Standards & Protocols for Environmental Assessment:

A View from the Gold Coast

SNMREC has the need for standards and protocols

- unique to open-ocean current development as well as
- in common with other National Marine Renewable Energy Centers
- for both the physical and the biological environment.

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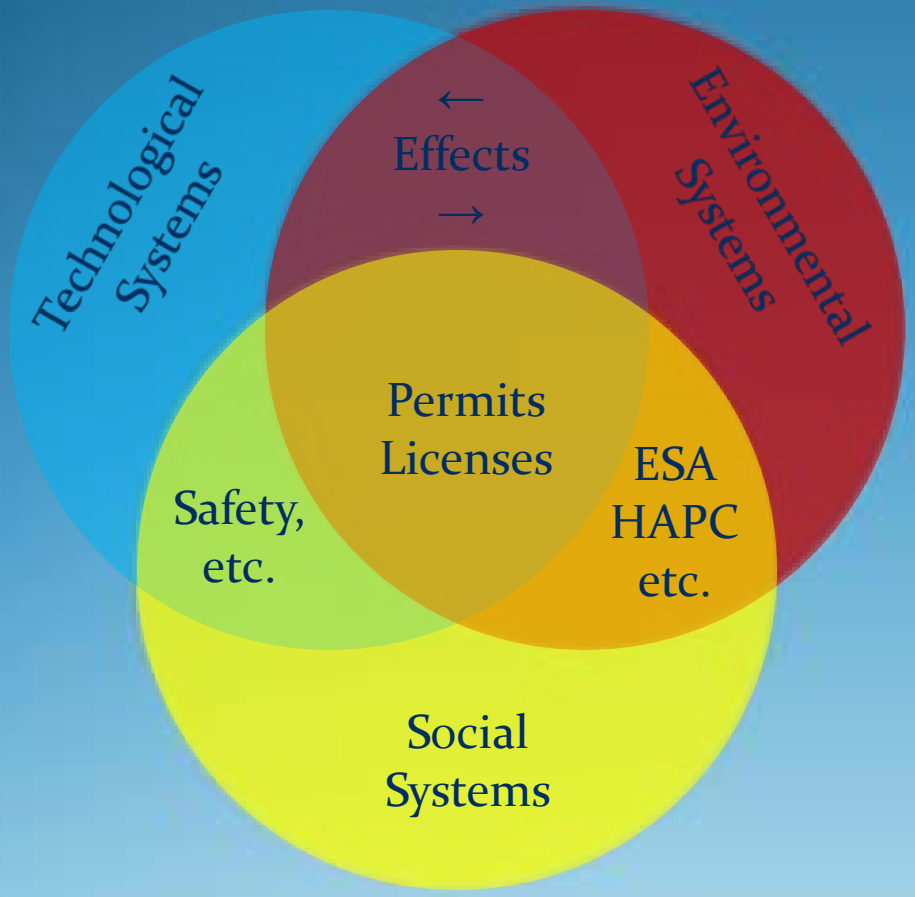
A System of Systems



Standards and protocols apply to each subsystem, and, if properly developed, can be what determines success or failure of overall system.

Proper development requires consideration of other S&Ps with which they interact.

Environmental Systems & Interactions

- Energy mode (flow; thermocline; waves) and what controls it (i.e., what energizes it and determines its variability)
- Ecosystem components and their interactions (another system of systems)

Social systems (politics, perception) interact with environmental systems through laws and policies;

Technological systems interact with environmental systems by cause-and-effect *in both directions.*

At SNMREC…

…the MHK energy mode (the Florida Current) is unique among the centers; the OTEC energy mode has some unique characteristics (it's refreshed somewhat more quickly). Monitoring/assessment standards & protocols are therefore likely to be unique.

…certain parts of the ecosystem (e.g., deep/cold coral beds) are also unique; but most others also are pertinent at other centers. Monitoring/assessment should therefore be developed collaboratively.

Operational Considerations

All of the Centers will need standards and protocols for environmental matters when it comes time to host developers in our test berths.

These will most likely apply to the ecosystems aspects of the problem, although wake effects (likely proprietary) will need attention as well.

This is something we can work together to develop and manage.