EFS Weather application

EUROSUR Fusion Services
27-10-2016

Author: Personal data
EFS Weather application

Background

• Strengthen the cooperation between the EUNAVFORMED and Frontex
• Provide Libyan Coast Guard (LCG) with reliable weather forecast information useful for their activities
• Support operational planning and informed decision making
• Distribution of weather services already provided by Frontex

• First version 0.1
  ▪ Released on 04/10/2016
• Second version 1.0
  ▪ Released on 26/10/2016
  ▪ Minor bug-fixes
  ▪ Additional weather layers
Access

- Secured access:
  - HTTPS
  - Login page
  - User and password
  - Session timeout (60 minutes)

- Access request:
  - **Means of communication**

User name

Password

☐ Remember me?

Log in

Access request

© 2016 - Weather forecast App

**Means of communication**

FRONTEX
EUROPEAN BORDER AND COAST GUARD AGENCY
EFS Weather application

Map application

Means of communication

EFS Weather App

Wed Oct 26 2016 20:00:00 GMT +0200 (Central European Daylight Time)

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Map application: basic controls

- Zoom in/out
  ![Zoom in/out controls]

- Table of contents:
  - List of available layers
  - View/hide layer
  - Custom transparency

- Basemaps: list of available basemaps
  ![Switch Basemap]
  
  - Imagery
  - Imagery with Labels
  - Streets
  - Topographic
  - Dark Gray Canvas
  - Light Gray Canvas
Map application: feature information

- Get information from map features
- By clicking on the feature
Weather application: types of layers

- Layers contain information on weather parameters

- 3 types of layers:
  - Locations:
    - Weather information of a particular location
  - Contours:
    - Isograms
    - Lines representing equality with respect to a given variable
  - Areas:
    - Areas representing values of variable within a certain threshold
Weather application: time slider

- Time slider
  - Allows to change date of visible information
  - Helps to manage forecast information
  - Improves data visualization
  - Displays selected time in local computer time zone

Thu Oct 27 2016 14:00:00 GMT+0200 (Central European Daylight Time)
Weather data: availability and types

- 3 days forecast available
- 3-hour interval

- Types of weather parameters:
  - Weather forecast in locations
  - Maritime forecast
  - Atmospheric forecast
Weather data: Weather forecast in locations

- General weather conditions
- Information of weather condition on a particular location
- Visible icon is a summary of weather condition
- Detailed information by clicking on the icon

- Information of all parameters available:
  - time = '2016-10-27T12:00:00.000Z'
  - Name = 'Palermo/Punta Raisi'
  - Height = '20'
  - Weather = 'Thunderstorm'
  - Air_temp = '20.2'
  - Dewpoint = '17.9'
  - Humidity = '87'
  - Wind_speed = '8'
  - Etc.
Weather data: Maritime forecast

- Parameter from maritime environment
- Information of variable in an area
- Color code
- Information of the threshold/isogram by clicking on the area/line
  - Except parameters with (*)

- Parameters available:

  Current speed
  Current (arrows)*
  Sea surface temperature
  Significant wave height
  Swell (arrows)*
  Swell height
  Swell period
  Wind (barbs)*
  Wind speed
  Wind wave height
  Wind wave period
Weather data: Atmospheric forecast

- Parameter from atmospheric environment
- Information of variable in an area
- Color code
- Information of the threshold/isogram by clicking on the area/line

- Parameters available:
  - Air temperature 2m
  - Apparent temperature
  - Precipitation amount 3-hourly
  - Precipitation amount 6-hourly
  - Precipitation probability
  - Pressure mean sea level
  - Relative Humidity 2m
  - Total cloud cover
  - Visibility
  - Wind gusts
Weather data: special graphics

- Current (arrows)
  - Speed and direction of current.
  - The arrow points to where the current is going to.
  - The larger the arrow, the higher the speed

- Swell (arrows)
  - Combination of swell height and the direction.
  - The arrows point to where the waves are going to.
  - The larger the arrow, the higher the swell

- Wind (barbs):
  - Contains wind speed and wind direction.
  - Wind wave direction is the direction the waves are coming from.
  - The symbol points to where the wind is going to.
  - Each short barb stands for 5 knots.
  - Each long barb stands for 10 knots.
  - Pennant means 50 knots.
Weather data: “waves”

- Swell
  - Wind-generated waves that are not significantly affected by the local wind at that time.
  - They have been generated elsewhere or some time ago.

- Wind wave
  - Generated by local winds

- Significant wave height
  - Mean wave height (trough to crest) of the highest third part of all waves
  - Used as a measure of the height of ocean waves
Weather data: “temperatures”

- Air temperature 2m:
  - 2 meters above the ground

- Apparent temperature:
  - Perceived by humans,
  - Caused by the combined effects of
    - Air temperature,
    - Relative humidity
    - Wind
Weather data: "winds"

- Wind speed:
  - wind flow velocity

- Wind (barbs):
  - Graphic that represents both wind speed and direction

- Wind gusts:
  - Sudden, brief increase in the speed of the wind followed by a lull.
  - Duration is usually less than 20 seconds
  - Highest 3 seconds duration wind speed at 10 metres
Weather data: units

- **metres (m)**
  - Significant wave height, Swell height, Wind wave height
- **seconds (s)**
  - Swell period, Wind wave period
- **hectoPascal (hPa)**
  - Pressure mean sea level
- **metres per second (m/s) -> 1 m/s ≈ 1.95 knot**
  - Wind speed, Wind gusts, Current speed
- **degrees Celsius (°C)**
  - Sea surface temperature, Air temperature 2m, Apparent temperature
- **percentage (%)**
  - Relative Humidity 2m, Precipitation probability
- **millimetres (mm)**
  - Precipitation amount 3-hourly, Precipitation amount 6-hourly, Total cloud cover
- **kilometres -> 1 km ≈ 0.53nm**
  - Visibility
Thanks for your attention