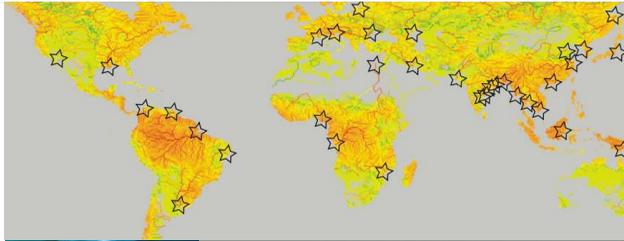


Linking Governance and Science towards Ecosystem based Management

Scales and dimensions of Land and Sea Use with relevance to EM: Mississippi as an example



Deltas globally > 100 000 km² at sea level or below; ca. 0,5 bn people;
Centers of economic and cultural development; a „mirror“ of upstream processes, oceanic and climate forcing

Ongoing global discourse e.g.:

- SDG Process
- UNFCCC (e.g. loss and damage, disaster risk)
- Democratization and open access to data

UNEP Mandate: Keeping the global environment under review
e.g. Global and Regional Environmental Outlook (GEO)

The diagram illustrates the Delta Land-Ocean Transition Zone, showing the flow of water and the impact of various factors. On the land side, it shows migration of population, industrial pollution, urban sprawl, and heat island effects. In the river, there is water pollution and salinized areas. In the transition zone, there is groundwater pumping, land subsidence due to groundwater pumping & compaction, and water logged areas. On the ocean side, there is increased danger of storm surges & landfall, sea level rise up to 50 cm till 2050, and algal blooms. The diagram also shows the need for protective dykes and increased flood danger. The natural limit of the coastal zone is indicated, and international waters are shown below.

reproduced from Kuenzer and Renault, 2012

Indicators

- Ecosystem Services
- Sustainability in space and time (indicators / scales)

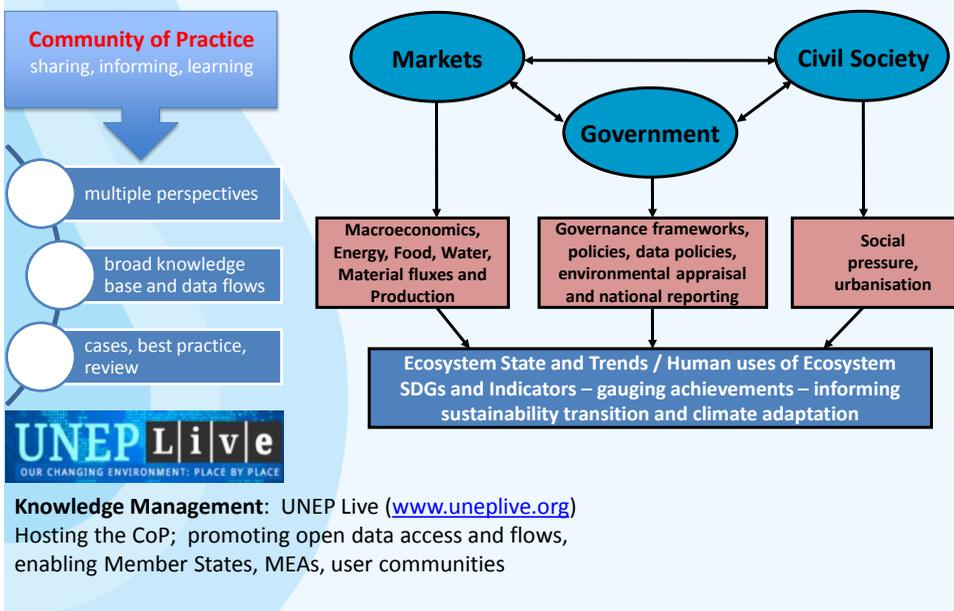
Assessment

- Monitoring
- e.g. Regional Seas, GPA (scale)

Policy Framework

- EBM, Adaptation to CC
- Global Environmental Goals (SDG Post 2015)

Informing Ecosystem Management and CC Adaptation in **Deltas and Estuaries**



1. End poverty in all its forms everywhere
2. End hunger, achieve food security and adequate nutrition for all, and promote sustainable agriculture
3. Attain healthy life for all at all ages
4. Equitable and inclusive quality education and life-long learning opportunities for all
5. Attain gender equality, empower women and girls everywhere
6. Secure water and sanitation for all for a sustainable world
7. Ensure access to affordable, sustainable, and reliable modern energy services for all
8. Promote strong, inclusive and sustainable economic growth and decent work for all
9. Promote sustainable industrialization
10. Reduce inequality within and among countries
11. Build inclusive, safe and sustainable cities and human settlements
12. Promote sustainable consumption and production patterns
13. Promote actions at all levels to address climate change
14. Attain conservation and sustainable use of marine resources, oceans and seas
15. Protect and restore terrestrial ecosystems and halt all biodiversity loss
16. Achieve peaceful and inclusive societies, rule of law, effective and capable institutions
17. Strengthen and enhance the means of implementation and global partnership for sustainable development