

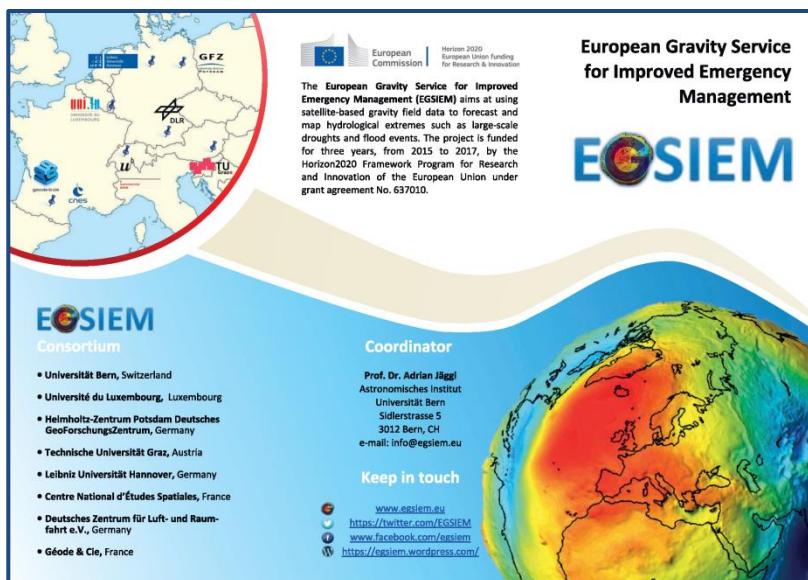


***EO-1-2014: New ideas for Earth-relevant space applications
Research and Innovation action***

Action acronym: **EGSIEM**
 Action full title: European Gravity Service for Improved Emergency Management
 Grant agreement no: 637010

**Deliverable 7.2
EGSIEM Brochure**

Date: 19. October 2015



Author: Keith Cann-Guthauser

1. Change Record

Name	Author(s)	Date	Document ID
Draft 1	KCG	26.9.15	D7.2_EGSIEM_Brochure_03.09.15
Final	KCG	19.10.15	D7.2_EGSIEM_Brochure_19.10.15

Table of Contents

1. Change Record	2
2. Timing	3
3. EGSIEM Brochure	3
4. Dissemination	3
5. Annexes	4

2. Timing

The EGSIEM Description of Action calls for this deliverable to be completed in Month 14 of EGSIEM, however, the consortium felt that completing a brochure at the midpoint of the project would allow several opportunities to publicise the project be wasted. It was therefore agreed at the first EGSIEM progress meeting in June 2015 (held in Bern) that a brochure would be produced at the earliest possible opportunity.

3. EGSIEM Brochure

Taking information from the project proposal, the Description of Action and the project website our EGSIEM dissemination team have created a product which introduces EGSIEM at a level suitable for the general public to understand. The final draft was sent to all members of the EGSIEM team for their comments in early September 2015 and a printed version was received in October 2015.

4. Dissemination

In addition to being hosted on the project website (uploaded to egsiem.eu on the 19. October 2015) the EGSIEM Brochure has been printed out and will accompany scientists from the consortium to various conferences around Europe (such as the EGU and IUGG annual gatherings) and also the USA (AGU).



5. Annexes

EGSIEM Brochure



European
Commission

Horizon 2020
European Union funding
for Research & Innovation

The **European Gravity Service for Improved Emergency Management (EGSIEM)** aims at using satellite-based gravity field data to forecast and map hydrological extremes such as large-scale droughts and flood events. The project is funded for three years, from 2015 to 2017, by the Horizon2020 Framework Program for Research and Innovation of the European Union under grant agreement No. 637010.

**European Gravity Service
for Improved Emergency
Management**



Consortium

- Universität Bern, Switzerland
- Université du Luxembourg, Luxembourg
- Helmholtz-Zentrum Potsdam Deutsches GeoForschungsZentrum, Germany
- Technische Universität Graz, Austria
- Leibniz Universität Hannover, Germany
- Centre National d'Études Spatiales, France
- Deutsches Zentrum für Luft- und Raumfahrt e.V., Germany
- Géode & Cie, France

Coordinator

Prof. Dr. Adrian Jäggi
Astronomisches Institut
Universität Bern
Sidlerstrasse 5
3012 Bern, CH
e-mail: info@egsiem.eu

Keep in touch



www.egsiem.eu



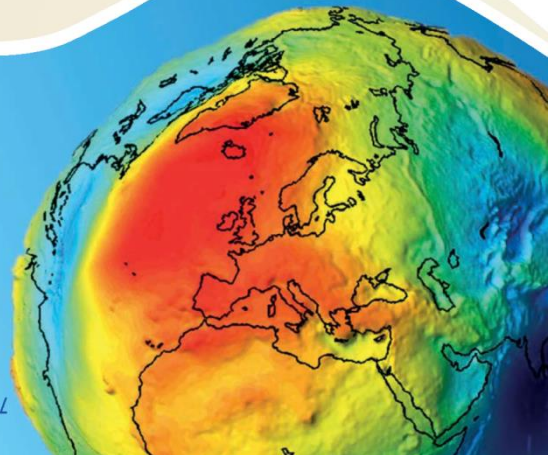
<https://twitter.com/EGSIEM>



www.facebook.com/egsiem

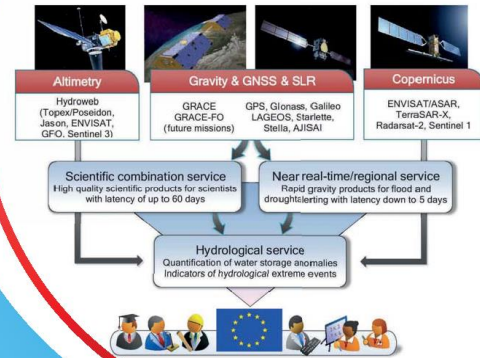


<https://egsiem.wordpress.com/>





General concept of EGSIEM
Satellite data from **Altimetry, Gravity, GNSS, SLR** and **Copernicus** missions will be used to create the three EGSIEM services, all tailored to the needs of governments, scientists, engineers and other stakeholders. Special visualization tools will be developed to inform, update, and also attract the general public.



EGSIEM Objectives

At the heart of the EGSIEM project is the idea that *better knowledge yields better decision-making*. To achieve this goal the EGSIEM project aims to derive improved products from the **Gravity Recovery and Climate Experiment (GRACE)** and the future GRACE Follow-On satellite missions. GRACE is a dual satellite mission of NASA and DLR, which has been making detailed measurements of Earth's gravity field variations since March 2002. The GRACE mission delivers fundamental insights into the global water cycle. Changes in continental water storage affect the regional water budget and can, in extreme cases, result in floods and droughts that often claim a high toll on infrastructure, the economy and lives.

EGSIEM aims to

- ❖ deliver the best gravity products for applications in Earth and environmental science research
- ❖ reduce the latency and increase the temporal resolution of the gravity and therefore mass redistribution products
- ❖ develop gravity-based indicators for extreme hydrological events and demonstrate their value for flood and drought forecasting and monitoring services

The EGSIEM objectives will be achieved by setting up three distinct scientific services:

- **Scientific combination service**
will combine the Earth's gravity field products obtained from different analysis centers of the EGSIEM consortium, each of which will perform independent analysis methods but will employ consistent processing standards. The quality, robustness and reliability of these datasets will be significantly increased.
- **Near real-time (NRT) / regional service**
will improve the temporal resolution from one month to one day and provide full gravity field information within five days, essentially near real-time compared to the current latency of 2 months. This will generate tremendous added value for warning and forecasting the onset of natural hazards. The improvement in flood and drought monitoring will benefit Europe and also other countries. As the data will be made freely available, users are encouraged to examine the data in other applications.

- **Hydrological/early warning service**
will provide adequate data products and indicators to support operational satellite-based flood information services. The applicability and added value of these indicators will be exploited within the framework of the DLR's Center for Satellite Based Crisis Information (ZKI), and international initiatives such as the Copernicus Emergency Management Service and the International Charter "Space and Major Disasters". Early warning indications derived from these products are expected to improve the timely awareness of potentially evolving hydrological extremes and to help in the scheduling of high-resolution follow-up observations.