

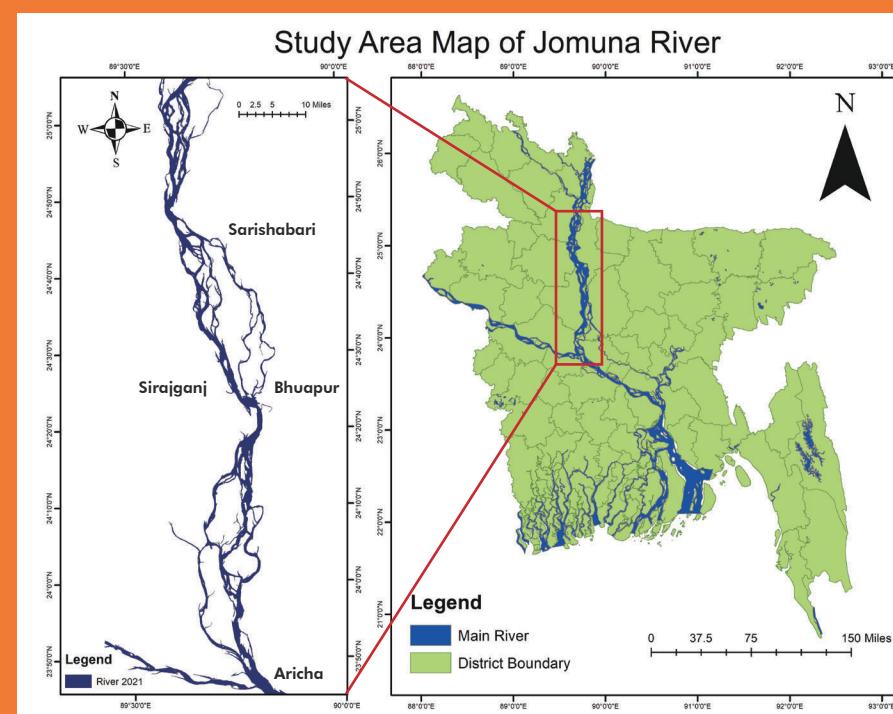
# Determination of Riverbank Erosion & Accretion Rate: A Case Study of Jamuna River

## Background of the study

The Jamuna River enters Bangladesh from India and joins the Ganges near Aricha. It's one of the world's most complex and turbulent rivers, this one is large and braided with sand. This river in Bangladesh has the highest erosion per year. Riverbank erosion has been decreasing in recent years. During the 1980s, the Jamuna lost 5,000 hectares every year. However, it has recently been approximately 2,000 hectares every year. Geographically, the Jamuna's flow course is unique.

## Goal

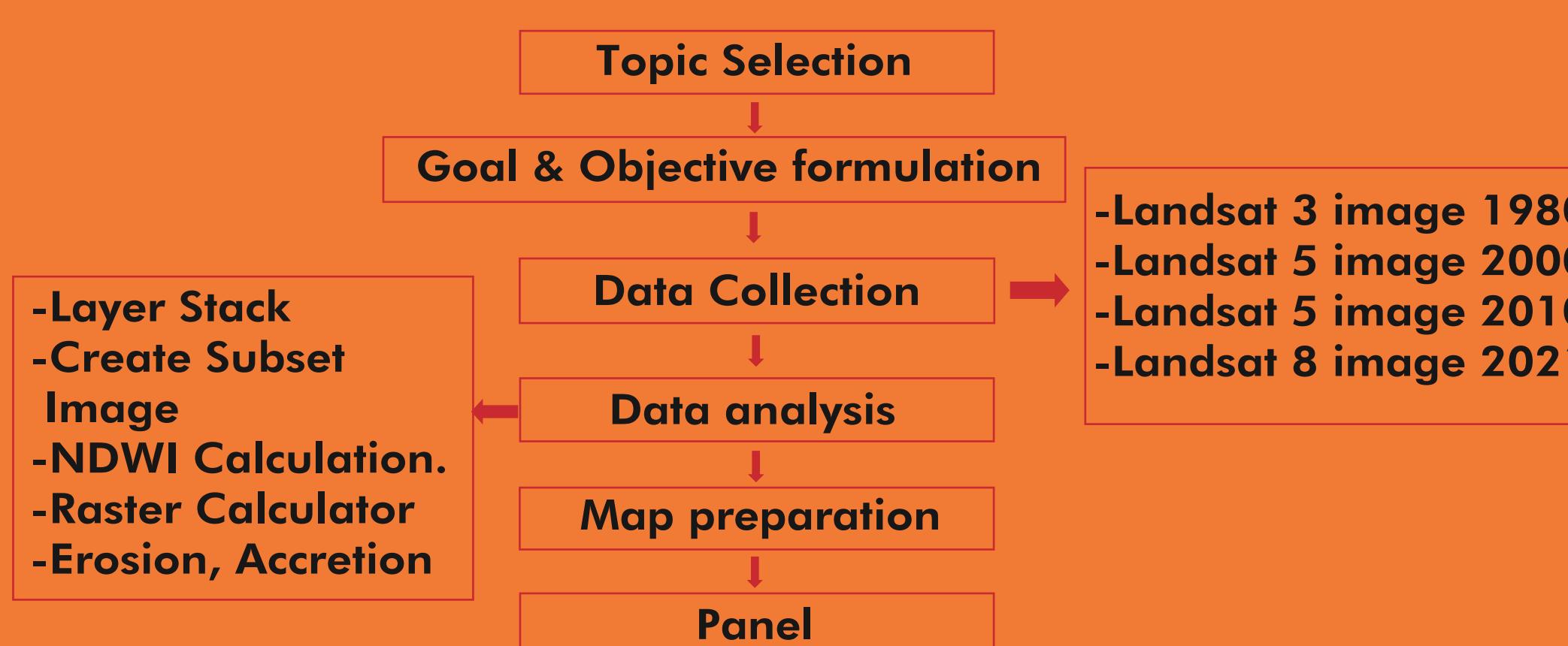
Determine the erosion & accretion rate in 1980 to 2021 of Jamuna River.



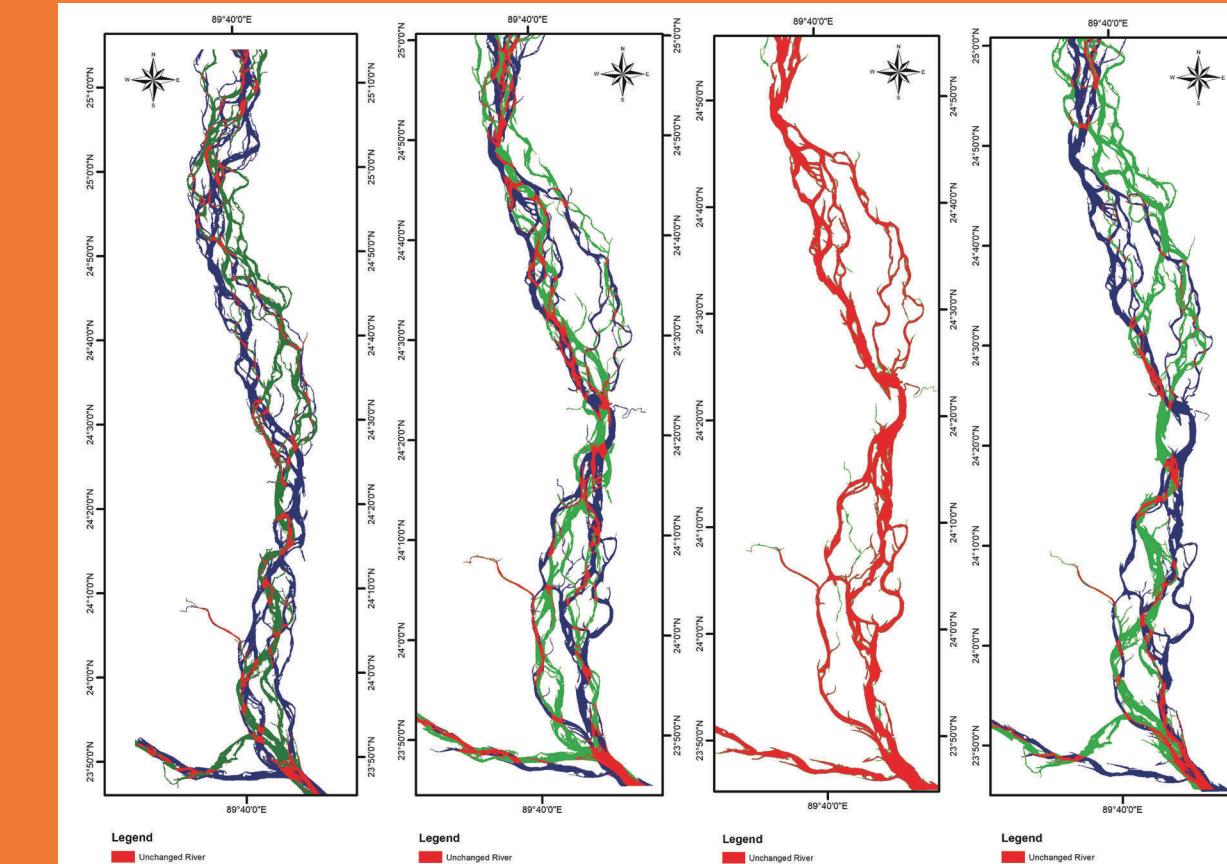
## Objectives

- To find out the Accretion rate over the year 1980 to 2021
- To find out the Erosion rate over the year 1980 to 2021

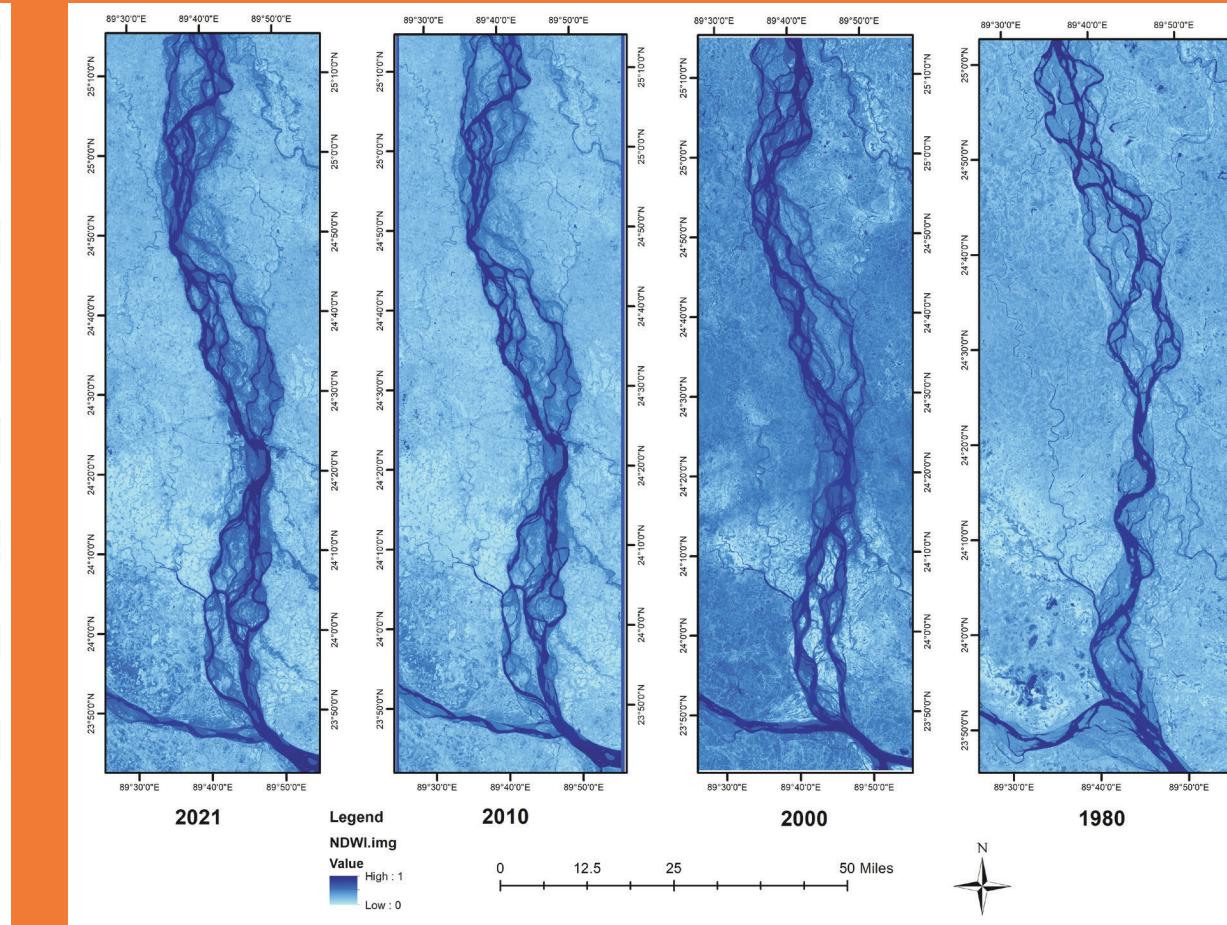
## Methodology



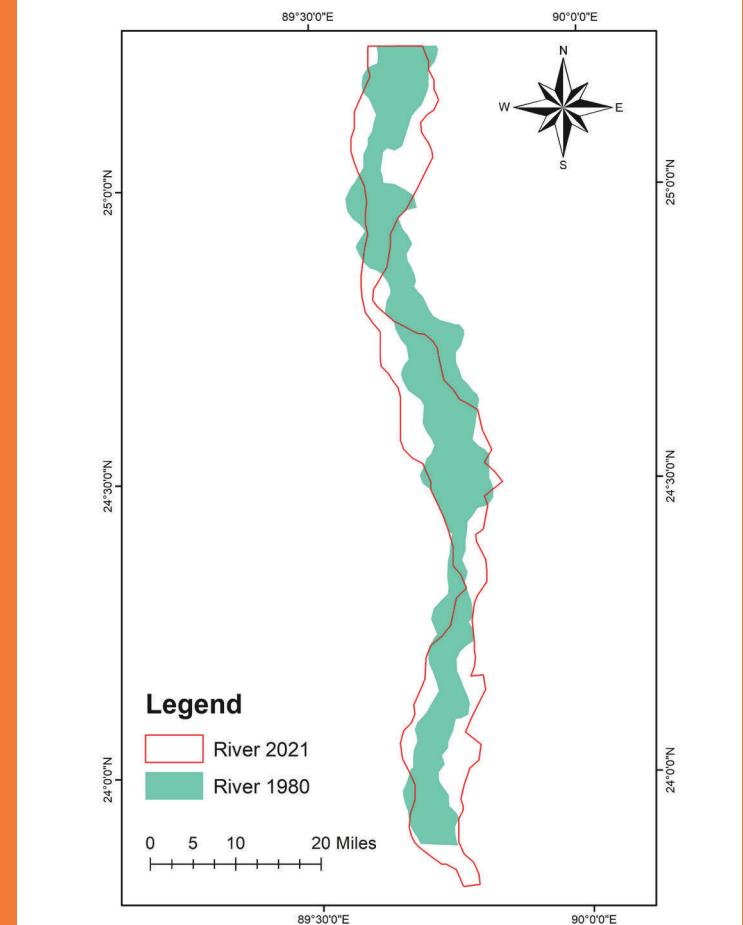
## River Network Change in 1980-2021



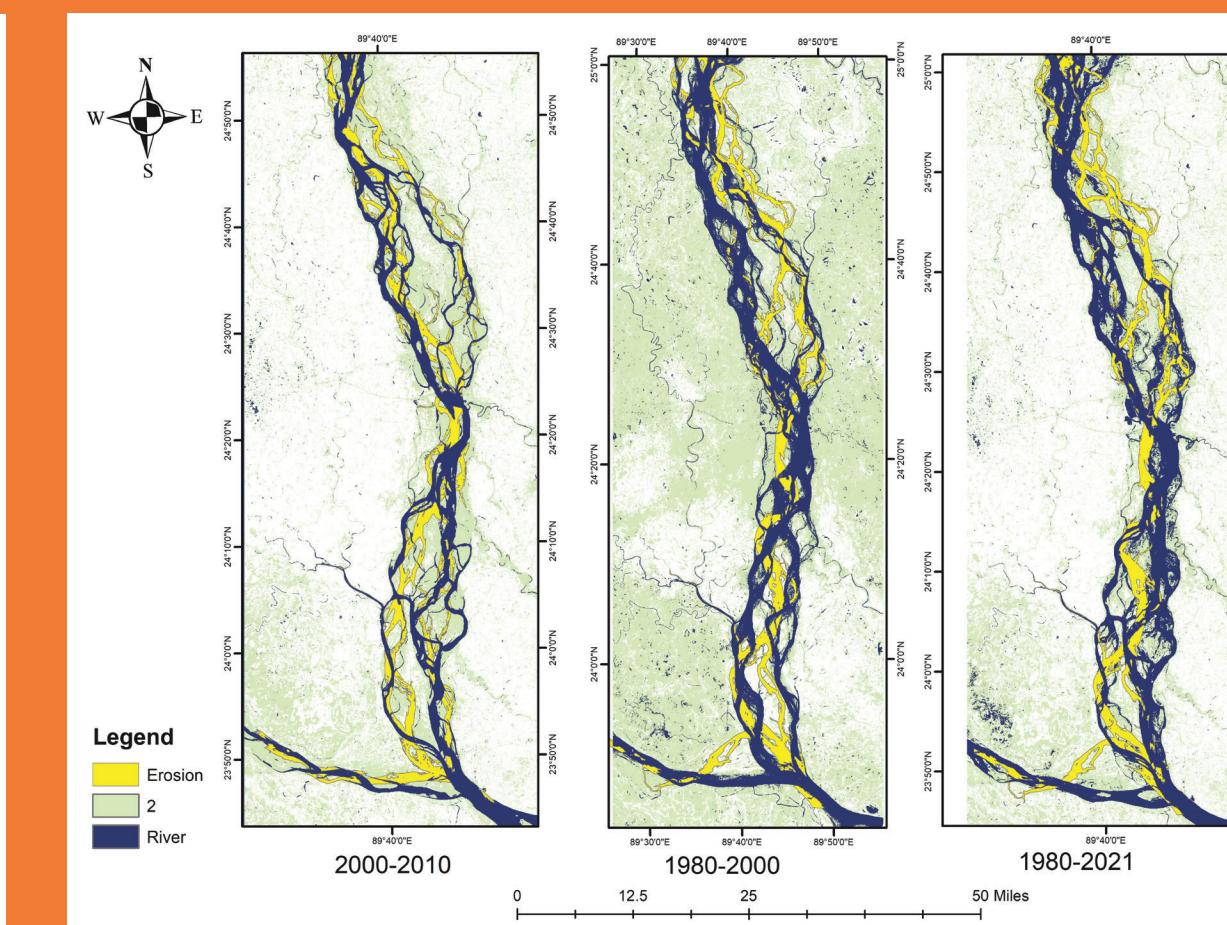
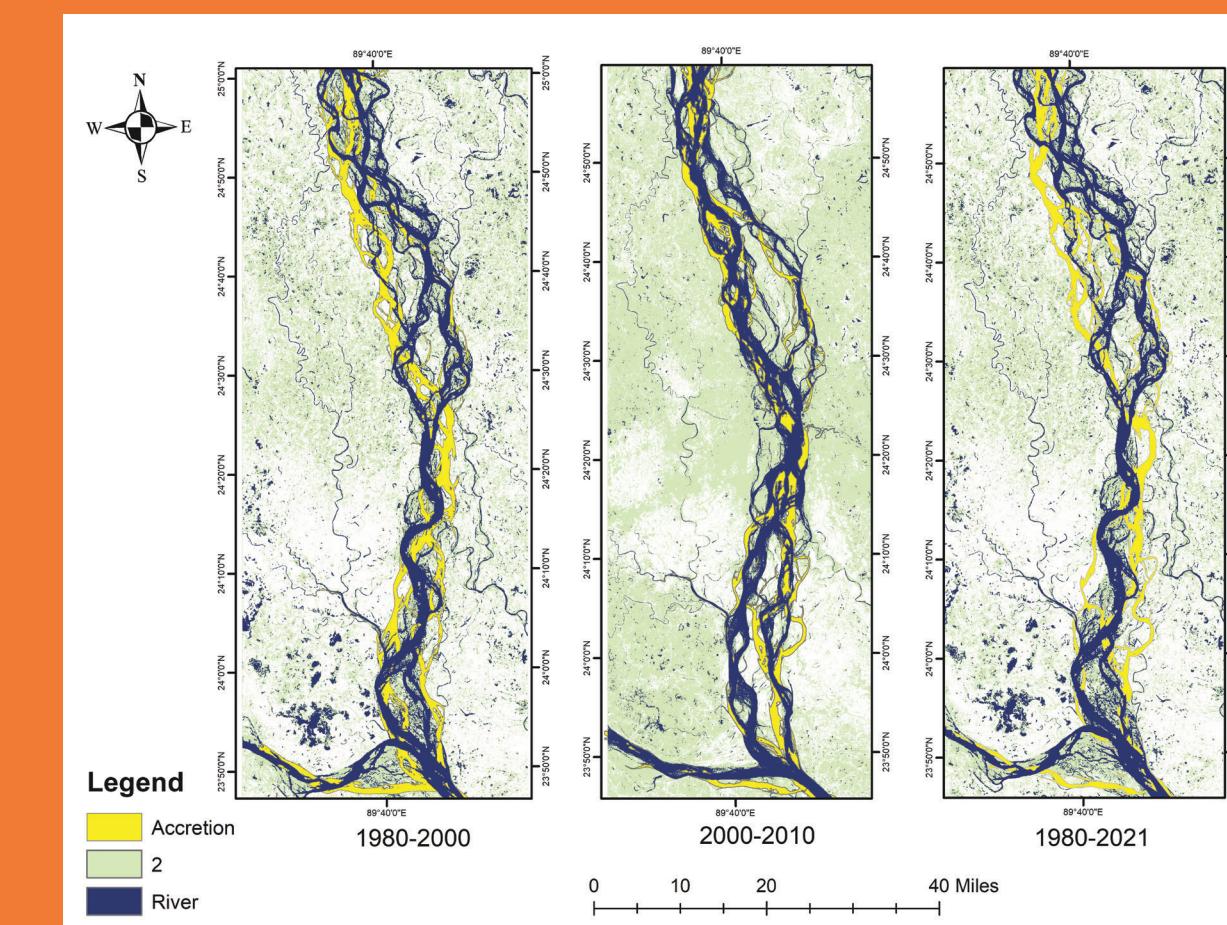
## NDWI Change Detection Map in 1980-2021



## Channel Comparison



## Accretion & Erosion Rate in Jomuna River



## Analysis



## Finding

- The overall channel pattern of the Jamuna River is shown a rightward shifting tendency near Sariakandi and left ward moving tendency near Bhuapur.
- The average width of the Jamuna River is increasing and over the last forty years the average width has increase around about 3 km.
- The last forty years erosion was calculated as sq. 432km while the accretion was found to be sq. 405km.