

Prometheus

<http://chios.prometheus.online/>

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<https://github.com/kickapoo>

Arrival data refers to sea arrivals 3/4/16



Main problems:

- No coordination
- Rapid response
- Logistics
- Early warning



International Organization for Migration - IOM

Network | Iraq & Syria | Downloads

DISCLAIMER
Base Map Source: ESRI. This map is for illustration purposes only. Names and boundaries on this map do not imply official endorsement or acceptance by IOM.

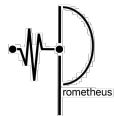
Since January 2016, 374 migrants are reported dead/missing in the Mediterranean

In 2015, 3,770 migrants are reported dead/missing in the Mediterranean

Latest Mediterranean update

For more information on Missing Migrants Project:
missingmigrants.iom.int

Missing Migrants Project is a global database tracking data on deceased and missing migrants along migratory routes worldwide.

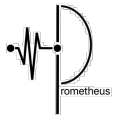


<https://github.com/kickapoo/prometheus>



FOSSCOMM 2016

Prometheus is a web platform
for supporting Teams/Volunteers
with their Needs management
in the Aegean islands of first reception of refugees.



<https://github.com/kickapoo/prometheus>

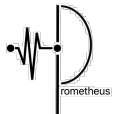


Features:

- Coordinator / Volunteer Management
- Spot Management
- Announcements
- Needs Notifier / Selector
- Warehouse Notifier / Management
- Weather Conditions / 6-day Forecast

Soon ..

- Data Analytics
- Mobile application



<https://github.com/kickapoo/prometheus>



Points of Interest

Announcements

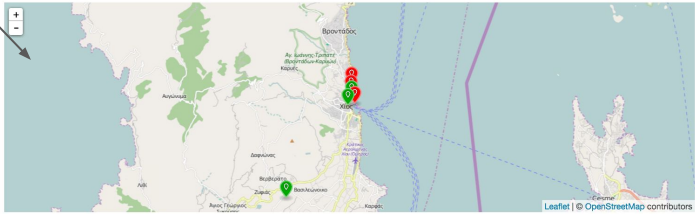
Chios.prometheus.online
April 14th 2016, 3:23:22 pm

[Coordinators Login](#) | [Volunteers Login](#)

Last Update: 6 hours ago

OPEN 3 #

CLOSE 3 #



Leaflet | © OpenStreetMap contributors

Needs

Show 10 entries Search:

Spot	Need	Hours	Volunteers Needed
Dipethe	Tea Distribution	08:00-12:00,	2
Dipethe	Food /breakfast	08:00-12:00,	2
Dipethe	Support to food and tea distribution	08:00-12:00,	2
Souda	Tea Distribution	08:00-12:00,	2
Souda	Food /breakfast	08:00-12:00,	2
Souda	Support to food and tea distribution	08:00-12:00,	2

Showing 1 to 6 of 6 entries Previous 1 Next

Announcements Refresh

- Vial Kitchen now open Read more... a month ago
- Chios Town Port spot Re-open Read more... a month ago
- Tsabalita is now OPEN Read more... a month ago
- admin@prometheus.online - Web master email Read more... a month ago
- Volunteers in Souda Read more... a month ago
- Please share chios.prometheus.online to other Volunteers

General Need Emergency

22.0 °C | clear sky

Wind Speed: 4.1 m/s Direction: 190°

Rainfall -

Temperature Average: 22.0 °C Max: 22.0 °C Min: 22.0 °C

Cloudiness Clear, 0 %

Pressure Ground Level: 1011 hpa Sea Level: None hpa

Humidity 56 %

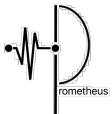
Sunrise 2016-04-14 03:40:00+00

Sunset 2016-04-14 16:51:37+00

Need per Spot

Weather Conditions

<http://chios.prometheus.online/>



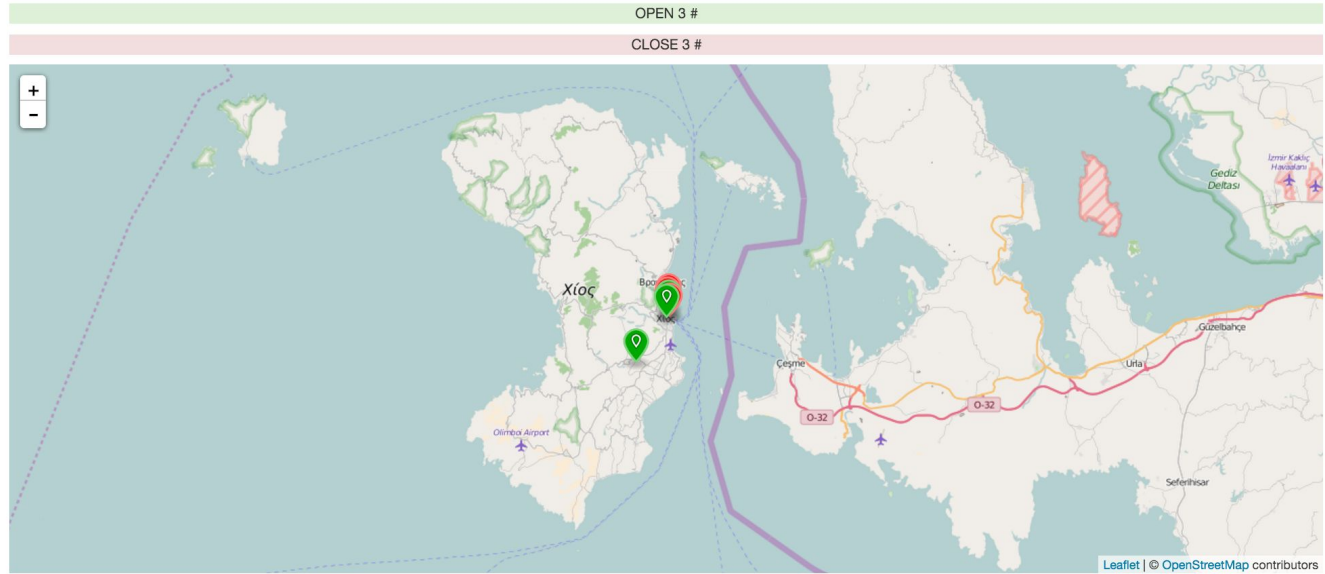
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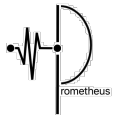
- Overview
- Teams
- Volunteers
- NGOs
- Spots
- Needs
- Warehouse
- Manage
- Tickets
- Announcements

View as Volunteer

Overview



Coordinator



<https://github.com/kickapoo/prometheus>



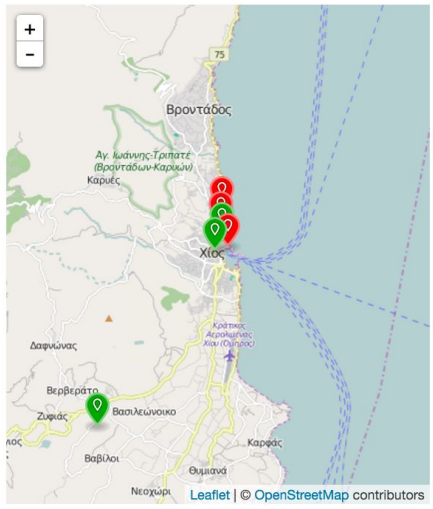
 Needs

 NGOs

Last Update:
in 6 hours

OPEN 3 #

CLOSE 3 #



Leaflet | © OpenStreetMap contributors

Rules:

1. You can select only One Need per Day
2. You can switch between Need during the Day (please use it with caution, this exists only to help coordinators)
3. Refresh to get Updated...
4. Refresh to get Updated... (Yes, i wrote it twice...)

Show entries

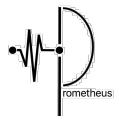
Search:

Spot	Need	Hour Choices	Volunteers Needed	Allready Selected	
Dipethe	Tea Distribution	08:00-12:00,	2		<input type="button" value="select"/>
Dipethe	Food /breakfast	08:00-12:00,	2		<input type="button" value="select"/>
Dipethe	Support to food and tea distribution	08:00-12:00,	2		<input type="button" value="select"/>
Souda	Tea Distribution	08:00-12:00,	2		<input type="button" value="select"/>
Souda	Food /breakfast	08:00-12:00,	2		<input type="button" value="select"/>
Souda	Support to food and tea distribution	08:00-12:00,	1	Stavros Anastasiadis,	Your Selection

Showing 1 to 6 of 6 entries

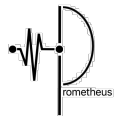
Previous Next

Volunteer



Live

<http://chios.prometheus.online/>



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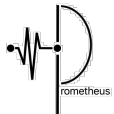


FOSSCOMM 2016

Built with

- Python 2.7
- Flask web framework (awesome!!!)
- Openweathermap.org

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Prometheus File structure

```
- config
  - default.py # Basic Flask config options
  - prometheus-settings.py # Special settings like lat or lon coordinates
- prometheus
  - __init__.py
  - blueprints
    - landing_page # Single Page
    - auth # Login/Logout
    - coordinators
    - volunteers
    - api # Using Auth0 to authenticate
  - models
    - auth.py # User and UserRoles
    - core.py # Team Volunteer Spot Need
  - static
  - templates
```

Extensions and Frontend libs

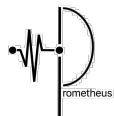
Prometheus as native Flask app take the advantage of the following extention:

1. [Flask-SQLAlchemy](#)
2. [Flask-Script](#)
3. [Flask-Moment](#)
4. [Flask-Bootstrap](#)
5. [Flask-Login](#)

Also, [OpenWeatherMaps.org](#) data are used through [PyOWM - A Python wrapper around the OpenWeatherMap web API](#)

For front-end the following are used:

1. SB-Admin 2 as the bootstrap theme for the admin panel
2. [Leaflet.js](#) maps
3. [MakiMarker](#) for more pointer icons options
4. [Datatables](#) for listing and searchin database records
5. [Font-Awesome](#) for more icons options

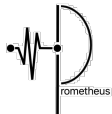


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Problems

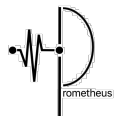
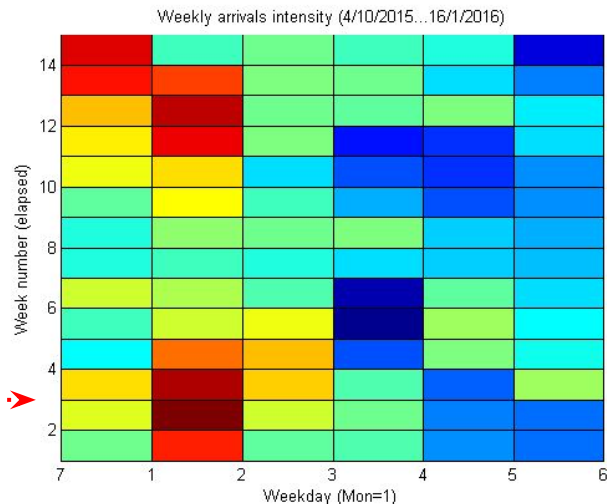
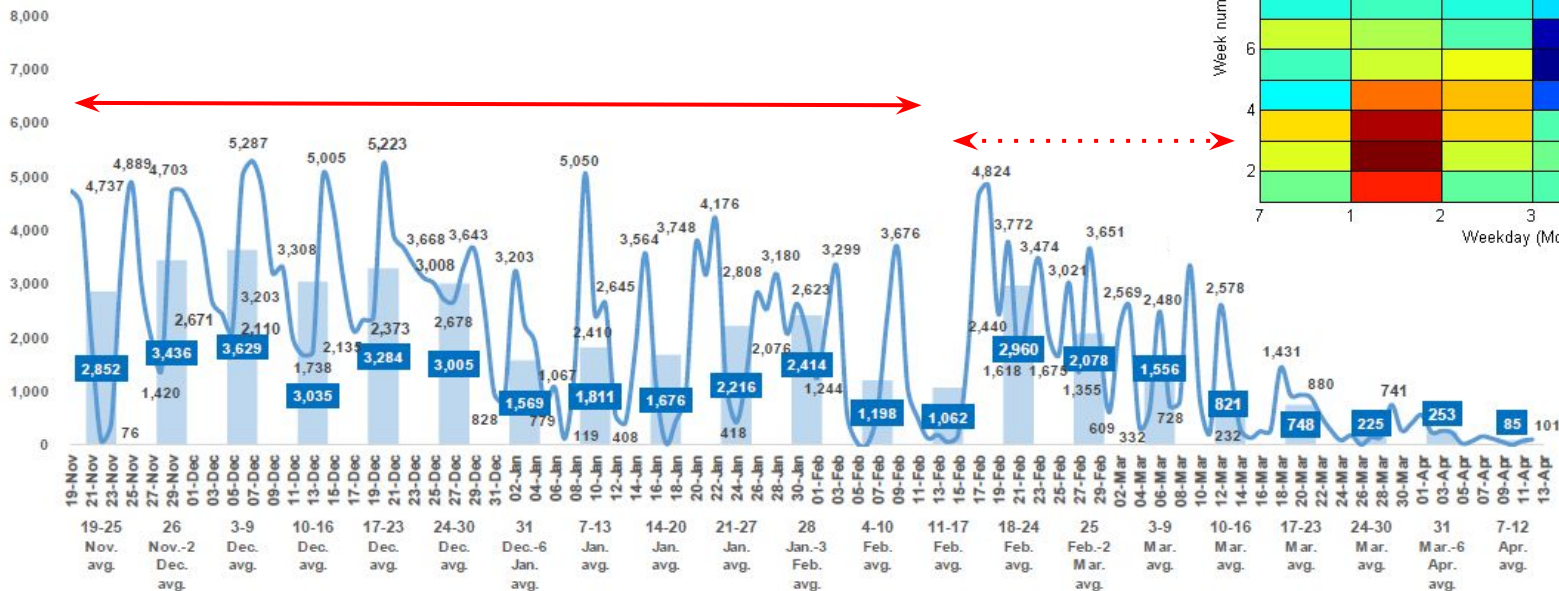
- Noone gives a shit if not under ‘big’ NGO umbrella.
- Local authorities didn’t even bother to fund server (10 \$ per month)
- Everyone likes it, everyone wants to get **involved**, but **no-one actually** does.
- “With CMS we can do it better...” (8 to 10 times)
- **Volunteers aren’t so clever** as you think !!! (“What is latitude and longitude?”)
- **EU gives money** for applications that focused on refugees like education etc, **not for Management**, management is for the government.
- “Where my data is stored!!!? Is it secure ??” (10 to 10 times)



Daily influx analysis: 1-D, 2-D (weekly)

- Models for identification & forecasting

Greece



<https://github.com/kickapoo/prometheus>

* Ref: "Identification of refugee influx patterns in Greece via model-theoretic analysis of daily arrivals" (Harris Georgiou @ Arxiv.org & SafeEvros 2016)



$$\hat{y}(t) = (a \cdot \cos(b \cdot t + c)) + (d \cdot t + c_0)$$

$$\hat{y}(t) = (875 \cdot \cos(0.97 \cdot t - 2.85)) + (-47 \cdot t + 6669)$$

$$T_C = 2\pi/b \simeq \underline{6.5 \text{ (days)}}$$

Cosine-linear Regression:

- Linear trend estim.
- Periodic trend estim.
- Major “frequency”
- High/Low peaks
- Very simple calc.

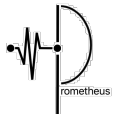
ARMA modeling:

- Auto-regressive (y)
- Moving average (x)
- Sys. identification
- Short-term forecast
- Adaptive, simple

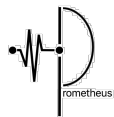
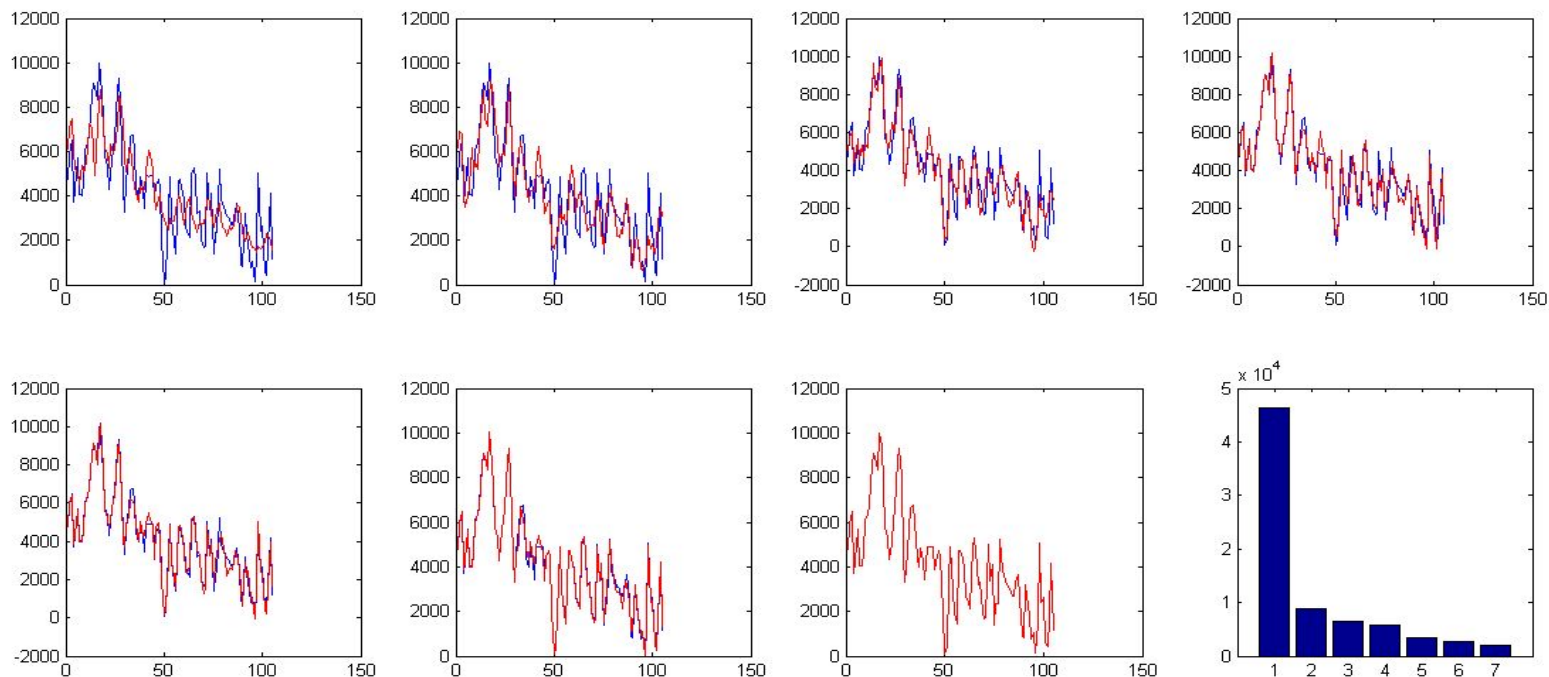
$$\hat{y}(t) = 1 + \sum_{i=1}^m (a_i \cdot y(t-i)) + \sum_{j=0}^k (b_j \cdot x(t-j)) + e(t)$$

$$A_9(z) = 1 - 0.8887 \cdot z^{-1} + 0.1247 \cdot z^{-2} + \underline{0.2971 \cdot z^{-3}} \\ - \underline{0.3747 \cdot z^{-4}} + 0.1526 \cdot z^{-5} - 0.1265 \cdot z^{-6} \\ - 0.1357 \cdot z^{-7} + 0.164 \cdot z^{-8} - 0.144 \cdot z^{-9}$$

$$B_9(z) = 48.94 \cdot z^{-3}$$



Weekly analysis: 7-day “patterns”, in-depth analysis of influx & networks (PPCA, ICA,...)



<https://github.com/kickapoo/prometheus>

* Ref: “Identification of refugee influx patterns in Greece via model-theoretic analysis of daily arrivals” (Harris Georgiou @ Arxiv.org & SafeEvros 2016)



Thank You !!!

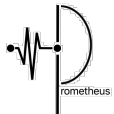
<http://www.ict4dascgr.eu>

Contribute

Feel free to contribute by using github issues and pull requests or just by sharing this project to others. The rule is simple, if a contribution rather than mine exists, a page in footer will be added to list Contributor name with a link to their personal page. By Coordibution does't mean only coding.



Fix typo with a pull request submission



<https://github.com/kickapoo/prometheus>

