



ARES

ACADÉMIE
DE RECHERCHE ET
D'ENSEIGNEMENT
SUPÉRIEUR

vliru 20
YEARS
SHARING MINDS, CHANGING LIVES



Belgium
partner in development

Presentation of the Policy Supporting Research Project

Water Nexus

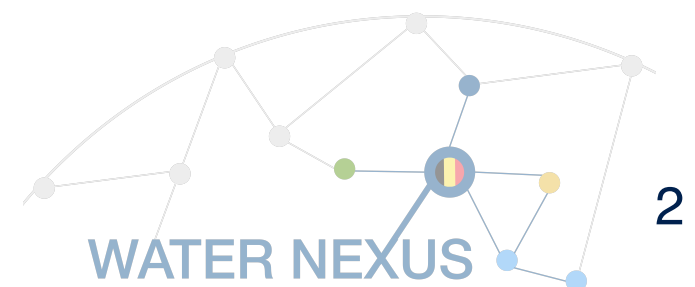
Presentation by Alice Alonso for the Louvain4Water Seminar. 18/03/2019.

CONTEXT

Policy Support Research (PSR)

Policy supporting research delivers research output on specific themes of interest to Belgian development cooperation on demand of the Belgian government. The goal of PSR is to deepen the knowledge on themes that are of prime importance for the Belgian development cooperation, linked to building knowledge and capacity of DGD.

- Budget for short and long-term PSR projects

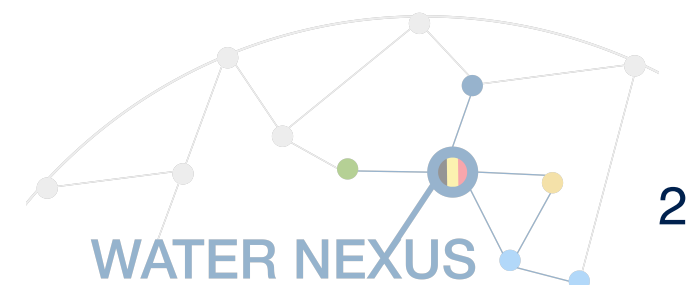


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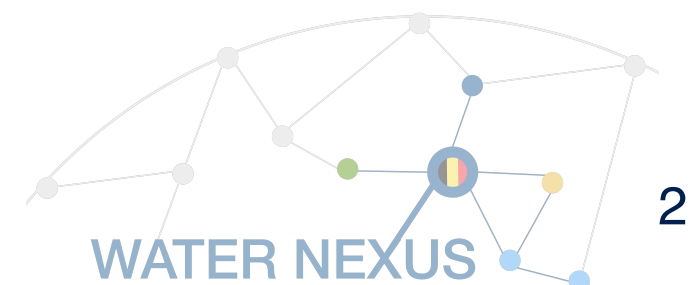
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- Budget for short and long-term PSR projects

- 3 months
- Get advices quickly
 - Background notes
 - Comments and recommendations
 - Short-term studies
 - Courses and workshops
 - etc.

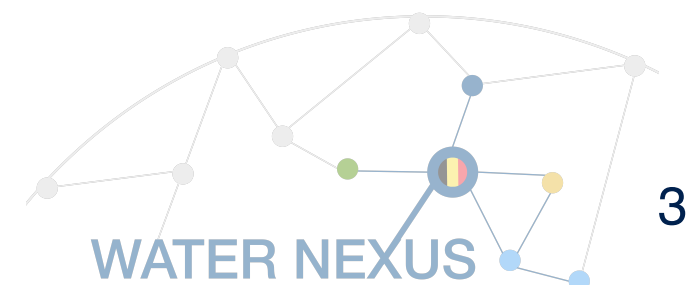


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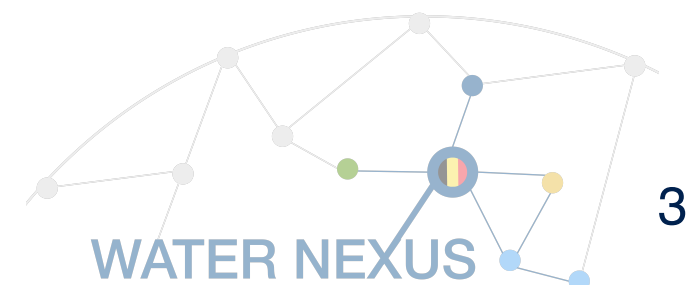


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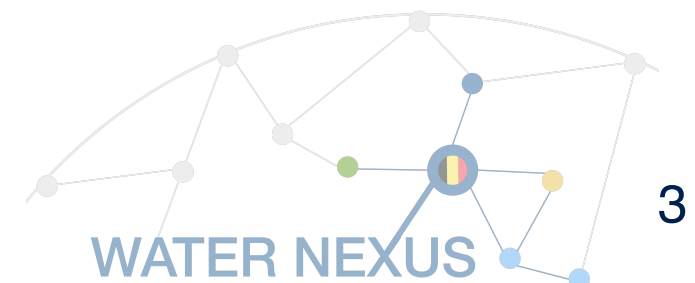
- Budget for short and long-term PSR projects

Delve deeper into a subject.

Offers a wider range of services such as detailed advice, practical guidelines, complete training modules, scientific advisory services, etc.



Belgium
partner in development



CONTEXT

Policy Support Research (PSR)

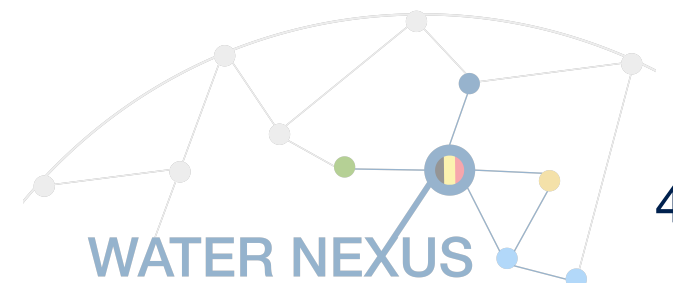
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- Budget for short and long-term PSR projects

- 1 year renewable twice
- Call around four themes
 - Genders
 - SDGs
 - Private sector development
 - Water
- Started in January 2019



Belgium
partner in development



Context



Context



SUSTAINABLE DEVELOPMENT GOAL 6

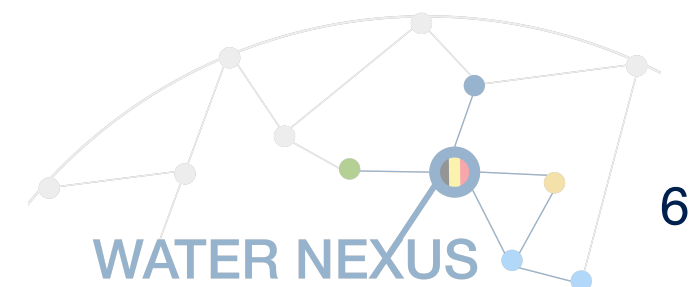
Ensure availability and sustainable management of water and sanitation for all

Context



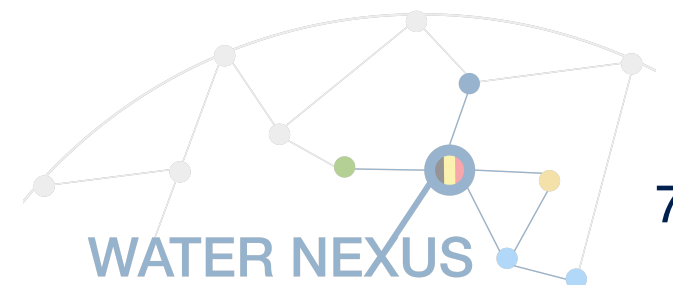
Context

- Strong Belgian know-how and expertise, BUT
 - Fragmented, lack of visibility. Who? What? Where?
 - Lack of coordinated, coherent actions
 - Belgians actors not well represented on the international scene
- Water not seen as a priority by nor strongly integrated in the Belgian DC agenda



Overarching Goal

To support Belgian development cooperation in the design and implementation of an effective water strategy



Interuniversity Research Platform



Earth and Life Institute - Environmental Sc.

Prof. Marnik Vanclooster, Full Professor
Dr. Alice Alonso, Postdoctoral researcher

The logo for KU Leuven, consisting of a dark blue rectangle with the text "KU LEUVEN" in white, bold, sans-serif capital letters.

Earth & Envi Sc. Dept - Forest, nature and landscape

Prof. Bart Muys, Full Professor
Dr. Bruno Verbist, Postdoctoral researcher

Leuven Center for Global Governance Studies

Dr. Axel Marx. Deputy Director



Dept of Animal Sc. and Aquatic ecology

Prof. Peter Goethals, Full Professor
Dr. Marie Anne Eurie Forio, Postdoctoral researcher
Dr. Tuan Ho Long, Postdoctoral researcher



Institute of Environment and Sustainable Development

Prof. P. Meire, Full Professor
Dr. J. Cools, Research Manager
Prof. Siegfried Vlaeminck, Tenure track professor
Prof. Ludo Diels, Associate Professor.



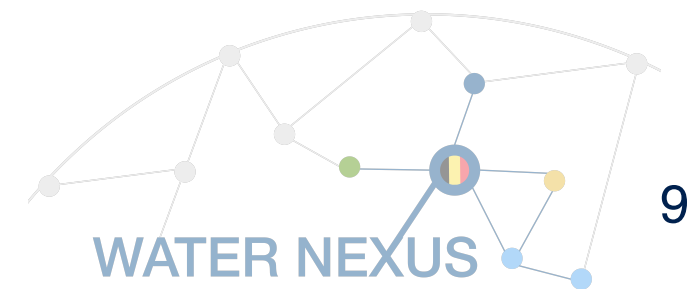
Lab of system ecology and resources management

Dr. Jean Hugé, Postdoctoral researcher.



Experience in the Global South

Institution	Countries from the Global South																																		
	Algeria	Benin *	Burkina Faso	Burundi *	Brazil	Camobodia *	Colombia	Costa Rica	China	Cuba	DR Congo *	Guinea *	Ecuador	Ethiopia	Egypt	Indonesia	India	Jordan	Kenya	Madagascar	Mali *	Morocco *	Mozambique *	Niger *	Palestinian Ter. *	Peru	Philippines	Rwanda *	Senegal *	South-Africa	Tanzania *	Thailand	Tunisia	Uganda *	Vietnam
KUL - Nat&Land		X	X								X					X			X									X	X	X	X			X	X
KUL - Glob Gov																												X							
UA				X	X				X				X	X	X		X	X	X		X									X	X			X	X
UCLouvain	X	X	X					X			X									X		X								X		X	X		
UGent						X	X			X			X	X		X										X	X					X		X	X
ULB		X																			X								X		X	X			X



Specific Objectives

Obj. 1: To map the Belgian expertise, main stakeholders (Belgian and international) and programs related with water in partner countries

Obj. 2: To identify ways through which more coordinated and coherent actions can be implemented, and possible synergies between actors and programs

Obj. 3: To synthesise the water-related opportunities, issues and challenges in partner countries

Obj. 4: To customise a toolkit assessing the impact of cooperation actions on water at a relevant spatial scale

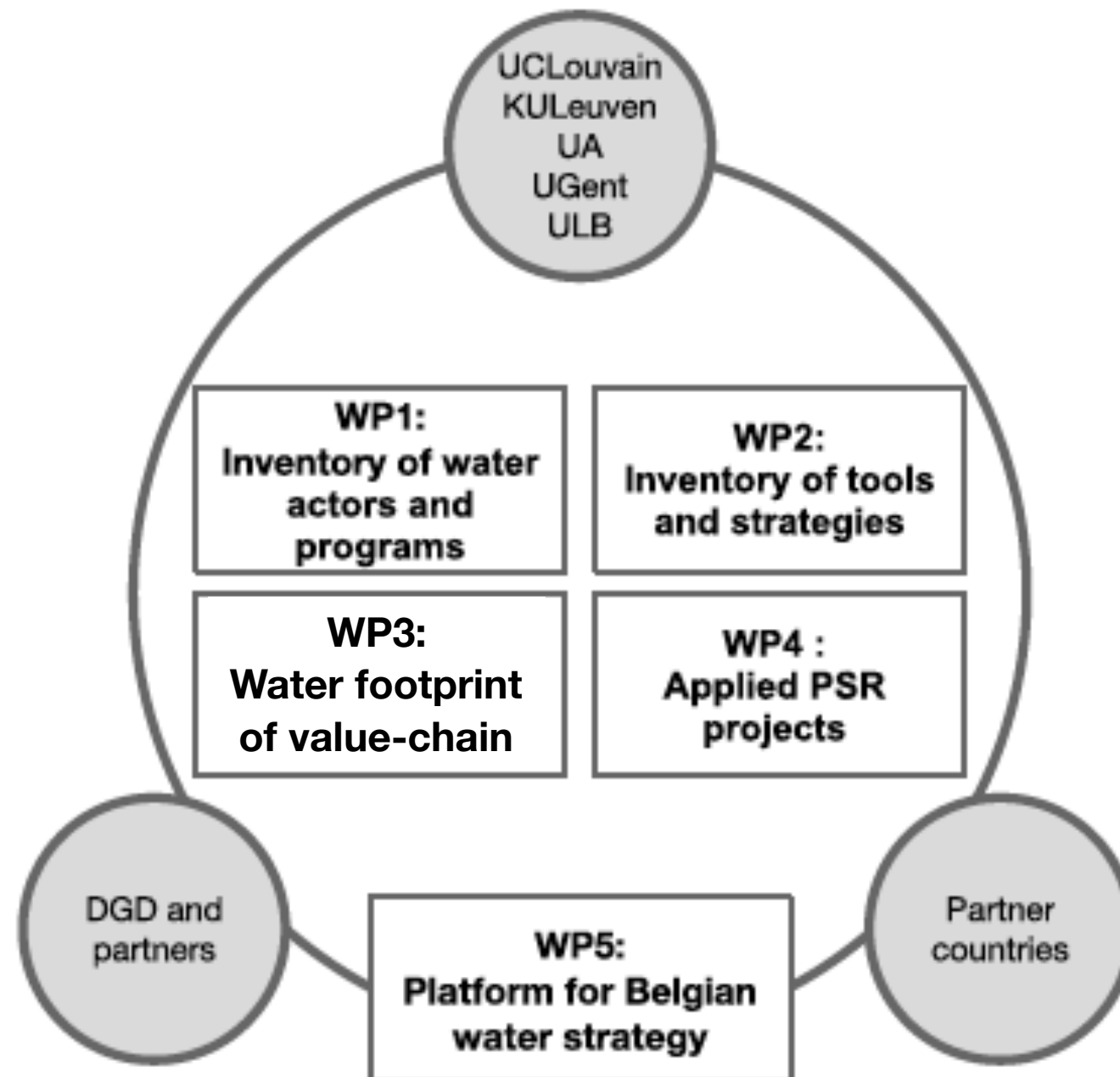
Obj. 5: To assess the potential of water dependant value-chains, and identify opportunities and needs where private sector can/should engage for IWRM

Obj. 6: To identify the role Belgian cooperation can play to contribute to SDG6 and provide with operational elements and expertise for designing a water strategy

Obj. 7: To conduct applied research projects relevant to Belgian DC



WN in a Glance



Work packages (WP) and deliverables (D)

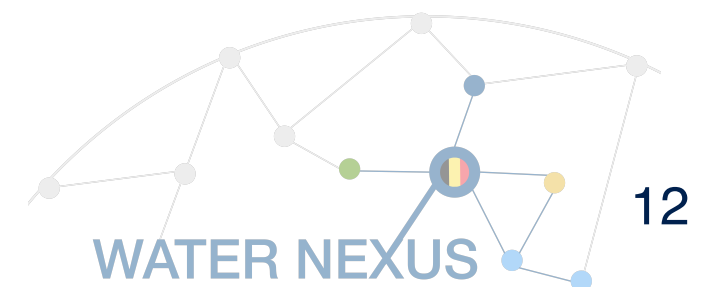
WP1: Framing the water context in partner countries: actors, programs and challenges (Obj. 1 to 3).

D1: Inventory of major Belgian actors (public / private) and programs in the water sector.

D2: Inventory of major actors and programs in a selected list of partner countries

D3: Country fact sheets:

- Generic desktop methodology to depict the water situation in a given country.
- Surveys with programs implementers, authorities and stakeholders in the PCs
- Field visits



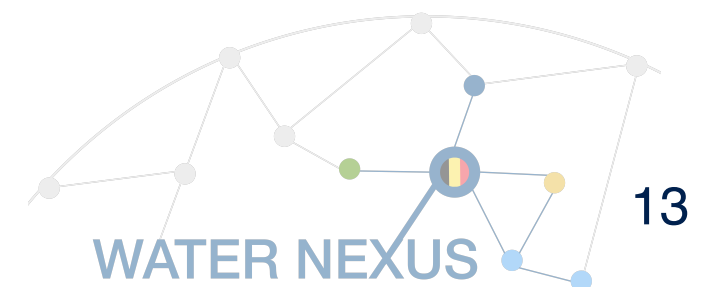
Work packages (WP) and deliverables (D)

WP2: Inventory of tools and strategies to assess the impact of development cooperation projects on water resources and to report on progress made (Obj. 4).

D4: Report on water strategies and cooperation programs implemented by cooperation agencies from other countries

D5: Review and assessment of indicators, toolkits and methods available to evaluate the state of water system, water services and water footprint of cooperation actions.

D6: Customised water toolkit



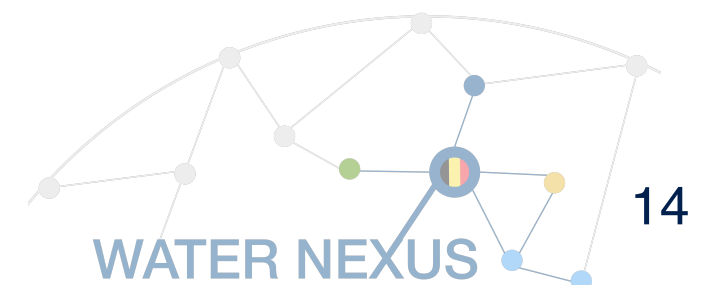
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WP3: Report on water-related risks, barriers and opportunities when developing value-chains in partner countries (Obj. 5)

WP4. Policy support applied research projects

Proposed topics :

- Big data opportunities for integrated water resources management
- Water ecosystem services
- Hydro-ecological solutions for water sanitation in the Belgian development and cooperation programs



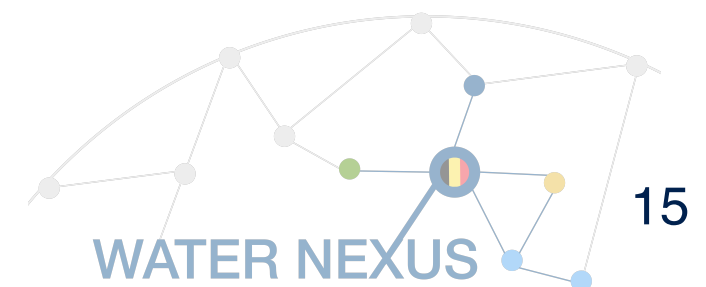
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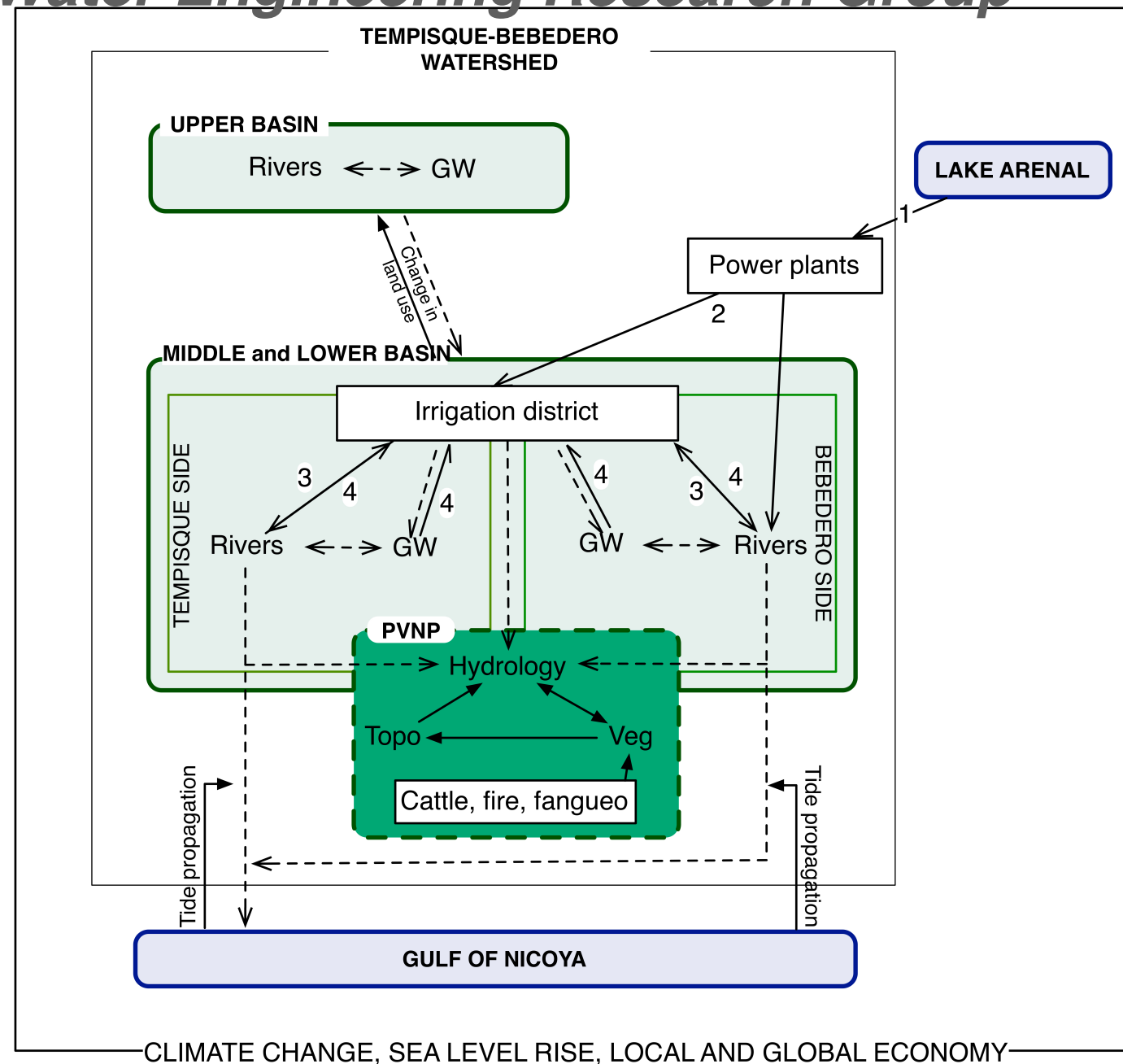
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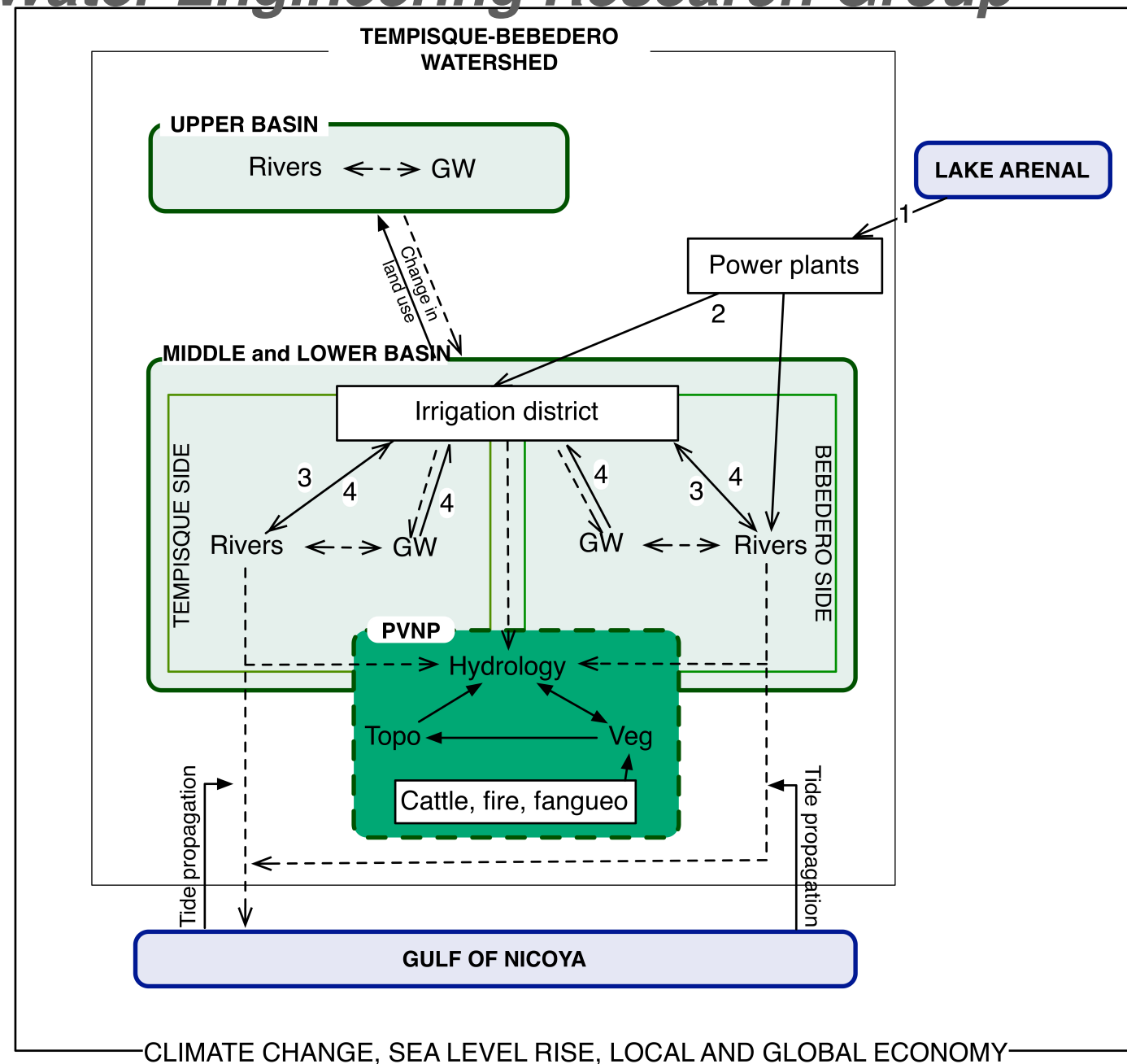
UCLouvain - Earth & Life Institute Environmental Sciences

Soil and Water Engineering Research Group

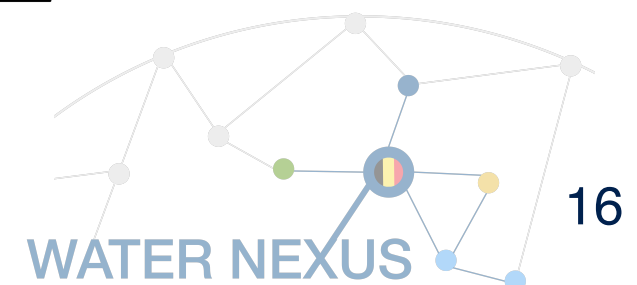


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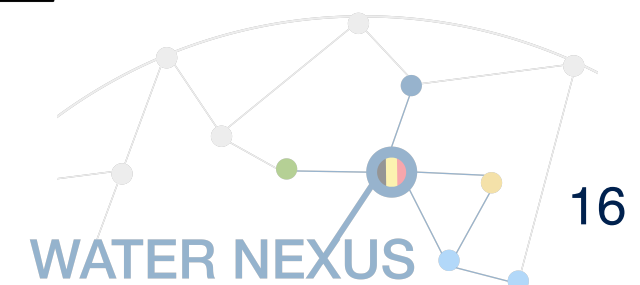
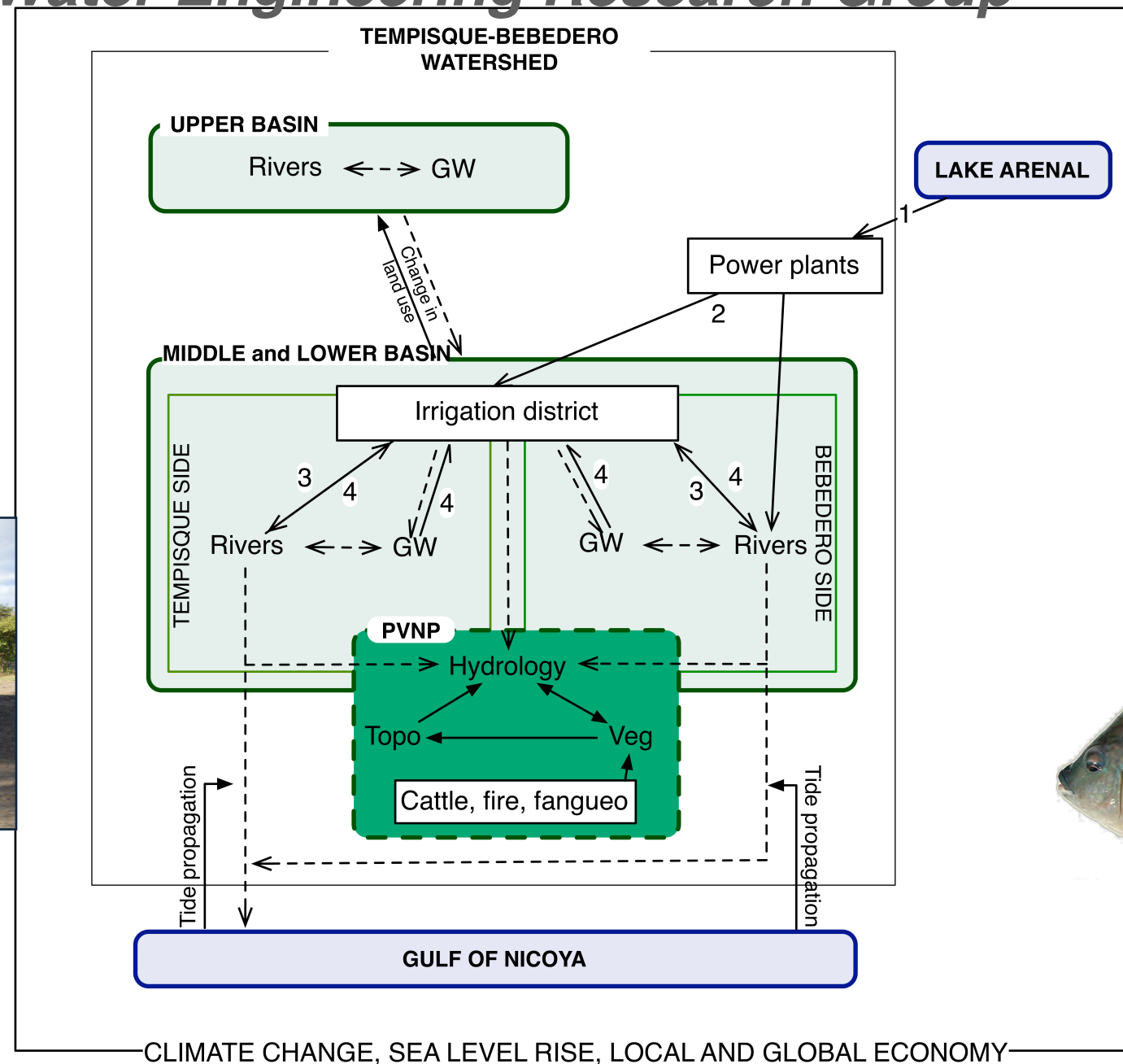


- Water transfer by direct human action
- - - - - Water transfer controlled by natural processes but whose dynamics and magnitude are influenced by human action
- A → B A impacts B



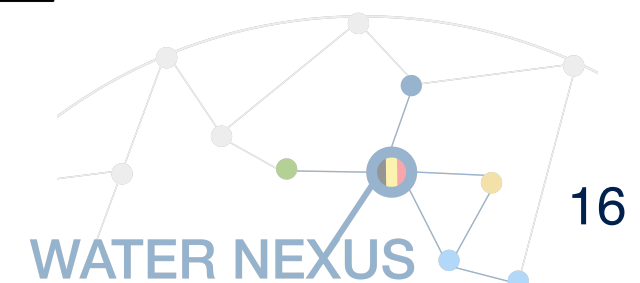
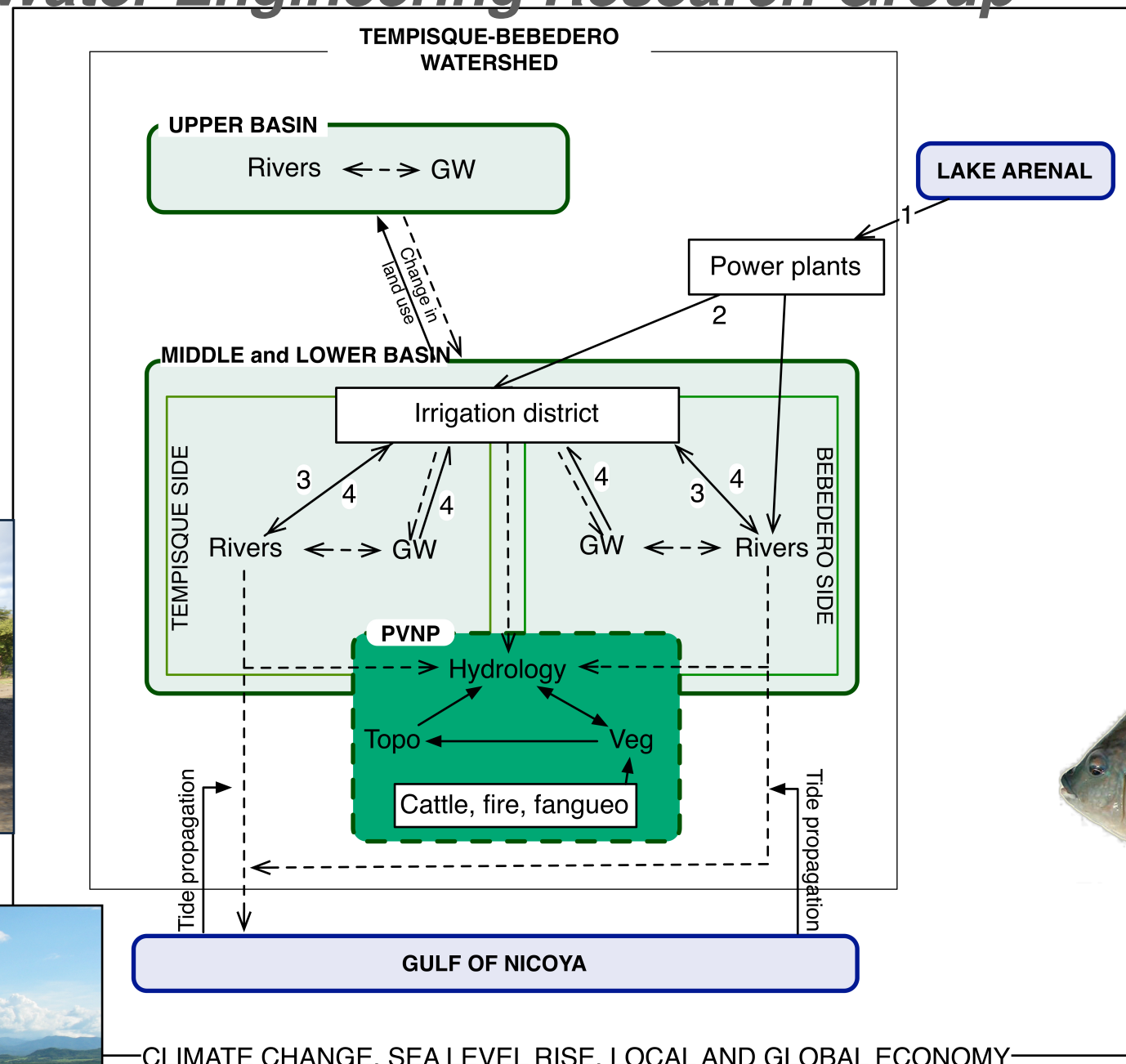
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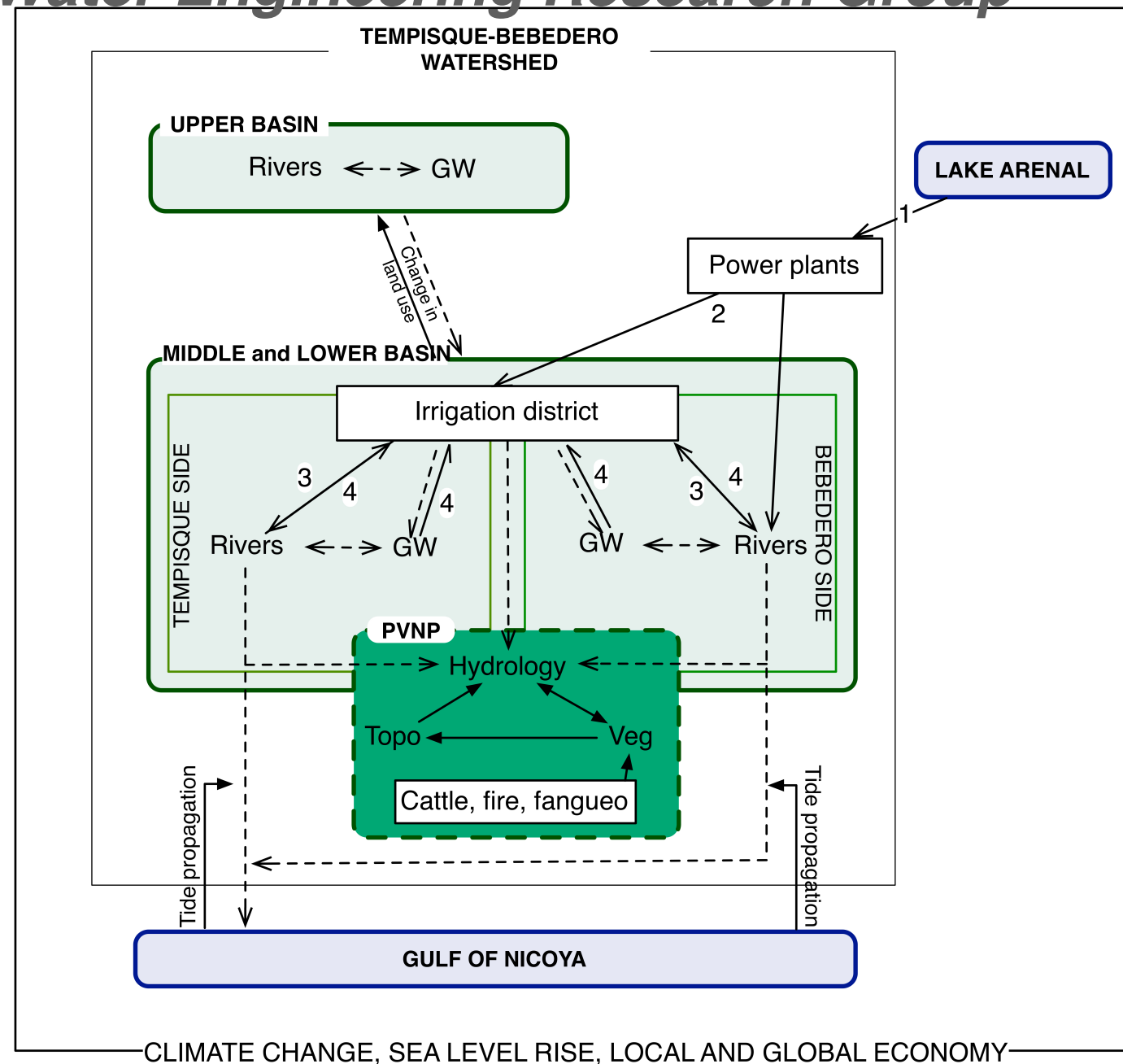
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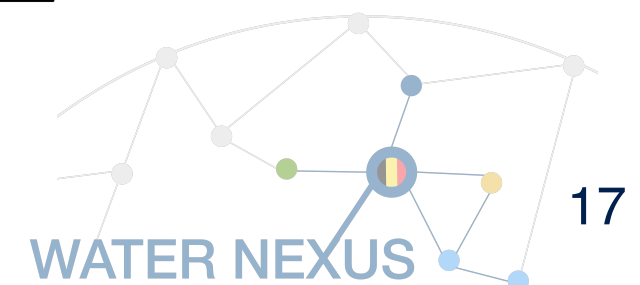
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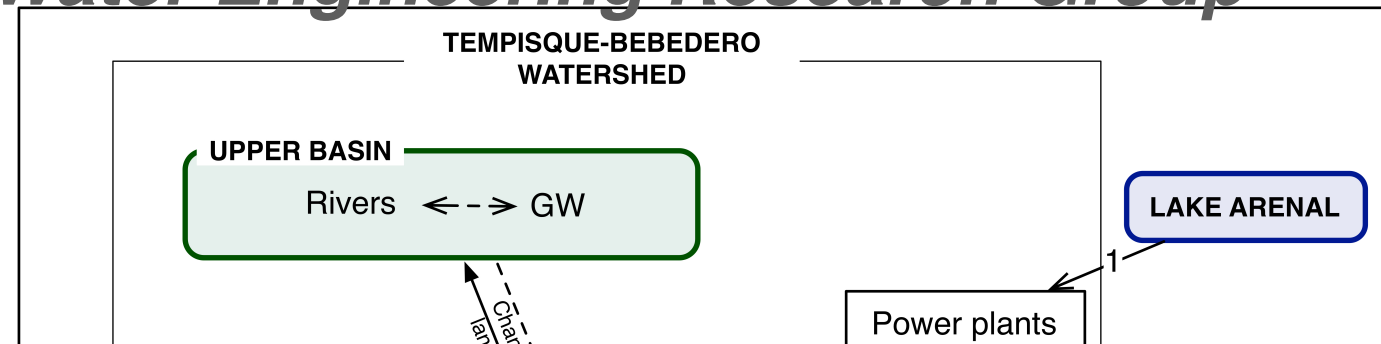
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Environmental Sciences

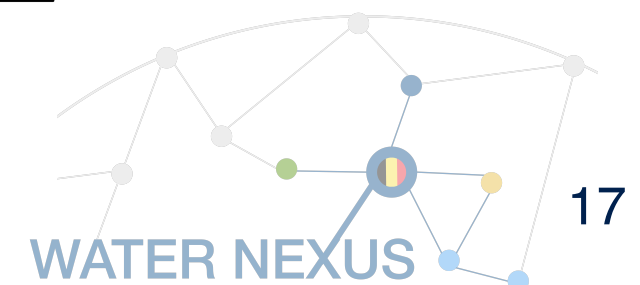
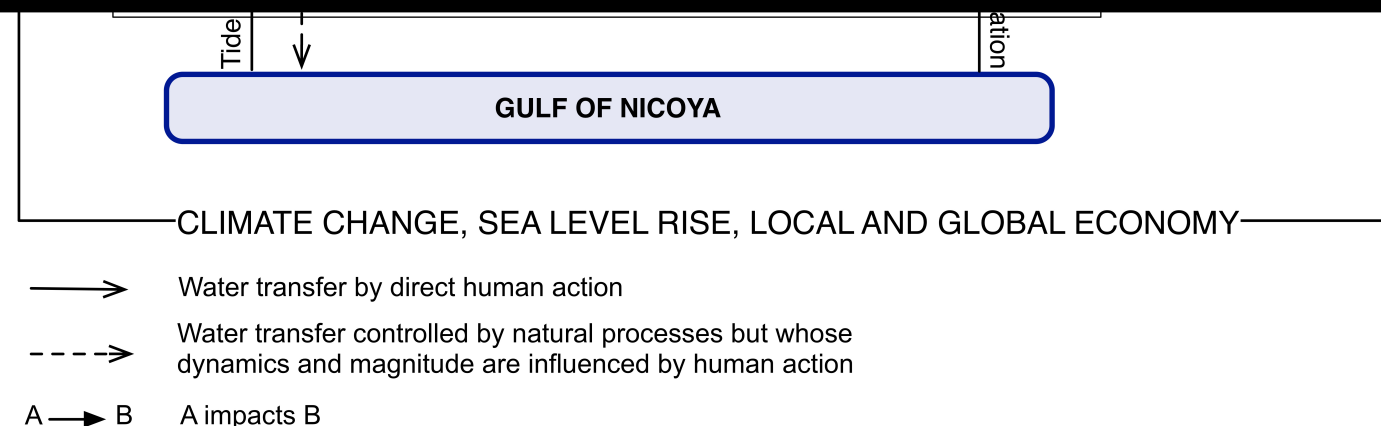
Soil and Water Engineering Research Group



When implementing a new project, importance to

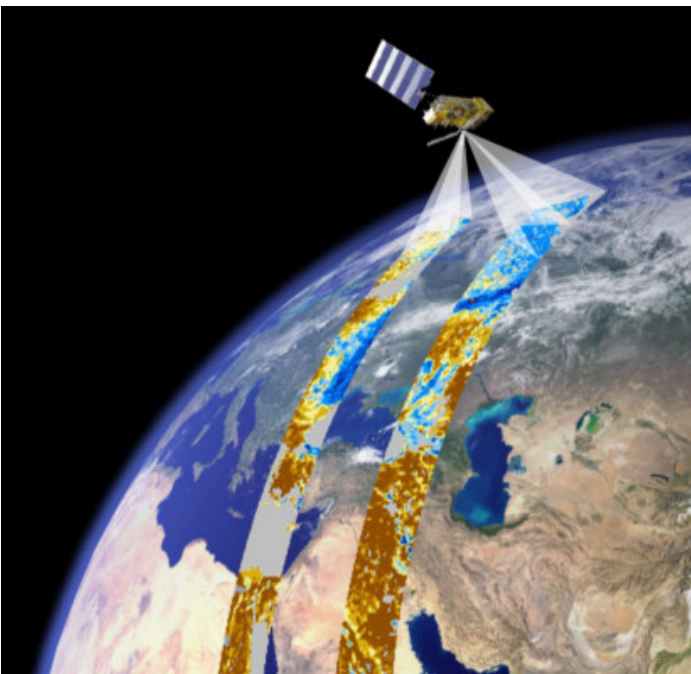
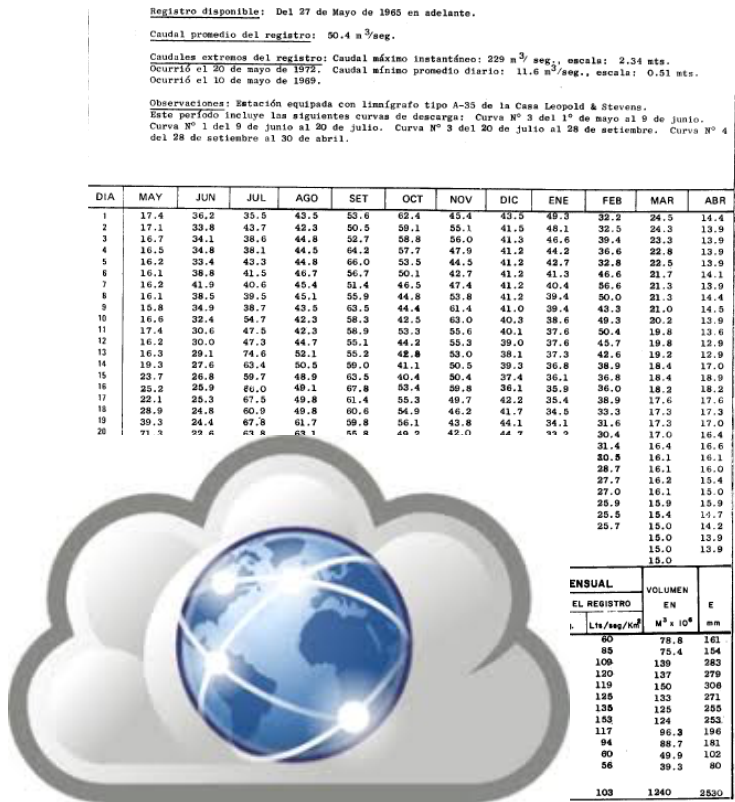
- Have a global view of the system in order to anticipate and avoid unwanted side - effects
- Monitor strategic variables to keep track of the state of the resources, detect unwanted direction, and adapt

➔ Importance of data collection, management and analysis!

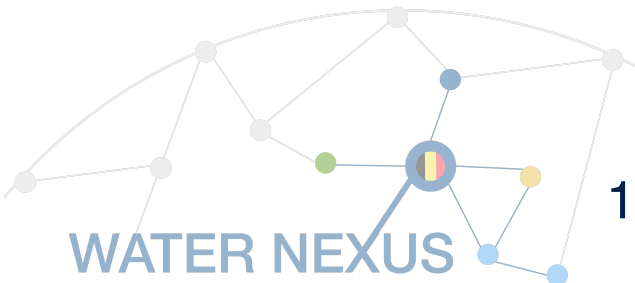


UCLouvain - Earth & Life Institute Environmental Sciences

Soil and Water Engineering Research Group



Source: NASA



UCLouvain - Earth & Life Institute

Environmental Sciences

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Registro disponible: Del 27 de Mayo de 1965 en adelante.

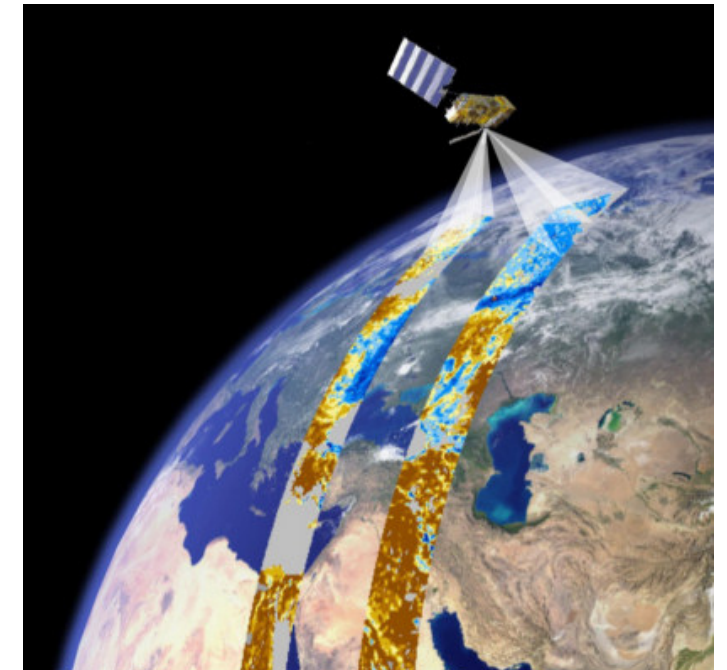
Caudal promedio del registro: 30.4 m³/seg.

Caudales extremos del registro: Caudal máximo instantáneo: 229 m³/seg., escala: 2.34 mts.
Ocurrió el 30 de mayo de 1972. Caudal mínimo promedio diario: 11.6 m³/seg., escala: 0.51 mts.
Ocurrió el 10 de mayo de 1969.

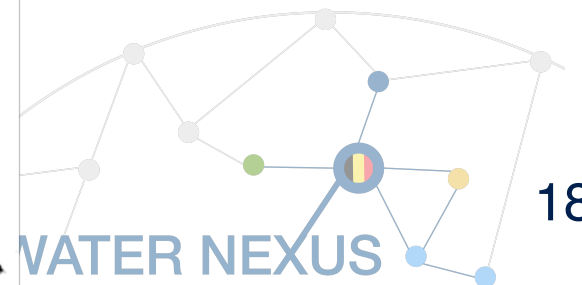
Observaciones: Estación equipada con limnógrafo tipo A-35 de la Casa Leopold & Stevens.
Este período incluye las siguientes curvas de descarga: Curva N° 3 del 1° de mayo al 9 de junio.
Curva N° 1 del 9 de junio al 20 de julio. Curva N° 3 del 30 de julio al 28 de setiembre. Curva N° 4 del 28 de setiembre al 30 de abril.

DIA	MAY	JUN	JUL	AGO	SET	OCT	NOV	DIC	ENE	FEB	MAR	ABR
1	17.4	36.2	35.5	43.5	53.6	62.4	45.4	33.5	49.3	32.2	24.5	14.4
2	17.1	33.8	43.7	42.3	50.5	59.1	55.1	43.5	48.1	32.5	23.1	13.9
3	16.7	34.1	38.6	44.8	52.7	58.8	56.0	41.3	46.6	39.4	23.3	13.9
4	16.5	34.8	38.1	44.5	64.2	57.7	47.9	41.2	44.2	36.6	22.8	13.9
5	16.2	33.4	43.3	44.8	66.0	53.5	44.5	41.2	42.7	32.8	21.5	13.9
6	16.1	38.8	41.5	46.7	56.7	50.1	42.7	41.2	41.3	46.6	21.7	14.1
7	16.2	41.9	40.6	45.4	31.4	46.5	47.4	41.2	40.4	56.6	21.3	13.9
8	16.1	38.5	39.5	45.1	55.9	44.8	53.8	41.2	39.4	50.0	21.4	14.4
9	15.8	34.9	38.7	43.5	63.5	44.4	61.4	41.0	39.6	49.3	21.0	14.5
10	16.6	32.4	34.7	42.3	58.3	52.5	63.0	40.3	38.4	43.3	20.2	13.9
11	17.4	30.6	47.8	42.3	58.9	52.3	55.6	40.4	37.6	50.4	19.8	13.6
12	16.2	30.0	47.3	44.7	55.1	44.2	55.3	39.0	37.6	43.7	19.8	13.2
13	16.3	29.1	74.6	52.1	55.2	48.8	53.0	38.1	37.3	42.6	19.2	12.9
14	19.3	27.6	63.4	50.5	59.0	41.1	50.5	39.3	36.8	38.9	18.4	17.0
15	23.7	26.8	59.7	48.9	63.5	40.4	50.4	37.4	36.1	36.8	18.4	18.9
16	25.2	25.9	60.6	49.1	67.8	53.4	58.8	36.1	35.9	36.0	18.2	18.2
17	22.1	25.3	67.5	49.8	61.4	55.3	49.7	42.2	35.4	38.9	17.6	17.6
18	28.9	24.8	60.9	40.8	60.6	54.9	46.2	41.7	36.5	33.3	17.3	17.3
19	39.3	24.4	67.8	61.7	59.8	56.1	43.8	44.1	34.1	31.6	17.3	17.0
20	71.5	55.4	63.8	63.1	65.8	40.9	42.0	44.7	33.9	30.4	17.0	16.4
											16.4	16.6
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60	78.8	161	
85	75.4	164	
109	130	263	
120	137	279	
119	150	306	
125	153	271	
135	129	265	
153	124	253	
117	86.3	196	
94	86.7	181	
90	49.9	102	
56	3		



Source: NASA



Work packages (WP) and deliverables (D)

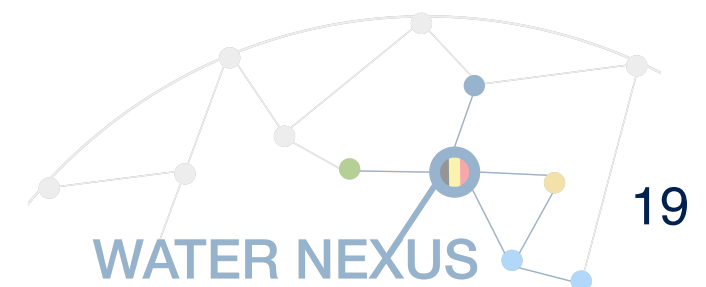
WP5. Platform for a Belgian DC water strategy (Obj. 6)

D11. Water nexus dashboard

D12. Blueprint for a water strategy in the Belgian cooperation framework

D13. Water help-desk

D14. Seminar series



THANK YOU!

