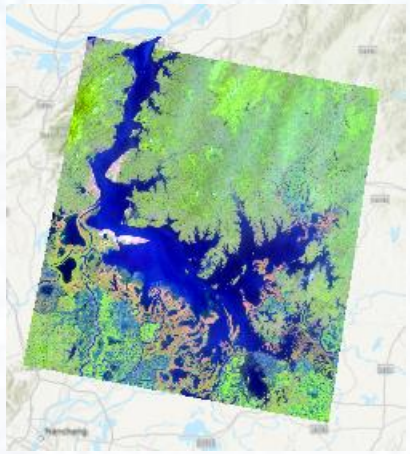
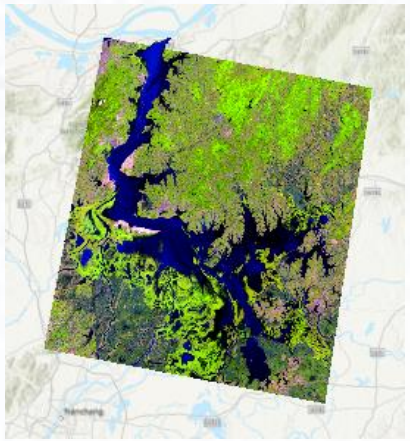


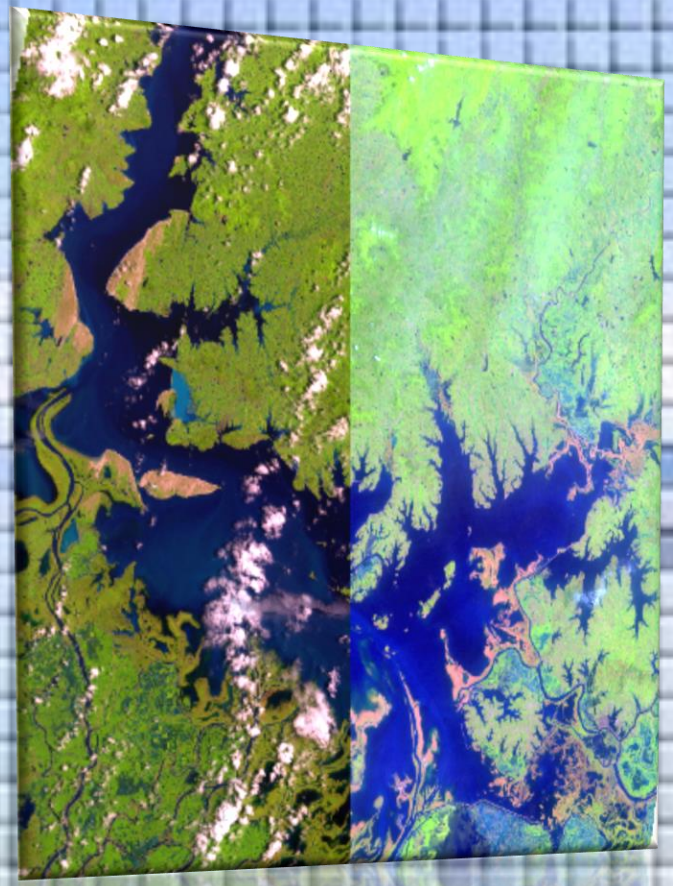


Lake Poyang: Measuring Change

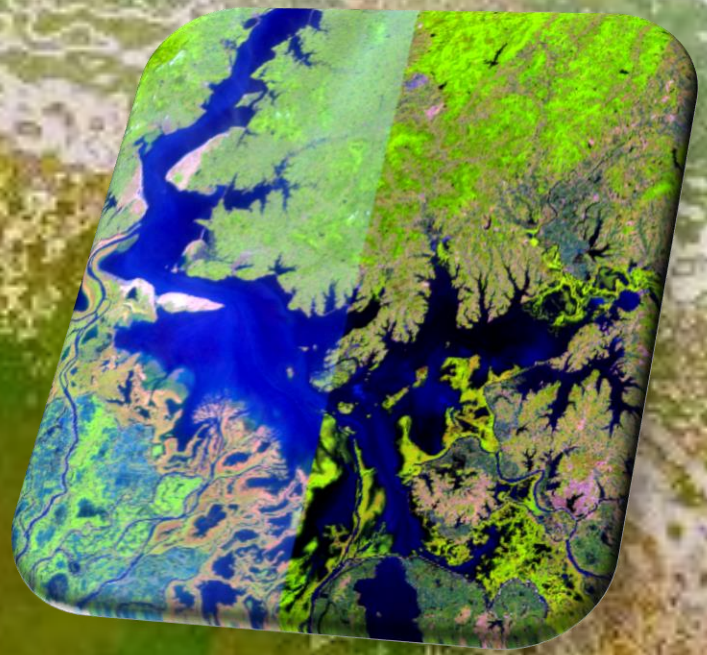
a small change in pixels = a large change for the big picture.

JESSICA MCPHAUL

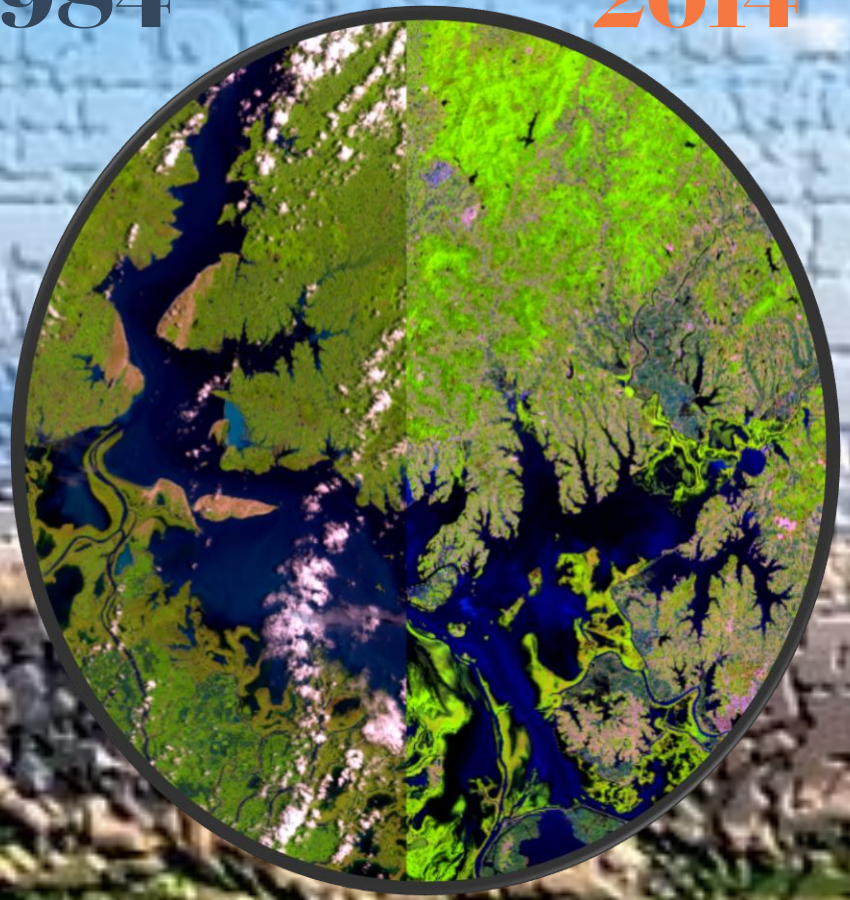
1984 2001



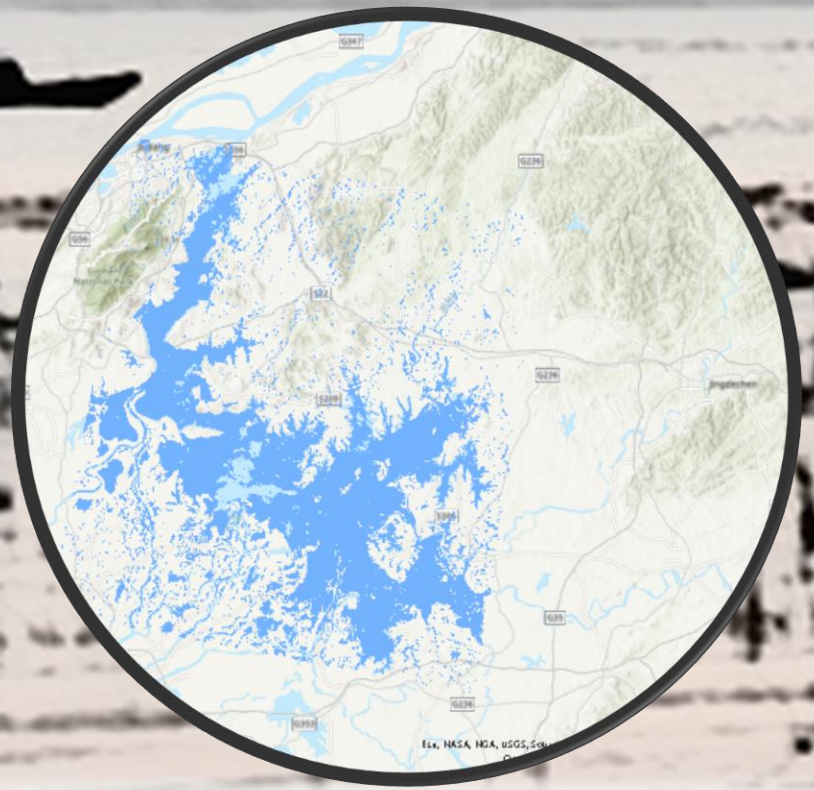
2001 2014



1984 2014



1984

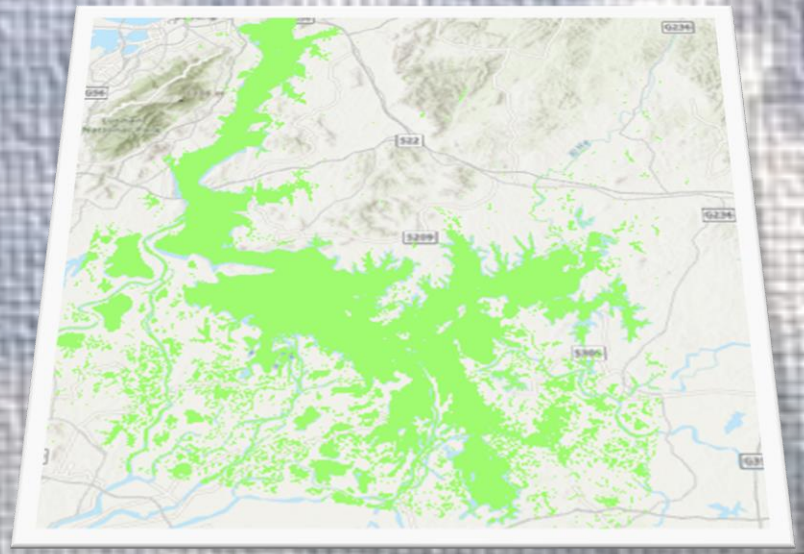


Clean_1984

Id: Add Calculate Selectio

OBJECTID *	Value	Count	Hectares
1	1	2996166	269654.9
2	2	4974729	447725.6
3	3	930723	83765.07
4	4	622728	56045.52

2001



Clean_2001

Add | Calculate | Selectio

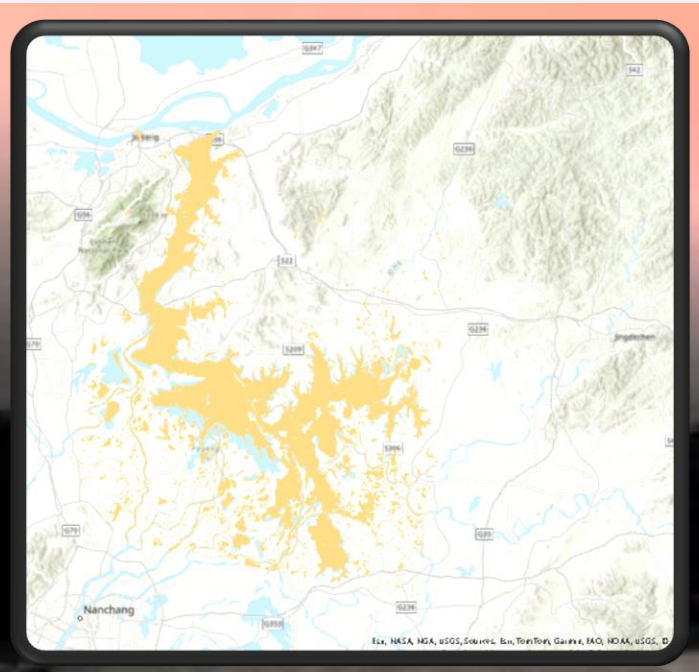
OBJECTID *	Value	Count	Hectares
	1	2755983	248038.5
	2	2073995	186659.5
	3	3996264	359663.8
	4	697763	62798.67

Clean_2014

Field: Add Calculate Selection:

	OBJECTID *	Value	Count	Hectares
1	1	1	2247879	202309.1
2	2	2	2145981	193138.3
3	3	3	3541133	318702
4	4	4	1589061	143015.5

lick to add new row.



2014

Describe the Total Area Lost Between Years and the Loss Per Year

Total Area:

2001 Area: 2,480,385.5 hectares
2014 Area: 2,023,091 hectares
1984 Area: 1,269,654.9 hectares

Total Area Loss:

From 2001 to 1984:

Loss = 2,480,385.5 - 1,269,654.9 = 1,210,730.6 hectares

Area Loss Per Year:

From 2001 to 2014 (13 years):

Loss = 2,480,385.5 - 2,023,091 = 457,294.5 hectares
Annual Rate = 457,294.5 ÷ 13 ≈ 35,176.5 hectares/year

From 2014 to 1984 (30 years):

Loss = 2,023,091 - 1,269,654.9 = 753,436.1 hectares
Annual Rate = 753,436.1 ÷ 30 ≈ 25,114.5 hectares/year

Change in Rate of Loss

The rate of area loss between 1984–2014 (25,114.5 hectares/year) was slower compared to the rate of loss between 2001–2014 (35,176.5 hectares/year).

This indicates an increase in the rate of loss during the more recent period, particularly after 2001

Observations Regarding the Three Gorges Dam

The construction of the **Three Gorges Dam in 2008** significantly altered the hydrology of the region. The increased rate of loss between **2001–2014** coincides with the post-construction period, suggesting that the dam may have impacted Lake Poyang's water levels.

The reduced inflow and changes in seasonal flooding patterns likely accelerated water loss in the lake.

The observed patterns highlight the need for further research into the dam's long-term ecological impacts.