



ASEAN Peatland Forests Project (APFP)



Integrated Management Planning of peatlands

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SEApeat Project

Technical Meeting on Integrated Management Planning for
Peatlands
Cherating, Malaysia 9-10 July 2012

Regional Project
Executing Agency

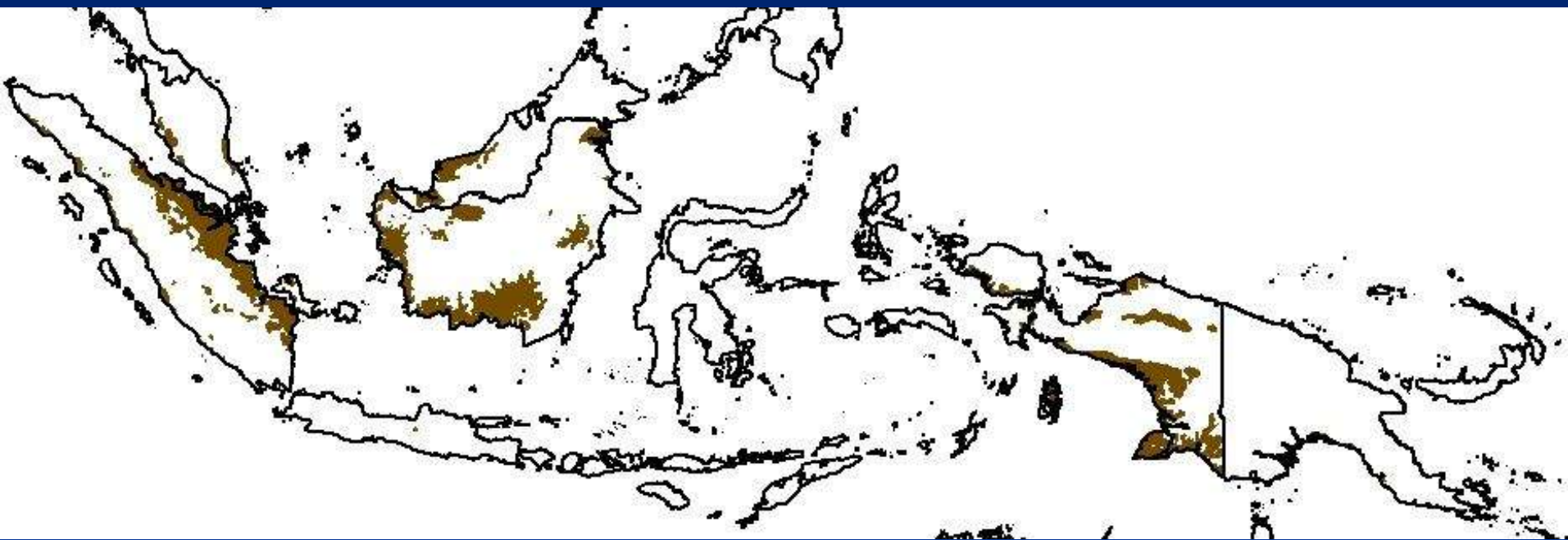


Peat Swamp forest is the main wetland forest type in Asia



Kampar, Sumatra

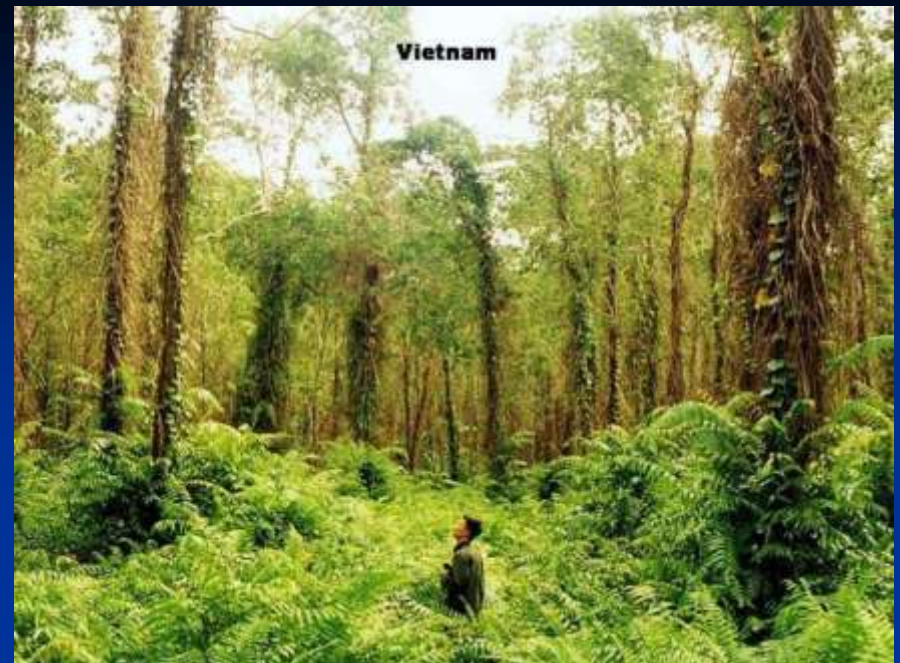
Peatlands cover about 25 million ha in Se Asia



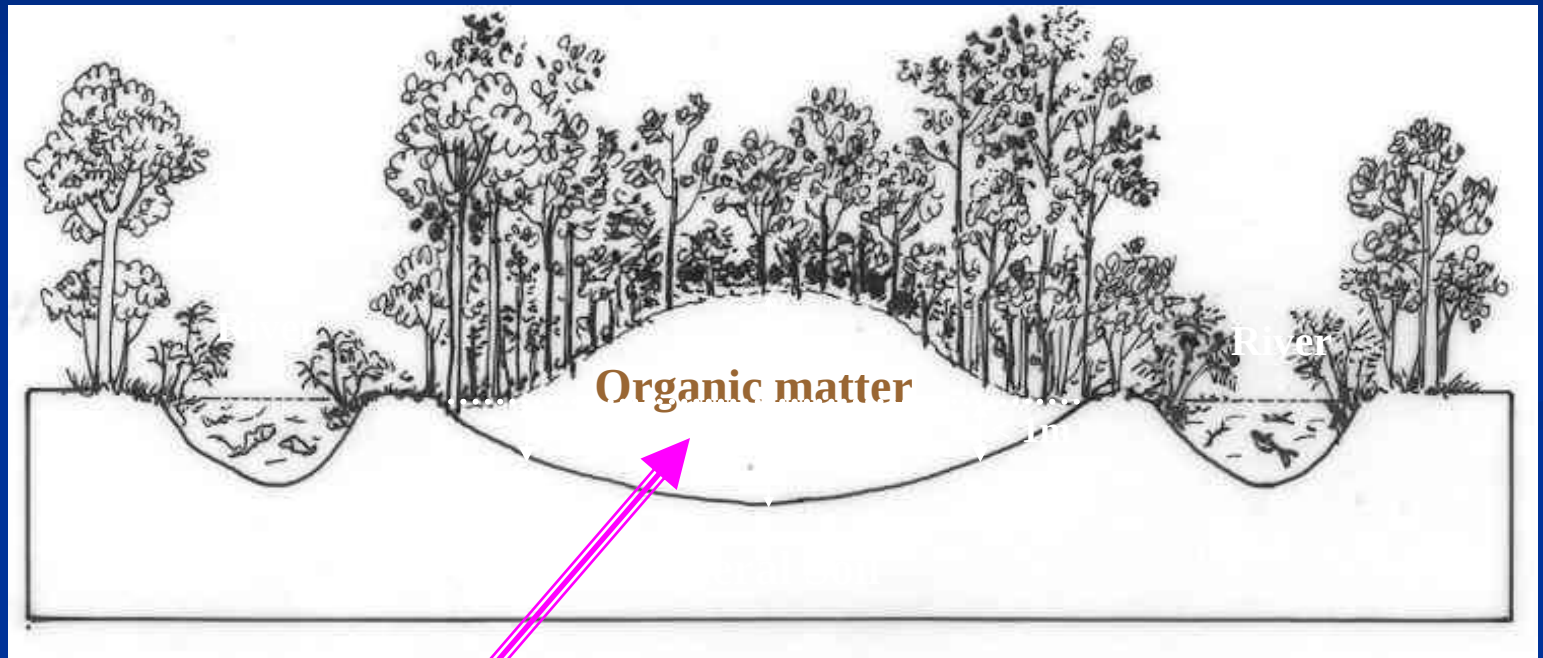
Source: Sarvision

Peatlands in SE Asia

Country	Area	Source
Brunei	90,900	Page et al, 2011
Cambodia	4,580	Quoi, L.P. 2012
Indonesia	20,695,000	Page et al 2011
Lao PDR	19,100	Page et al 2011
Malaysia	2,588,900	Page et al 2011
Myanmar	122,800	Joosten, 2009
Philippines	64,500	Page et al 2011
Singapore	50	NEA
Thailand	63,800	Page et al 2011
Vietnam	53,300	Page et al 2011



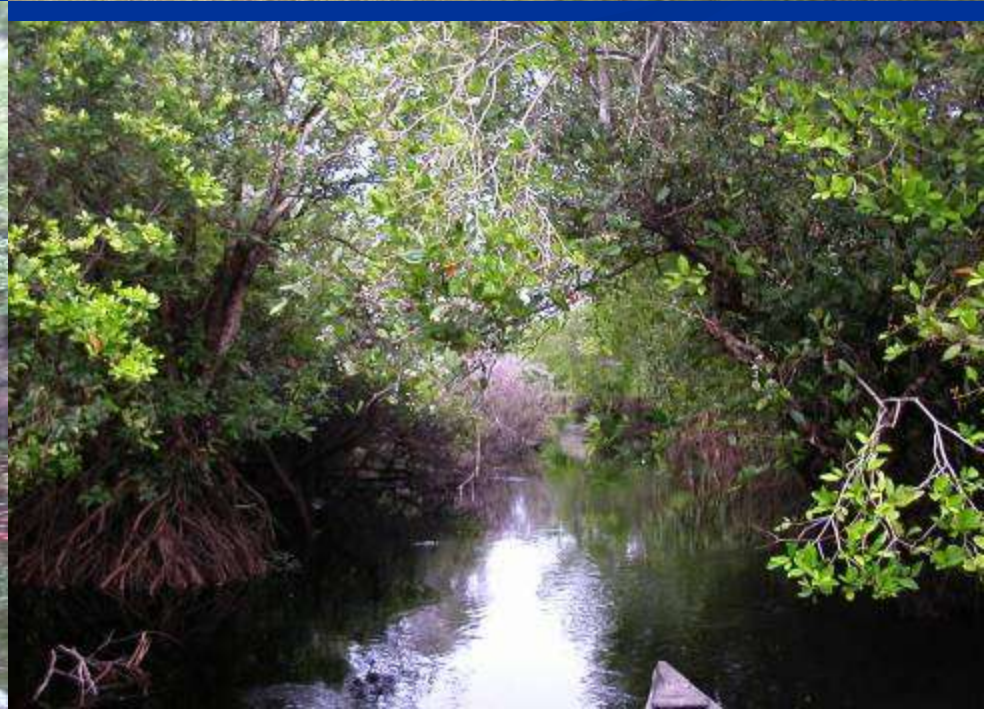
Peat accumulates in thick layers over thousands of years



Distance

Peat layer up to 20 m thick

Peatlands provide water and prevent floods



Peatlands Feed communities



Fishing, Pahang, Malaysia



Source: UNDP-GEF PSF Project

Peatlands support communities



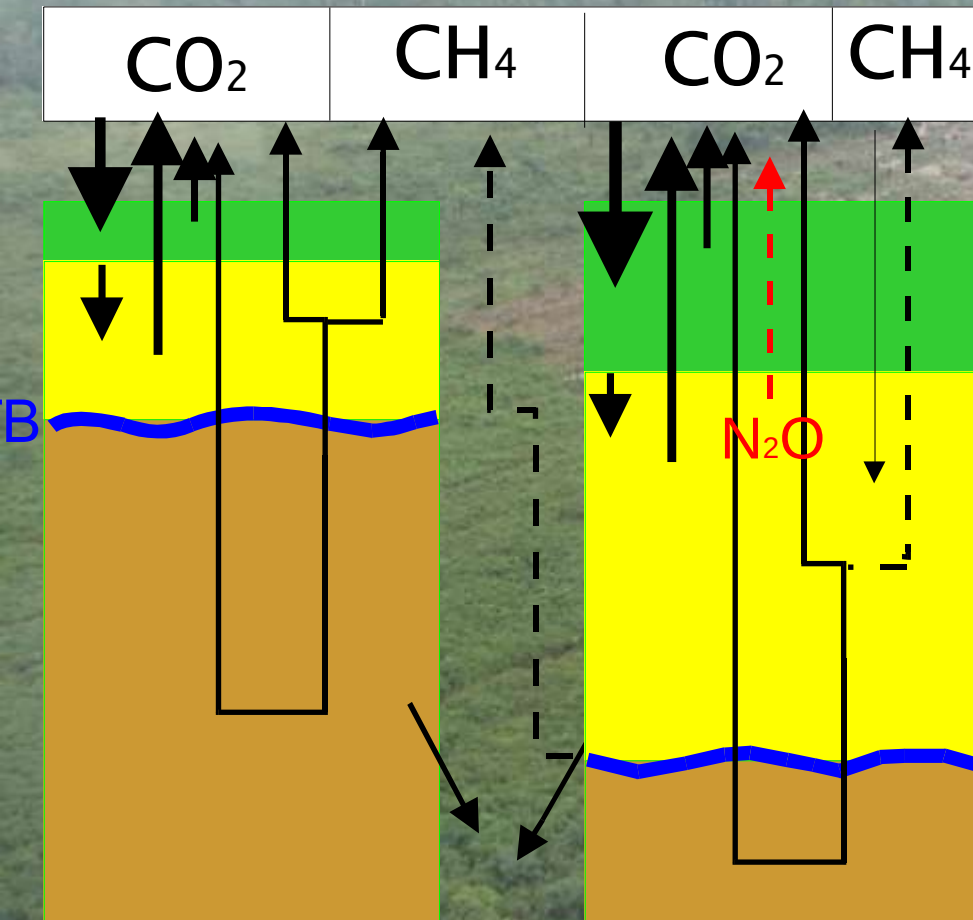
Jelutong - Chewing Gum tree, Indonesia

Unique Biodiversity

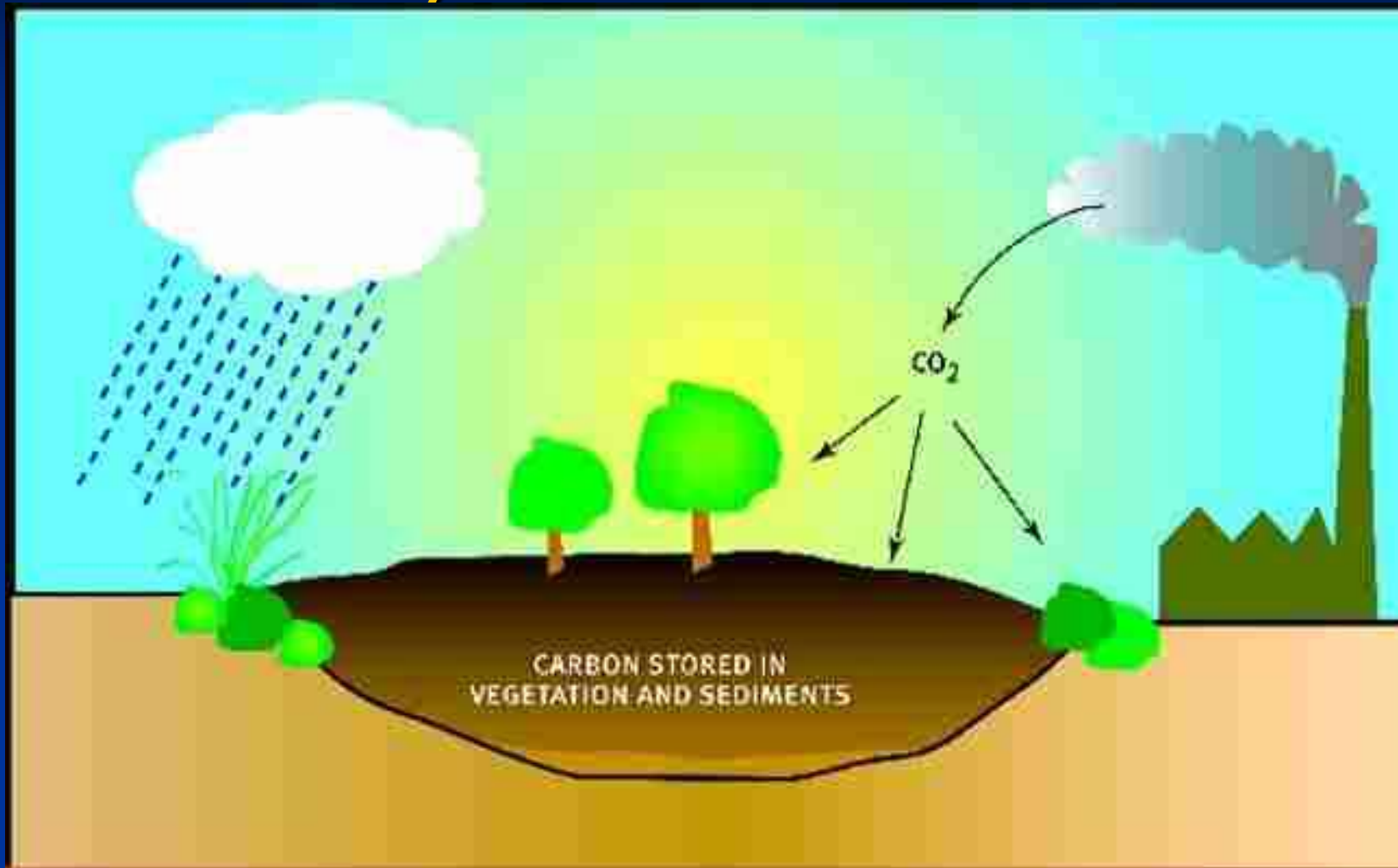




Peatlands regulate climate



Most important regional carbon Sink/Store in SE Asia



Peatlands store large amounts of carbon



**Peatlands in SE Asia Store c80 billion tonnes of carbon
twice as much as all forest biomass**

Status in 2010

Malaysia, Sumatra, Kalimantan

Vegetation cover	Area (ha)	Percentage
Peat swamp forest	5,249,000	34
Secondary PSF	4,186,000	27
Mosaic PSF	1,326,000	9
Open	1,536,000	10
Plantation	3,120,000	20
Other	120,000	1
TOTAL	15,528,000	100
Source: Miettinen <i>et al</i> , 2012		

Drivers of peatland degradation 1980 -2012

- Agriculture and plantation development;
 - Mega-rice project – Kalimantan (1.5 million ha)
 - Oil Palm and pulp and paper plantations (3 million ha)
 - Other agriculture inc smallholder 2-3 million ha
- Commercial and Illegal logging;
 - Majority of PSF allocated for harvesting – relatively little implementing sustainable management plans.
 - Widespread illegal logging
- Fires
 - 1 million ha East Kalimantan 1982/83 El Nino
 - 3 million ha Sumatra, Kalimantan in 1997/98 El Nino
 - Significant additional areas burnt in 2002, 2006



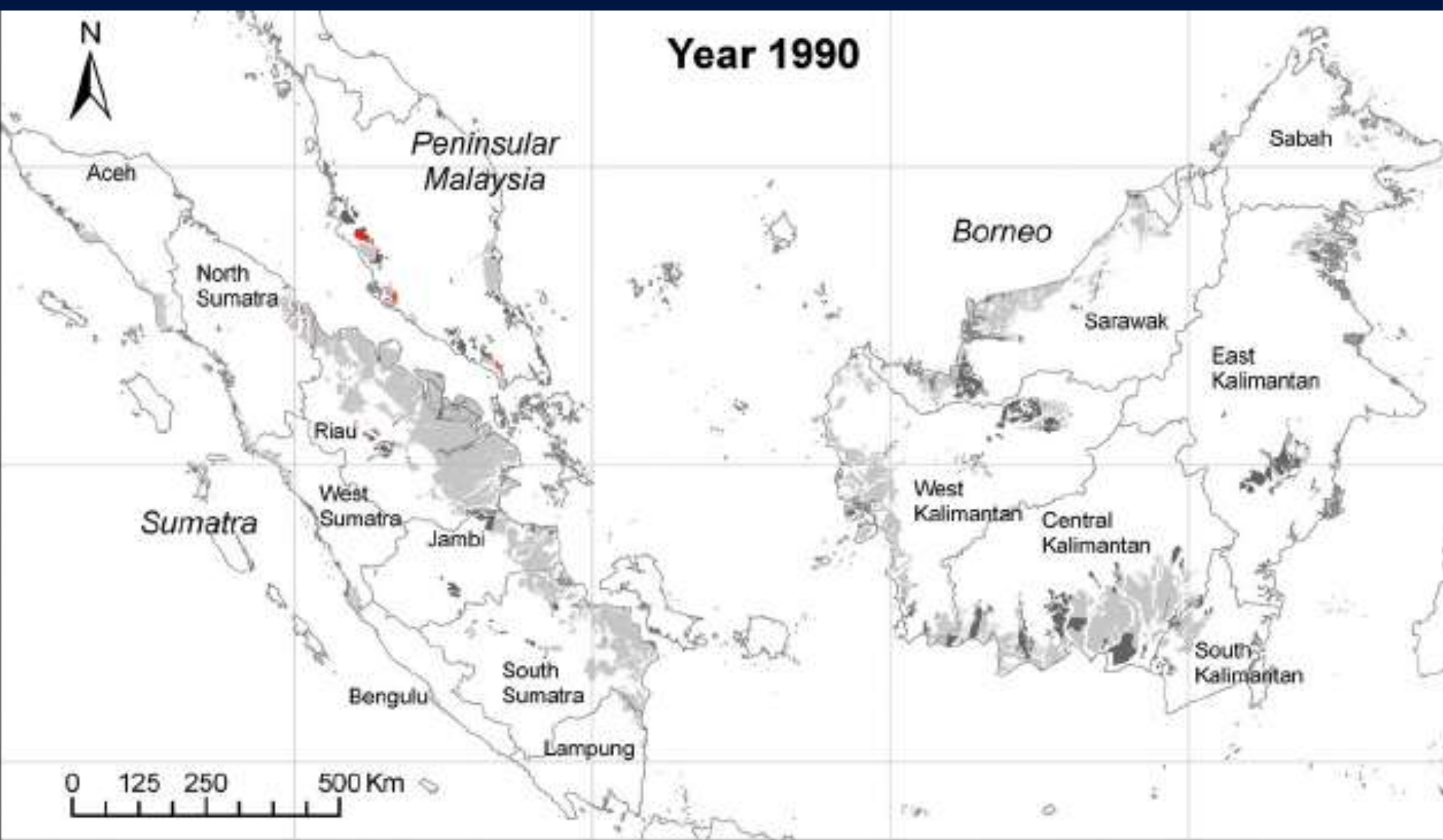


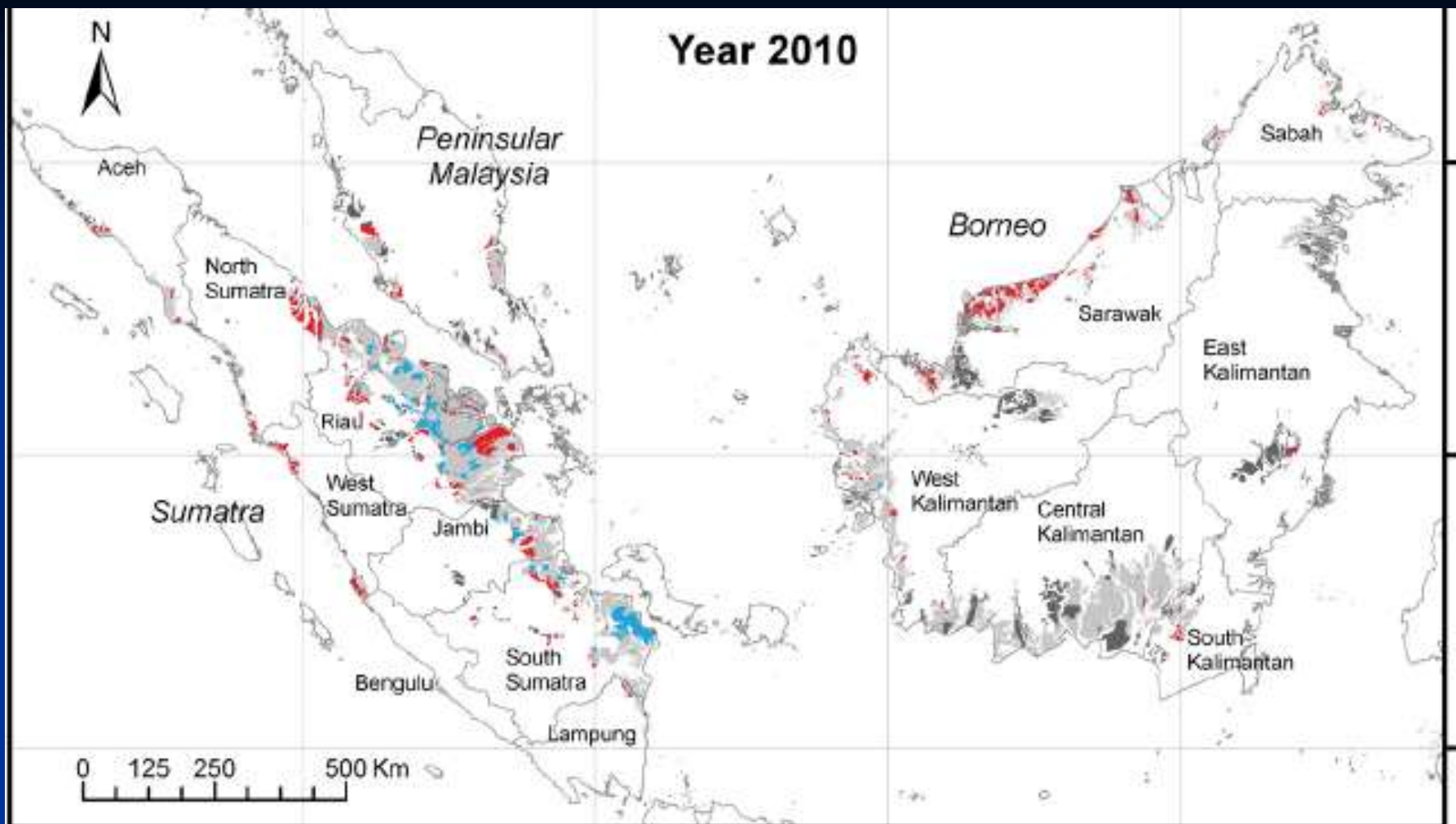


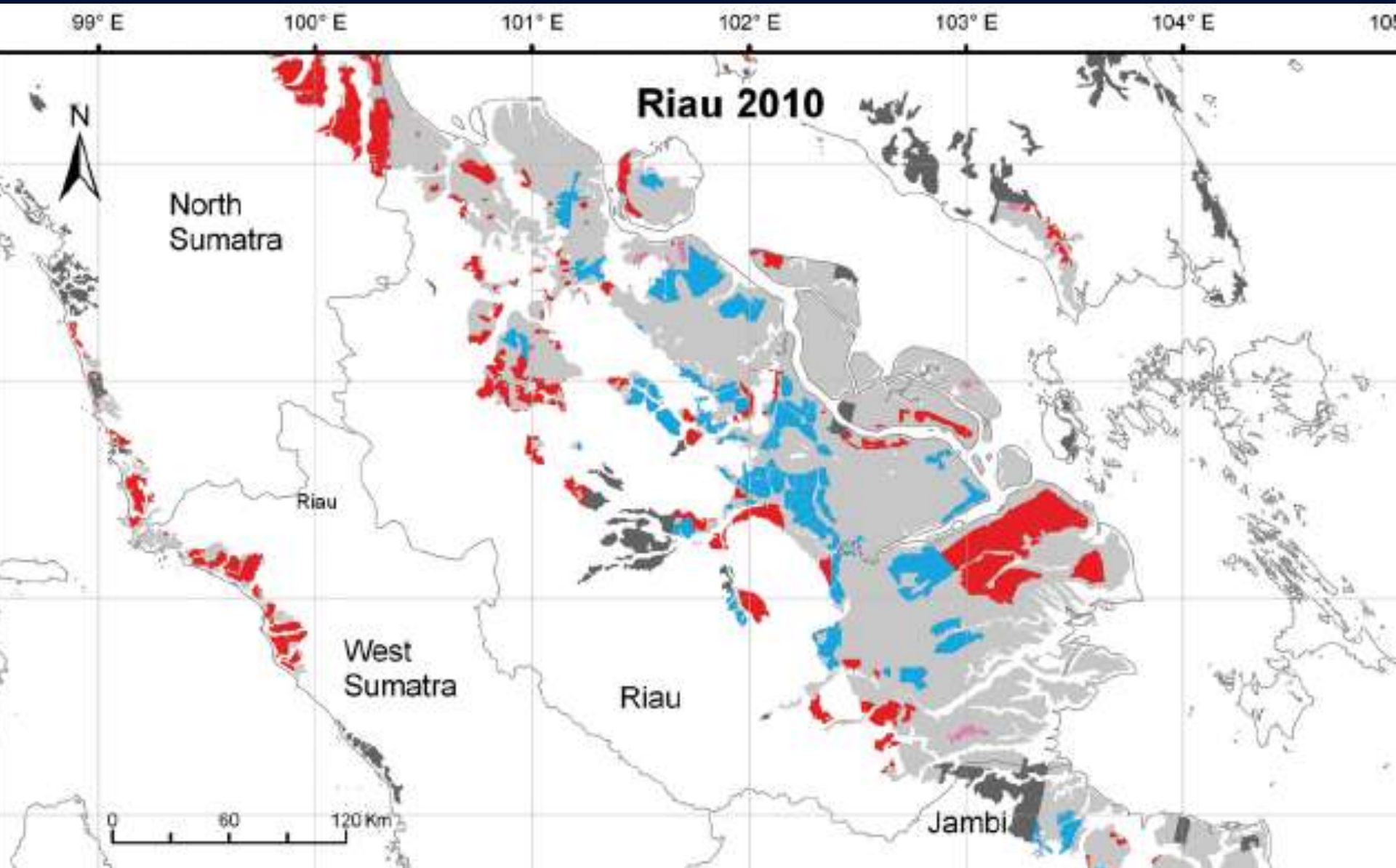
Drainage with logging led to degradation and fires

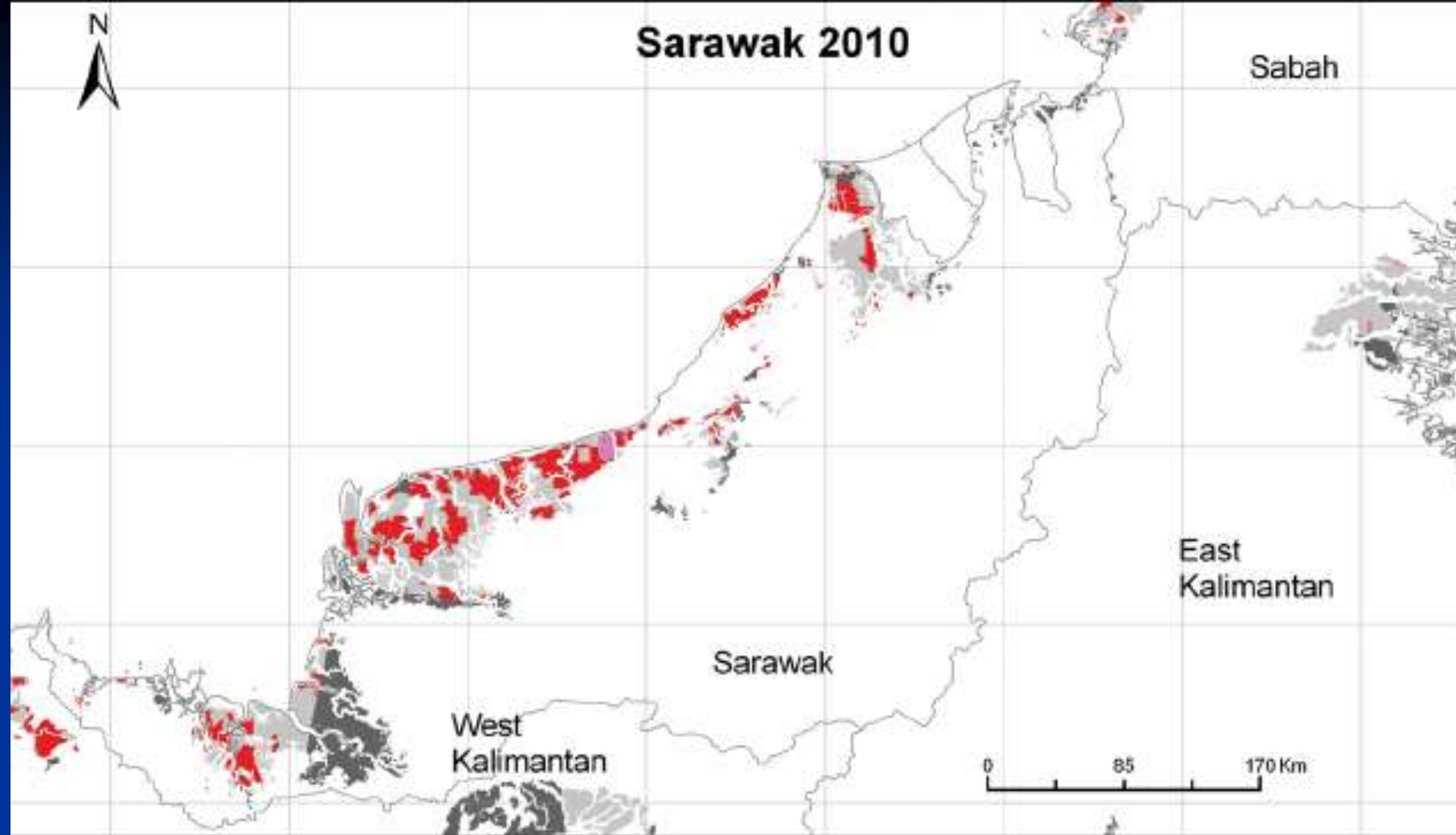












Legend

- Oil palm plantations
- Acacia plantations
- Other \ unknown plantations
- Other mapped peatland
- Unmapped peatland

Peatland clearance and drainage for plantations may lead to fires GHG emissions and haze



Peatland fires lead to transboundary Smoke haze

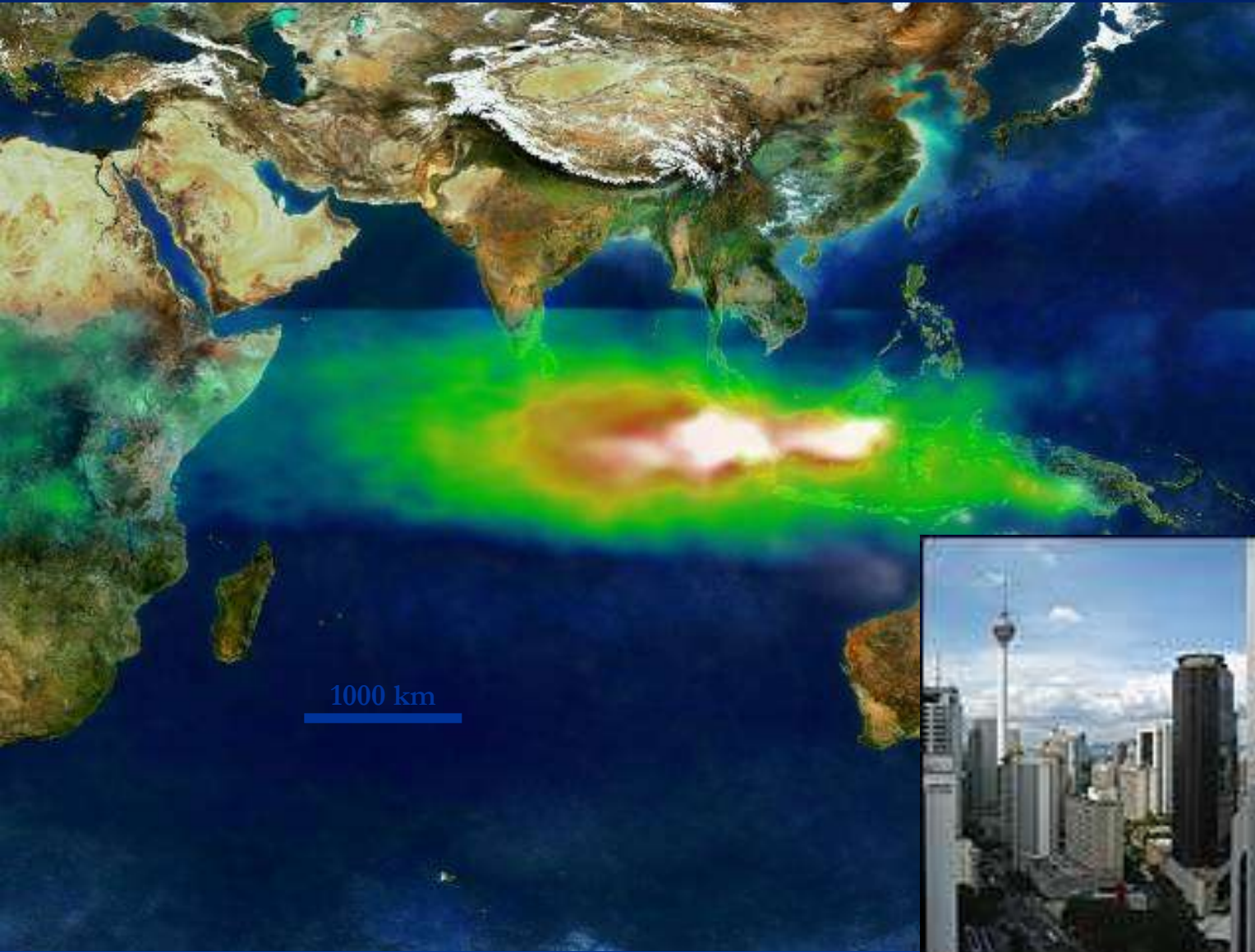


**MODIS image June
2005 -**

Red dots: fires

Courtesy MODIS Rapid Response
Team

Smoke Haze is the most serious regional environment problem in ASEAN



Recent changes 2002-2012

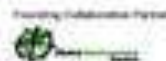
- Regional Cooperation stimulated by fires and haze
 - ASEAN Agreement on Transboundary Haze pollution (2002)
 - ASEAN Peatland Management Initiative (2003)
 - ASEAN Peatland Management Strategy (2006)
 - ASEAN Peatland Forests project (2009-2014)
- Peatlands and Climate Change
 - Recognition by CBD and UNFCCC (2007-9)
 - REDD+ 2006-2012
 - Emission reduction targets Indonesia (41%)



ASEAN PEATLAND MANAGEMENT INITIATIVE



ASEAN PEATLAND MANAGEMENT STRATEGY





Pedoman Pelaksanaan Kebijakan ASEAN tentang Penyiapan Lahan Tanpa Bakar



Pedoman Pelaksanaan Praktek Pembakaran Terkendali

Didukung Oleh :



Dilaksanakan Oleh :



Penyusunan Pedoman ini dibiayai oleh :

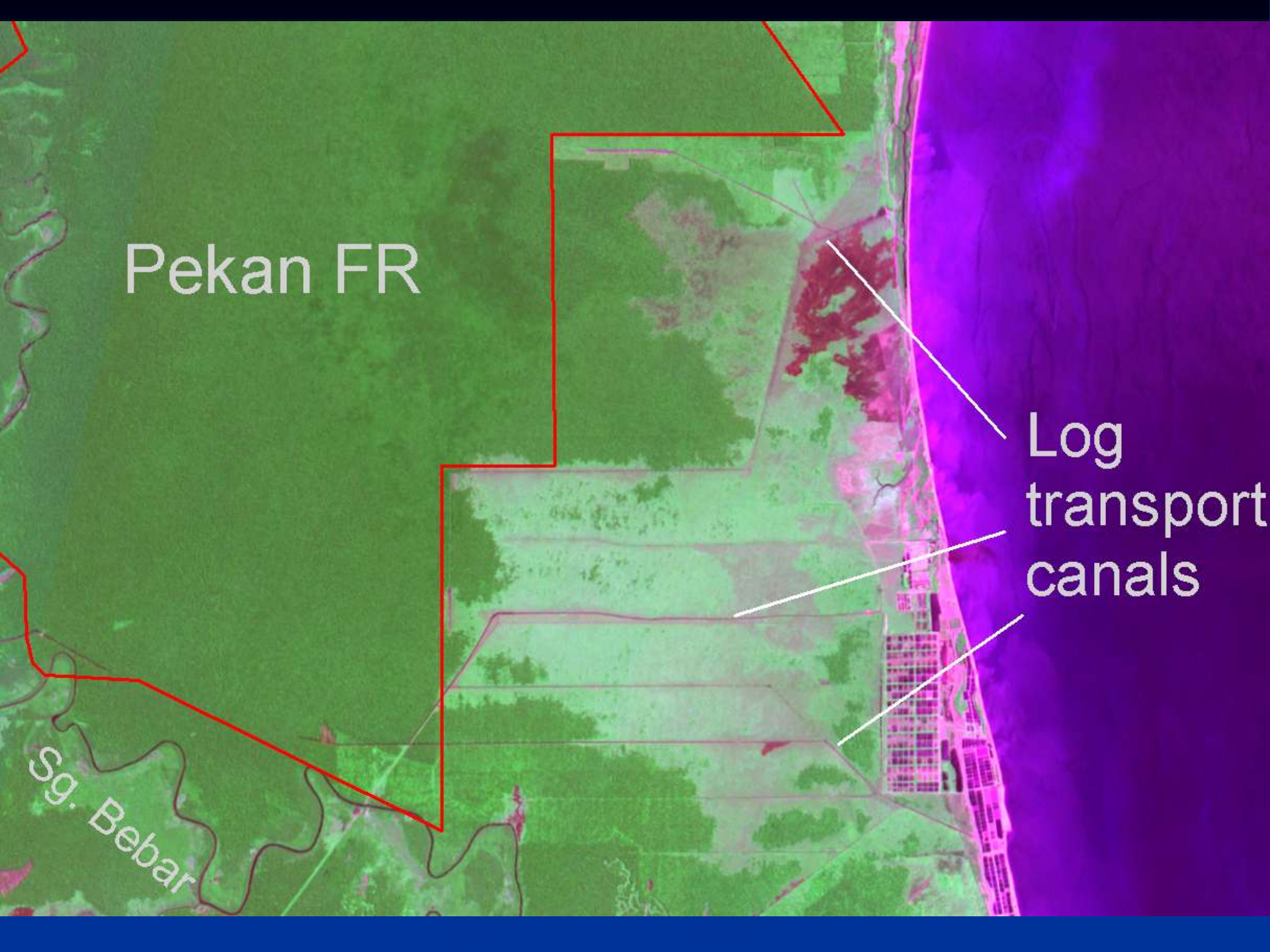


ASEAN Haze Action Online
www.haze-online.or.id



Integrated Peatland Management

- Key element in APMS
- Key reason – each peatland is a single domed hydrological unit – covering 10,000 up to 1,000,000 ha
- Drainage of one portion leads to drainage and subsidence of other portions.
- Patchwork development will fragment the peatland.
- Multiple agencies involved – Forestry, agriculture, water resources, environment etc + communities and private sector
- Integrate forest and water management, fire prevention, community livelihood, carbon and biodiversity conservation.
- Important to have a long term understanding – eg 50-100 years.
- Coordination mechanism.

An aerial photograph of a forested landscape. A red line outlines a specific area. A river is visible in the bottom left. A large building is in the bottom right. Three white lines point from text labels to specific features in the image.

Pekan FR

Log
transport
canals

Sg. Bebar

The oldest experience in SE Asia: Johor, Malaysia

Surface before drainage?

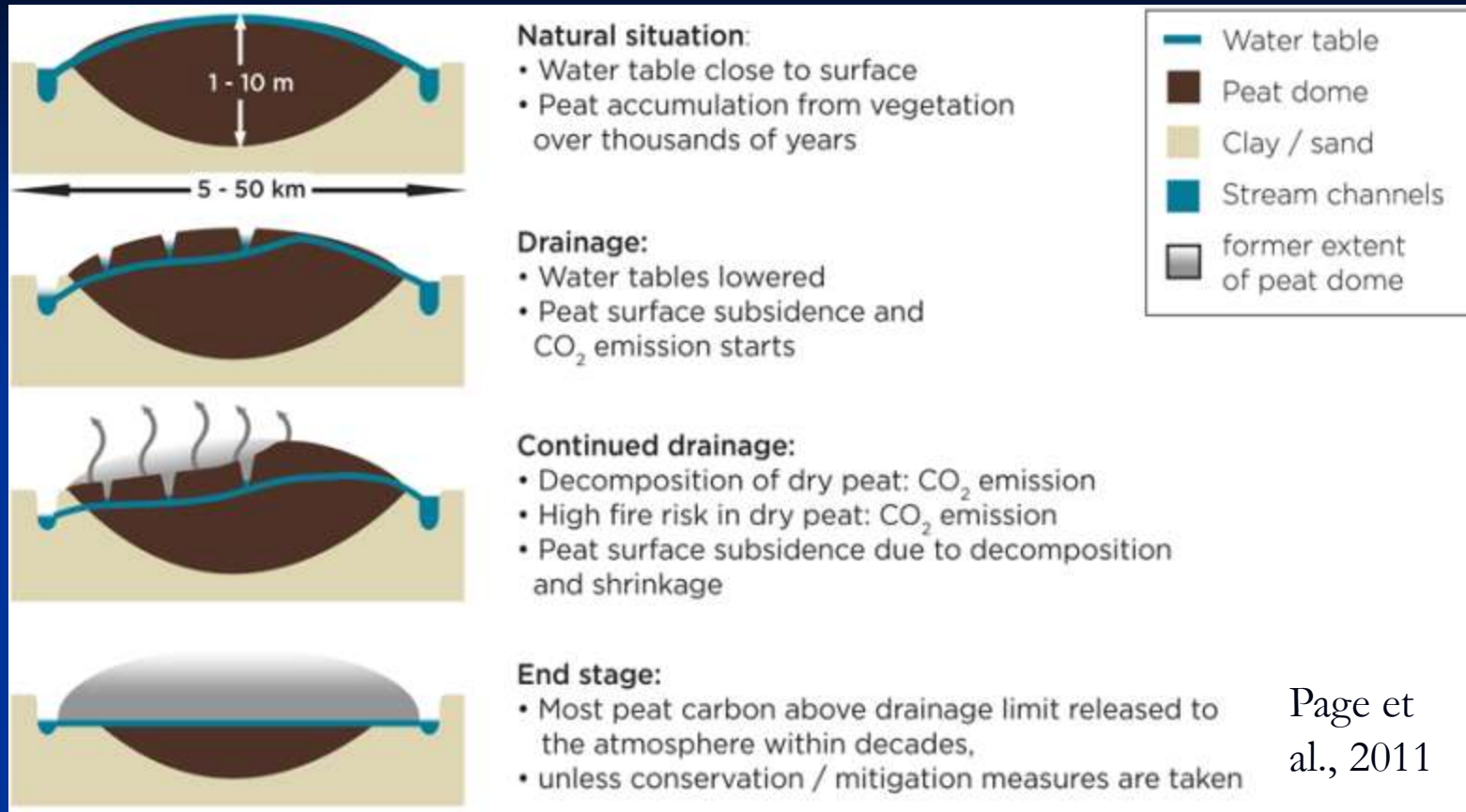
*(subsidence pole placed
well after drainage)*

The first industrial
oil palm plantations
on peat, developed
early 1960s

Now we see **3 to 4
metres** of subsidence
within 50 years



Long term drainage impacts – replanting



- With current drainage many coastal sites may become undrainable within 25-75 years.
- Other sites underlain with acid-sulphate or quartz sand soils

Low level boundary canal leads to forest degradation and fire



High level boundary ditch maintains forest and prevents fire



Fire Prevention

Fire prevention is critical to integrated management. Fire Danger rating can be used to guide preventive measures and allocation of resources and facilitate patrolling and warning action



Block abandoned drains in adjacent lands and forests

CCFPI- Climate Change Peatland and Forest in Indonesia





Conclusions

- Peat Swamp forest is the main wetland forest type in SE Asia and plays a critical role for climate regulation, water supply and livelihood support.
- Only 34% of PSF remain in relatively intact albeit harvested form.
- 20% of peatlands have been converted to plantations and balance is degraded or fragmented.
- Unless situation can be changed – long term scenario is of continuing degradation and fires and large-scale land subsidence.
- Critical that new strategies for integrated management are implemented in partnership with all stakeholders to conserve remaining intact forest, rehabilitate or better use degraded land and improve management on plantation land and bring benefits to local community.
- Enhance regional cooperation and partnership between government, private sector and local communities.

Objectives for the workshop

- Share experience on integrated management of peatlands from the region
- Identify strengths and weaknesses and gaps for implementation of existing plans.
- Identify good practices and lessons learned
- Identify key principles to guide future integrated management measures

Thank you



Livelihood in Sumatera Indonesia