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CONTENT

- Introduction
- Background
- System Structure
- FDRS Codes and Indices
- Collaboration with other agencies and users

INTRODUCTION

FIRE DANGER RATING SYSTEM (FDRS)

- Fire danger rating is the evaluation of meteorological factors that influence fire danger (**Fire Danger** is the ability of a fire to start, spread and do damage)
- A system that monitors forest/vegetation fires risk and supplies information that assists in fire prevention and management
- To predict possible fire occurrence and behavior
- A guide to policy-makers in developing mitigation actions to protect life, property and the environment

PRODUCTS

- Available at www.met.gov.my

The screenshot displays the official website of the Malaysian Meteorological Department. The header includes the national emblem, the Malaysian flag, and the text "Official Website of MALAYSIAN METEOROLOGICAL DEPARTMENT Ministry of Science, Technology and Innovation". A navigation menu is visible, with "Climate" selected, leading to a sub-menu with options like "General Information", "Climate Change", "Fire Danger Rating System", "Seasonal Forecast", "Agrometeorology", and "Report & Summary". The "Fire Danger Rating System" sub-menu is further expanded to show "Malaysia", "Southeast Asia", "Peat FDRS Pilot Project", "FDRS Observation & Forecast", and "Forecast". The main content area features the title "Malaysia Fire Danger Rating System (FDRS)" and a section for "Fine Fuel Moisture Code (FFMC)". Below this, there are four maps: "Malaysia", "Peninsula", "Sabah & Sarawak", and "FDRS (Google Earth)".

Home / Climate / Fire Danger Rating System / Malaysia

Malaysia Fire Danger Rating System (FDRS)

Pages: 1 2

Fine Fuel Moisture Code (FFMC)

Malaysia Peninsula Sabah & Sarawak FDRS (Google Earth)

BACKGROUND

HISTORY

- In 1997/98, extensive forest fire in ASEAN countries caused widespread haze including transboundary haze
- Affected the socio-economic activities, including tourism, health and well being of people
- Total loss estimated - US\$9 billion
- Environment Ministers initiated a Regional Haze Action Plan, including ASEAN Agreement on Transboundary Haze
- Developed and implemented Canadian Forest Fire Danger Rating System for monitoring and warning system for forest/vegetation fuels fires

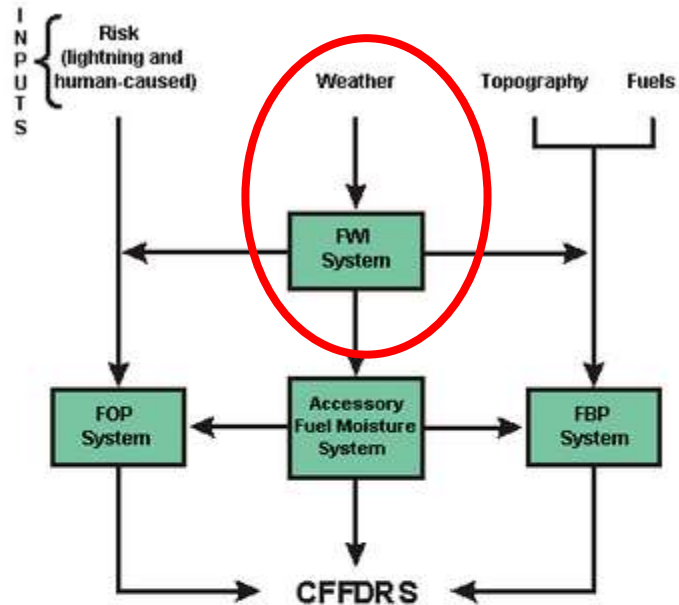
ADAPTATION FLOW



- 1999 : initiated with Canadian International Development Agency (CIDA) and Canadian Forest Service (Northern Forestry Centre, Edmonton) to Southeast Asian Countries
- 2000 – 2002 : training, experiments and adaptation
- 2003 : Implementation of FDRS

SYSTEM STRUCTURE

THE SUB SYSTEM



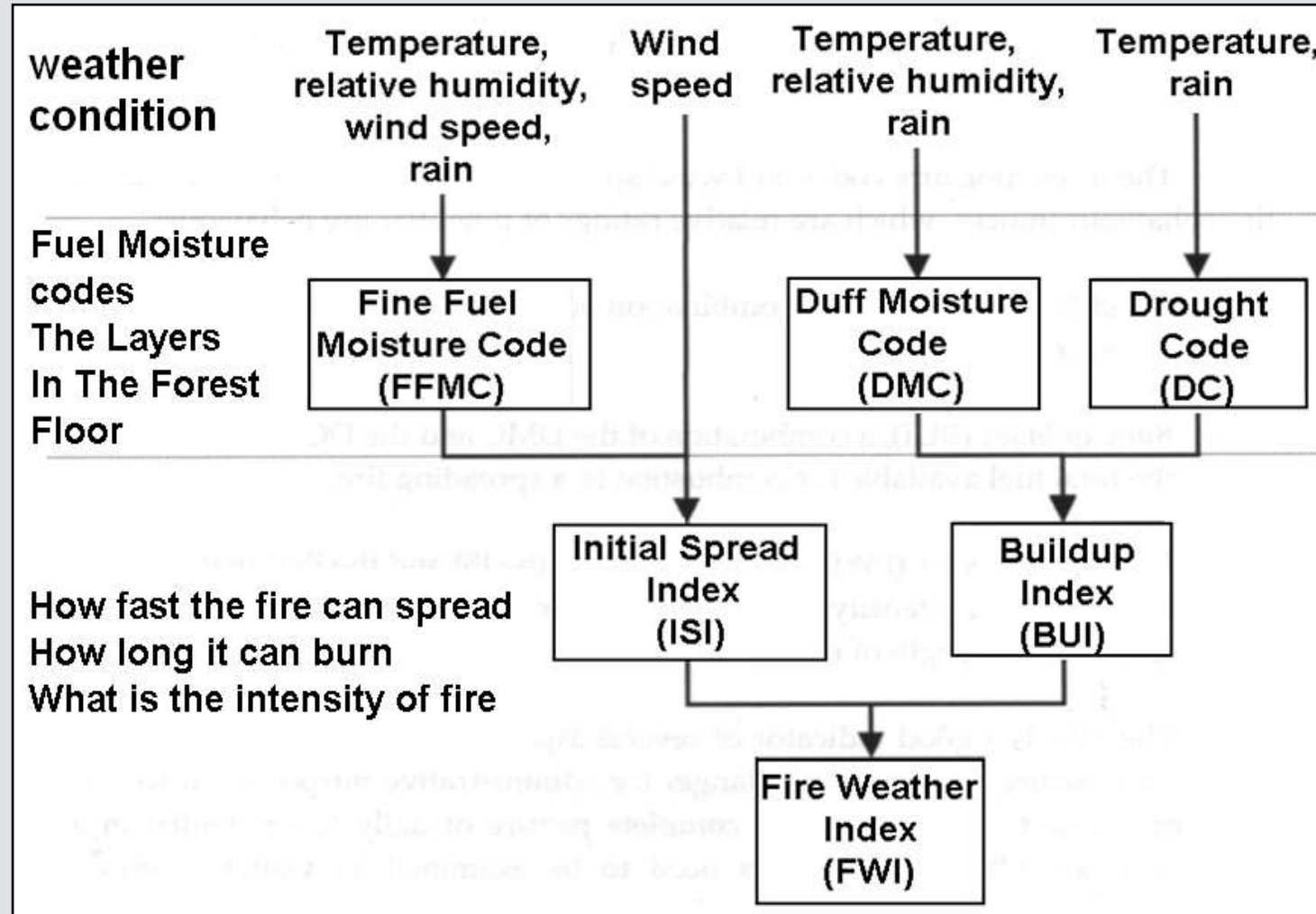
- FDRS is part of Canadian Forest Fire Danger Rating System (CFFDRS)
- MMD runs a sub system of CFFDRS which is called Fire Weather Index (FWI) System
- The FWI provides two information:
 - i) Fuel Moisture Concept
 - ii) Fire Behavior Concept

CFFDRS subsystems	Status
Canadian Forest Fire Weather Index (FWI) System	4th edition published in 1984
Canadian Forest Fire Behavior Prediction (FBP) System	1st edition published in 1992
Canadian Forest Fire Occurrence Prediction (FOP) System	Under consideration (several regional schemes in place)
Accessory Fuel Moisture System	In development

SYSTEM STRUCTURE

Fuel Moisture
Concept

Fire Behavior
Concept

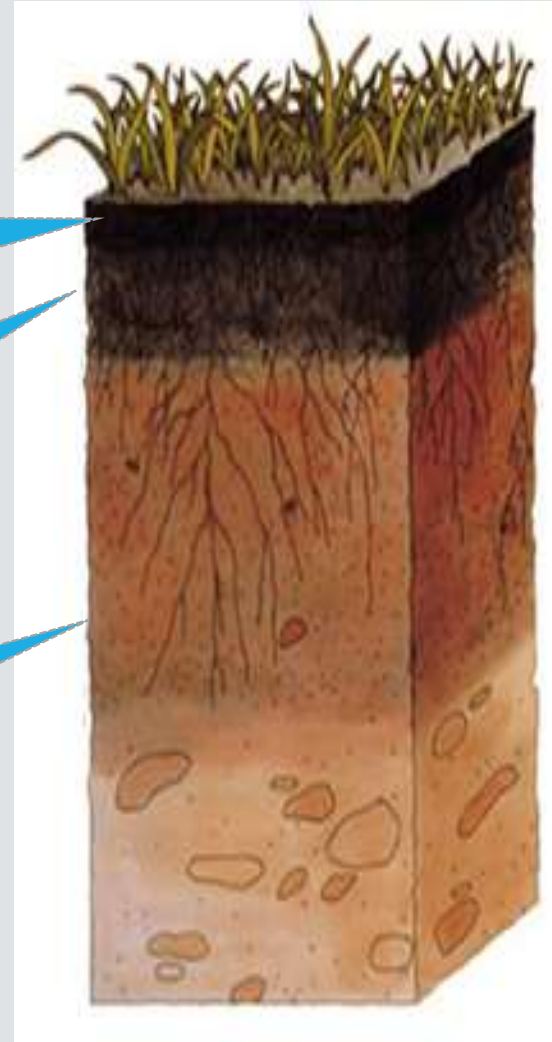


FUEL MOISTURE CONCEPT AND FUEL

FFMC- Represents the moisture content of surface litter and other cured fine fuels in a forest stand to depth 1-5 cm, weighing $0.5\text{kg}/\text{m}^2$ when dry

DMC- Represents the moisture content of loosely compacted, decomposing forest floor organic matter to depth of 5-10cm, weighing about $5\text{kg}/\text{m}^2$ when dry

DC- Represents the moisture content of deep, compact organic soil layers to a depth of 10-20cm, weighing about $45\text{kg}/\text{m}^2$ when dry



FIRE BEHAVIOR CONCEPT

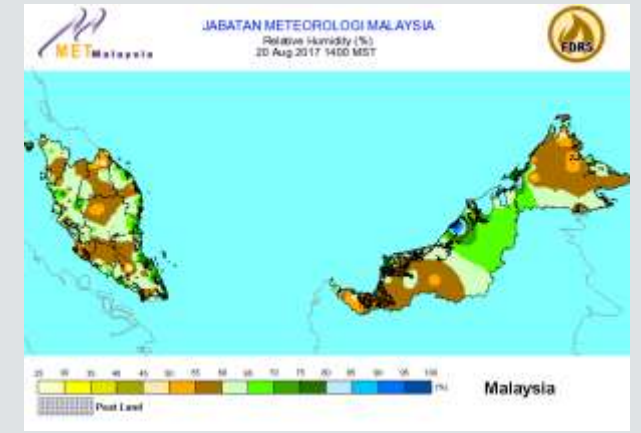
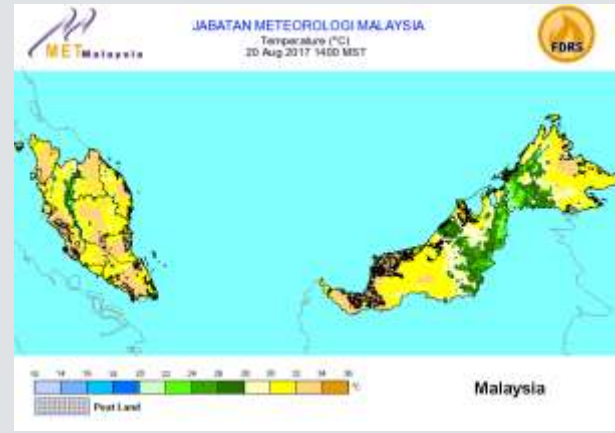
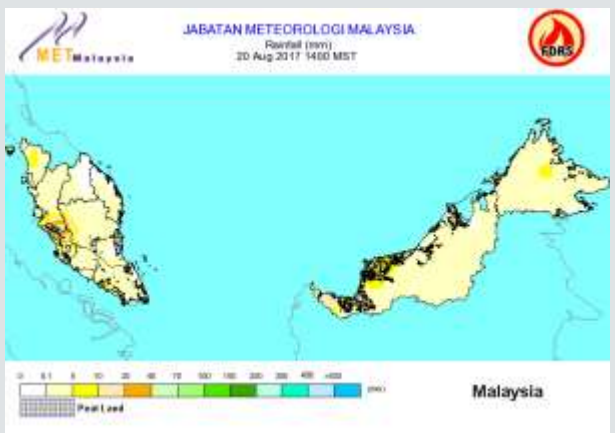
The second part of FWI system, reflect current fire potential in relation with fire environment that consist of the surrounding condition, influences and modifying forces of forest/vegetation fuels and weather that determine fire behavior.

Three indices which represent this concept are:-

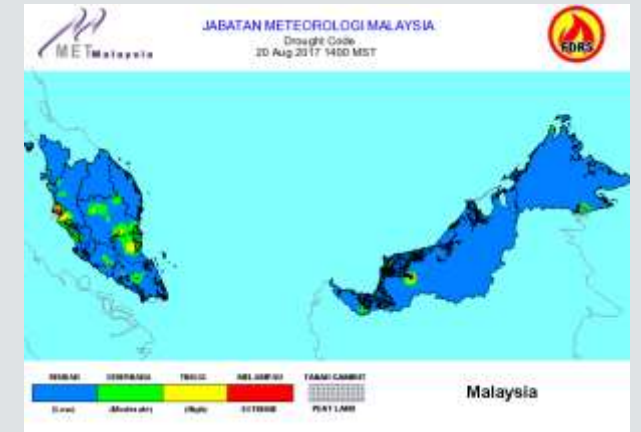
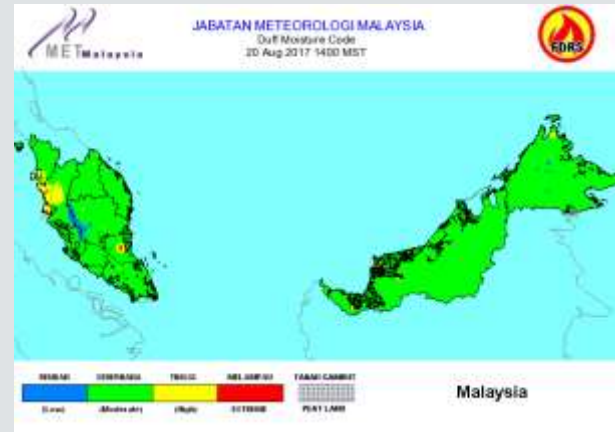
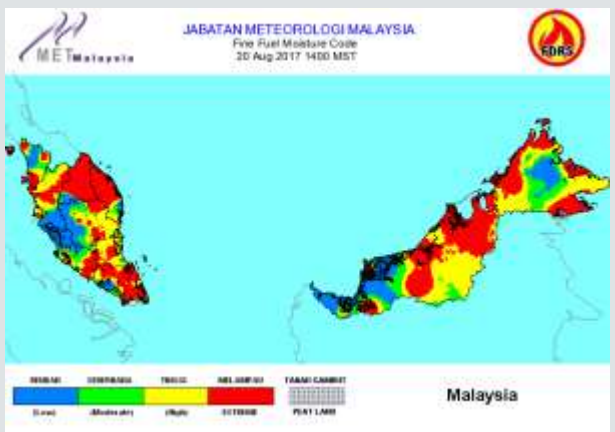
- **Initial Spread Index (ISI)** – is a numerical rating of relative fire spread without the effect of fuel consumption.
- **Build Up Index (BUI)** - provides numerical rating of the amount of fuel available for combustion.
- **Fire Weather Index (FWI)** – is a numerical rating of fire intensity. It is suitable as a general **index of fire danger** throughout the forested area in the region. **Fire Danger** is the ability of a fire to start, spread and do damage

FDRS CODES AND INDICES

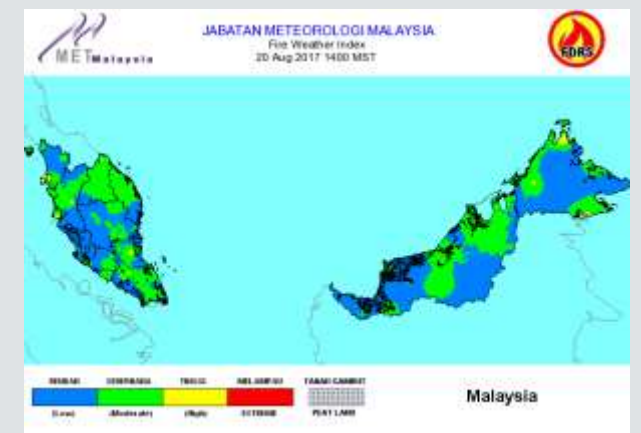
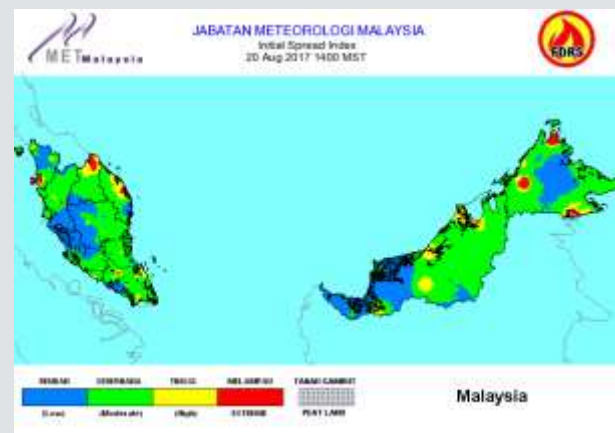
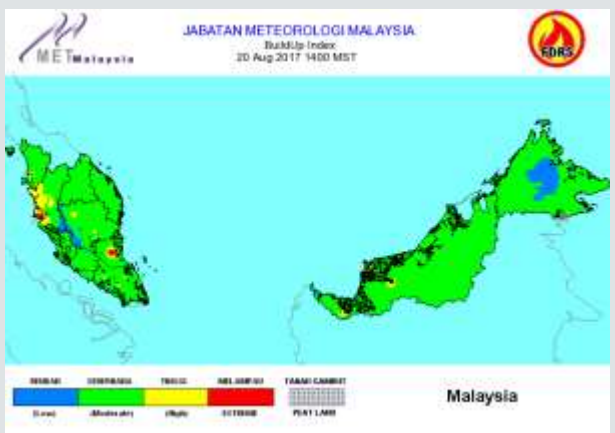
Weather



Fuel
Moisture
Concept



Fire
Behavior
Concept



FIRE WEATHER INDEX (FWI)

LOW
0-1



Fires will be self-extinguishing

MODERATE
2-6



Fire can be easily suppressed with hand tools

HIGH
7-13



Most fire can be successfully controlled using power pumps and hose

EXTREME
> 13



Some fires will be difficult to control



COLLABORATION WITH OTHER AGENCIES AND USERS

LIST OF AGENCIES

- JPSM
- GEC
- JAS
- NREB
- Sime DARBY
- DoE
- Sahabat Hutan Gambut Selangor Utara
- ASMC
- NRE
- ASEAN Secreteriat

NATURAL RESOURCES AND ENVIRONMENT BOARD SARAWAK (NREB)

OFFICIAL WEBSITE OF NATURAL RESOURCES AND ENVIRONMENT BOARD SARAWAK
LAMAN WEB RASMI LEMBAGA SUMBER ALAM DAN NEAR SEKITAR SARAWAK
"A Clean, Green and Healthy Sarawak"

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Selamat Menyambut
60th Hari Kebangsaan
1957 - 2017
Malaysia
National Day

GENERAL
> What is EIA
> EIA Policy
> Project & Study
> Water Quality
> Air Quality
> Solid Waste Management
> GeoEnviron
> Activity: School Related
> Activity: Non-School Related

PROJECT DEVELOPER
> What is EIA
> EIA Policy
> Project & Study
> Water Quality
> Air Quality
> Solid Waste Management
> GeoEnviron
> Activity: School Related
> Activity: Non-School Related

EIA CONSULTANT & AUDITOR
> What is EIA
> EIA Policy
> Project & Study
> Water Quality
> Air Quality
> Solid Waste Management
> GeoEnviron
> Activity: School Related
> Activity: Non-School Related

NREB STAFF
> What is EIA
> EIA Policy
> Project & Study
> Water Quality
> Air Quality
> Solid Waste Management
> GeoEnviron
> Activity: School Related
> Activity: Non-School Related

What is 'EIA' EIA Policy
GeoEnviron Water Quality Air Quality
EIA:Forestry
EIA:Plantation Prescribed Activities
Offence & Compound

USEFUL LINK
COMPLAINT@TALIKHDAMAT
SARAWAK DISASTER INFORMATION
DISASTER NEWS
AIR POLLUTANT INDEX (API)
FIRE WEATHER INDEX (FWI)
MALAYSIA OPEN DATA
SARAWAK FACTS & FIGURES
PAYBILL SARAWAK
WEBMAIL

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Office Hours:
Monday - Thursday: 8:00 am - 1:00 pm & 2:00 pm - 5:00 pm
Friday: 8:00 am - 11:45 am & 2:15 pm - 5:00 pm
*Close: Saturday & Sunday and Public Holiday

DATA ACCESS
Access variety of data from government agencies.

EVENT CALENDAR
Index Indicators | Air Quality | Hotspots Info

ACTIVITY GALLERY

- FWI is used as monitoring index to issue ban for open burning

FWI SIGN BOARD AT PEAT LAND



- Sahabat Hutan Gambut Selangor Utara



THANK YOU
FOR LISTENING