GEO-CRADLE Workshop & Project Meeting
16-17 November 2016, Limassol, Cyprus

http://geocradle.eu

PROTEZIONE CIVILE
Presidenza del Consiglio dei Ministri
Dipartimento della Protezione Civile

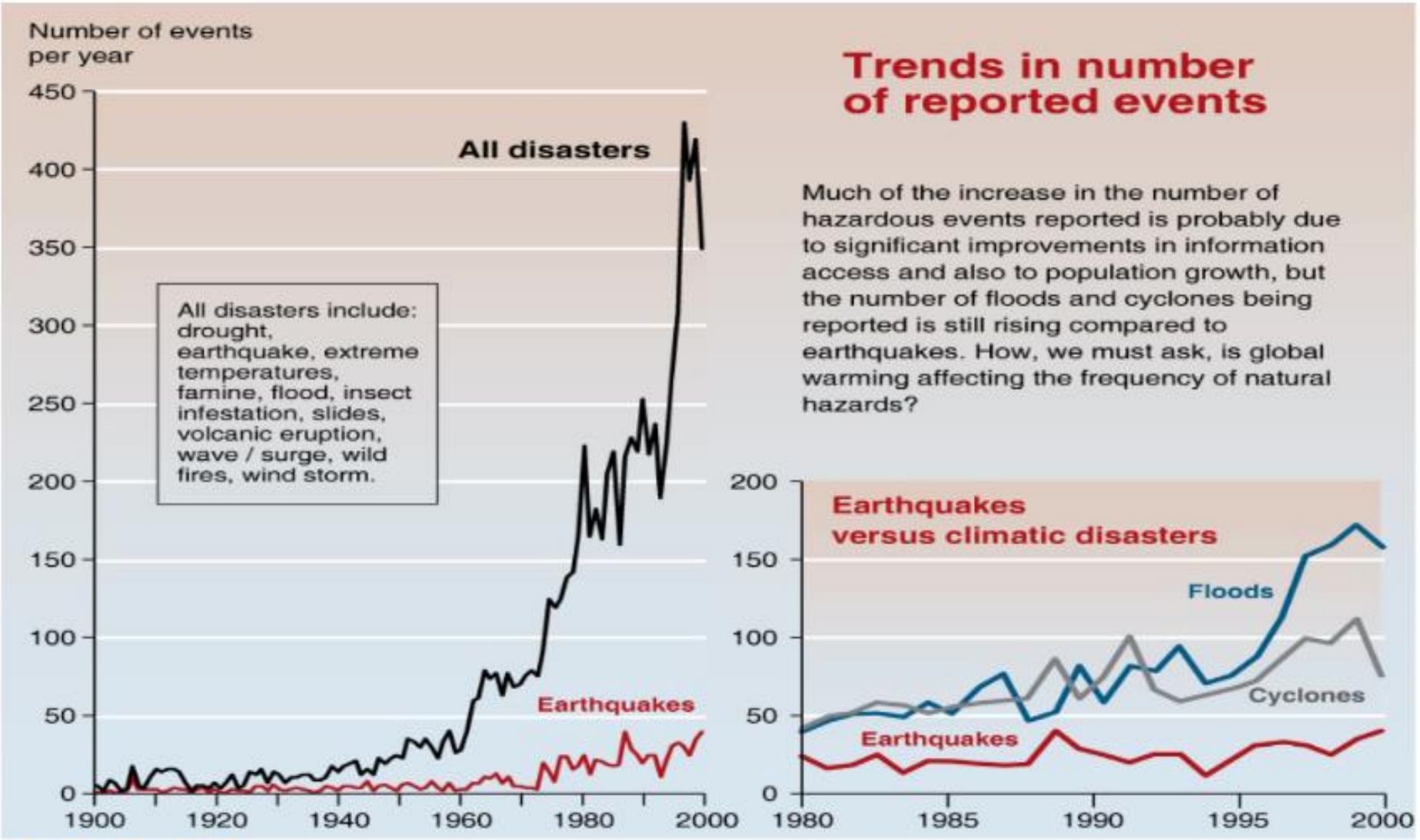
FONDAZIONE CIMA
CIMA RESEARCH FOUNDATION

Disaster Management in Albania with the web-based platform DEWETRA

Institute of GeoSciences, Energy, Water and Environment
IGEWE, Albania.

Speaker: Liljana LATA

Trends in Disaster Management



Organization for Security and Co-operation in Europe

ALBANIA IS A DISASTER-PRONE COUNTRY, EXPOSED TO MOST HAZARDS OF:

A. Natural origin:

(1) **geologic** (earthquakes, rock falls, landslides);
(2) **hydrologic** (flooding and torrential floods);
(3) **atmospheric** (snowstorms, high snowfalls, windstorms, draughts);
(4) **biophysical** (forest fires, epidemics);
(5) **snow avalanches**;

B. Man-made origin: dam burst floods and hazards of technogenic origin

C. Technological hazards, CBRN etc.

Hydrography in Albania

- Hydrographic basin of Albania encompasses 43 305 km^2 of which 14 557 km^2 belonging to the watersheds of Drini and Vjosa rivers.
- 8 main rivers grouped in six watersheds transverse the country from east to west.
- The river system poses the highest flood risk to the country, especially in period November-March with 80-85% of the annual precipitation.

Flood risk in Albania is related to:

1. Large flooding potential of west plains lowlands.
2. Flooding potential associated with smaller rivers and torrents.

FLOODS in Albania

- 1854-1871. 11 flood events were registered.

- Historically, the floods of November 1962-January 1963 is considered the largest with 70 000 ha agriculture area flooded.
- The second one are the floods of September 2002 caused by river Erzeni and some tributaries with a agriculture area flooded of 30 000 ha.

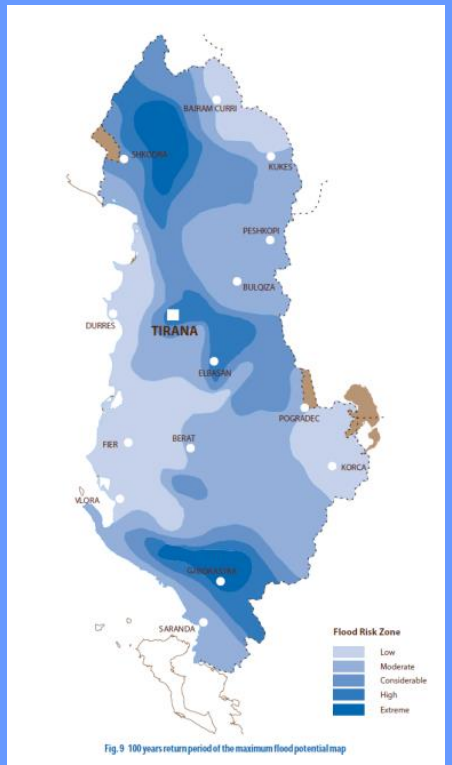


Fig. 9 100 years return period of the maximum flood potential map

Flood risk of small rivers and torrents

Flood risk of the main river systems

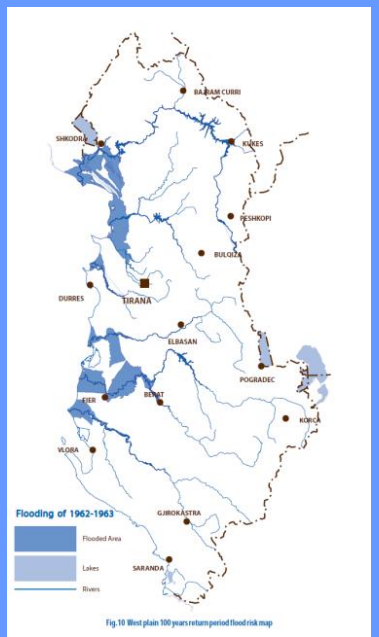
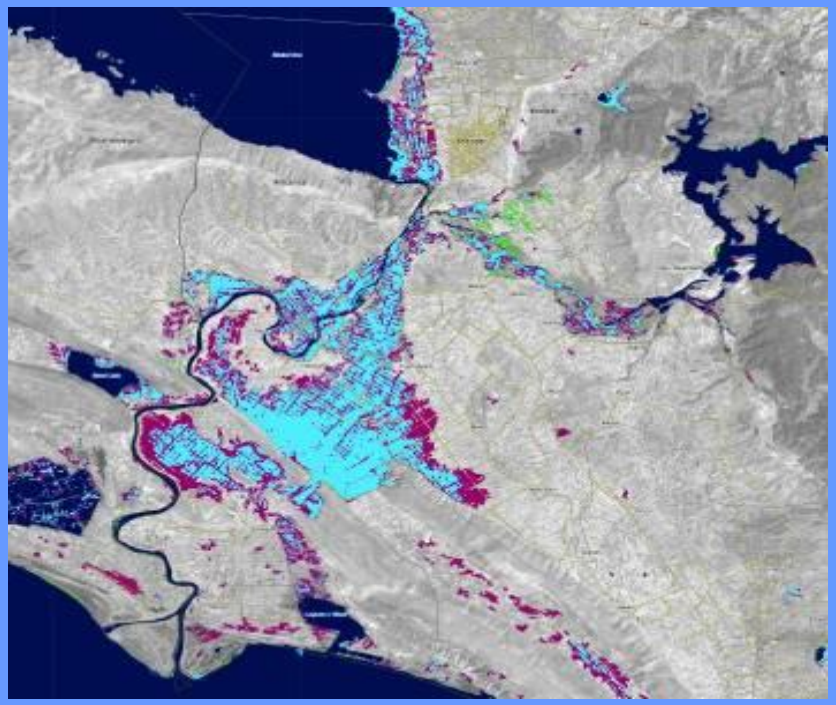


Fig. 10 West plain 100 years return period flood risk map

Floods in Albania, 2010



REPUBLIKA E SHQIPËRISË
MINISTRIA E PUNËVE TË BRENDSHME

FLOODS, FEBRUARY 2015

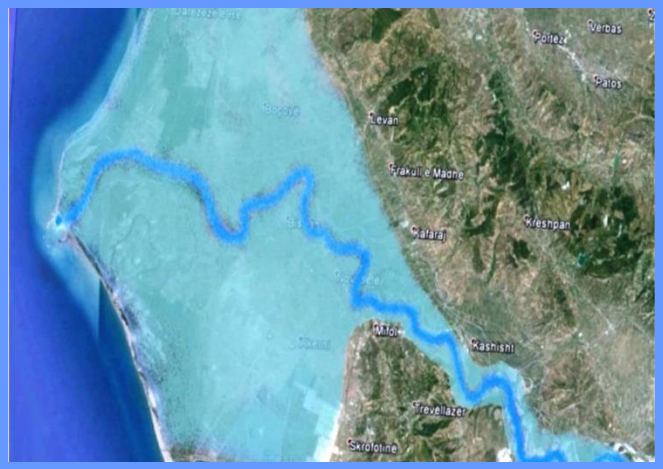
- Heavy rainfalls, varying between 160 and 200 mm in three days (the equivalent of a normal monthly ratio), the southern and south-eastern parts of Albania were been hit by major floods.
- On January 31st the water level of the rivers Vjosa, Drinos, Osumi Gjanica began to increase, while the water level of Devoll River was increased on February 4th.
- On February 1, 2015, the water level in the river Osum rose over 4.2 meters in Vajgurore Bridge and Bridge in Gorica over 3.5 meters; Vjosa river level rose more than 2.5 meters in the bridge Mifol.
- The peak of the emergency occurred on February 2 - the date with the highest indicators of population as well as agricultural land affected by the flood. As of 3 February the water levels of rivers started decreasing.
- The rise of the rivers threatened the nearby communes and villages especially in **Levan, Darzeze, Fitore, Poro, Delisuf, Akerni, Novosele, Docove, Frakull, Bishan, Mifol, Ferras and UraVajgurore.**

REPUBLIKA E SHQIPËRISË
MINISTRIA E PUNËVE TË BRENDSHME

Floods in the regions: Fier, Vlorë, Gjirokastër, Berat, Elbasan, Korçë. February 2015.

Map showing the initial affected communes

Damages in bridges, Vjosa river basin



Vjosa downstream

REPUBLIKA E SHQIPËRISË
MINISTRIA E PUNËVE TË BRENDSHME













FLOODS, FEBRUARY 2015

REPUBLIKA E SHQIPËRISË
MINISTRIA E PUNËVE TË BRENDSHME

FLOODS, FEBRUARY 2015

- **The PDNA Report estimated the damages, losses and immediate needs to EUR 110 million.**
- Total of 9 regions and 53 municipalities were affected.
- The total affected population in the flooded areas 397.316 people.
- Around 12,225 ha of arable and planted land were submerged, affecting crops at various stages of development.
- Approximately 15,000 farming households were affected.
- 9,992.6 ha of agriculture land damaged.
- 2,000 people evacuated

REPUBLIKA E SHQIPËRISË
MINISTRIA E PUNËVE TË BRENDSHME

FLOODS, FEBRUARY 2015

- Information by European Flood Awareness System was provided on January 29th
- IGEWE on January 29th and 30th confirms the awareness of EFAS.
- On January 29th , GDCE, through the National Operations Center for Civil Emergencies (NOCCE) announced all institutions about the situation of heavy rainfall.
- Gathering of prefecture Commissions of Planning and Coping with Civil Emergencies was urgently asked to analyze the situation.
- On January 29th , all ministries and operational forces, like vehicles and equipment of Army, State Police, Fire Fighting Service and civil emergency volunteer center were alerted.

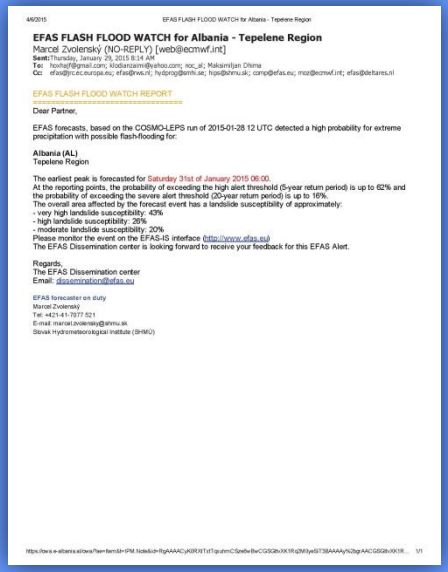
REPUBLIKA E SHQIPËRISË
MINISTRIA E PUNËVE TË BRENDSHME

FLOODS, FEBRUARY 2015

- An action plan with tasks for each organization in the stage of readiness and response, was prepared from GDCE.
- Additional staff was attached to the Civil Emergency National Operational Center.
- Planning, Operational and Logistic Sections were established.
- Request for international assistance to ERCC&NATO EADRCC, on February 5th.
- Assistance is closed through ERCC&EADRCC on March 6th .

REPUBLIKA E SHQIPËRISË
MINISTRIA E PUNËVE TË BRENDSHME

INFORMATION BY EUROPEAN FLOOD AWARENESS SYSTEM WAS PROVIDED ON JANUARY 29TH



4/6/2015 EFAS FLASH FLOOD WATCH for Albania - Tepelene Region

EFAS FLASH FLOOD WATCH for Albania - Tepelene Region

Marcel Zvolenský (NO-REPLY) [web@ecmwf.int]
Sent: Thursday, January 29, 2015 8:14 AM
To: hoxhaj@gmail.com; klodianzamo@yahoo.com; roc_al; Maksimiljan Dhima
Cc: efas@rc.ec.europa.eu; efas@rwa.nl; hydprog@smhi.se; hps@shmu.sk; comp@efas.eu; mcz@ecmwf.int; efas@deltares.nl

EFAS FLASH FLOOD WATCH REPORT

Dear Partner,

EFAS forecasts, based on the COSMO-LEPS run of 2015-01-28 12 UTC detected a high probability for extreme precipitation with possible flash-flooding for:

Albania (AL)
Tepelene Region

The earliest peak is forecasted for Saturday 31st of January 2015 06:00.
At the reporting points, the probability of exceeding the high alert threshold (5-year return period) is up to 62% and the probability of exceeding the severe alert threshold (20-year return period) is up to 16%.
The overall area affected by the forecast event has a landslide susceptibility of approximately:
- very high landslide susceptibility: 43%
- high landslide susceptibility: 26%
- moderate landslide susceptibility: 20%
Please monitor the event on the EFAS-IS interface (http://www.efas.eu)
The EFAS Dissemination center is looking forward to receive your feedback for this EFAS Alert.

Regards,
The EFAS Dissemination center
Email: dissemination@efas.eu

EFAS forecaster on duty
Marcel Zvolenský
Tel: +421-41-7077 521
E-mail: marcel.zvolensky@shmu.sk
Slovak Hydrometeorological Institute (SHMÚ)

https://owa.e-albania.al/owa/?ae=Item&t=IPM.Note&id=RgAAAACyK0R3tTaTqu...

4/6/2015 EFAS FLOOD WATCH for Albania - Seman

EFAS FLOOD WATCH for Albania - Seman

Marcel Zvolenský (NO-REPLY) [web@ecmwf.int]
Sent: Thursday, January 29, 2015 1:05 PM
To: hoxhaj@gmail.com; klodianzamo@yahoo.com; roc_al; Maksimiljan Dhima
Cc: efas@rc.ec.europa.eu; efas@rwa.nl; hydprog@smhi.se; hps@shmu.sk; comp@efas.eu; mcz@ecmwf.int; efas@deltares.nl

EFAS FLOOD WATCH REPORT

Dear Partner,

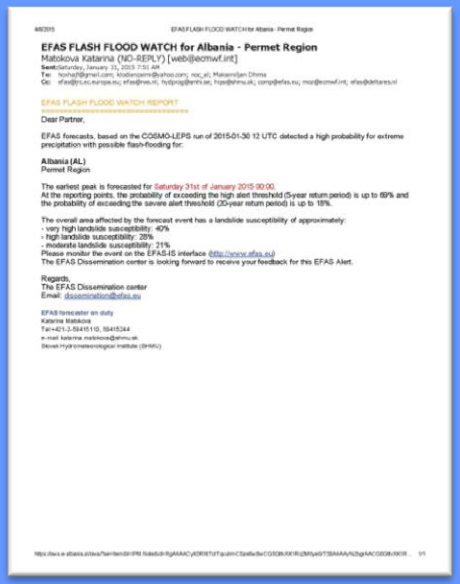
EFAS predicts a high probability of flooding for **Albania - Seman (Vjose,Seman basin)** from Saturday 31st of January 2015 onwards.
According to the latest forecasts (2015-01-29 00 UTC) up to 69% EPS (COSMO) are exceeding the high threshold (~ 5 year simulated return period) and up to 12% EPS (COSMO) exceeding the severe threshold (~ 20 year simulated return period).
Compared to the VAREPS mean, the ECMWF deterministic forecast is higher and the DWD deterministic forecast is higher.
The higher resolution COSMO-LEPS forecasts indicate higher risk for flooding than VAREPS.
The earliest flood peak is expected for Saturday 31st of January 2015.

This message is only an EFAS FLOOD WATCH because
- the upstream area is below the efas criterium of 4000 km2
- the different forecasts are not consistent
Please monitor the event on the EFAS-IS interface (http://www.efas.eu)
The EFAS Dissemination center is looking forward to receive your feedback for this EFAS Alert.

Regards,
The EFAS Dissemination center
Email: dissemination@efas.eu

EFAS forecaster on duty
Marcel Zvolenský
Tel: +421-41-7077 521
E-mail: marcel.zvolensky@shmu.sk
Slovak Hydrometeorological Institute (SHMÚ)

https://owa.e-albania.al/owa/?ae=Item&t=IPM.Note&id=RgAAAACyK0R3tTaTqu...



4/6/2015 EFAS FLASH FLOOD WATCH for Albania - Permet Region

EFAS FLASH FLOOD WATCH for Albania - Permet Region

Matzkova Katarina (NO-REPLY) [web@ecmwf.int]
Sent: Saturday, January 31, 2015 7:51 AM
To: hoxhaj@gmail.com; klodianzamo@yahoo.com; roc_al; Maksimiljan Dhima
Cc: efas@rc.ec.europa.eu; efas@rwa.nl; hydprog@smhi.se; hps@shmu.sk; comp@efas.eu; mcz@ecmwf.int; efas@deltares.nl

EFAS FLASH FLOOD WATCH REPORT

Dear Partner,

EFAS forecasts, based on the COSMO-LEPS run of 2015-01-30 12 UTC detected a high probability for extreme precipitation with possible flash-flooding for:

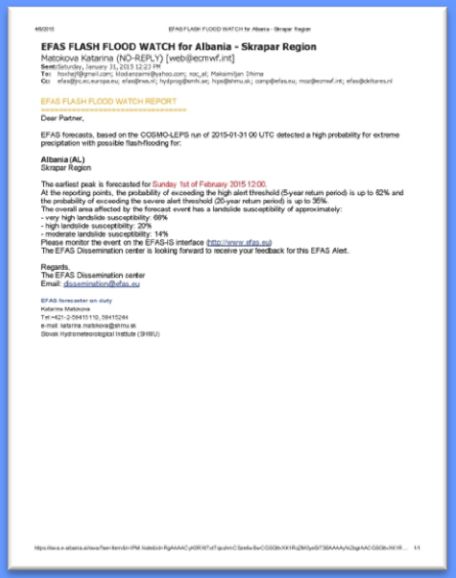
Albania (AL)
Permet Region

The earliest peak is forecasted for Saturday 31st of January 2015 00:00.
At the reporting points, the probability of exceeding the high alert threshold (5-year return period) is up to 69% and the probability of exceeding the severe alert threshold (20-year return period) is up to 18%.

The overall area affected by the forecast event has a landslide susceptibility of approximately:
- very high landslide susceptibility: 40%
- high landslide susceptibility: 28%
- moderate landslide susceptibility: 21%
Please monitor the event on the EFAS-IS interface (http://www.efas.eu)
The EFAS Dissemination center is looking forward to receive your feedback for this EFAS Alert.

Regards,
The EFAS Dissemination center
Email: dissemination@efas.eu

EFAS forecaster on duty
Katarina Matzkova
Tel:+421-2-59415110, 59415244
e-mail: katarina.matzkova@shmu.sk
Slovak Hydrometeorological Institute (SHMÚ)



4/6/2015 EFAS FLASH FLOOD WATCH for Albania - Skrapar Region

EFAS FLASH FLOOD WATCH for Albania - Skrapar Region

Matzkova Katarina (NO-REPLY) [web@ecmwf.int]
Sent: Saturday, January 31, 2015 12:23 PM
To: hoxhaj@gmail.com; klodianzamo@yahoo.com; roc_al; Maksimiljan Dhima
Cc: efas@rc.ec.europa.eu; efas@rwa.nl; hydprog@smhi.se; hps@shmu.sk; comp@efas.eu; mcz@ecmwf.int; efas@deltares.nl

EFAS FLASH FLOOD WATCH REPORT

Dear Partner,

EFAS forecasts, based on the COSMO-LEPS run of 2015-01-31 00 UTC detected a high probability for extreme precipitation with possible flash-flooding for:

Albania (AL)
Skrapar Region

The earliest peak is forecasted for Sunday 1st of February 2015 12:00.
At the reporting points, the probability of exceeding the high alert threshold (5-year return period) is up to 62% and the probability of exceeding the severe alert threshold (20-year return period) is up to 36%.
The overall area affected by the forecast event has a landslide susceptibility of approximately:
- very high landslide susceptibility: 69%
- high landslide susceptibility: 20%
- moderate landslide susceptibility: 14%
Please monitor the event on the EFAS-IS interface (http://www.efas.eu)
The EFAS Dissemination center is looking forward to receive your feedback for this EFAS Alert.

Regards,
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e-mail: katarina.matzkova@shmu.sk
Slovak Hydrometeorological Institute (SHMÚ)

4/6/2015 EFAS FLASH FLOOD WATCH for Albania - Librazhd Region

EFAS FLASH FLOOD WATCH for Albania - Librazhd Region

Matzkova Katarina (NO-REPLY) [web@ecmwf.int]
Sent: Sunday, February 01, 2015 8:05 AM
To: hoxhaj@gmail.com; klodianzamo@yahoo.com; roc_al; Maksimiljan Dhima
Cc: efas@rc.ec.europa.eu; efas@rwa.nl; hydprog@smhi.se; hps@shmu.sk; comp@efas.eu; mcz@ecmwf.int; efas@deltares.nl

EFAS FLASH FLOOD WATCH REPORT

Dear Partner,

EFAS forecasts, based on the COSMO-LEPS run of 2015-01-31 12 UTC detected a high probability for extreme precipitation with possible flash-flooding for:

Albania (AL)
Librazhd Region

The earliest peak is forecasted for Sunday 1st of February 2015 18:00.
At the reporting points, the probability of exceeding the high alert threshold (5-year return period) is up to 81% and the probability of exceeding the severe alert threshold (20-year return period) is up to 47%.
The overall area affected by the forecast event has a landslide susceptibility of approximately:
- very high landslide susceptibility: 52%
- high landslide susceptibility: 32%
- moderate landslide susceptibility: 13%
Please monitor the event on the EFAS-IS interface (http://www.efas.eu)
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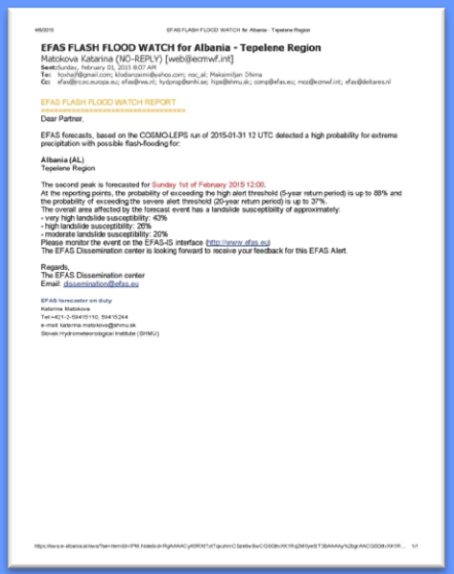

4/6/2015 EFAS FLASH FLOOD WATCH for Albania - Tepelene Region

EFAS FLASH FLOOD WATCH for Albania - Tepelene Region

Matzkova Katarina (NO-REPLY) [web@ecmwf.int]
Sent: Sunday, February 01, 2015 8:07 AM
To: hoxhaj@gmail.com; klodianzamo@yahoo.com; roc_al; Maksimiljan Dhima
Cc: efas@rc.ec.europa.eu; efas@rwa.nl; hydprog@smhi.se; hps@shmu.sk; comp@efas.eu; mcz@ecmwf.int; efas@deltares.nl

EFAS FLASH FLOOD WATCH REPORT

Dear Partner,

EFAS forecasts, based on the COSMO-LEPS run of 2015-01-31 12 UTC detected a high probability for extreme precipitation with possible flash-flooding for:

Albania (AL)
Tepelene Region

The second peak is forecasted for Sunday 1st of February 2015 12:00.
At the reporting points, the probability of exceeding the high alert threshold (5-year return period) is up to 68% and the probability of exceeding the severe alert threshold (20-year return period) is up to 37%.
The overall area affected by the forecast event has a landslide susceptibility of approximately:
- very high landslide susceptibility: 40%
- high landslide susceptibility: 26%
- moderate landslide susceptibility: 20%
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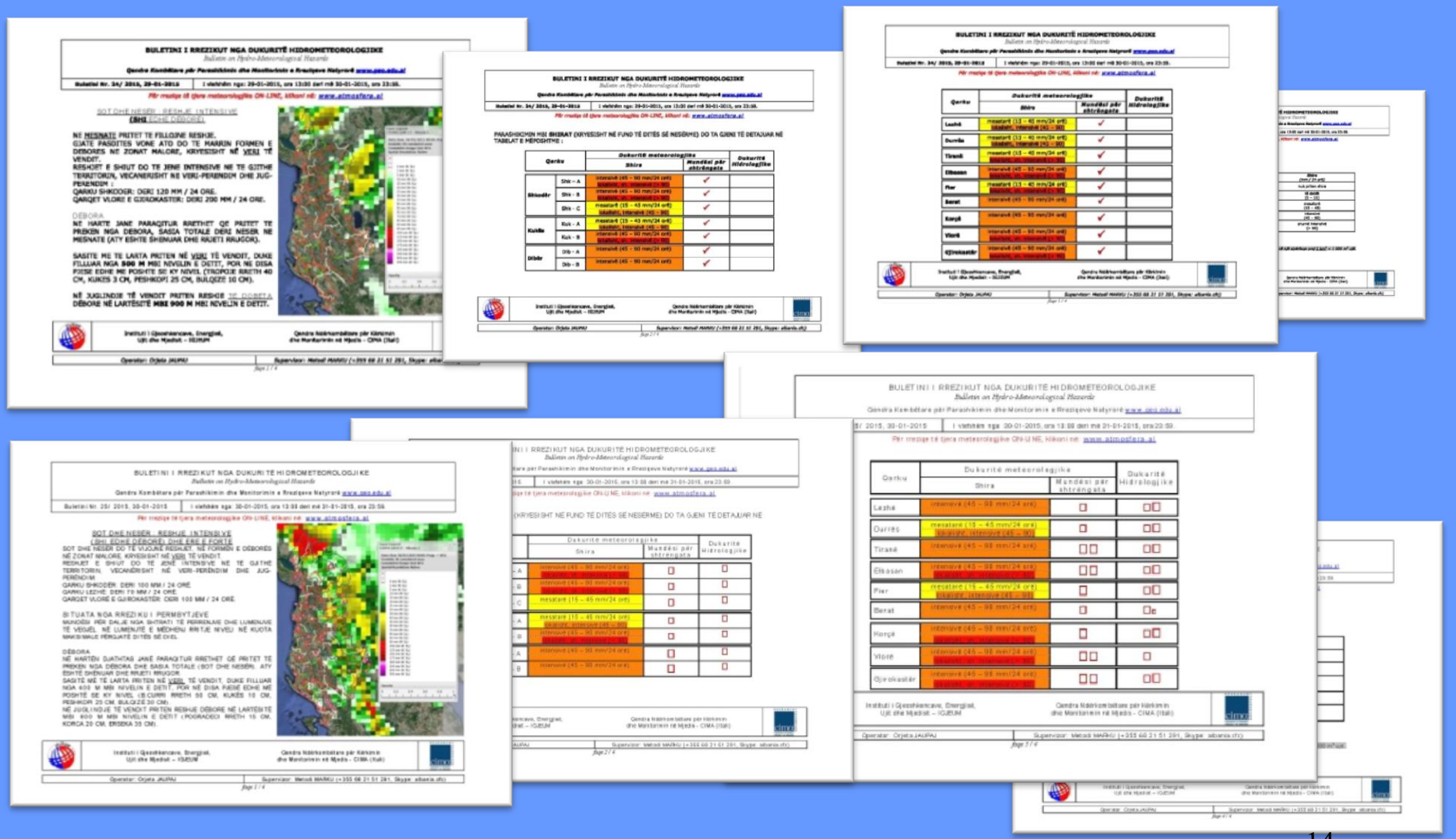
Email: dissemination@efas.eu

EFAS forecaster on duty
Katarina Matzkova
Tel:+421-2-59415110, 59415244
e-mail: katarina.matzkova@shmu.sk
Slovak Hydrometeorological Institute (SHMÚ)

IGEWE ON JANUARYY 29TH AND 30TH CONFIRMS THE AWARNESS OF EFAS



REPUBLIKA E SHQIPËRISË
MINISTRIA E PUNËVE TË BRENDSHME

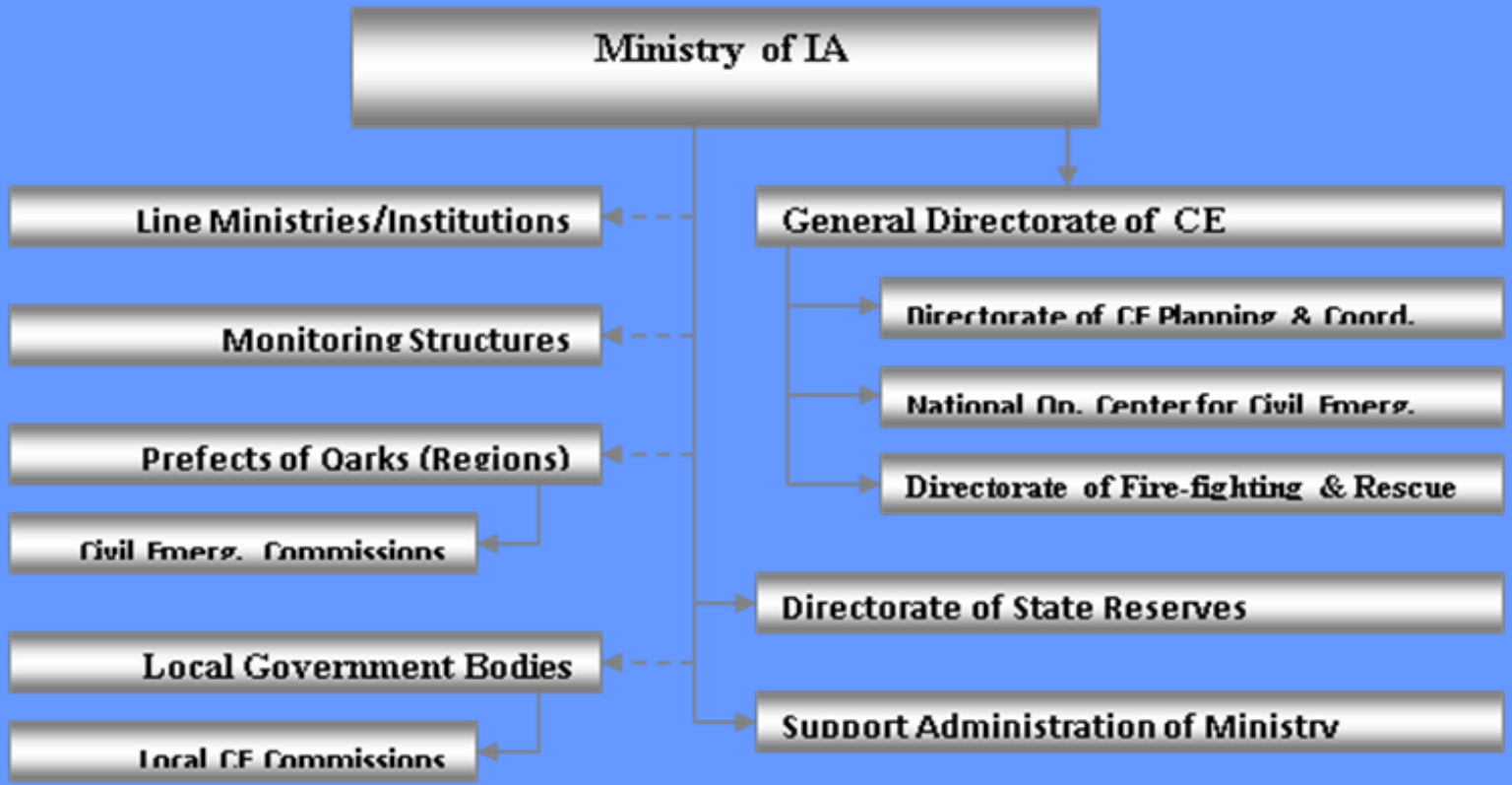
RESPONSIBILITIES ON A NATIONAL LEVEL of THE COUNCIL OF MINISTERS

- The Council of Ministers has the overall responsibility for civil emergency planning and response in the Republic of Albania.
- CM approves and endorses appro… policies and programs that aim to prevent, mitigate, prepare and respond to civil emergency situations
- CM declares for a period no l… 30 days the state of natural disasters in one area or all over t… country to prevent, respond and recover from civilian emergency
- Ask for the approval of the Parliament in order to extend the … disaster beyond 30 days.
- Decides on material and financial means to prevent and respond to civil emergencies

REPUBLIKA E SHQIPËRISË
MINISTRIA E PUNËVE TË BRENDSHME

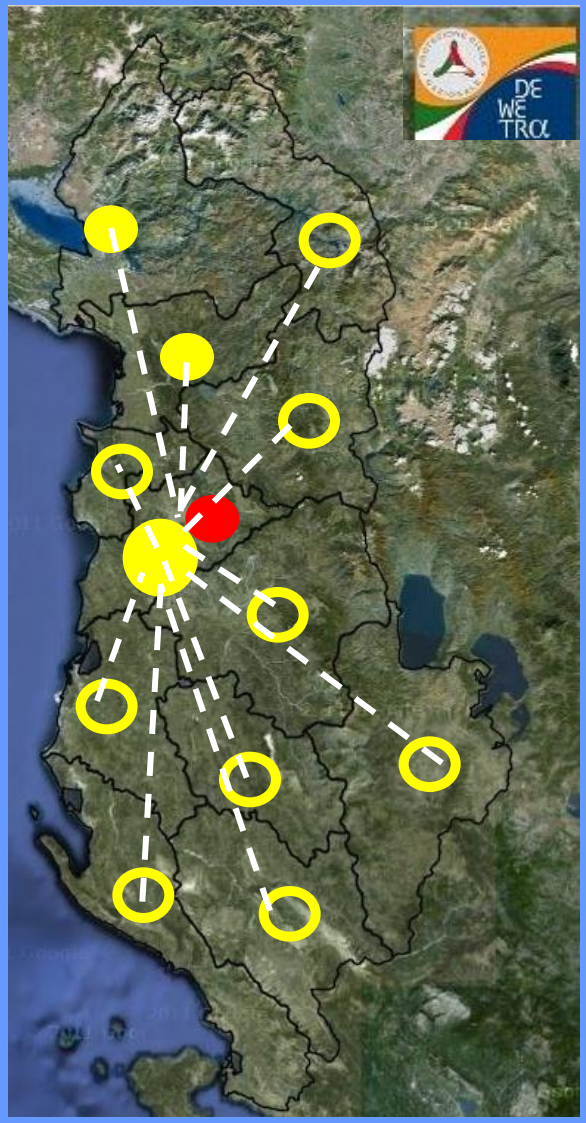
MINISTRY OF INTERNAL AFFAIRS

Implements the policy of the Council of Ministers in the areas of planning and coordinating civil emergency initiatives.
Through its permanent structures, it monitors the state of emergency in the entire territory of Albania.
In a state of emergency, it provides additional personnel to provide necessary support to the General Directorate of Civil Emergencies.



Structure of the system

- National Center for Forecasting and Monitoring of Natural Risks (IGEWE)
- **National Operative Centre**
- **Operative Centre at the Prefecture of Shkodra and Lezha**
- **Operative Centre at the prefecture levels**



Institute of GeoSciences, Energy, Water and Environment

The Institute of GeoSciences, Energy, Water and Environment is a national research unit that operates under the umbrella of the Polytechnic University of Tirana. From the organizative viewpoint it is designed in five main departments, each of them containing up to three research units. These departments are:

- Department of Climate and Environment
- Department of Geophysics and Georisks
- Department of Georesources and Geoenvironment
- Department of Seismology
- Department of Water Economy and Renewable Energy

Photo :IGEWE

Photo :Polytechnic University of Tirana

National Center for Forecasting and Monitoring of Natural Risks

In the framework of the International cooperation between the Civil Protection of Italy and Albania, the National Centre for Forecast and Monitoring of Natural Risks has been established at the Institute of Geosciences, Energy, Water and Environment *(IGEWE)*.

Technical Agreement with Italian Civil Protection, CIMA Foundation and the support of World Bank In forecasting, prevention and Mitigation Program against Floods and Forest fires in Albania

FONDAZIONE CIMA
CIMA RESEARCH FOUNDATION

"The main activities of the Center for Forecasting and Monitoring of Natural Risks"

Institute of GeoSciences, Energy, Water and Environment is supporting the General directorate of Civil Emergency of Albania using operational forecasting system DEWETRA to the Albanian territory.

- **Early warning** for **forest fires** to the whole Albania territory.
- **Meteorological early warning** to the whole Albania territory.
- **Flood forecasting for the DRIN Basin** using Flood Proof model.
- **Trainings** on risk assessment, management and early warning systems for wildfire and flood risk to the members of General Directorate of Civil Emergency of Albania, local government, etc.

Institute of GeoSciences, Energy, Water and Environment.
IGEWE

FONDAZIONE CIMA
CIMA RESEARCH FOUNDATION

Operational Forecasting system for wildfire and flood risk.
Web-GIS application DEWETRA

- Dewetra is a real-time integrated system for risk forecasting, monitoring and prevention.

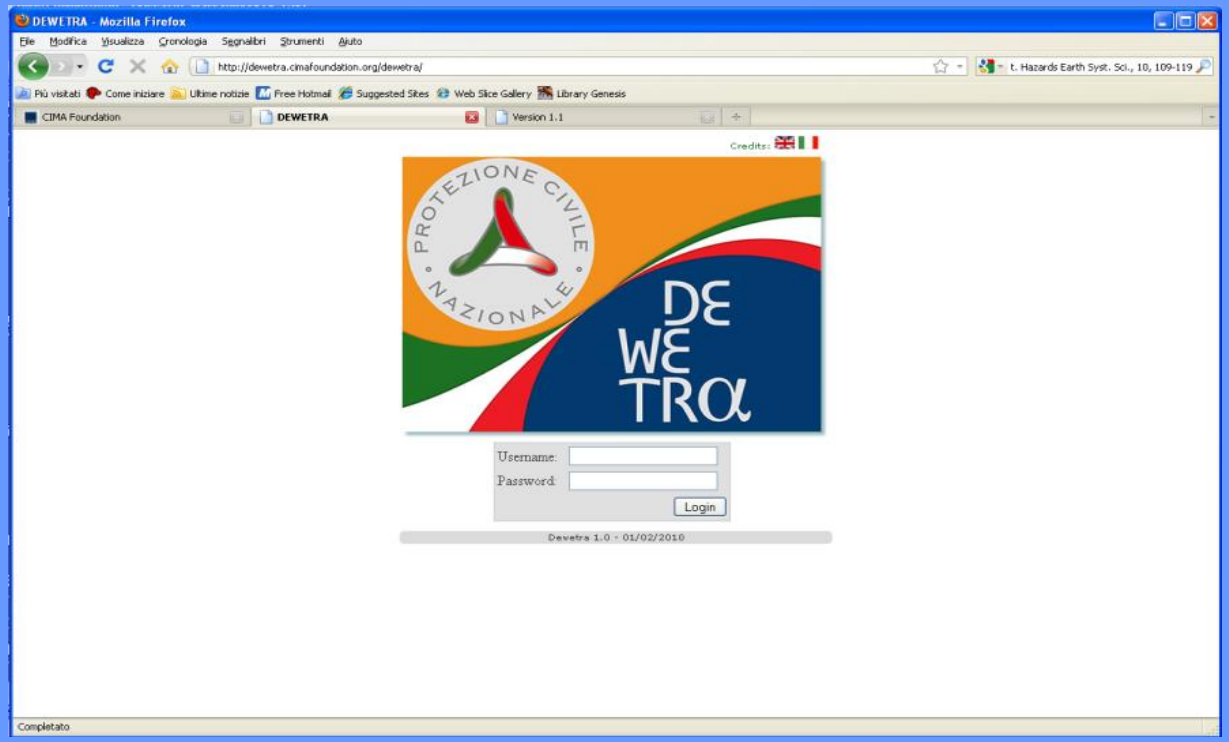
- The system has been designed by CIMA Research Foundation on behalf of Italian Civil Protection.

- The system was donated by the Italian Civil Protection to the Albanian Civil Protection.

http://www.cimafoundation.org/en/cima-foundation/albania/

DEWETRA – the technology

- Web-based – WebGIS – application to ensure distribution of information.
- Open source
- The Albanian version is currently running at IGEWE

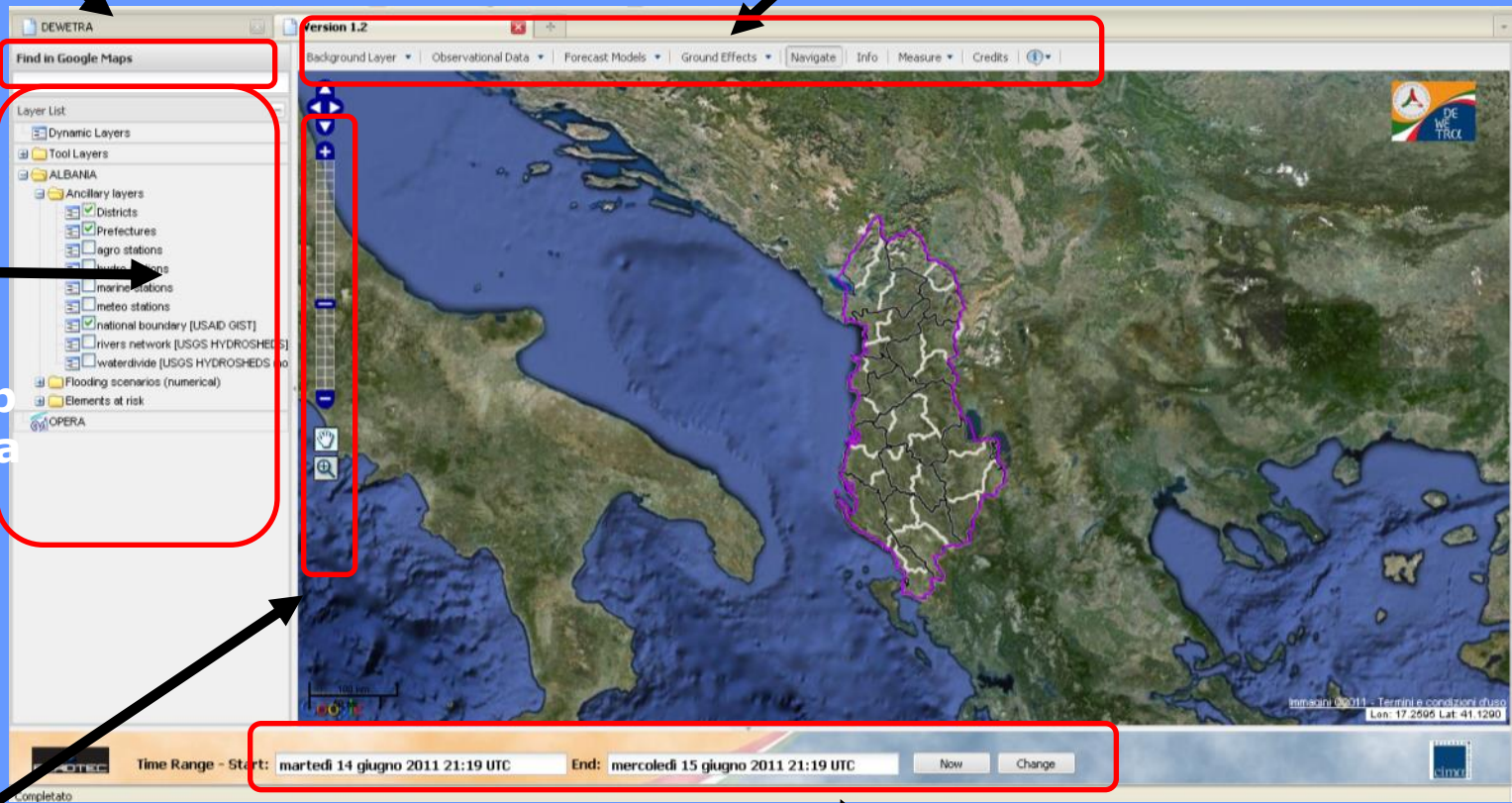


DEWETRA main components

the Google Maps® engine

Background layers, Dynamic layers, Weather Stations Network, Navigation tools, WMS query, and Measuring tools

the navigation tree. The tree root nodes correspond to the dynamic layers in the top pane of Dewetra window.



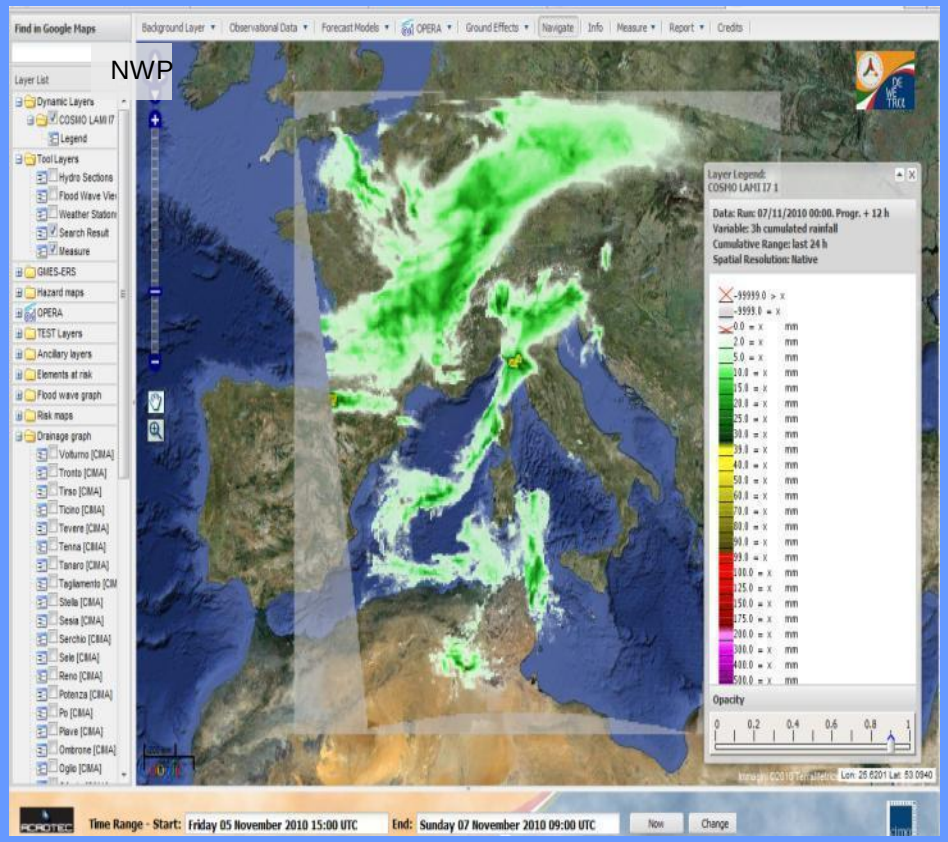
set of navigation tools- display of information and maps at different scales

time range

FONDAZIONE CIMA
CIMA RESEARCH FOUNDATION

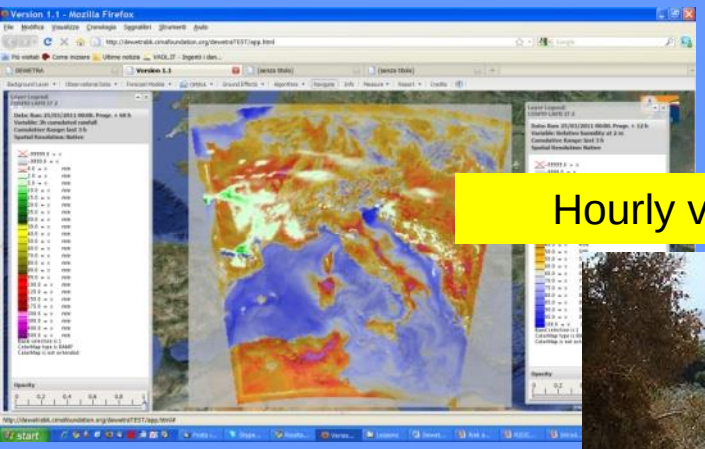
DEWETRA – Numerical Weather Forecast

Two different models: COSMO-LAMI ECMWF

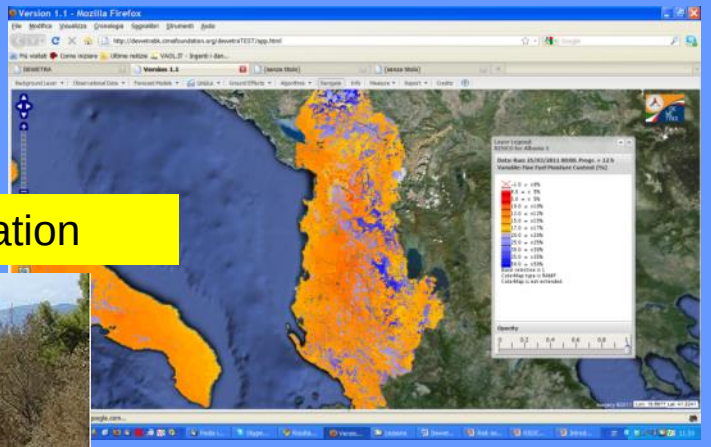


With Dewetra users manage and display up to date information both of dynamic and static (off-line) nature. Such data can be conveniently used to track significant weather events, build detailed risk scenarios and, eventually, to evaluate the potential impacts of expected/ observed events on Communities and Infrastructures

Early Warning System for Wildfire - RISICO



Meteorological forecasts

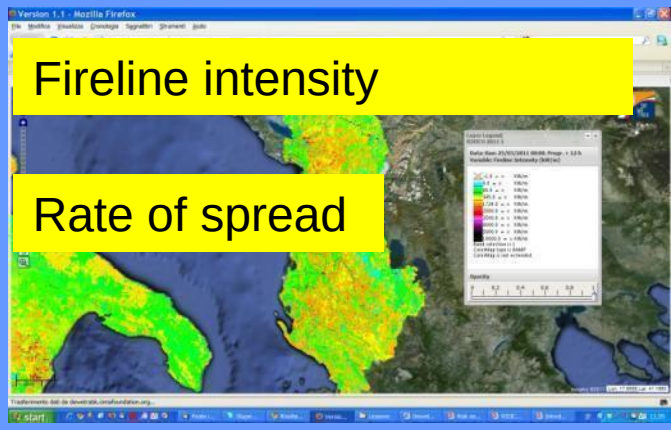


Hourly vegetation dryness simulation

Potential ingnition

Effect of wind and slope on fire behaviour

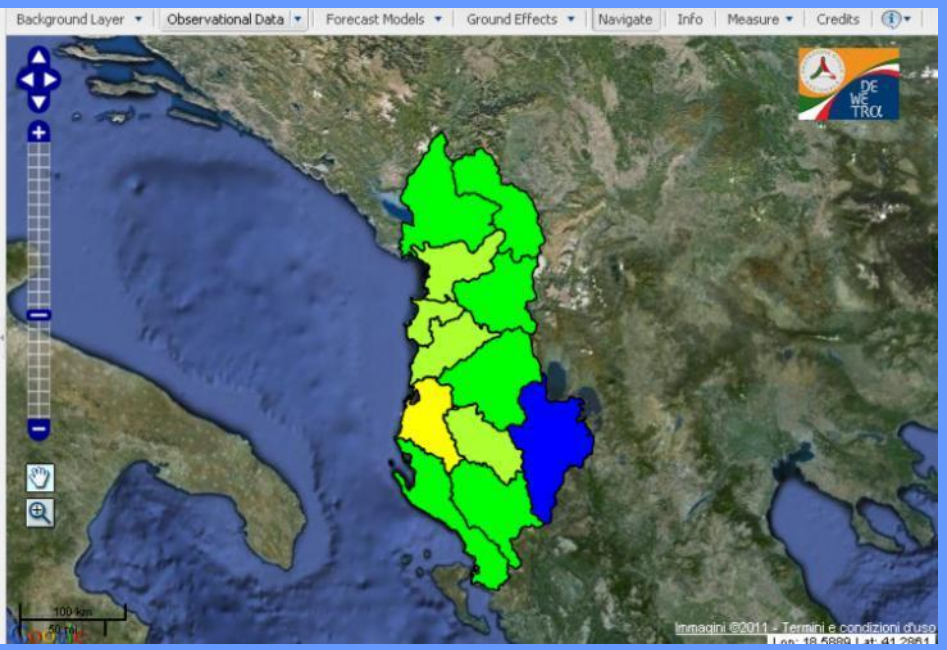
Potential fire behaviuor prediction



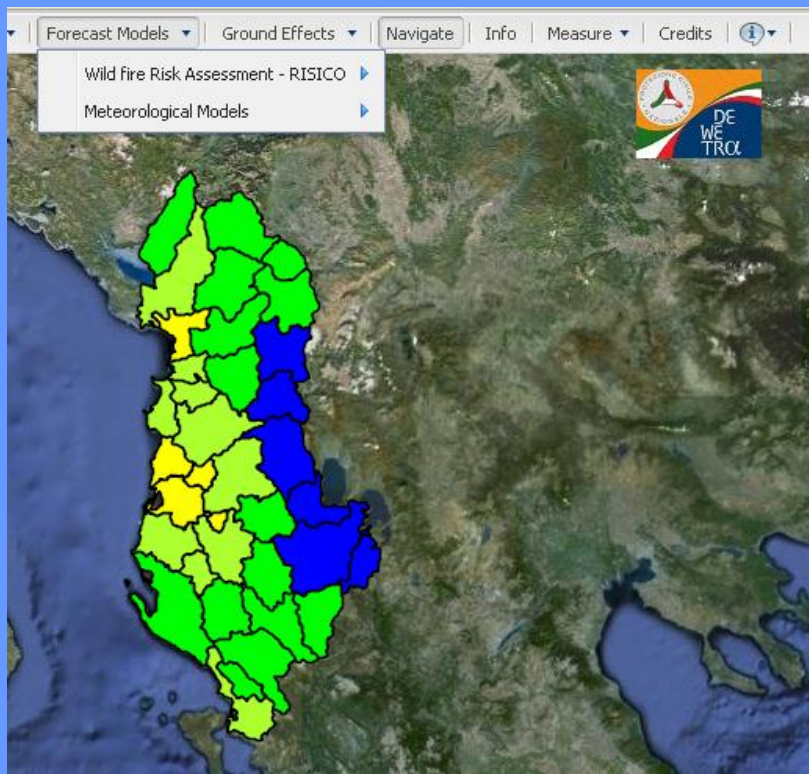
Fireline intensity

Rate of spread

Fire risk map



Districts



Prefectures

low-intensity, easy to control wildfires.

Ordinary intensity wildfires

Medium intensity wildfires

Possible very intense wildfires

Possible many catastrophic wildfires, consider evacuation

Forest Fire Risk daily bullettin

Institute of GeoSciences, Energy, Water and Environment.
IGEWE

BULETINI I PARASHIKIMIT PROVË TË ZJARREVE NË PYJE

Ministria e Brendshme
Drejtoria e Përgjithshme e Emergjencave Civile

PROTEZIONE CIVILE

Qendra Eksperimentale e Parashikimit dhe Monitorimit të Rreziqeve Natyrore - INEUM

Buletini 6/2011; datë 30 Maj 2011
Parashikimet për datat 31 Maj, 01 Qershor 2011

NIVELI I RREZIKUT TË ZJARREVE NË PYJE SIPAS PARASHIKIMEVE PROVË
për datën 31 Maj 2011

NIVELI i rrezikut të zjarreve	PREFEKTURAT					
	SHKODËR	KUKËS	LEZHË	DURRËS	DIBËR	TIRANË
MESATAR	-	-	-	-	-	-
I LARTË	-	-	-	-	-	-
EKSTREM	-	-	-	-	-	-

NIVELI i rrezikut të zjarreve	ELBASAN	FIER	BERAT	KORÇË	GJIROKASTËR	VLORË
MESATAR	-	-	-	-	-	-
I LARTË	-	-	-	-	-	-
EKSTREM	-	-	-	-	-	-

Përmbledhje e gjendjes
Në ASNJË prefekturë nuk parashikohet që të ketë probleme, niveli i rrezikut parashikohet të jetë nën atë mesatar.

LEGJENDA e Nivelit të rrezikut të zjarreve

MESATAR (Kodi 1 i emergjencës)	*Mund të verifikohen zjarre me intensitet të lartë, por kryesisht të menaxhueshme nga skuadrat tokësore të zjarrfikësve.*
I LARTË (Kodi 2 i emergjencës)	*Janë të mundshme zjarre me intensitet shumë të lartë. Në rast të detektimit të zjarreve, është i nevojshëm edhe përdorimi i ndihmës ajrore.*
EKSTREM (Kodi 3 i emergjencës)	*Janë të mundshme zjarre, që mund të rezultojnë katastrofike e të pakontrollueshme.*

Niveli i Rrezikut të Zjarreve në Pyje sipas Parashikimeve Provë,
Ilustruar për të gjithë Territorin, për datat 31 Maj, 01 Qershor 2011

Kodi i Emergjencës	Operatori i Qendrës	Supervizori i Qendrës
0	Klodian Zaimi	Metodi MARKU

UPT

cimà

faqe 1 / 2

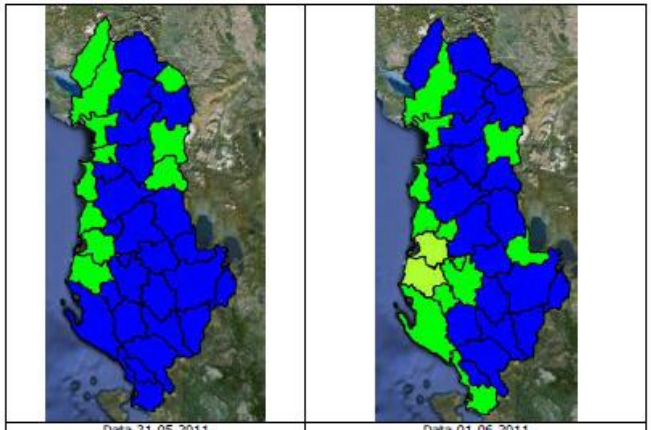
BULETINI I PARASHIKIMIT PROVË TË ZJARREVE NË PYJE

Ministria e Brendshme
Drejtoria e Përgjithshme e Emergjencave Civile

PROTEZIONE CIVILE

Qendra Eksperimentale e Parashikimit dhe Monitorimit të Rreziqeve Natyrore - INEUM

Buletini 6/2011; datë 30 Maj 2011
Parashikimet për datat 31 Maj, 01 Qershor 2011



Kodi i Emergjencës	Operatori i Qendrës	Supervizori i Qendrës
0	Klodian Zaimi	Metodi MARKU

UPT

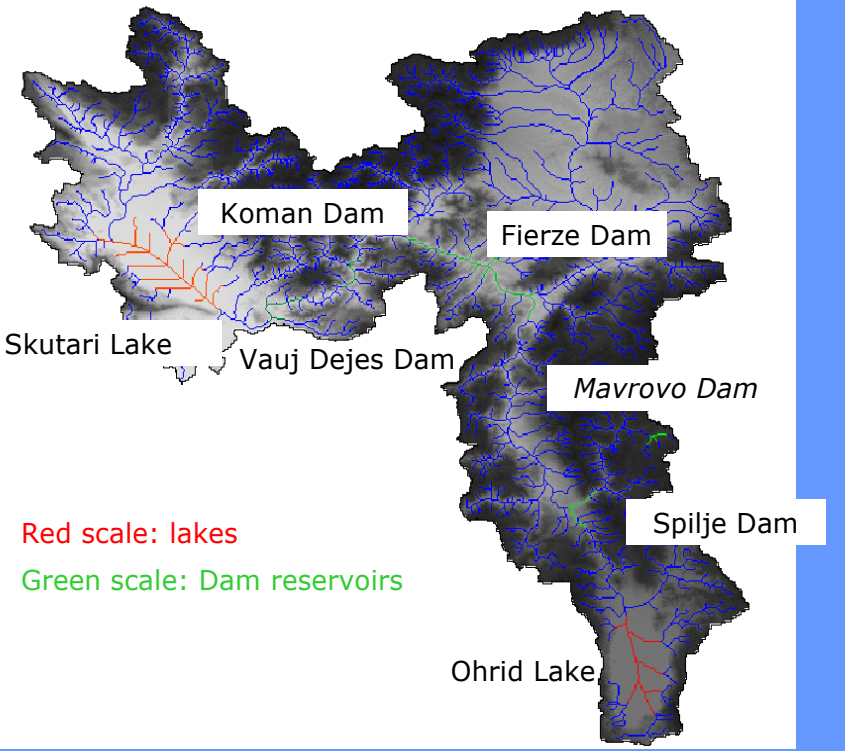
cimà

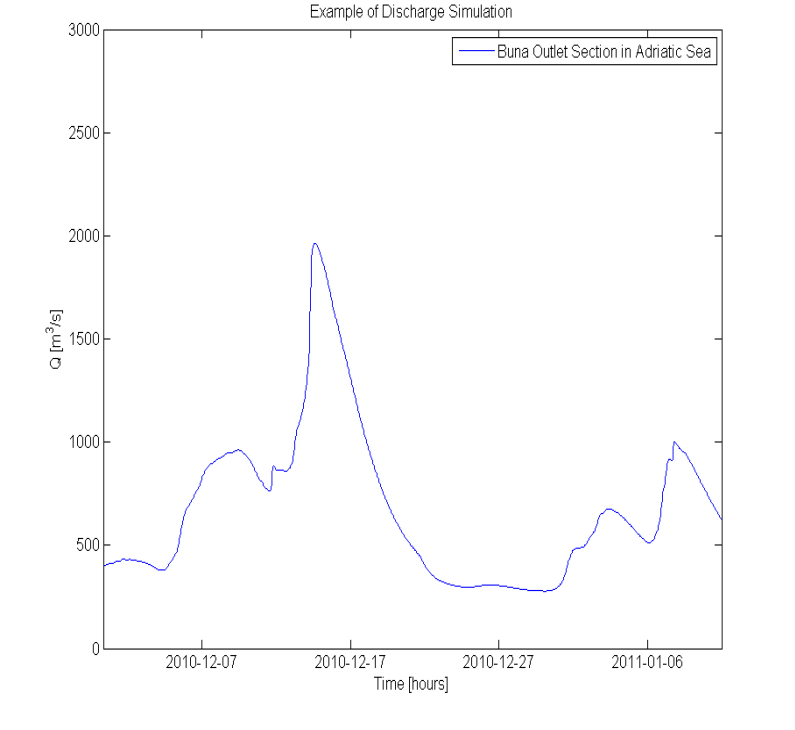
faqe 2 / 2

Early warning System for Floods

Done:

- The Flood Proof hydrological model has been adapted to the Drin-Buna catchments system
- The presence of Dams and Lakes has been introduced and modeled
- Some experimental runs of the model have been carried out using COSMO Lami variables as meteorological input



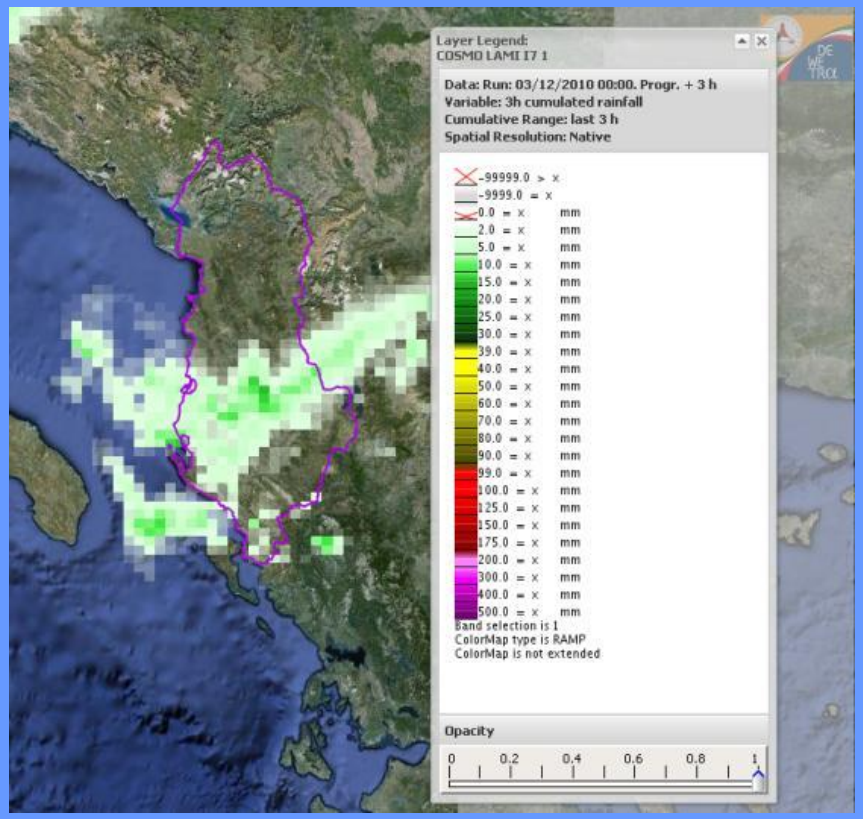


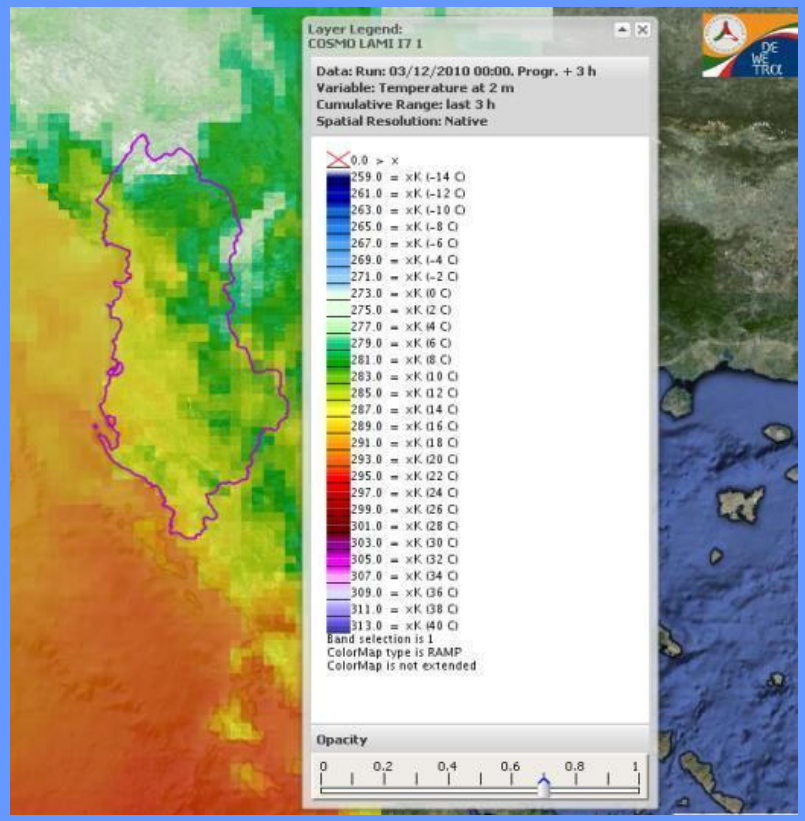
Institute of GeoSciences, Energy, Water and Environment.
IGEWE

FONDAZIONE CIMA
CIMA RESEARCH FOUNDATION

Implementation at the Drin and Buna

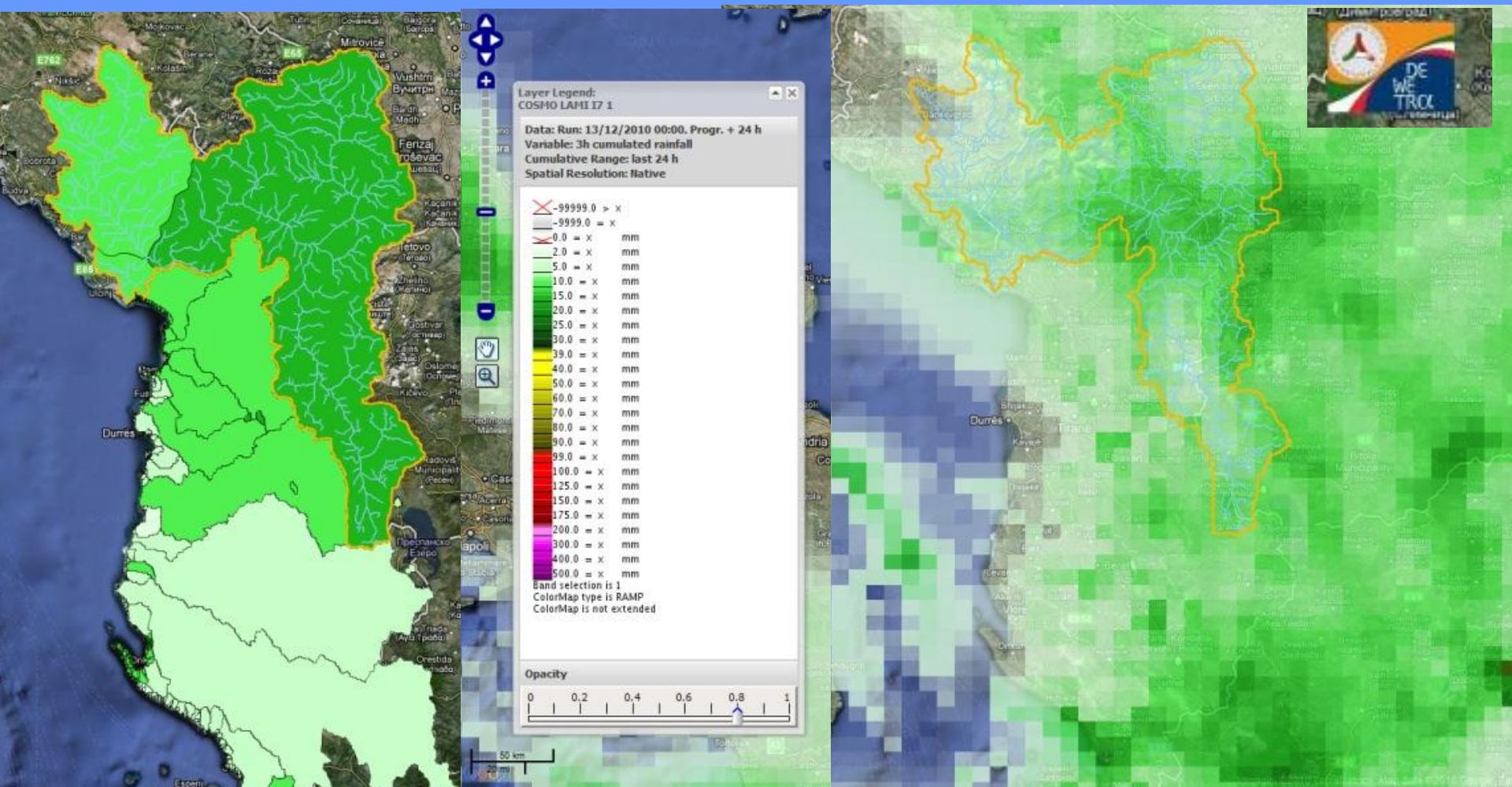
Cosmo Lami 7 (Spatial resolution ≅ 7 Km, temporal resolution = 3 hours)





DEWETRA – Different spatial aggregation

24h cumulated rainfall



FONDAZIONE CIMA
CIMA RESEARCH FOUNDATION

HydroMeteorological early warning bulletin of 07.11.2016

BULETINI MBI RREZIQET NATYRORE *(Bulletin on Natural Hazards)*
Qendra Kombëtare për Parashikimin dhe Monitorimin e Rreziqeve Natyrore
Facebook page : Instituti i Gjeoshkencave, Energjisë, Ujit dhe Mjedisit. Webpage: www.geo.edu.al

Buletini Nr. 224/ 2016, 07-11-2016 | **Parashikimi** nga: 07-11-2016, ora 12:00 deri më 08-11-2016, ora 23:59.

Për rrezikë më të kufizuara meteorologjike, klikoni në : www.atmosfera.al; Për këshilla : www.ready.gov

PARASHIKIMI I DETAJUAR MBI NGJARJET METEOROLOGJIKE DHE HIDROLOGJIKE (SOT DHE NESËR)

QARQET NË PELLGUN E DRINIT

QARKU / NGJARJA		Ngjarje Meteorologjike: Reshjet 24-orëshe	Reshje Lokale	Rrufe	Shtrëngata	Ngjarje Hidrologjike: Përmbytje nga Përrenj/Lumenj të vegjël ose urbane	Përmbytje nga Lumenj të mesëm/të mëdhenj	Rrëshqitje toke
Shkodër	A	intensive	shumë intensive					
	B	shumë intensive						
	C	shumë intensive						
Kukës	A	shumë intensive						
	B	shumë intensive						
Dibër	A	mesatare	intensive					
	B	intensive	shumë intensive					

Instituti i Gjeoshkencave, Energjisë, Ujit dhe Mjedisit – IGJEUM
Operator: Elvin Çomo | *Supervizor: Klodian Zaim*

PARASHIKIMI METEO :

RESHJET

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Gjeoshkencave, En
dhe Mjedisit – IGJE

PËRMBYTJE apo RRËSHQITJE

Për shkak të INTENSITETIT dhe SASISË SË LARTË të reshjeve në të gjithë territorin, gjatë pjesës së dytë të DITËS SË HËNË dhe në vazhdim për datat 8, 9 dhe 10, ka mundësi përmbytjesh.

FILLIMISHT, ato do të jenë të tipit vërshues nga PËRRENJTË DHE LUMENJTË E VEGJËL, duke krijuar probleme edhe në ZONAT URBANE, ME REZIKUN MË TË LARTË TË MARTËN.

Mund të preken nga vërshime dhe rrëshqitje të gjitha qarqet. Shenjat e vërshimeve dhe rrëshqitjeve janë vendosur në tabelë.

TË MARTËN në mbrëmje dhe në vazhdim përgjatë javës, përmbytje mund të shkaktojnë LUMENJTË E MESËM DHE TË MËDHENJ si: (Drini i Lezhës, Mat, Ishëm, Erzen, Shkumbin, Seman dhe Vjosa). Ekziston mundësia e daljes nga shtrati me pasoja për njerëzit dhe ekonominë në Ultësirën Perëndimore të vendit në datat 8 deri 10. Shenjat e përmbytjeve janë vendosur në tabelë.

BULETINI VI

Instituti i Gjeoshkencave, Energjisë, Ujit dhe Mjedisit – IGJEUM
Operator: Elvin Çomo | *Supervizo*

BULETINI MBI RREZIQET NATYRORE *(Bulletin on Natural Hazards)*
Qendra Kombëtare për Parashikimin dhe Monitorimin e Rreziqeve Natyrore
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Për rrezikë më të kufizuara meteorologjike, klikoni në : www.atmosfera.al; Për këshilla : www.ready.gov

QARQET E TJERA

QARKU / NGJARJA	Ngjarje Meteorologjike: Reshjet 24-orëshe	Reshje Lokale	Rrufe	Shtrëngata	Ngjarje Hidrologjike: Përmbytje nga Përrenj/Lumenj të vegjël ose urbane	Përmbytje nga Lumenj të mesëm/të mëdhenj	Rrëshqitje toke
Lezhë	shumë intensive						
Durrës	shumë intensive						
Tiranë	mesatare	shumë intensive					
Elbasan	mesatare	intensive					
Fier	të dobëta	mesatare					
Berat	të dobëta	intensive					
Korçë	mesatare	intensive					
Vlorë	mesatare	shumë intensive					
Gjirokastër	mesatare	shumë intensive					

Instituti i Gjeoshkencave, Energjisë, Ujit dhe Mjedisit – IGJEUM
Qendra Ndërkombëtare për Kërkimin dhe Monitorimin në Mjedis - CIMA (Itali)
Operator: Elvin Çomo | *Supervizor: Klodian Zaimi (+355 672155234, +355 682151291)* | *faqe 4 / 5*

BULETINI MBI RREZIQET NATYRORE *(Bulletin on Natural Hazards)*
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LEGJENDA 1
shjet 24-orëshe

Niveli i Rrezikut	Reshje shiu (mm / 24 orë)
--	nuk priten reshje
i ulët	të dobëta (0 – 15)
mesatar	mesatare (15 – 45)
i lartë	intensive (45 – 90)
shumë i lartë	shumë intensive (> 90)

LEGJENDA 2
Efektet e mundshme

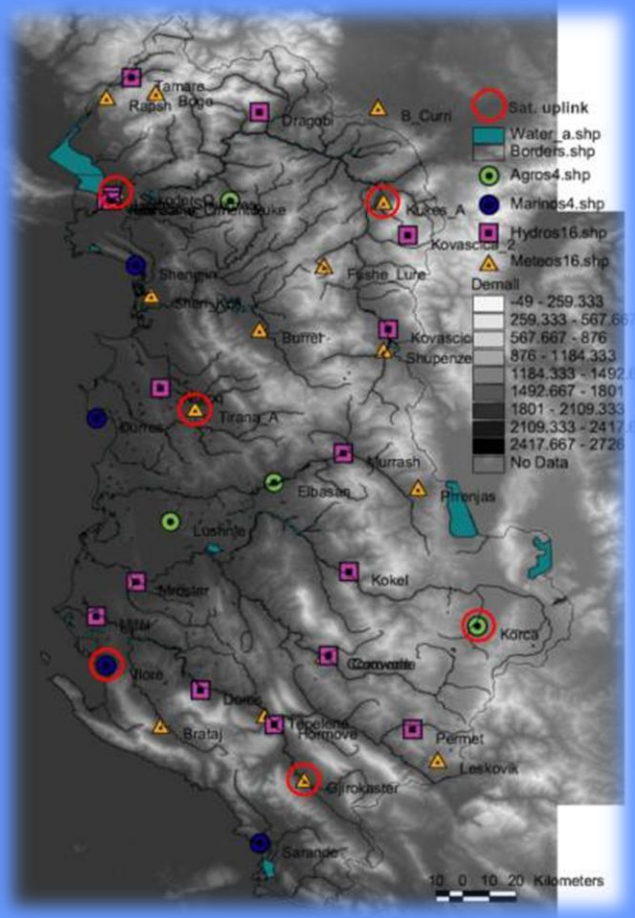
	Shtrëngata : reshje mbi 20 mm / 3 orë, moti mund të krijojë probleme të ndryshme
	Përmbytje urbane ose nga përrenjtë dhe lumenjtë e vegjël
	Përmbytje nga lumenjtë e mesëm dhe të mëdhenj
	Rrëshqitje toke
	Mundësi për rrufe

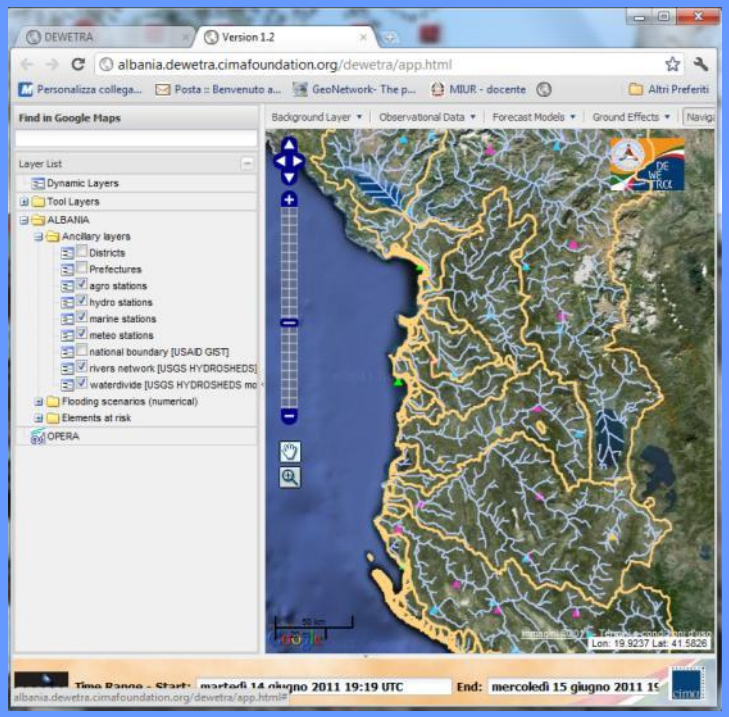
Shënim: 1 mm shi (në 24 orë) në një sipërfaqe prej 1 km² = 1 000 m³ ujë.

Instituti i Gjeoshkencave, Energjisë, Ujit dhe Mjedisit – IGJEUM
Qendra Ndërkombëtare për Kërkimin dhe Monitorimin në Mjedis - CIMA (Itali)
Operator: Elvin Çomo | *Supervizor: Klodian Zaimi (+355 672155234, +355 682151291)* | *faqe 5 / 5*

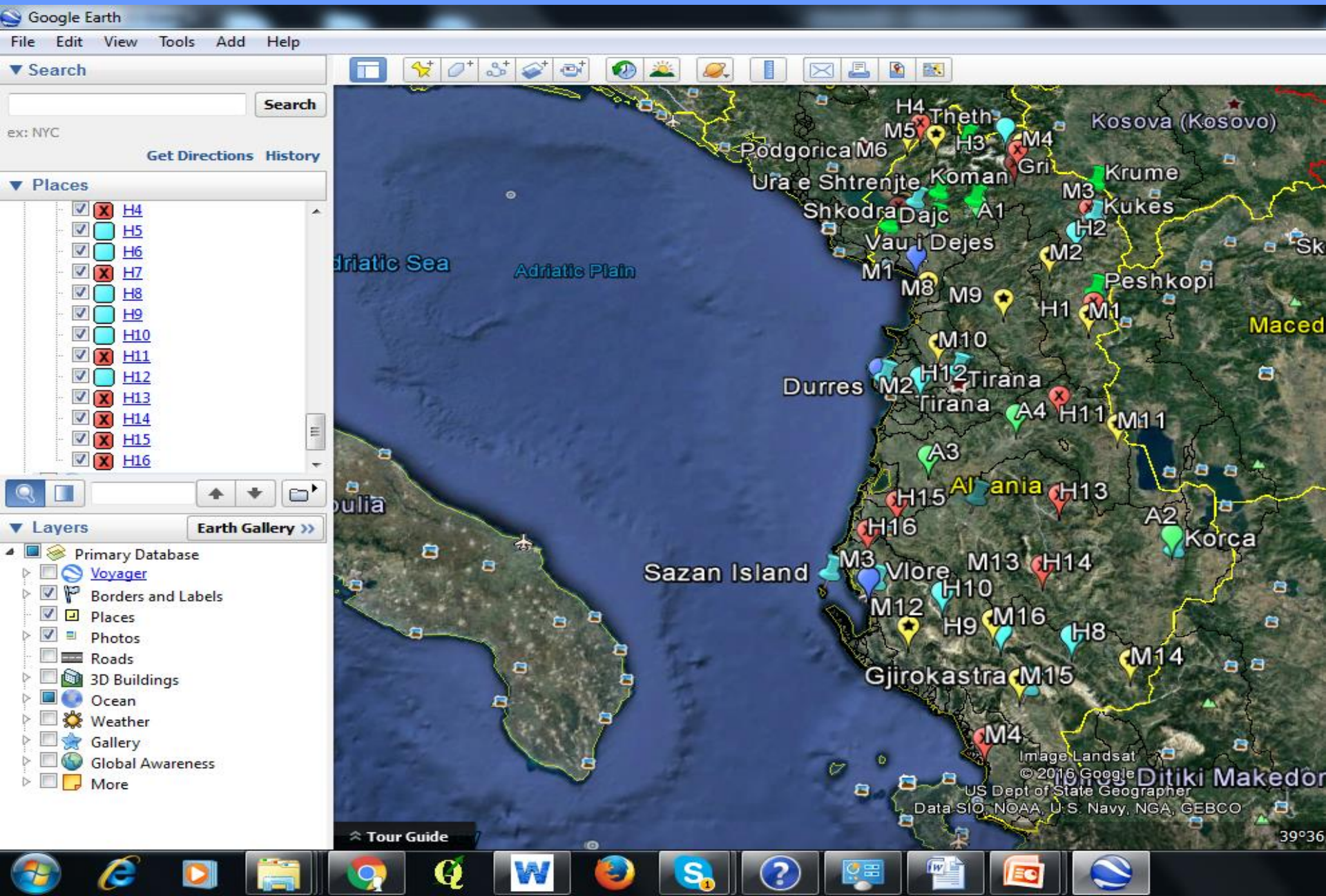
From meteorologic to hydrologic flood prediction. World bank Project. Disaster Risk Mitigation and Adaptation in Albania

Surface data (rain, discharge)





Hydro and Meteo stations network in Albania



Hydro and Meteo stations network in Albania

1. There are around **250 manual stations**. (Hydro+meteo) booklets every month and not digitized.
2. **49 automatical stations**

40 stations were installed from a WB project (11 from wb are not working due to vandalisms)
WB: 16 Meteo stations
WB: 4 sea stations
WB: 4 Agroclimatic stations
WB: 16 Hydro stations
9 stations from GIZ project

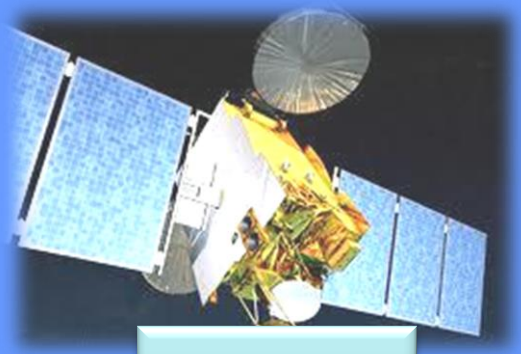
- *The normal plan of preventive maintenance of automatic stations in the field includes at least 3 visits per year to assure that the data obtained is of good quality. There is no budget assigned to preventive or corrective maintenance*
- *WB stations are displayed in dewetra from 2013. GIZ stations will be soon displayed, manual stations are not displayed.*
- *With the WB funds we have digitized hydro data 20 years and meteo 10 years data*

System Architecture

GTS

Network

Satellite Radio



GPRS

Eumetcast

IEGEWE

Real Time Database

Historical Archive

HydroMet Analaysis WKStations

Meteo Message Switching and Web Server

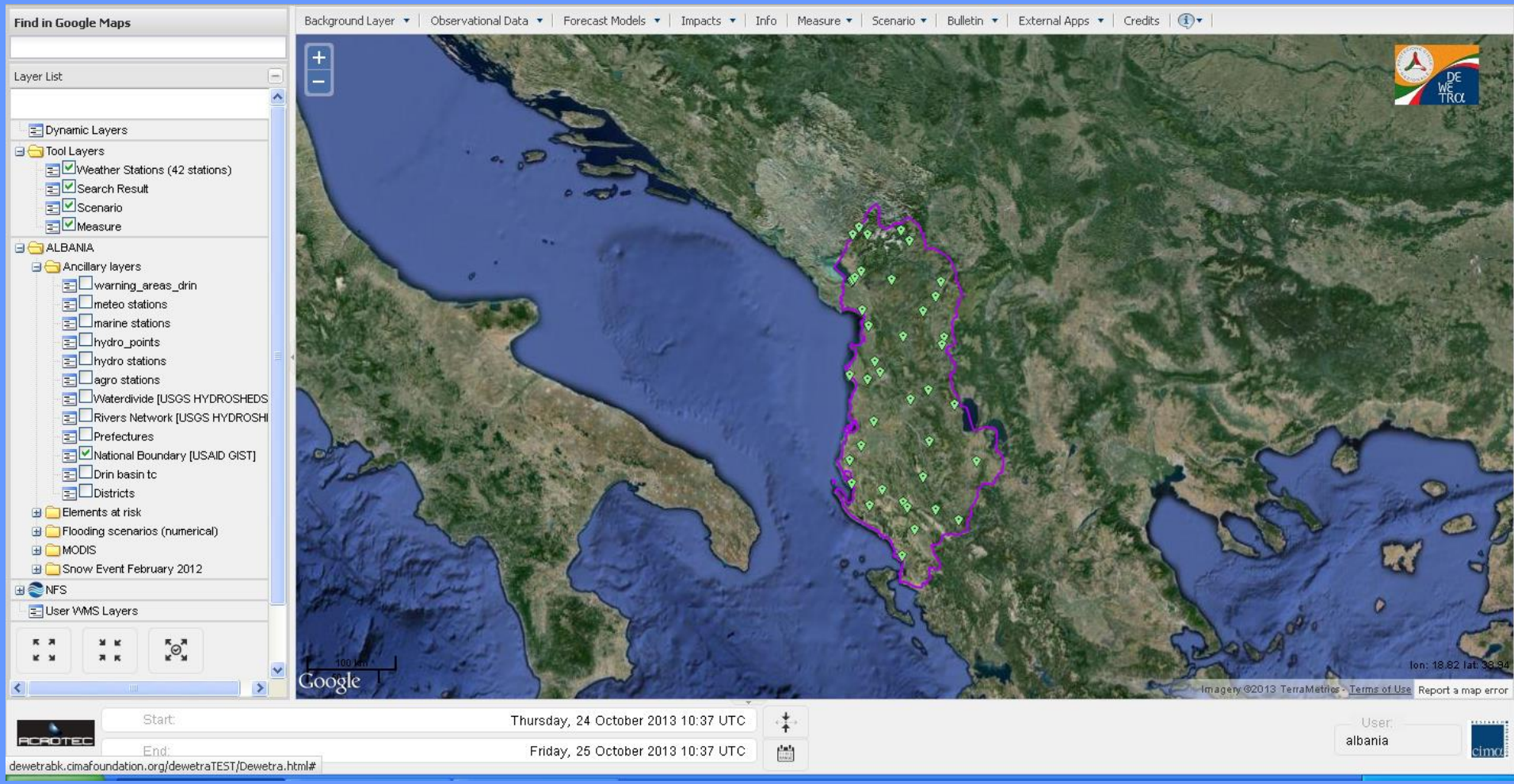
Satellite Dowlink

FTP

Internet

DEWETRA ground data from new automatic network.

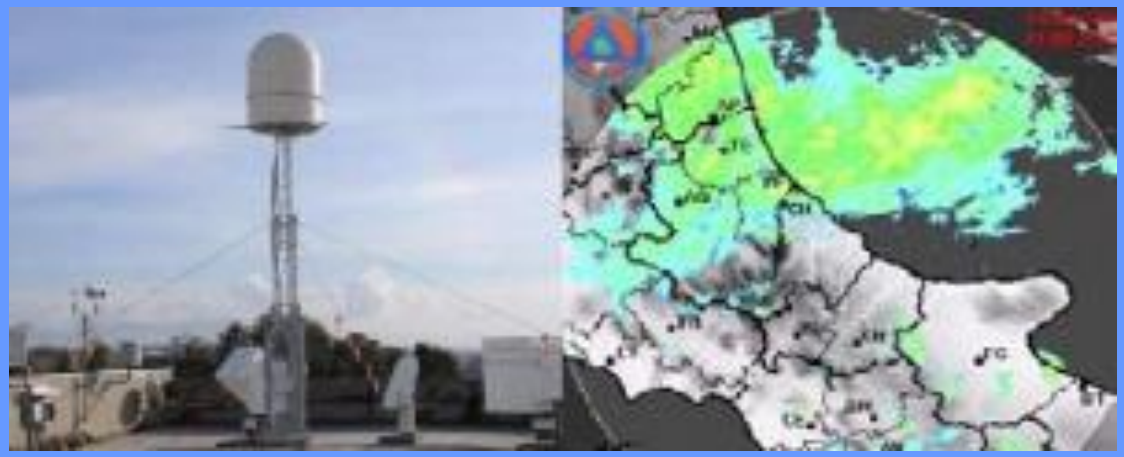
Earth Observations for flood assessment & mitigation



AdriaRadNet project

ADRIARadNet objective was to set up an integrated web-based infrastructure, based on a network of low-cost weather radars and satellite data to be integrated with web oriented geographic information systems.

Two pilot areas (Marche/Abruzzo regions and Croatia/Albania territories) are identified as test-bed areas where experimenting the integrated ADRIARadNet decision support system and automatic procedures in support to civil protection agencies.



Recomandations

Risk analysis:

Establish Flood risk Maps for all river basins.

Early Warning:

Strengthen Early Warning from a technical and organizational point of view.

Strengthen the information exchange on early warning.

Awareness:

Improve Flood Awareness of the Public.

Prevention and Preparedness:

Strengthen the DRR & disaster management structure.

Establish flood response plan on the local and regional level.

Response:

Strengthen the actual response capacity of the government.

DEWETRA improvements and Recommendations

Respecting the ISO standards and guidelines on the methodology and technical tools for forecasting and monitoring of natural/man-made risks in Albania. Urgent need for maintenance of the hydro-meteo network.

- Data management improvements at IGEWE.
- Urgent need to set up of the river basin Authorities and Disaster Risk Reduction.
- DEWETRA online bulletins CIMA.
- New weather models with 3 km resolution.
- New hydrological model in DEWETRA, applied for all the big river basins of Albania.
- Need for further trainings of the operators of the National Center on Radar and Satellite images and outputs available.
- Better Cooperation between Private and Intl. and Ntl Authorities.

* New legislation for more support from the government: Ligji 8756 "Për Emergjencat Civile", 2001. VKM 965, 03.12.2015.

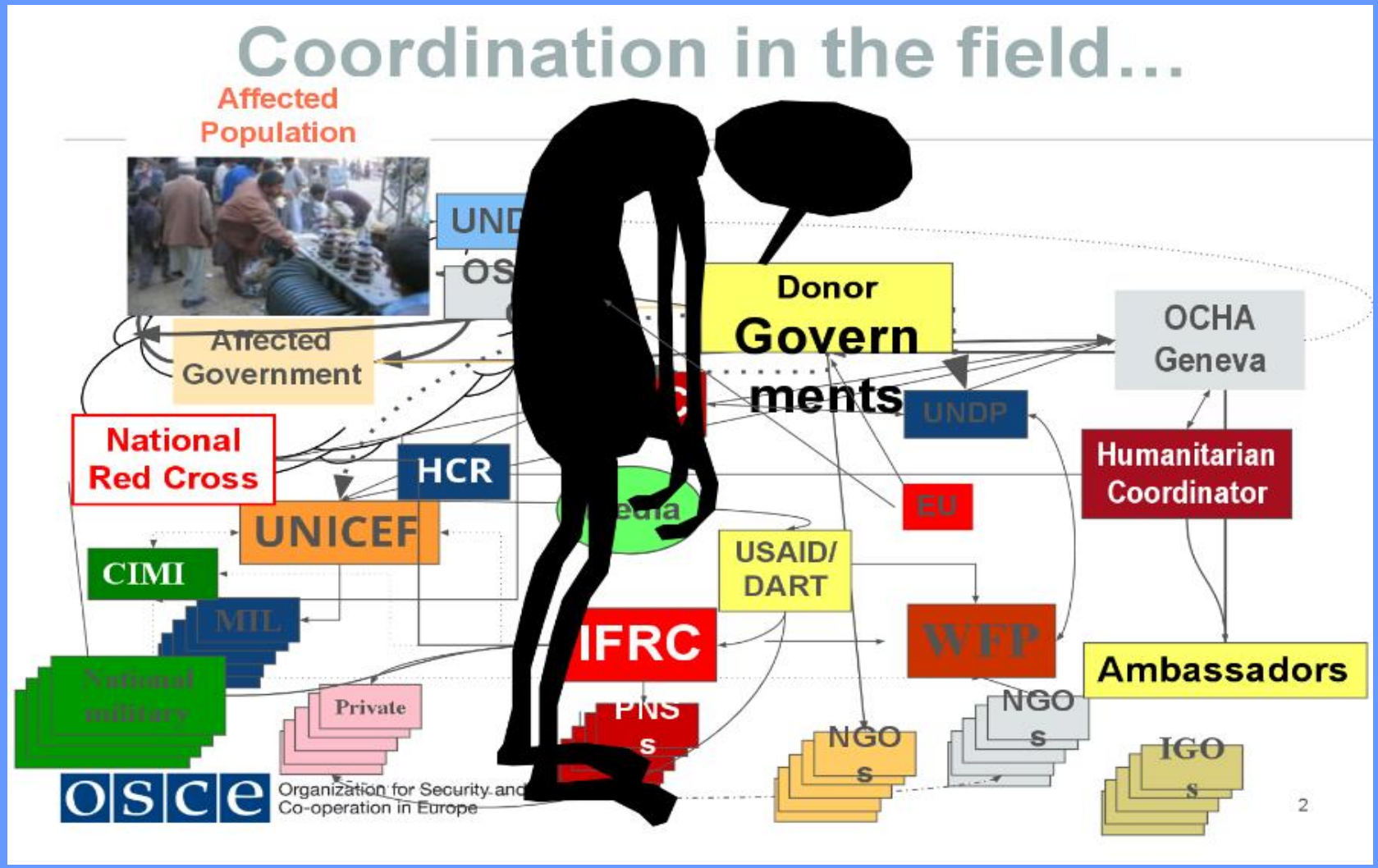
The Golden Rule

"Everybody wants coordination, but nobody wants to be coordinated"

REPUBLIKA E SHQIPERISE
MINISTRIA E PUNËVE TË BRENDSHME

IGJEUM

THANK YOU FOR YOUR ATTENTION!



lataliljana@gmail.com

FONDAZIONE CIMA
CIMA RESEARCH FOUNDATION

REPUBLIKA E SHQIPËRISË
MINISTRIA E PUNËVE TË BRENDSHME

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THANK YOU!

QUESTIONS?

COMMENTS?

lataliljana@gmail.com