The Polder2C's Winter & Summer Schools 'Fieldwork for Flood Resilience'

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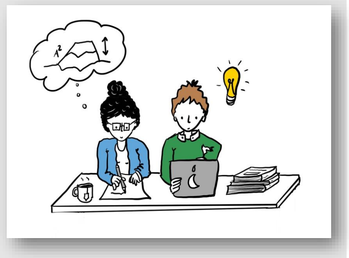
Context and objectives



During Polder2C's a winter school and a late summer school were organized to **accelerate dissemination of knowledge** used and developed within the project to the next generation of flood protection professionals.

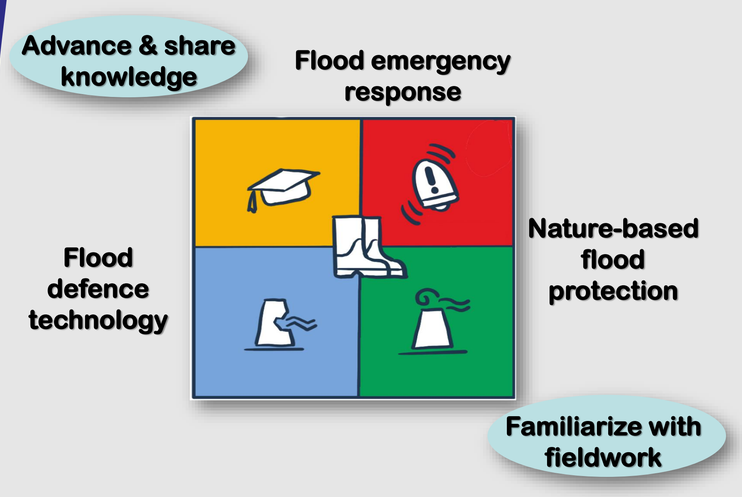


Fig 1. Illustration of learning objectives of the events

Learning vision

- Locally tested solutions for **global problem solving**
- Podium for exchange, transfer and development of ideas and knowledge among **various generations** of scientists and professionals.
- Balanced schedule between **in-class education** and **fieldwork**

Curriculum design

- Target audience: MSc students, PhD's and young professionals in the field of flood protection from Europe and elsewhere.
- Type of education: theory lectures, field exercises, workshops.
- Event duration: 5 days

Study subjects

Flood defence technology

Failure mechanisms
Erosion processes
Dike monitoring technology
Animal burrows management
Structural flood resilience

Flood emergency response

Theory and practice
Levee inspection exercise
Crisis simulation
Innovative solutions
Lessons learnt from past floods
Risk perception

Nature-based flood protection

Vegetated foreshores
Levee vegetation
Managed realignment

International collaboration

Craftsmanship theory
Fund-raising

Selected activities

Animal burrows surveys

Fig 2. Paper mapping of burrows

Fig 3. Detection of burrows with smoke bombs

Fig 4. Inspection of a large burrow made by a fox or rabbit

Fig 5. Inspection of animal footprints on sand

Fig 6. Grouting burrows

Fig 7. Excavating concrete grouts to discover the real shape of cavities.

Fire hose erosion test

Fig 8. Students setting up the test (left) and measuring the angle of impact of the water (right), allowing to compare field and model results.

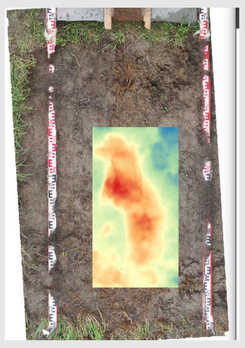


Fig 9. Sample of photogrammetry result.

Data collection on the foreshore

Fig 10. Shear vane (i.e. shear strength) and penetrologger (i.e. penetration resistance) measurements, which give an indication of sediment stability and soil strength.

Emergency response education

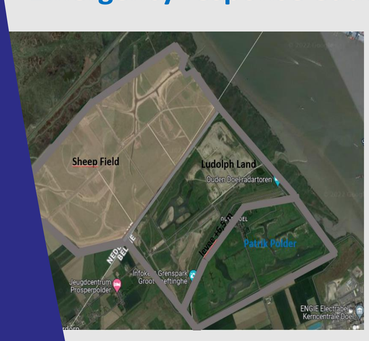


Fig 11. Map of crisis scenario (left) and execution of crisis coordination simulation in-class (right).

Fig 12. Decommissioning temporary repair of damage on a levee section

Fig 13. Inspection of the rock bags site.

Instructors

Juan Pablo Aguilar Lopes (TU Delft), Ammar Aljer (U Lille), Mario van den Berg (TU Delft), Marian Booltink (STOWA-RWA De Stichtste Rijnlanden), Davy Depreiter (MOW), Wijnand Evers (WDOD), Phil Foxley (EA), Mark Fuller (EA) Anco van den Heuvel (RWS), Kim van den Hoven (WUR), Danny Janssen (NLDA/TU Delft), Frank Janssen (WDOD), André Koelewijn (STOWA-Deltares), Wietse van de Lageweg (HZ), Erik-Jan Langkamp (STOWA/Evers+Manders), Robert Lanzafame (TU Delft), Sebastiaan Leertouwer (NLDA), Faye Lynch (EA), Nicholas Nerincx (ISL), Nicholas Nerincx (ISL), Mark Postma (RWS), Hans Quaeyhaegens (DVW), Marte Stoorvogel (NIOZ), Alexander Schmets (NLDA), Teun Terpstra (HZ), Vana Tsimopoulou (HZ), Bart Vonk (RWS), Ludolph Wentholt (STOWA), Wouter Zomer (STOWA/B&Z).

Event demographics

Total number of participants **34**

Participants' occupation

PhD student	MSc student	Young professional
23	3	8

Participants' origin

1	2	3	20	1	4

Instructors' origin