HAZRUNOFF

PROJECT

Characterising HNS Chemical data base

CEDRE

Florence PONCET

Stéphane LE FLOCH

CONTENT

- Modeling and information needed

- List of substances

- Experimental device used for determining HNS behavioural
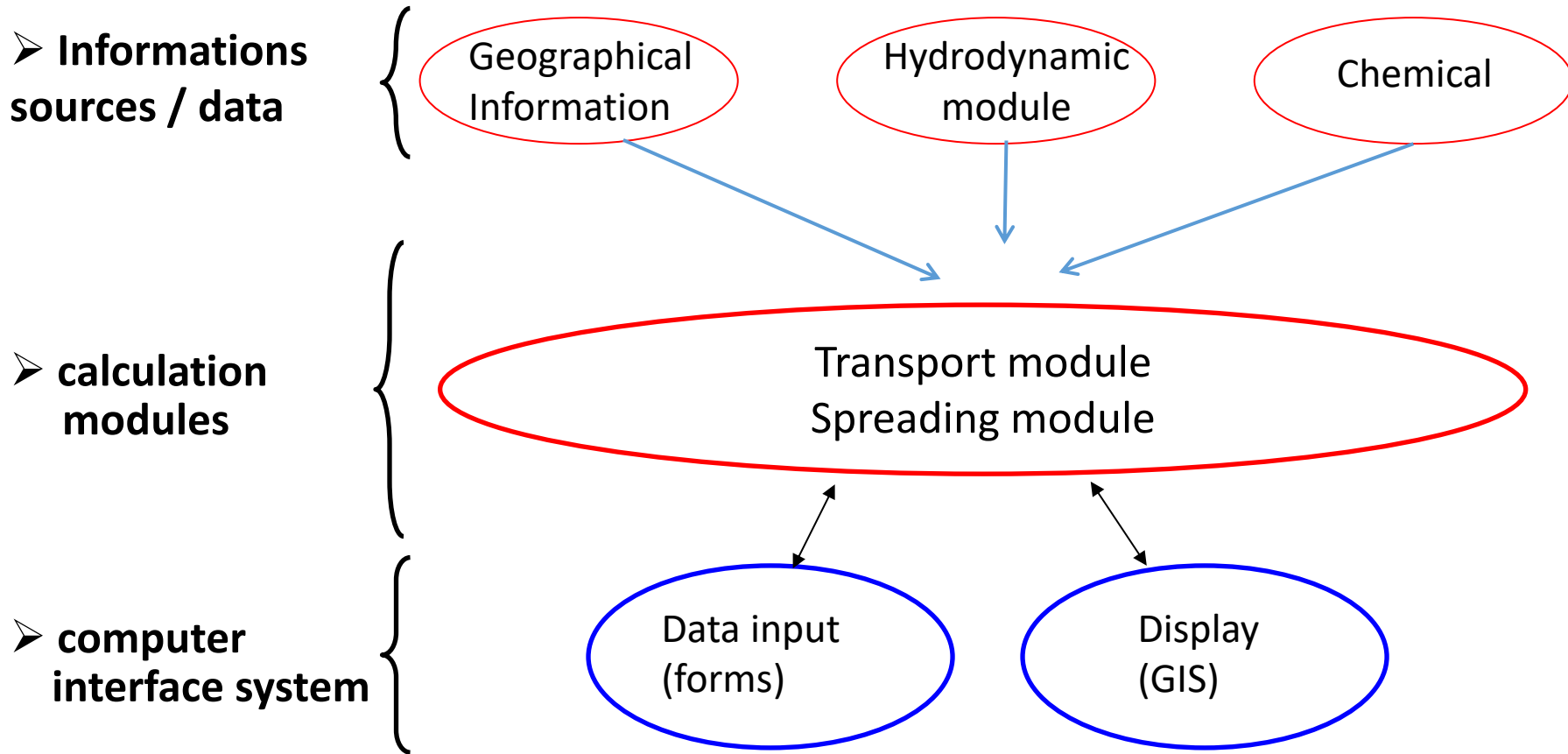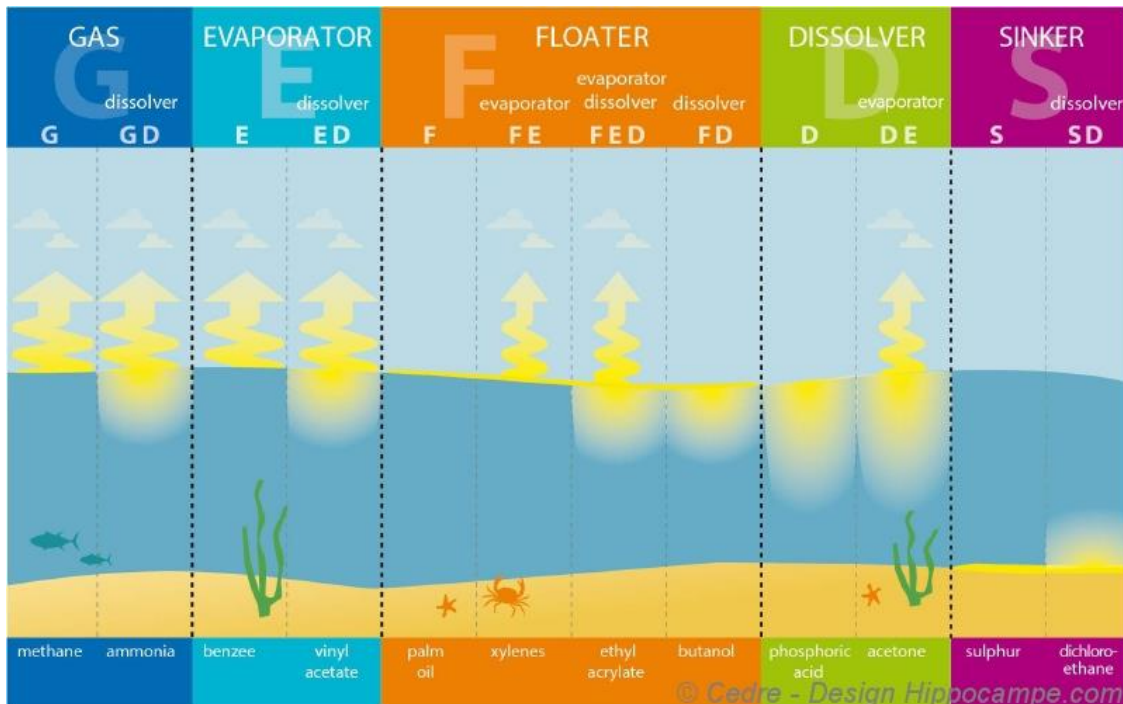
- Chemical data base

Modelling and information needed

➢ Informations sources / data

- Geographical Information
- Hydrodynamic module
- Chemical

➢ calculation modules

- Transport module
  Spreading module

➢ computer interface system

- Data input (forms)
- Display (GIS)

Chemical parameters of HNS

SEBC: Standard European Behaviour Classification
5 main categories of behaviours

Substance state: gas, liquid or solid
Density: in comparison with seawater (1.03)
Vapour pressure:

> 100 kPa: gas
> 3 kPa: fast evaporation
< 0.3 kPa: evaporation negligible

Solubility:

Liquid: < 0.1 %: solubility negligible
> 5 %: high solubility

Solid: < 10 %: solubility negligible
> 100 %: high solubility

List of HNS

8 HNS – 5 SEBC classes

HNS	HNS-MS data base	CAS Number	SEBC
Mercaptoacetic Acid	No information	68-11-1	SD
Benzene	No exp data	71-43-2	E
Ethylbenzene	No exp data	100-41-4	FE
Formaldehyde	No exp data	50-00-0	D
Ethanol	No exp data	64-17-5	D
Ter butyl alcool	No exp data	75-65-0	D
Isopropanol	ok	67-63-0	D
Methanol	ok	67-56-1	DE

HAZRUNOFF

PROJECT

Funded by
European Union
Civil Protection
and Humanitarian Aid

Experimental device used

"**Chemical Bench Test**"

Allow the evaluation of the overall fate of HNS under controlled environmental conditions

- Cylindrical tank of 80L
- Valves at different depths
- Wind generator
- Water and air temperature control system

HAZRUNOFF PROJECT

Funded by European Union Civil Protection and Humanitarian Aid

Experimental device used

Processes

- Evaporation

  PID measurements

- Dissolution

  Water sampling

  GC-MS analysis

- Persistence

  Slick sampling
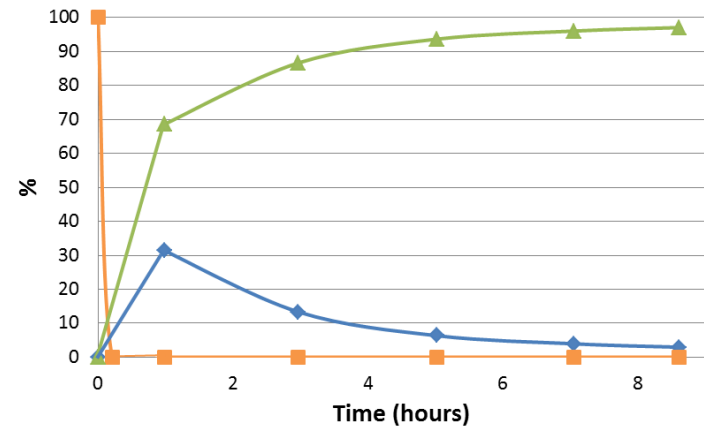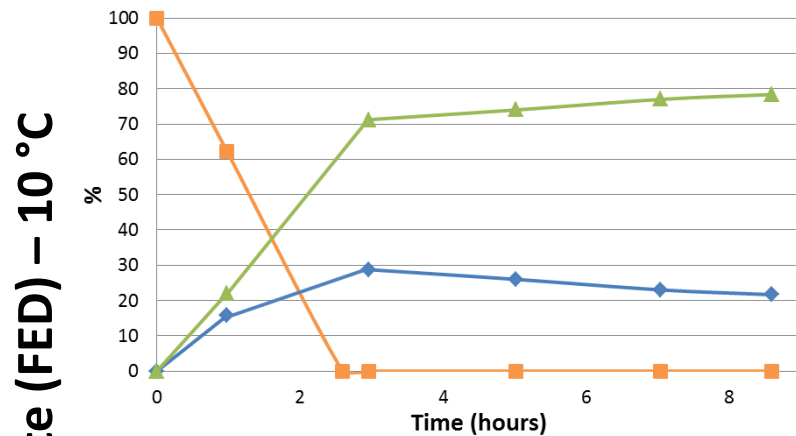
Experimental tools and Methodology

Environmental conditions

- Suspended particles

- Wind speed/surface agitation

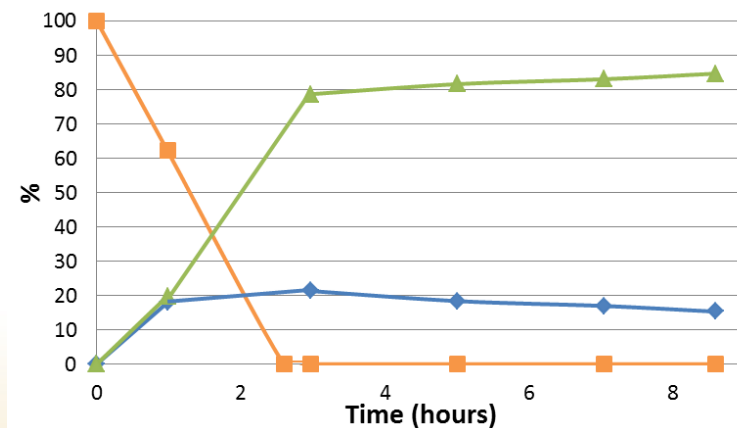- Water and air temperature

- Salinity (0 to 30 ‰)

HAZRUNOFF PROJECT

Funded by
European Union
Civil Protection
and Humanitarian Aid

Wrap up

- Goal = present an overall fate of each HNS

03/12/2019

Chemical data base

MARPOCS
2016-2018

HAZRUNOFF
2018-2020

http://www.hazrunoff.eu/

HNS-MS
2015-2017

Improving Member States preparedness to face
an HNS pollution of the Marine System (HNS-MS)

http://www.hns-ms.eu/

Funded by
European Union
Civil Protection
and Humanitarian Aid

Thank You for your attention

Merci