KC12 presentations

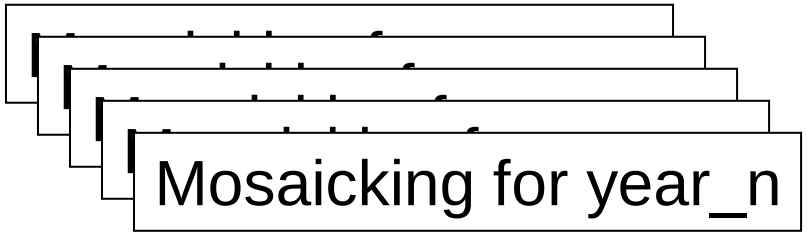
Riau data analysis: 14 year changes monitored by JERS-1/PALSAR

Goal: Change detection of the NRCS
Trial for biomass change
Semi automatic estimation system with given resolutions
Peat land subsidence estimation

Future problems
Filtering
Collection of ground truth - NRCS-biomass
Trial for the saturated area

M.Shimada

Start



Same coordinate system

Ortho rectified slope corrected data

Classification

Covert NRCS -> Biomass

Differentiation of Biomass etc.

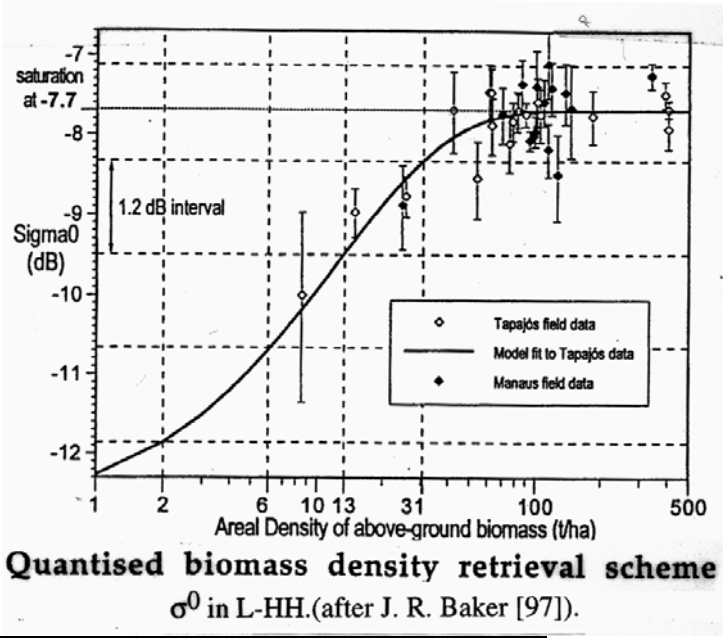
DinSAR - subsidence

B:Biomass estimation（NRCS）

$$\log(W) = a_0 + a_1\sigma^0_{HV} + a_2\left(\sigma^0_{HV}\right)^2 + b_1\sigma^0_{HH} + b_2\left(\sigma^0_{HH}\right)^2$$

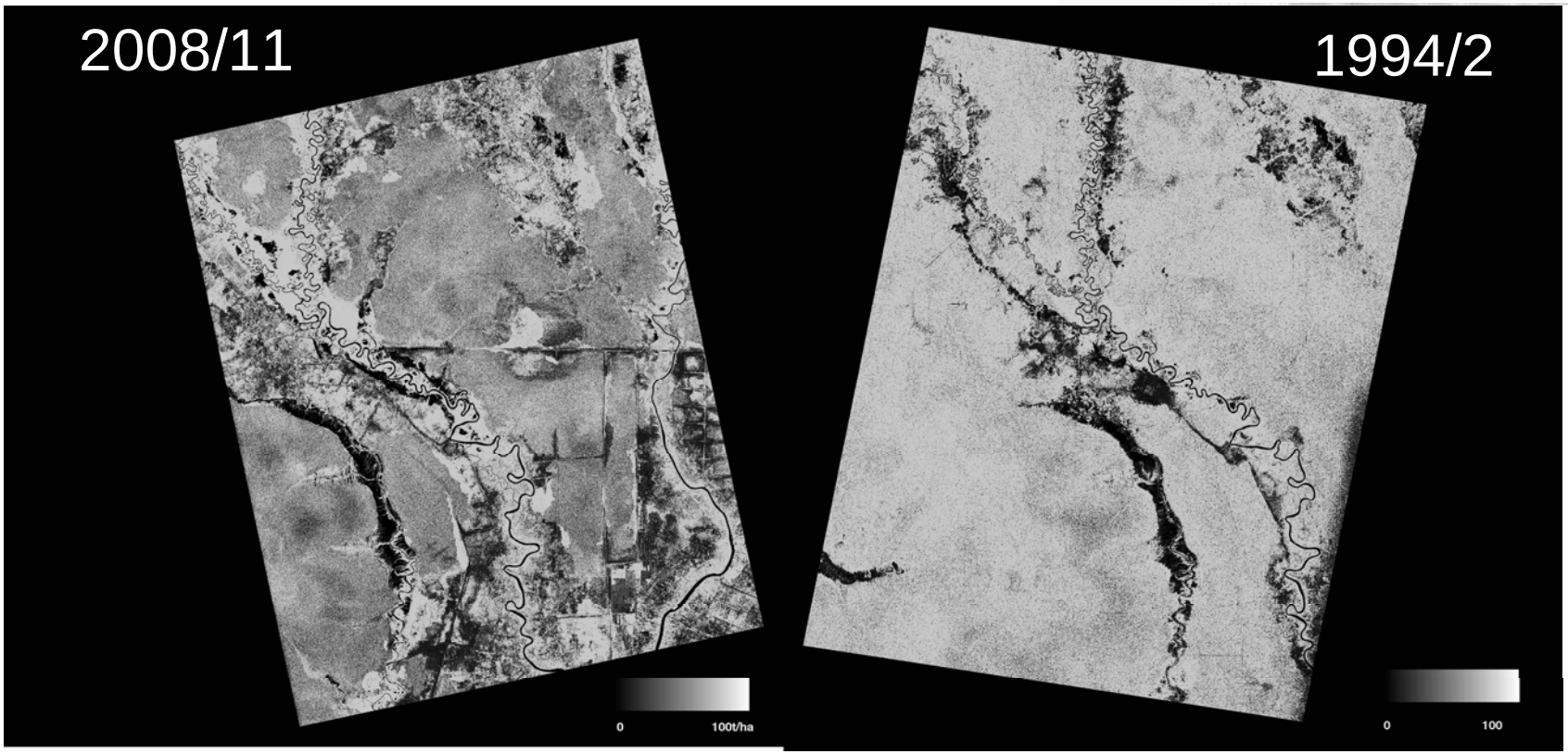
After Sassan S.[2007]

> 係数を地上データを用いて作成する必要あり。

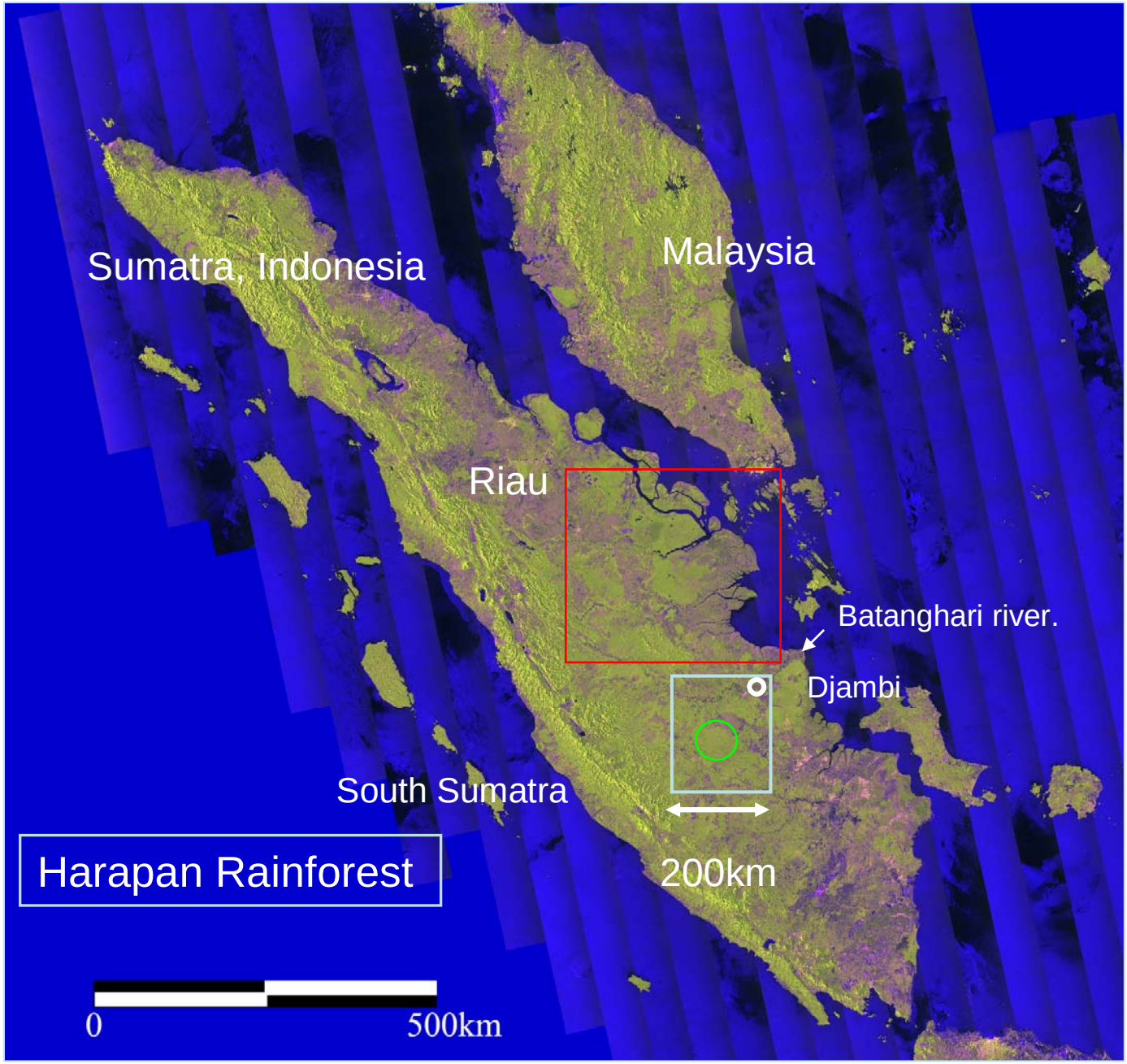


Quantised biomass density retrieval scheme
σ^0 in L-HH.(after J. R. Baker [97]).

Biomass chage at the central kalimantan



PALSAR Sumatra mosaic July, 2007 and change over 15 years



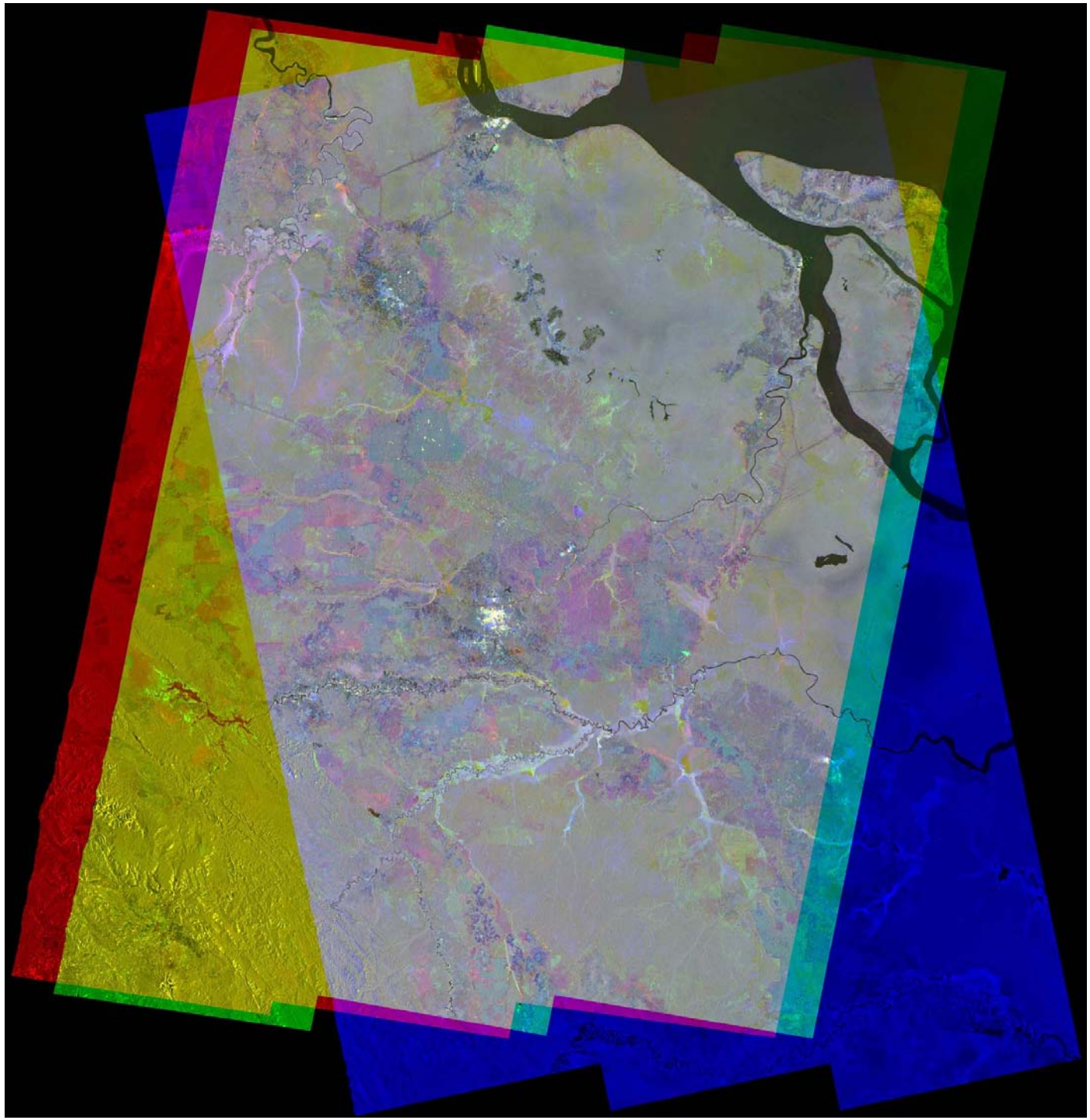
One season mosaic colored with three values, HH, HV, HH/HV.

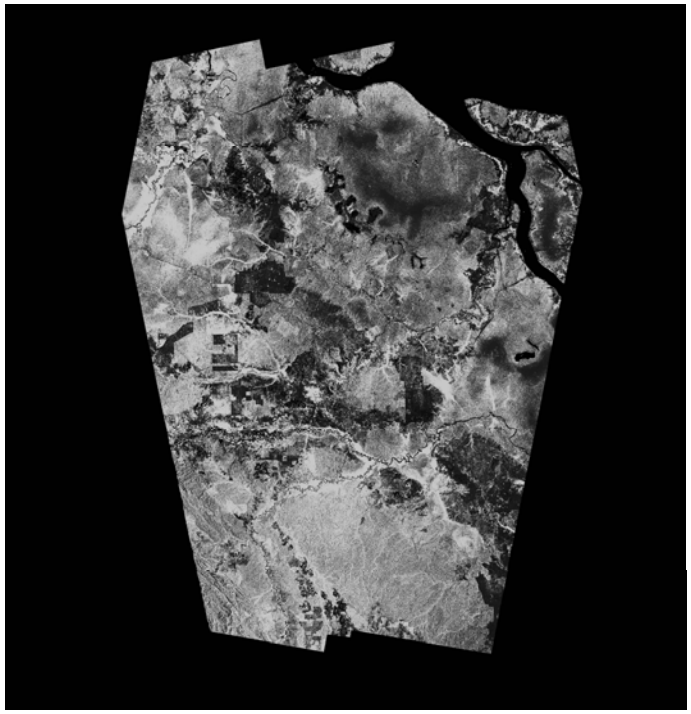
Coverage: Malaysia and Sumatra

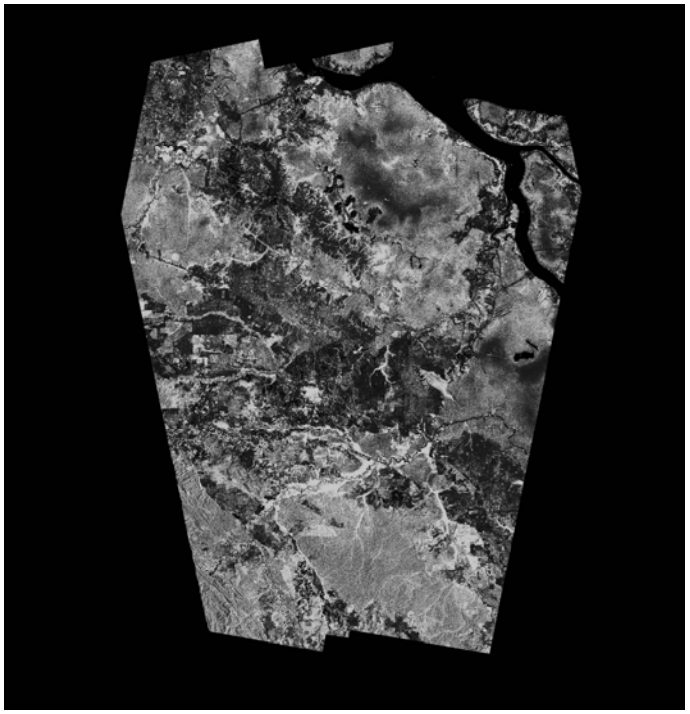
Green: forest
Purple:clear cut

PALSAR : FBD(Fine beam dual, 10m resolution)

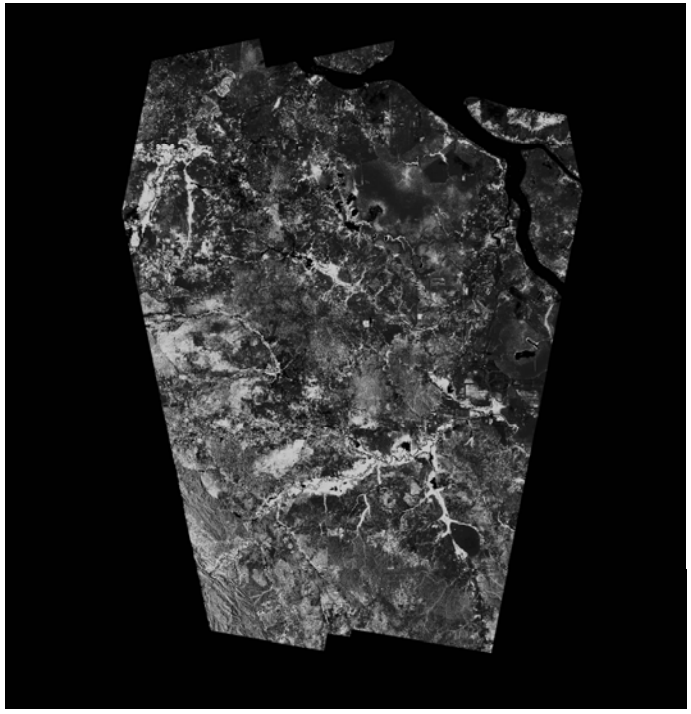
R:1993
G:1998
B:2008





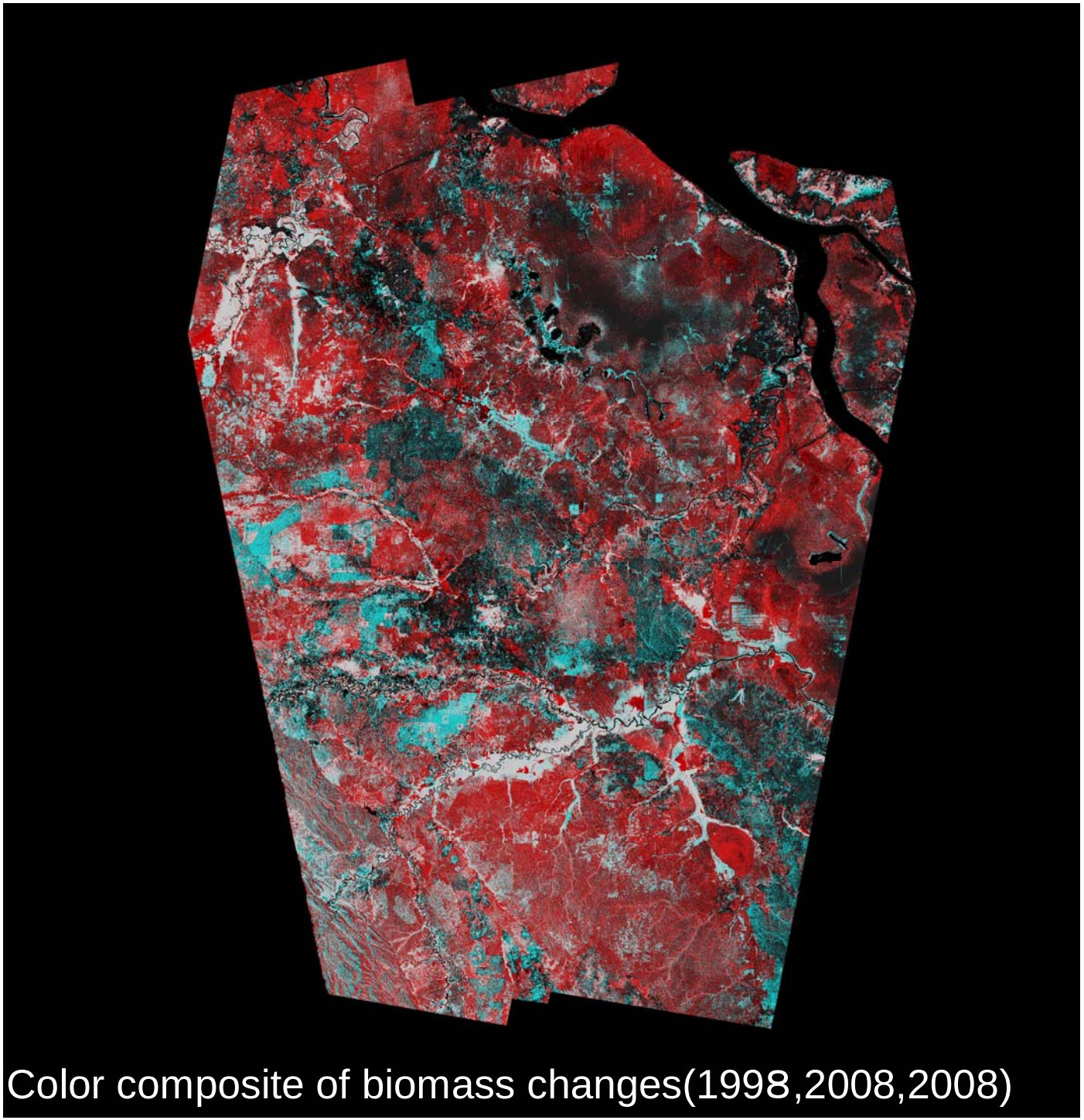


1993-1998 1998-2008

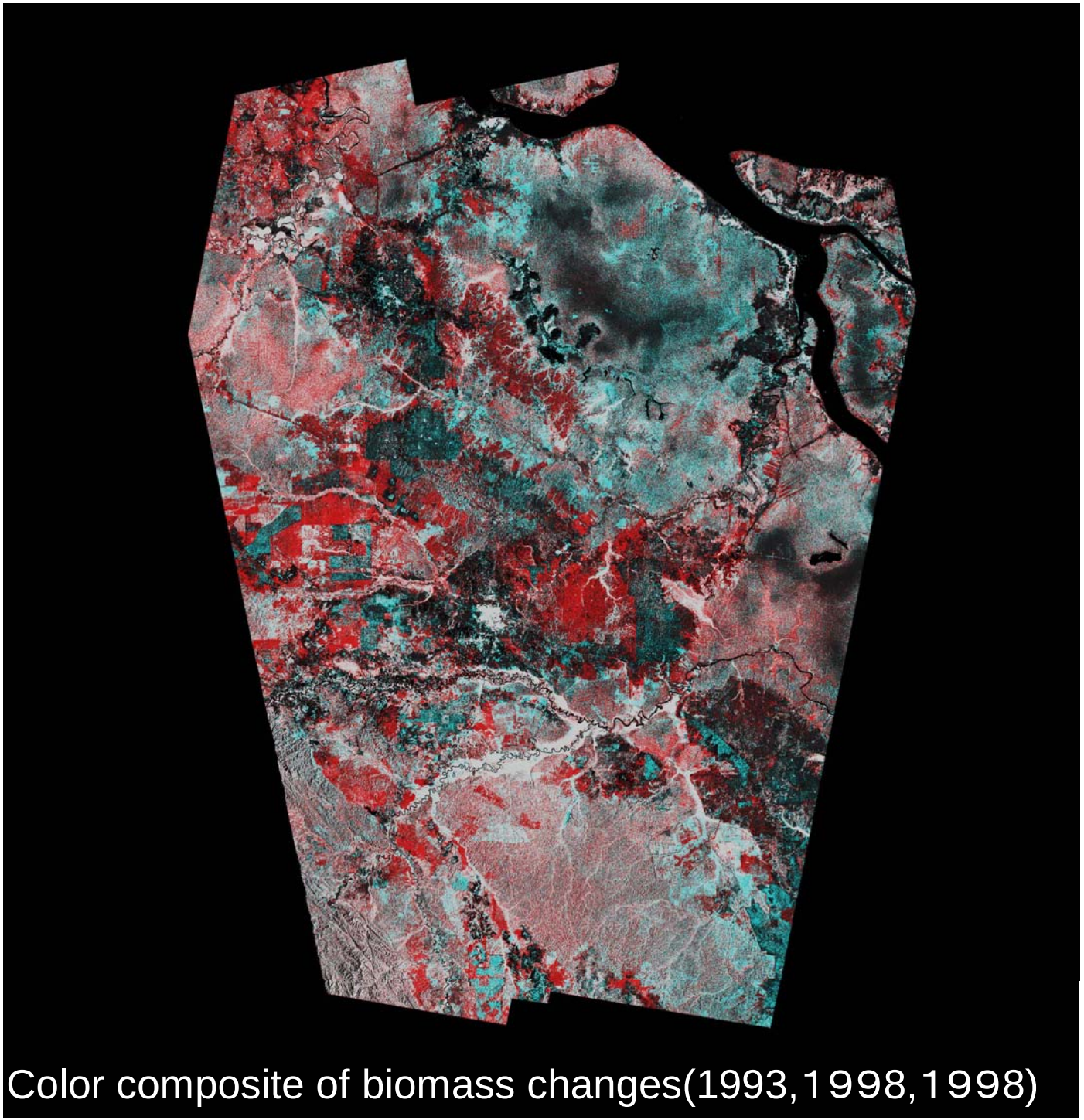


Biomass changes

1993-2008



Color composite of biomass changes(1998,2008,2008)



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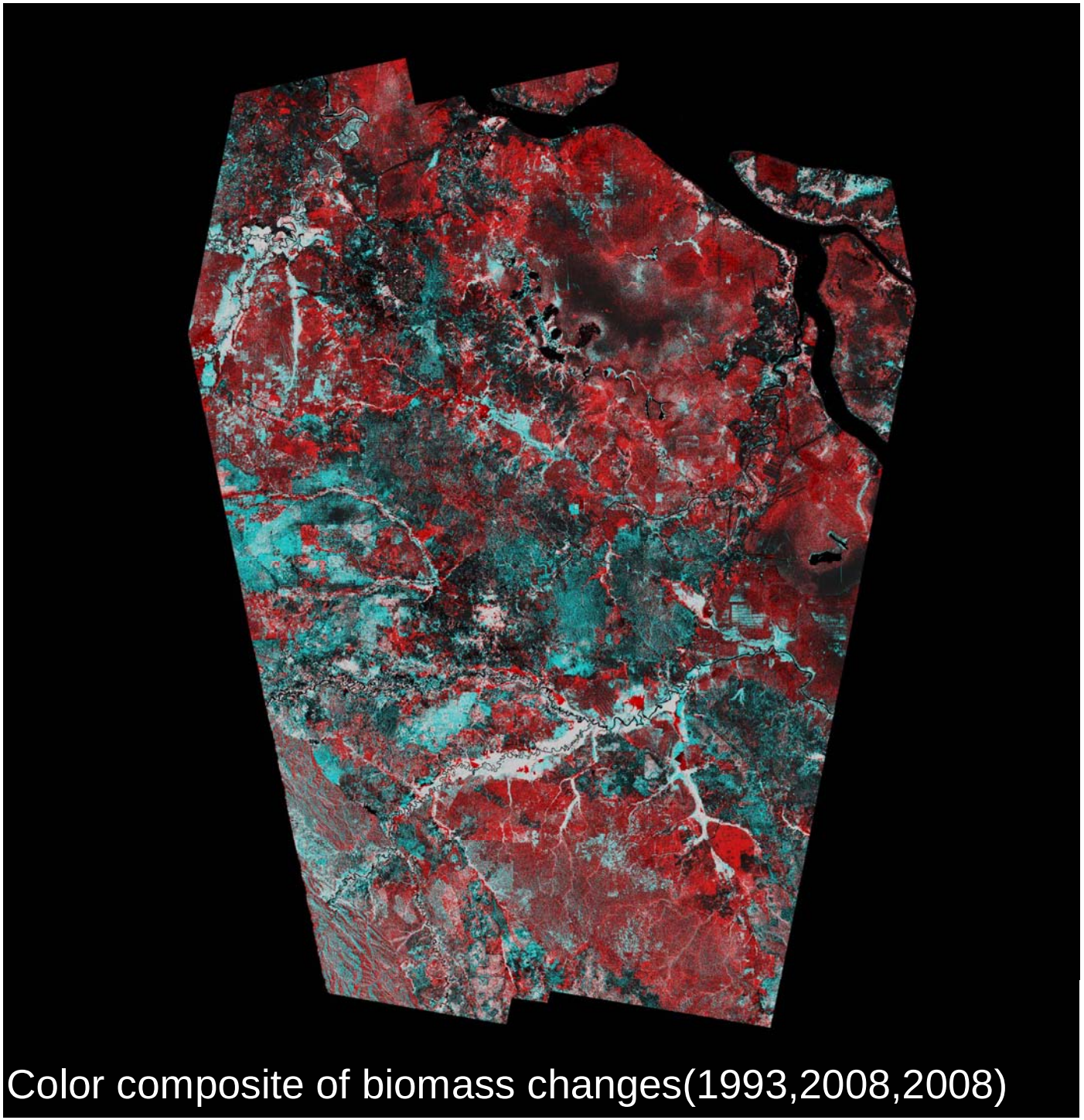

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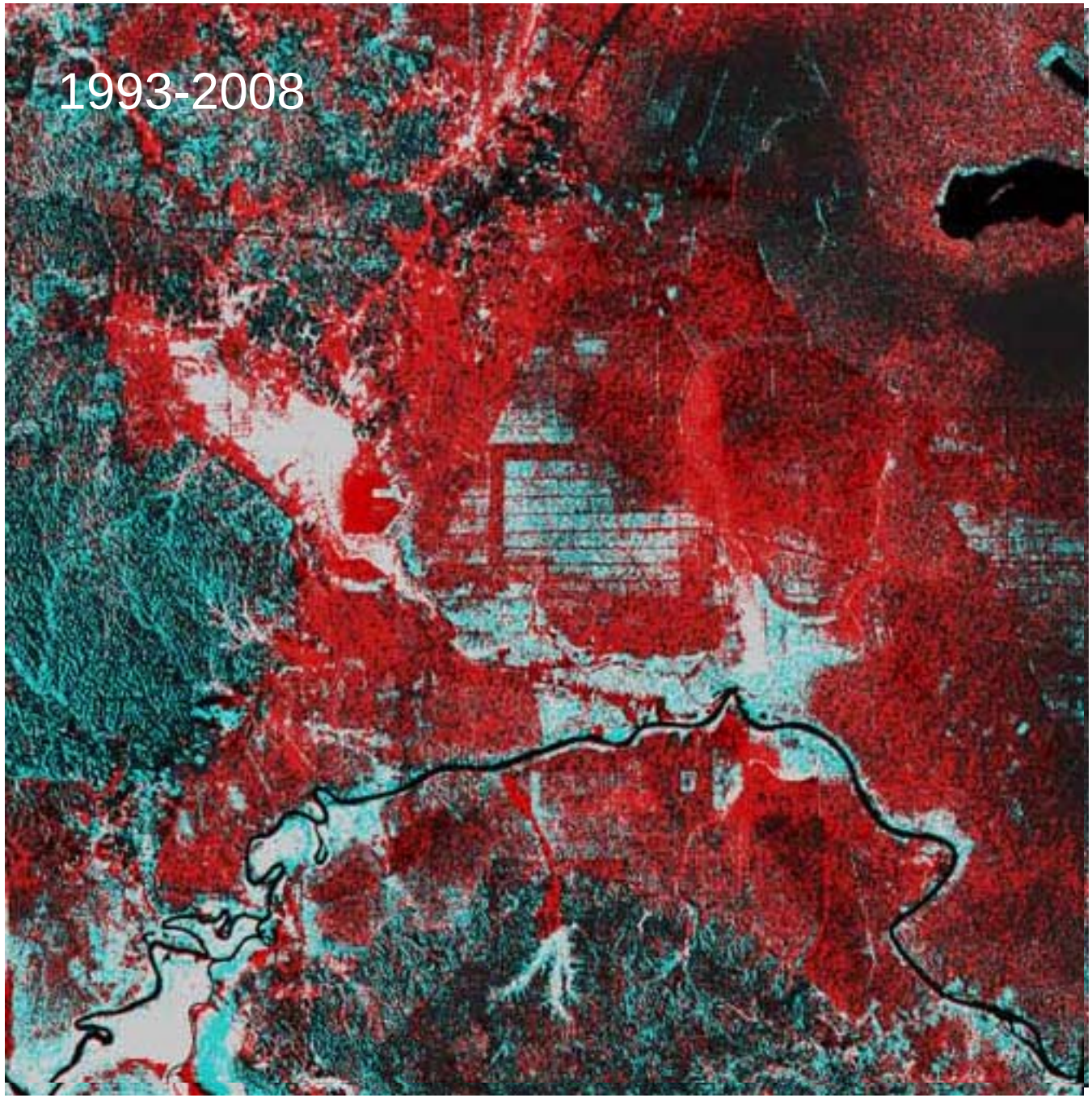
1993-2008

Dataset:Trial measurement

1993/March
1998/March
2008/April

Biomass loss	Area	
-22.5Mton	3.8Mha	1998/3-1993/3
-36.8Mton	3.8Mha	2008/4-1998/3
-58.5Mton	3.8Mha	2008/4-1998/3

In future: Needs ground truth data: relationships on NRCS-biomass for all the classifications

Approach:

Shell command for mosaicking
Several datasets for the spatial expansions with specified resolution

Classify the datasets

Apply the NRCS-Biomass relationship for each classes

Differentiate the datasets

Validation at Riau State, Indonesia on PALSAR dual pol enhancement