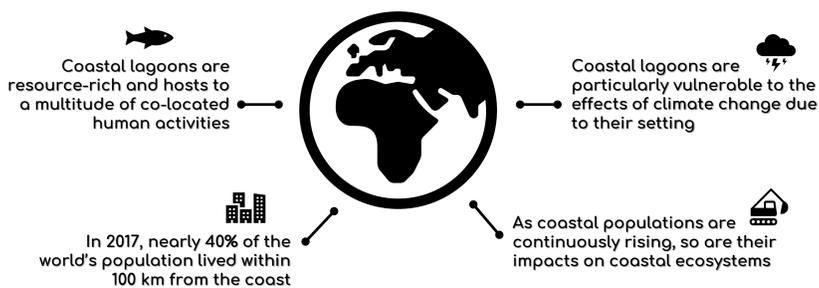


## Addressing information and data gaps using Earth Observation in support of coastal lagoon management and sustainable development

Eirini Politi, Martin Le Tissier, Mark Schuerch and the rest of the Lagoons Forum  
4th GEO Blue Planet Symposium, 4-6 July 2018, Toulouse, France

### Coastal lagoons: Unique and vulnerable ecosystems



There is an increasing need for sustainable development and management of natural ecosystems, including coastal lagoons, demonstrated by various studies as well as international agreements and conventions.



However there is/are...

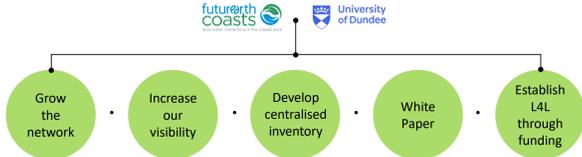
- Lack of global coordination in developing management practices
- Lack of centralised inventory of methods, data and experts
- Knowledge and data gaps
- Unrealised potential of Earth Observation (EO) in contributing to the design of holistic sustainable management and development strategies

... 'Lagoons For Life' was established to address some of the above issues.

Established in September 2017 during a Coastal Lagoons Workshop with participants from:



Our current activities include, with the support of:

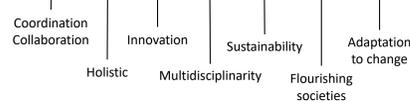


#### OUR VISION

"A world where healthy coastal lagoon ecosystems are recognised as both a core value for societies and a requirement for achieving a global green economy, blue growth and societal well-being"

#### OUR MISSION

"Coordinate action towards the co-design and co-development of holistic, innovative, multidisciplinary approaches to coastal lagoon management in order to support sustainable development of flourishing societies that become better adapted to a fast-changing world"



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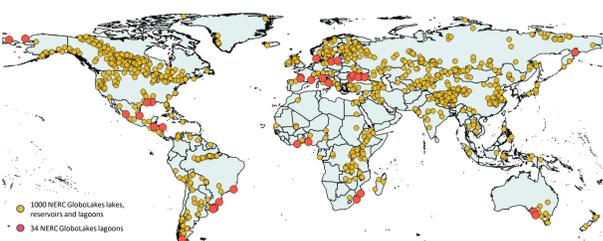
'Lagoons For Life' aims to address the following, with EO playing a major role:

- What features render lagoons vulnerable to physical, ecological and human disturbance from global change?
- Can EO help derive new (or improve existing) indicators used to evaluate & monitor lagoon systems?
- Can EO support international conventions & agreements towards improving sustainable development in lagoons?
- Propose a current and future regime prediction scheme suitable for the sustainable use and management of lagoon resources

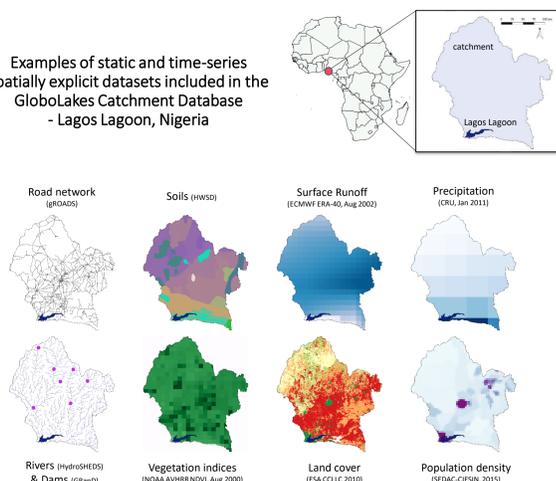
### Various EO and non-EO datasets may hold potential for coastal lagoon studies



For example, the UN NERC GloboLakes project (2012-2018) has developed a rich and extensive lake and catchment database for 1000 inland water bodies around the world, including 34 coastal lagoons ([www.globolakes.ac.uk](http://www.globolakes.ac.uk))



Examples of static and time-series spatially explicit datasets included in the GloboLakes Catchment Database - Lagos Lagoon, Nigeria



There are plenty more datasets out there, e.g., the ESA CCI ECV products (see figure on the right).

'Lagoons For Life' aims to create an inventory of these and other datasets covering coastal lagoon ecosystems and, through research collaborations, assess their usefulness in contributing to holistic coastal lagoon management approaches



Fig: European Space Agency (ESA) Climate Change Initiative (CCI) Essential Climate Variable (ECV) Products (Source: ESA)

#### Take home message

- Full potential of EO in coastal lagoon management remains unexplored
- First attempt to explore such potential during a 3-day coastal workshop in September 2017 with experts representing the physical and social sciences raised many more questions!
- We invite anyone with an interest in contributing to the sustainability of the world's coastal lagoon systems to join the 'Lagoons For Life' network and help us build interdisciplinary collaborations that will enable us to explore various aspects of EO and its role in transforming coastal lagoon management for sustainable development

