

Flood Risk Management

A Success Story of EMJM Programme

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with

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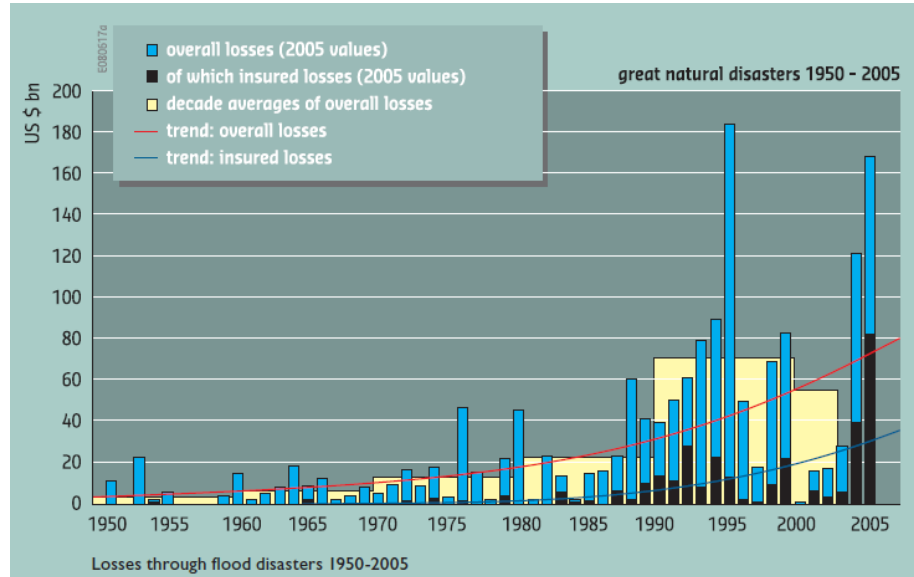
Univerza v Ljubljani

EMJM: Flood Risk Management

Jointly offered by:

- IHE Delft (the Netherlands) -Coordinator
- TU Dresden (Germany)
- UPC Barcelona (Spain)
- Univ. of Ljubljana (Slovenia)
- 19 industrial/ associate partners from 3 continents
- Start date: September each year, duration: 2 years (4 semesters), 120 ECTS, language: English,
- Locations: Delft (the Netherlands), Dresden (Germany), Barcelona (Spain) and Ljubljana (Slovenia)
- Degree: Multiple degrees

Relevance & societal needs: Floods and flood disasters



- There seems to be a tendency of increasing risk from flooding
- Risk from flooding is a challenge to societal prosperity
- Need for skilled personnel who can advance science and provide advice on integrated flood risk management



Education on flood risk management

the EU Flood Directive (2007/60/EC)



Integrated flood risk management

a requisite field of interdisciplinary research and practice aimed at reducing the human and socio-economic losses caused by flooding while at the same time taking into consideration its ecological benefits on the floodplains or coastal zones.



Education (not many programmes at EU)
(Timing for introducing FRM programme was important)



A cooperation and mobility programme
in the field of higher education...

- the culture of learning
- the culture of travelling



Education and Culture DG



Global Change • Hydroinformatics • Planning

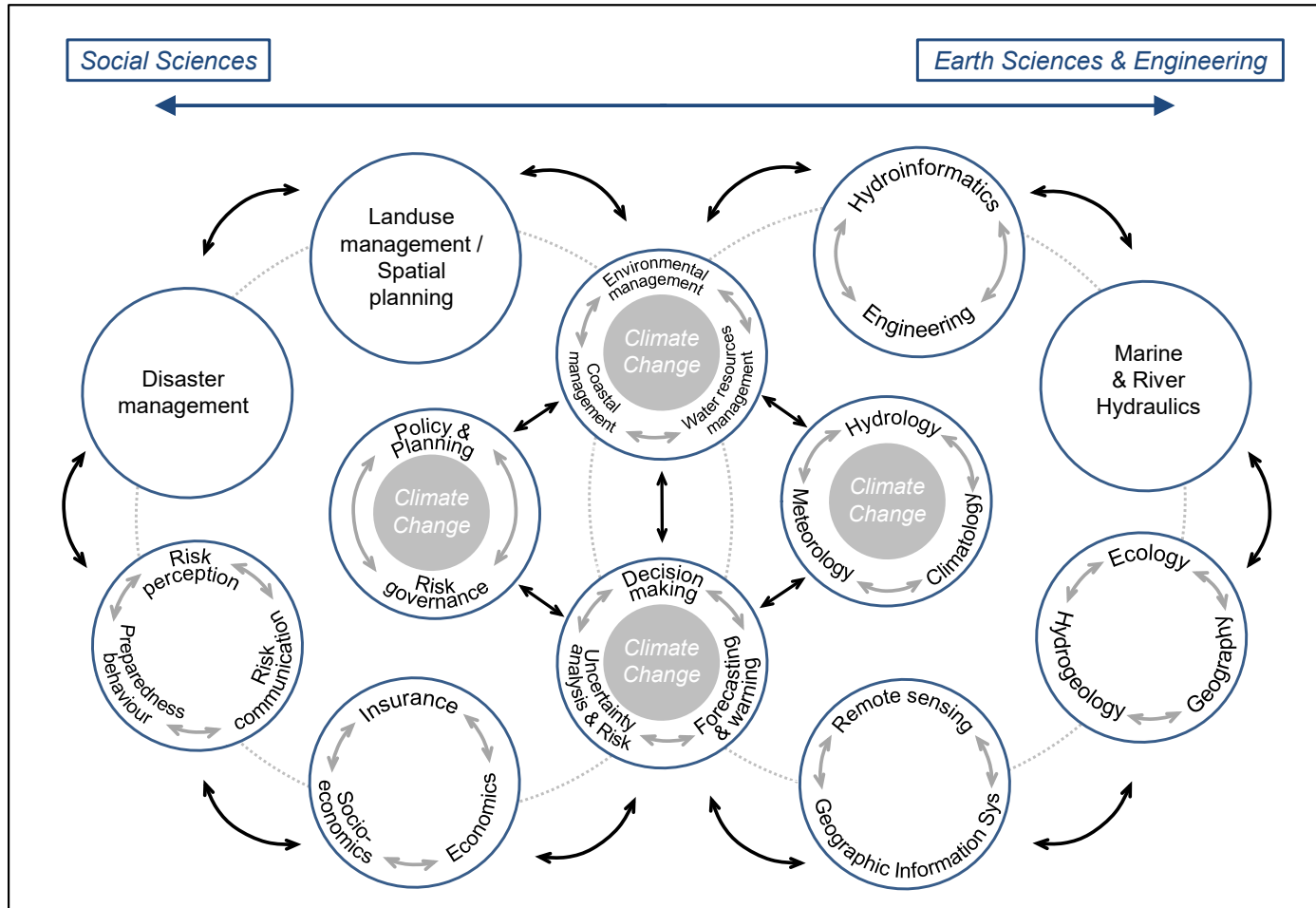
**FLOODRisk
Master**



- (1) awarded by EACEA: 2010
- (2) awarded by EACEA: 2018
- (3) awarded by EACEA: 2023

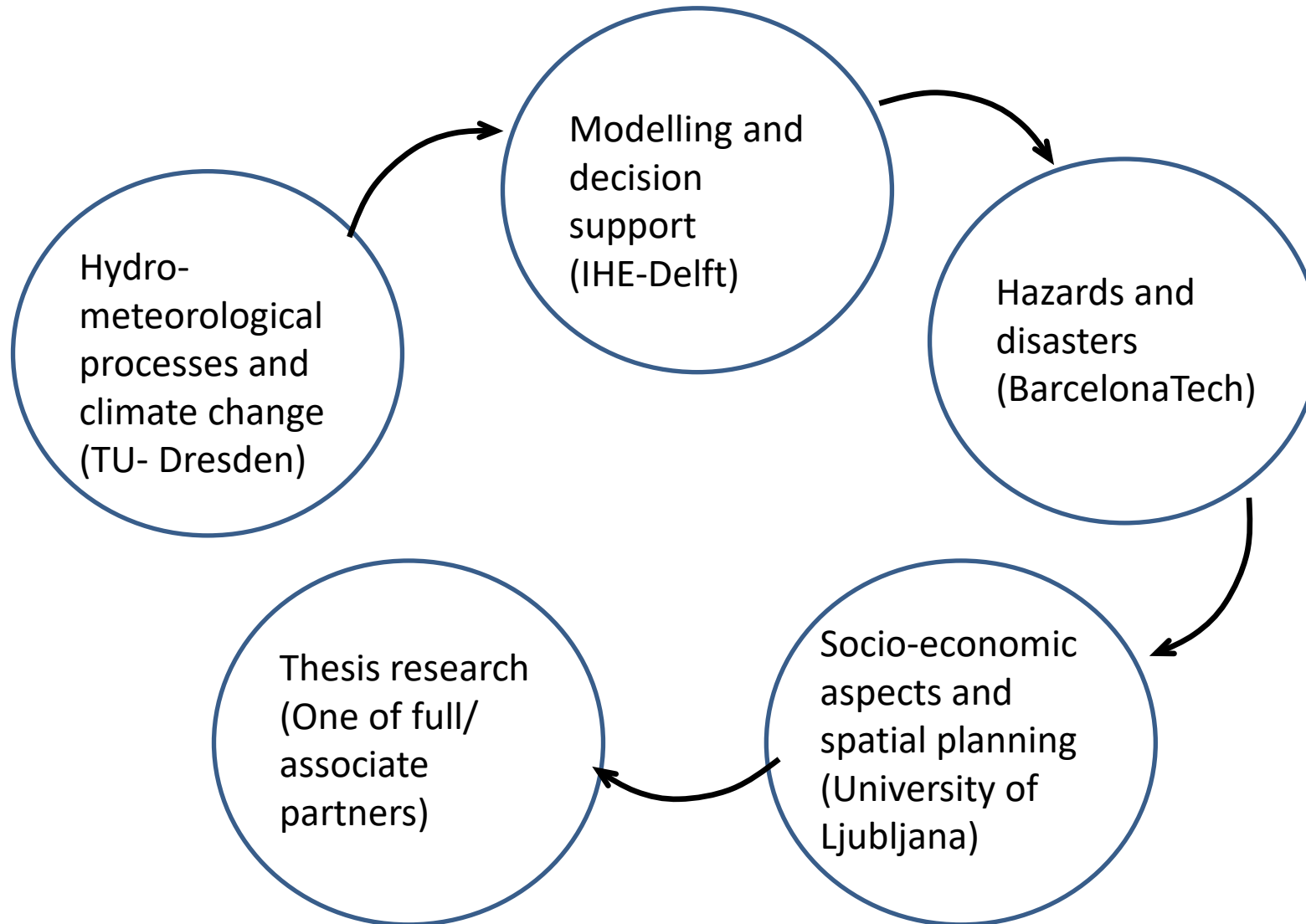
Complexity of the field

FLOOD RISK MANAGEMENT



- Complexity of the academic field demands innovative partnership
- Partners have participated in many EC-funded projects > long understanding (example FLOODSite project)
- Partners collectively share European knowledge on the academic discipline (flood risk management)

On the course structure



- Integrated approach to flood risk management
- Multi-disciplinary character
- Single institutes cannot offer
- Ideal example of joint education

Role of associate partners

		Teaching	MSc/ internships	Career counselling	Flood risk workshops	Fieldtrip	Addressing primary geographic region
Deltares	Dutch research and consultancy institute for water, soil and subsurface issues						Dutch & international
DHI	Danish consultancy institute, which has produced many tools for flood studies						Danish & international
HR Wallingford	Renowned British laboratory in the field of water management						British & international
GeoEcoMar	Romanian national research institute, specialises on Danube Delta						Romanian & Danube delta
ICHARM	Japanese organisation with expertise in water related disaster risk reduction						Japan & Asian countries
IWFM	Bangladeshi organisation with expertise in managing floods in a developing country						Bangladesh
Rijkswaterstaat	Public organisation responsible for flood risk management in the Netherlands						Dutch
Rijnland	Waterboard responsible for flood risk management in the Rijnland region of the NL						Rijnland (Dutch)
HydroLogic	Dutch consultancy organisation engaged in flood risk management						Dutch
CES	Part of Florida Atlantic University and will host fieldtrip in Florida						Florida (USA)
IAHS	Largest network of professional hydrologists with 7000 members						Global

■ Role:

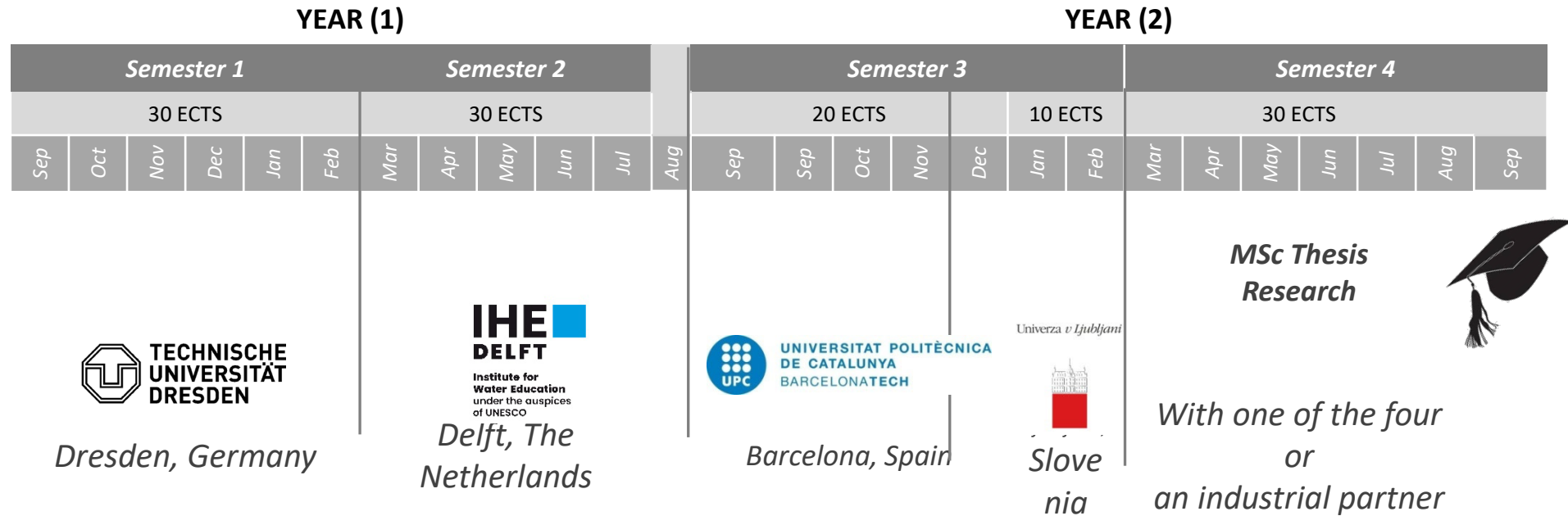
- Teaching
- Guiding research
- Internship
- Networking
- Bringing graduates closer to the job market

Expertise of the network

	HEIs				Associate Partners										
	IHE	TU Dresden	UPC	ULJ	Deltares	DHI	HR Wallingford	GeoEcoMar	ICHARM	IWFM	Rijkswaterstaat	Rijnland	HydroLogic	CES	IAHS
Hydro-meteorological processes and global change															
Monitoring, data management and ICT															
Modelling for decision support															
Fluvial, urban and coastal floods															
Flood hazards and risk assessment															
Socio-economic and institutional framework															
Policy and practice															
Climate change															
Disaster management															
Dissemination															
	Primary expertise					Secondary expertise									

- Bringing synergy with expertise of partners
- Complimentary
- Innovative network

Mobility



- Simple mobility scheme
- Graduation: ~15 September, diploma and supplements are offered on the graduation day
 - Live streaming to enable global real time access to the ceremony
 - Renowned speakers are invited
 - Ends with dinner and party!!!

Programme management

- Student intake (joint management)
 - A single website, external to any HEI, serve as a single source of information
 - Uses videos and testimonials to promote the programme
 - Integrated student selection and application process
- Excellent support services: visa, accommodation, social life
- Governance:
 - Joint Management Committee (JMC): oversees the academic quality and content of the programme
 - Independent Advisory Board (AB)
 - Academic programme management committee of each HEI
- Quality assurance: feedback from students, Advisory Board and scholars to update content and services
- Excellent support from EACEA
- IHE Delft has a few other excellent Erasmus Programmes
 - CoastHazar: Coastal Hazards, Risks, Climate Change Impacts and Adaptation
 - GroundwatCH: Groundwater and Global Change - Impacts and Adaptation
 - IMETE: International Master of Science in Environmental Technology and Engineering (IMETE)

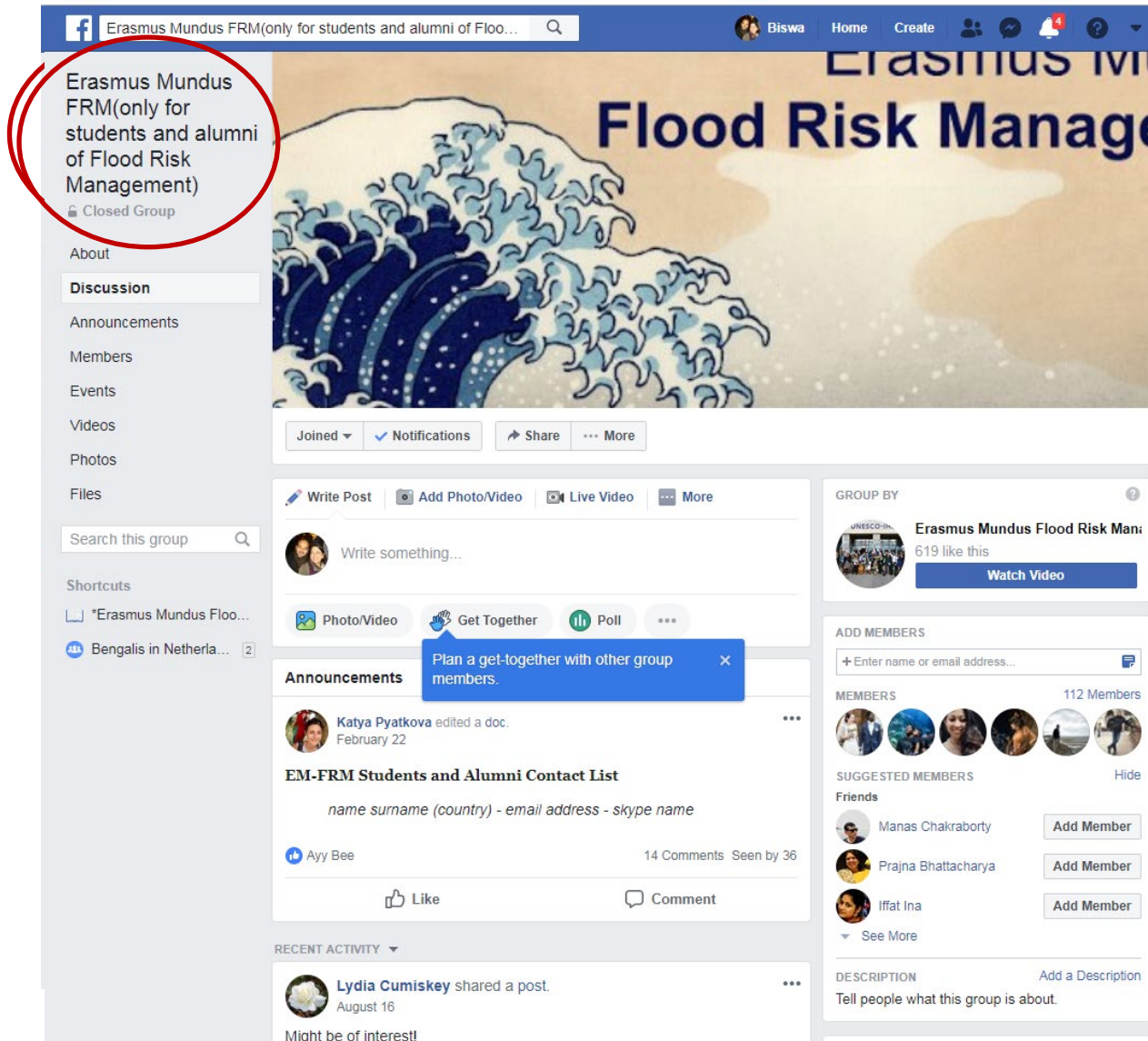
Contribution of scholars and networking

- Scholars bring experiences from industry and governmental organisations
- Train students with the practices in the discipline
- Students become closer to the job market (all graduates got good jobs!!)
- Fieldtrips
 - Provides great opportunities for learning, improving contact and familiarising with the practices in the subject
- Networking events
 - Workshop with practitioners (end of 1st year),
 - Summer and thesis internships
 - Symposium (end of 2nd year) with external speakers
 - Online progress presentation to all partners

Internship opportunities

- Connecting students to practices: an important element of success
- Internship with industrial partners (thesis research) possible
 - Industrial partners provide research topics
 - Interested students may opt to work with an industrial partner. One HEI also remain associated.
- The internship research will usually be of high practical value
- Trains students with the practices, good for career
- Strengthens links of HEIs with industry
- In last 10 years about 45% of studies are done in collaboration with the industrial partners
- Optional summer internships: available to interested students
- Workshops, symposia and fieldtrips: bring graduates closer to the practice

Facebook group of students



- Social media played an important role
- Alumni and current students of FloodRisk (so far 11 batches) are members of a Facebook group
 - To exchange information and learn from each other
- Students also maintain another (public) group on Facebook
 - Prospective students often enquire about the FloodRisk programme

Students' blogs

EM-FRM 3.0

[Home](#)
Homepage

[EM-FRM](#)
About the course

[Students](#)
About us

[Thesis topics](#)
And destinations

[Cookbook](#)
Our international food

[EM-FRM student blogs](#)
From other generations

There are 21 students on the FRM programme, from 19 different countries.

Questions? [Contact emfrm3\[at\]gmail.com](mailto:emfrm3[at]gmail.com).

EM-FRM | Create Your Badge

Graduation ceremony video

Joanne Craven
4 - Mar - 2016

Here you can watch our graduation ceremony video, complete with speeches from students and professors!

Summer sun, something's begun: Goodbye Delft!

- Blogs maintained by students are very useful
- Depicts social life and networking of Erasmus students
- Inspirational for future students

Two years in the life of Flood Risk Management: 2011-13

A collection of photographic
memories

**TECHNISCHE
UNIVERSITÄT
DRESDEN**

UNESCO-IHE
Institute for Water Education

UPC
UNIVERSITAT POLITÈCNICA
DE CATALUNYA
BARCELONATECH

**University
of Ljubljana**

Featuring...

2011-13 students.

Here you can learn all about where the course has taken and academically and more the course.

FOR FURTHER INFORMATION COURSE OR TO BE PUT IN STUDENT, PLEASE SEND FOLLOWING EMAIL ADDRESS

[emfrm.blog\(at\)googlemail](mailto:emfrm.blog(at)googlemail).

[View my complete profile](#)

EM-FRM 2011-13



FRM 1

Alumni: Our ambassadors



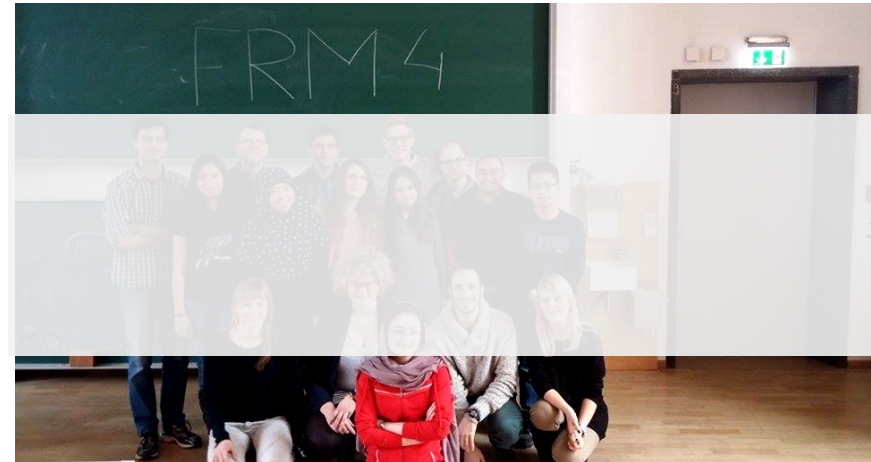
FRM 1.0 (2011-13)
| 18 students from 14 countries |



FRM 2.0 (2012-14)
| 20 students from 17 countries |



FRM 3.0 (2013-15)
| 21 students from 18 countries |



FRM 4.0 (2014-16)
| 15 students from 12 countries |

Testimonials

The FRM master programme was definitely the most enriching experience in my life.



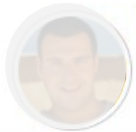
FRM graduate



 Visit our Facebook page >

 Join the group >

European Joint Programme in Flood Risk Management is educating a new generation of flood risk managers, that are well versed in all different aspects of the problem.



Robert Šakić Trogrlić

Third batch FRM Course Representative, now PhD researcher



 Visit our Facebook page >

 Join the group >

■ More info: www.FloodRiskMaster.org

This European Joint MSc Programme offers a great international environment and extensive network and I can't imagine you getting that from one university.



Lydia Cumiskey

FRM 2013 graduate



 Visit our Facebook page >

 Join the group >

European Joint FLOODRisk master has an excellent teaching programme.... Such training widens students' vision and equips them with great levels of knowledge, experience and enthusiasm.



Nilay Dogulu

First batch Flood Risk Manager Course Representative, now PhD researcher

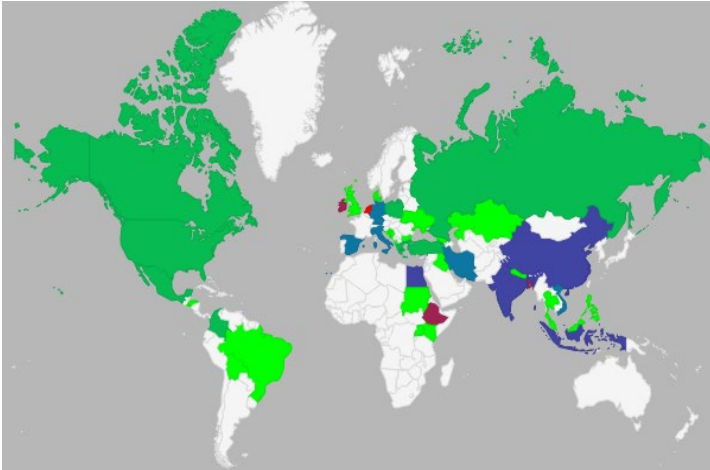


 Visit our Facebook page >

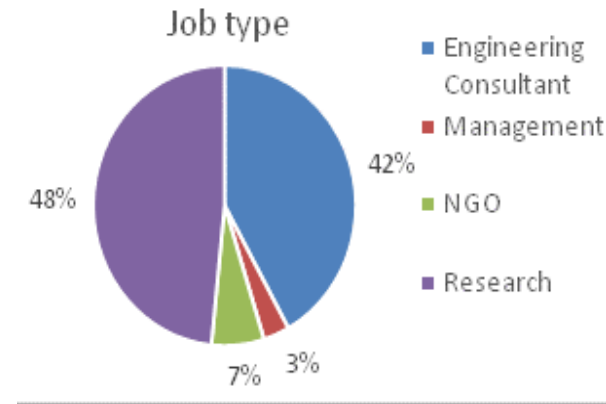
 Join the group >

Impact

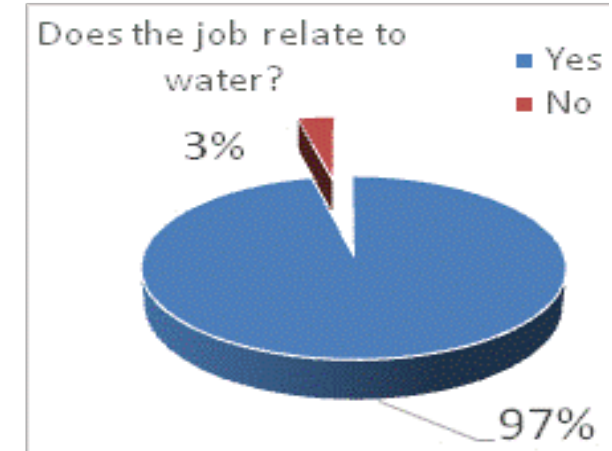
- Based on a recent survey:



Country of origin of students
(coloured randomly)



Job type: 48% in research and
42% in consultancy



Job type: 97% in water

- Supplies skilled personnel
- Improves European networks on floods
- Strengthens Europe's leadership on flood risk management

- Sustainability:
 - Attractive to self payers, which will help in sustainability of the programme
 - Societal importance to flood risk

Challenges

- Many!!
- Solved collectively with partners and EACEA
- Future challenges:
 - Joint degree
 - Sustainability
 - Financial - expensive programme, difficult without scholarships
 - Relatively easy to attract self payers when many scholarship holders are there, difficult otherwise

Conclusions

Some key take home points behind a successful programme:

- Innovation:
 - Societal importance, timing of the programme
 - Innovative network
 - Simple mobility
 - Strong links to industry, internship possibilities, organising network activities
 - Updating the programme with students' feedback
- Social media
 - Large usage of social media and Internet-based technologies
- Spin-off
 - New programmes, strengthened network
- Impact
 - Availability of high skilled flood professionals
 - Promoting Erasmus Mundus in the world of floods
 - Strengthening EU's leadership in flood risk management

Thank you for your attention

More information:

<http://www.FloodRiskMaster.org/>