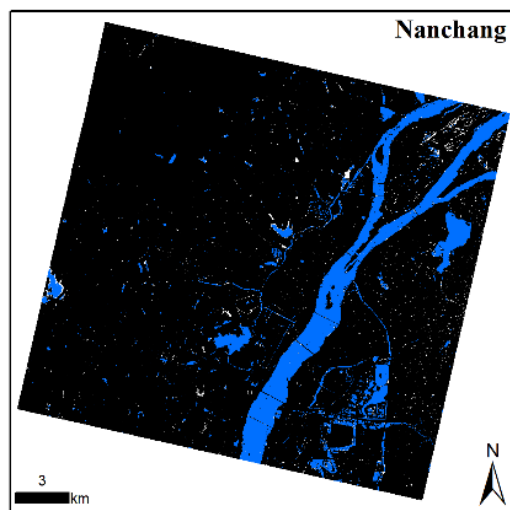
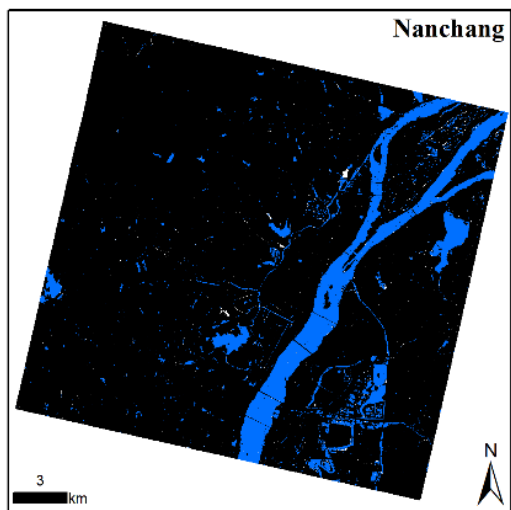
NDWI

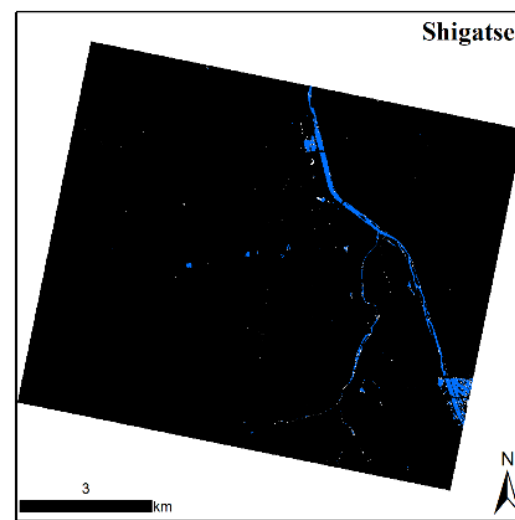
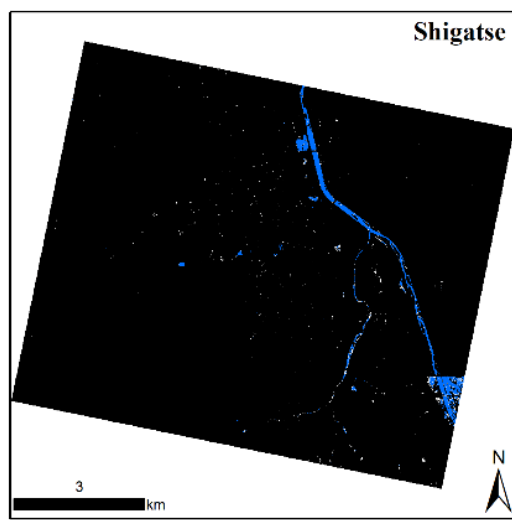
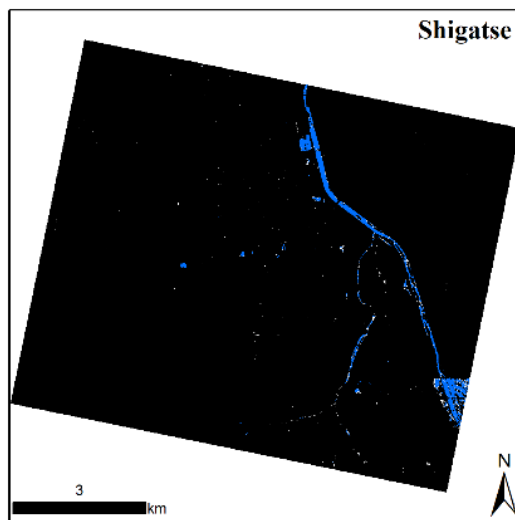
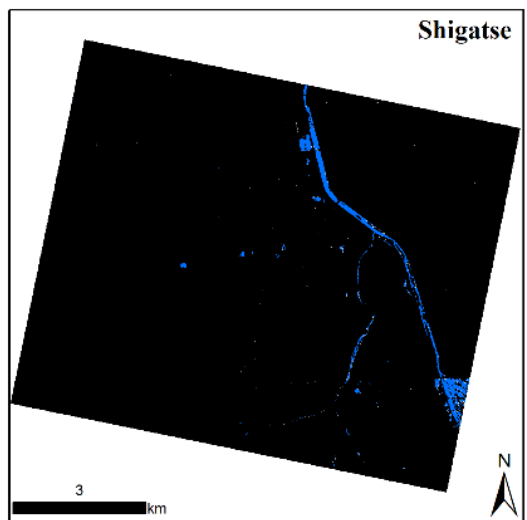
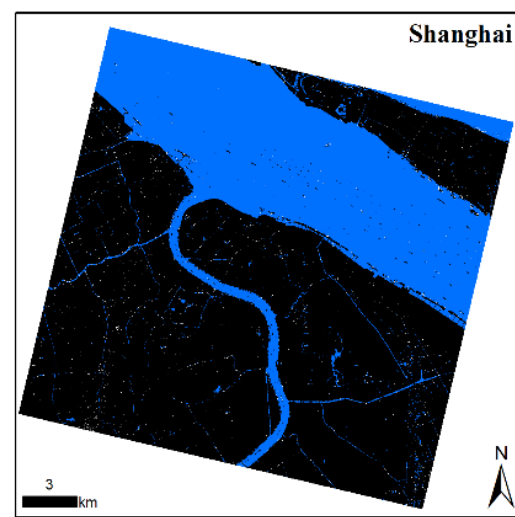
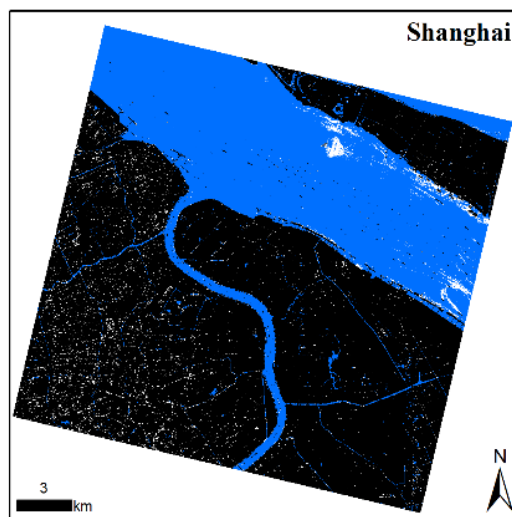
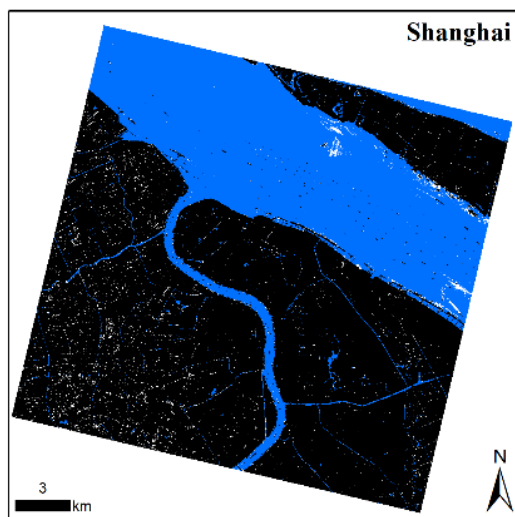
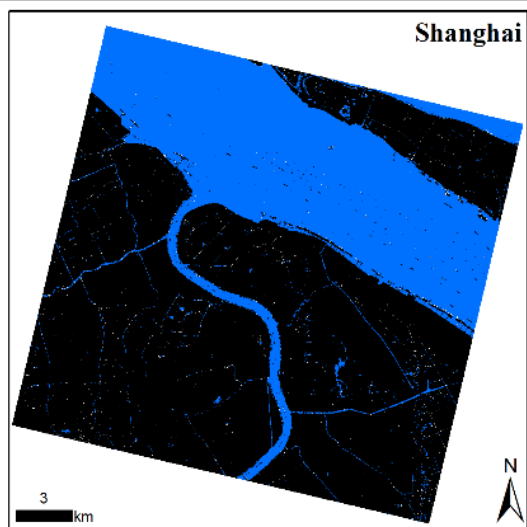
HRWI

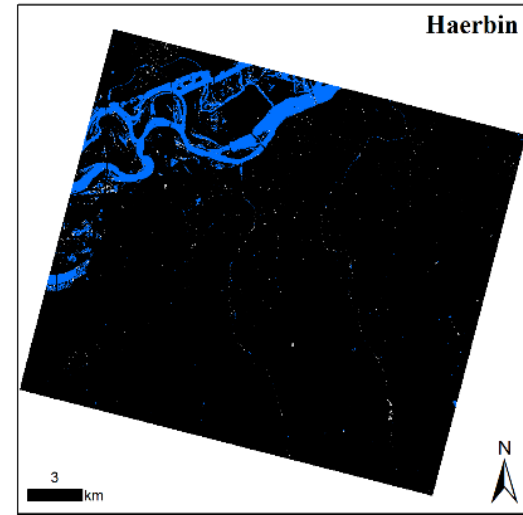
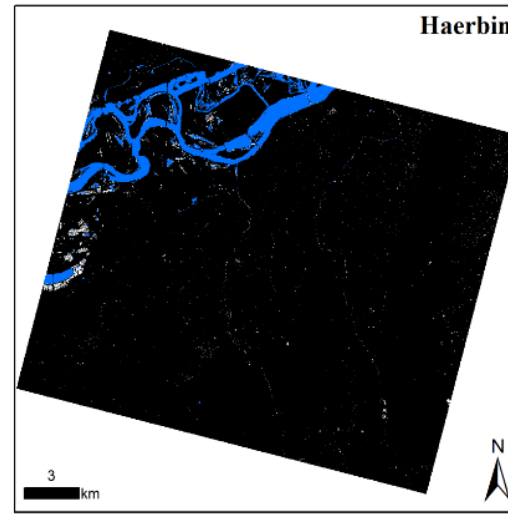
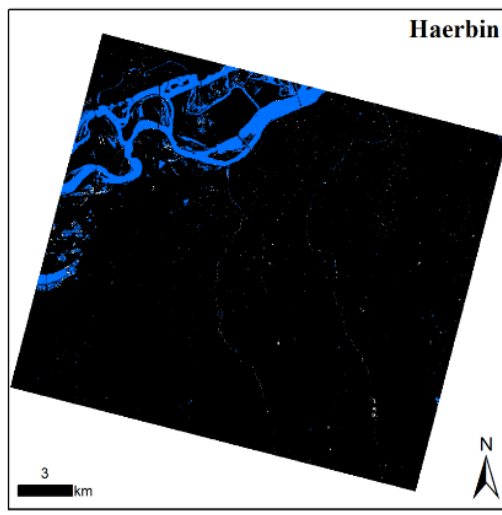
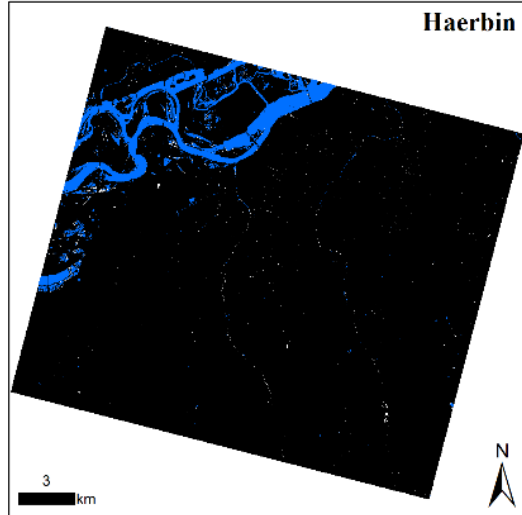
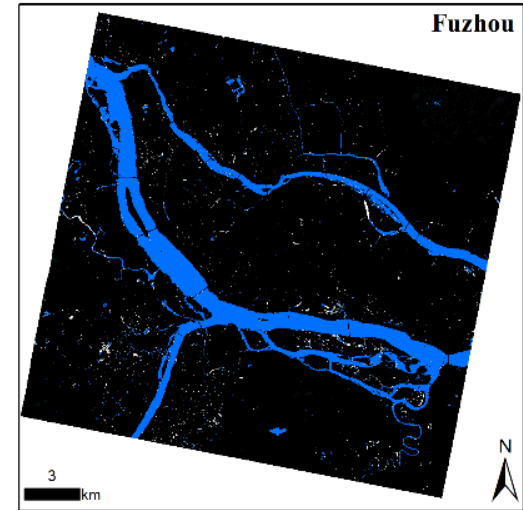
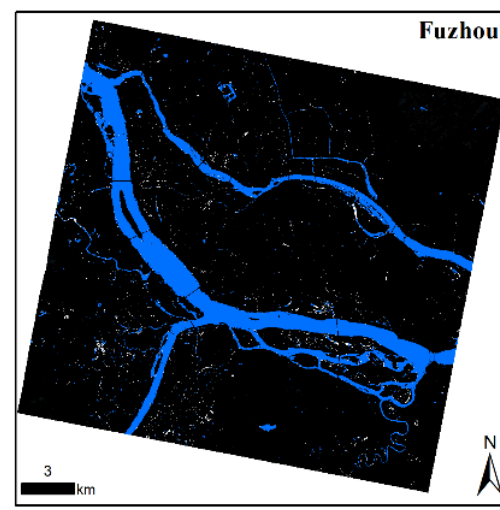
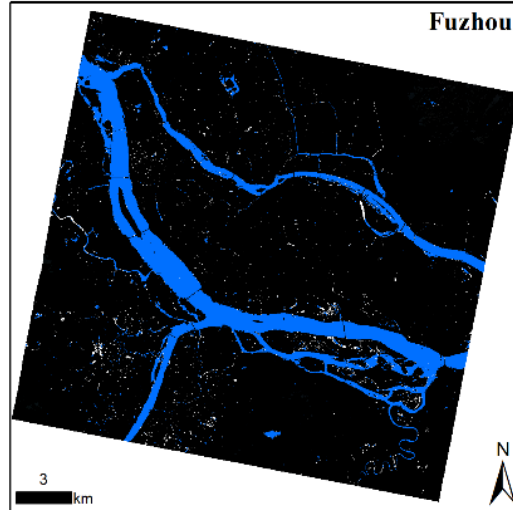
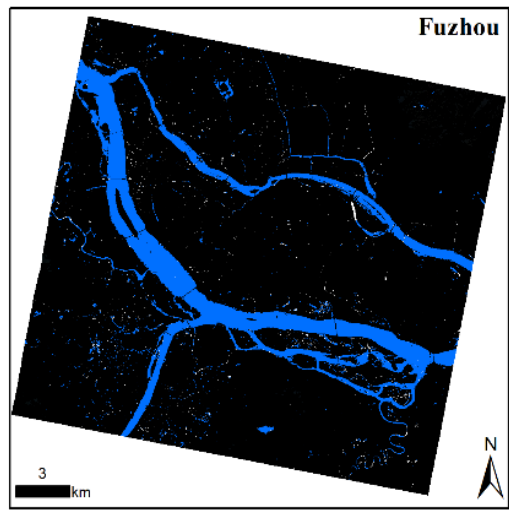
SVM

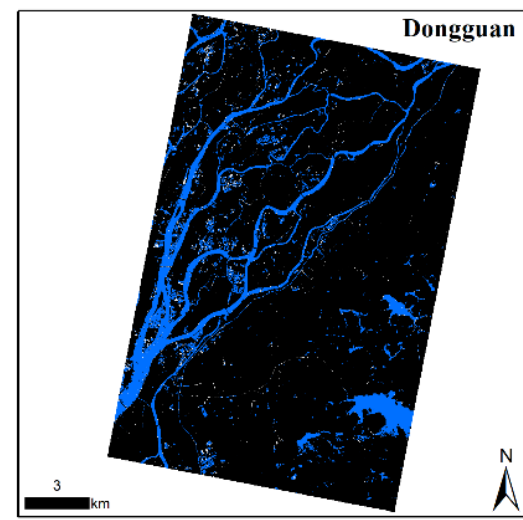
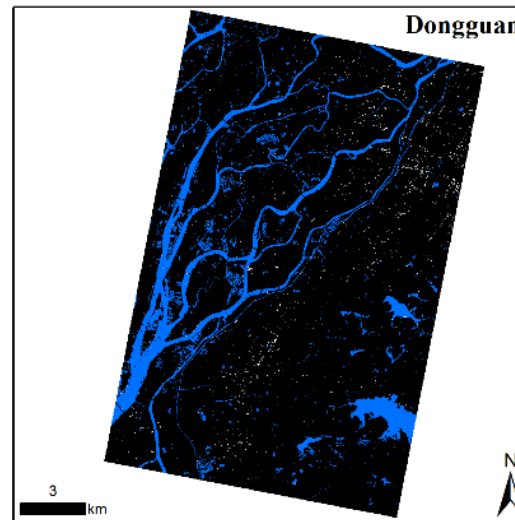
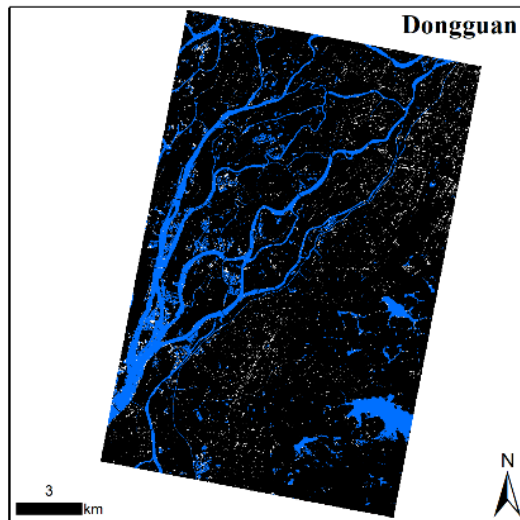
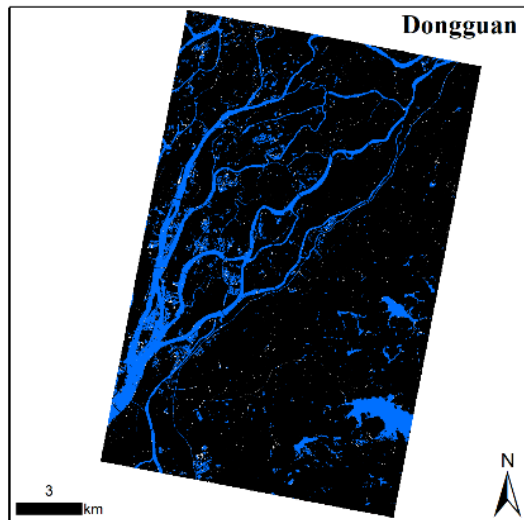
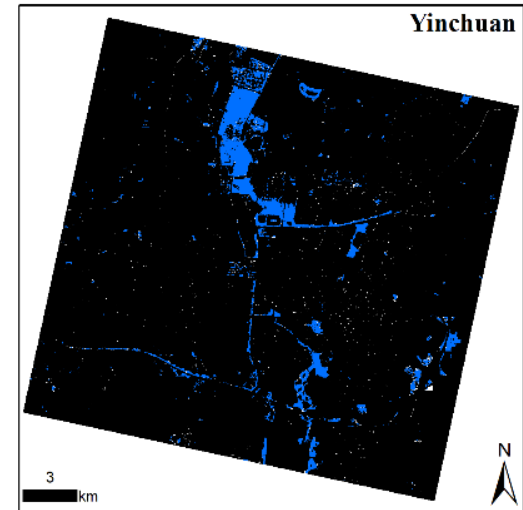
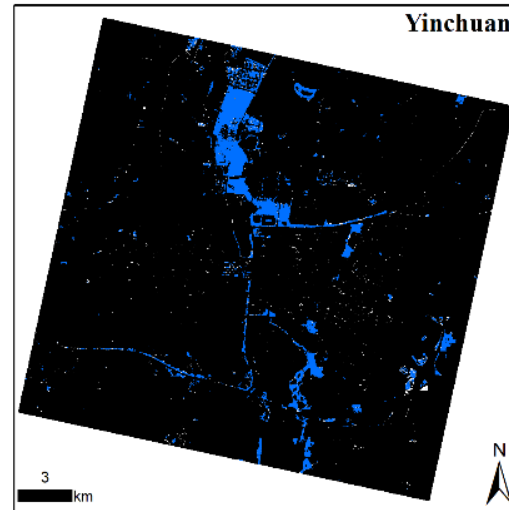
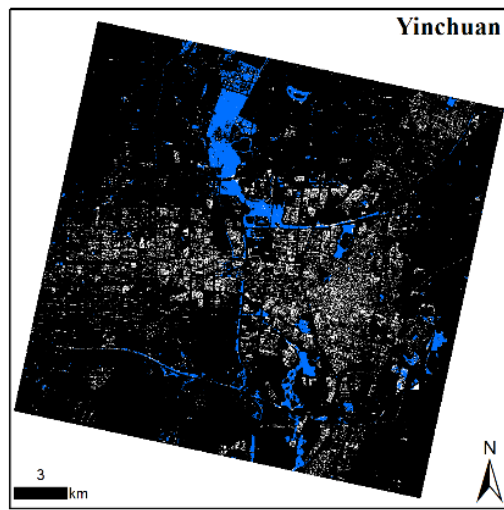
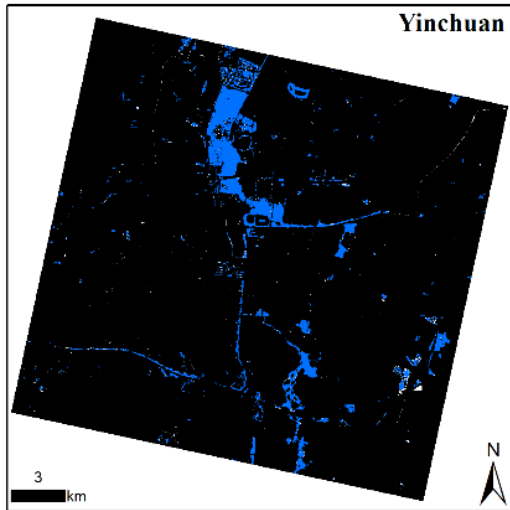












Legend




-  *Correctly classified as water*
 -  *Misclassified*
 -  *Correctly classified as non-water*
-

Figure S1 . Water extraction results using TSUWI, NDWI, HRWI and SVM at the twelve test sites.