

Stakeholder perceptions of resource condition, management, access, and use in Sarasota Bay, FL: Findings across values and space

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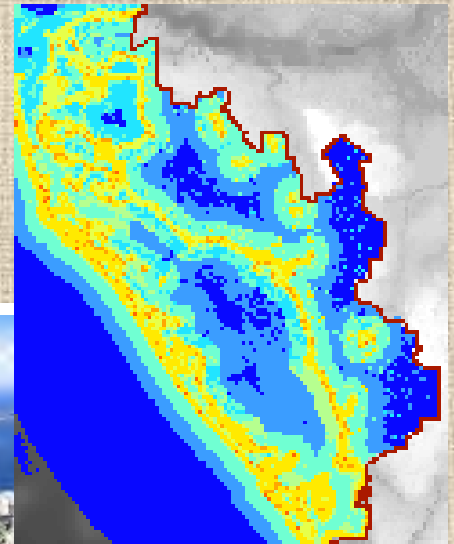
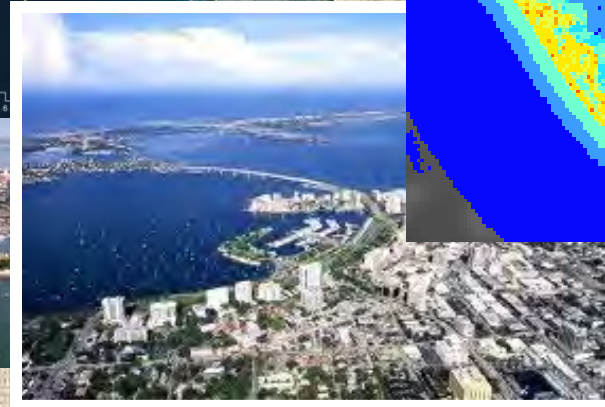
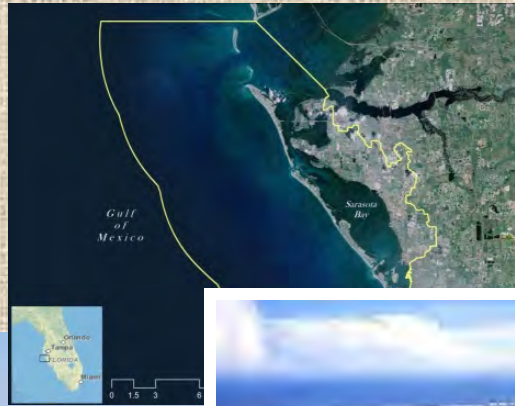
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Overview

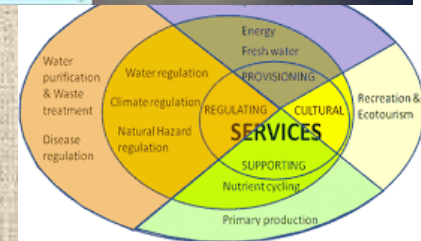
Presentation

- Study description
- Findings
- Discussion



Project

- GOM interest: BP oil spill
- Collaboration: USGS/FLSG
- SH Needs: GOMA, GOM Research, NOP, etc.
- Research Needs: env/soc/econ baseline, GOM specific ecosystem service valuation



Study Context: Greater Sarasota Bay



Data Collection

- SoLVES: 16 values; 45 uses
 - Other: 45 management/access/condition questions
- Online survey
 - n=285 completed surveys
 - n=1744 mapped points
- Sample profile:
 - Age – 71% 50-79 years old
 - Income – ~80% \$50-150k
 - Education - ~80% 4-yr degree/+
 - Seasonal:Permanent – 1:9
 - Avg. Time Lived in GSB – 20 years

Survey Structure:
A.GSB Perceptions:

- Resources/Mgmt*
- Place Scale

B.SoLVES*:

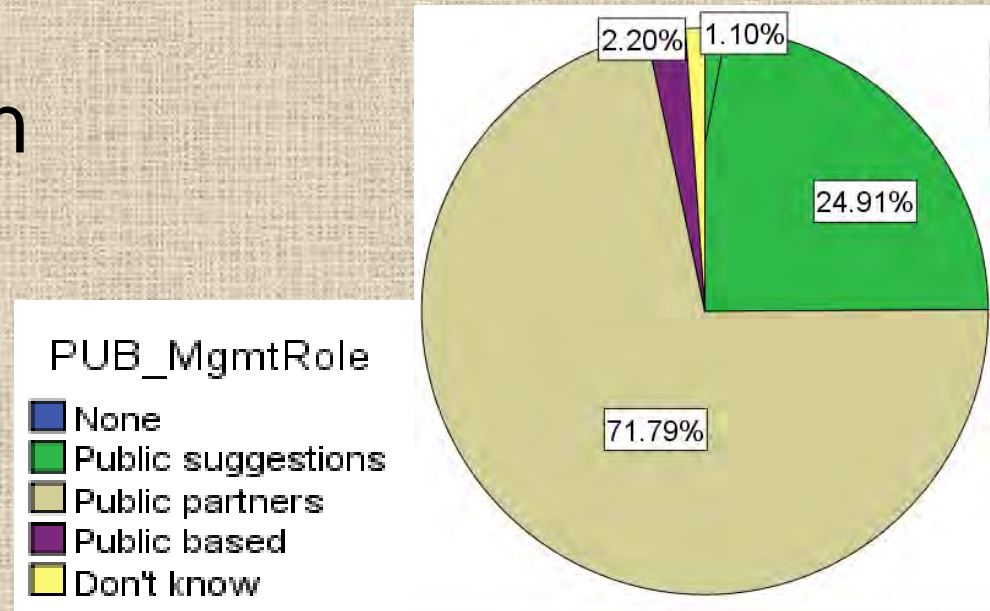
- Value Allocation
- Mapping
- Use Preference

C.Demographics*



Findings: Resources/Management

- Generally positive (1-5 :: Agree-Disagree)
 - Improving ENV: 61.1% SA/A; mean – 2.47
 - Improving REC: 71.6% SA/A; mean – 2.08
 - Reduce Access DEV: 62.8% SA/A; mean – 2.15
- Role of the public in management...



Findings: Resource Access

- “Public access to coastal waters and waterways has been identified as a priority management issue. From your perspective, how adequate is existing public access to *Greater Sarasota Bay*?”

*Neutral >20%

Resource	Mean 1 Very Adequate- 5 Very Inadequate	SD	% Adequate Very Adequate + Adequate
Beaches	2.566	1.136	58.30%
Scenic View Points	2.739	1.142	50.20%
Boat Ramps	2.631	1.183	43.50%
Natural Swimming Areas	2.786	1.133	42.80%
Dune walkovers	2.824	1.086	40.40%
Waterway Nature Trails (Blueways)	2.869	1.112	37.90%*
Waterfront restaurants w/ boat access	2.869	1.043	33.70%*
Nature trails adjacent to water	3.15	1.177	29.20%
Boat Marina Slips	2.655	1.042	28.80%
Boardwalks	3.175	1.04	24.20%*

Findings: Resource Experience

- “Please indicate your level of agreement with each statement as it relates to your experience with *Greater Sarasota Bay*.”
 - 10/18 with >50% Strongly Agree/Agree
 - 5/18 balanced (~1/3 each: SA/A, Neutral, SD/D)

*Neutral >20%;

**Neutral >30%

Experience	Mean 1 Strongly Agree- 5 Strongly Disagree	SD	% Agree Strongly Agree + Agree
Not enough parking spaces at water and beach access sites	1.86	0.852	77.2%
Congestion at water and beach access sites	1.85	0.775	77.6%
Loss of natural shoreline due to development	1.98	1.046	69.1%
Loss of natural areas and associated wildlife	2.15	1.003	64.6%
Inadequate boater education	2.13	0.943	58.6%*
Loss of mangrove habitat	2.24	1.055	58.2%
Loss of public access to water and beaches	2.32	1.069	55.8%*
Loss of seagrass habitat	2.33	0.999	54.0%*
Major shoreline erosion	2.30	0.973	53.3%*
Fewer birds and wildlife	2.52	1.088	50.5%*
Too much debris and trash in the water	2.59	1.095	49.8%*
Fewer fish to catch	2.33	0.992	40.7%*
Loss of restaurants and other shoreline recreational opportunities	2.63	0.912	39.6%**
Too many boats	2.72	1.0455	34.1%**
Increased frequency of red tide	2.85	1.0426	33.3%**
Too many derelict vessels	2.82	1.052	32.7%*
Inadequate waterway maintenance (canals, channels, passes)	2.75	0.9382	23.2%**

Findings: Management Goals

- “Local communities have identified goals to guide management decisions that affect *Greater Sarasota Bay*. Please indicate your level of agreement with each of the goals for *Greater Sarasota Bay*.”
 - High level of ‘Agreement’ across the 12 goals

Management Goal	Mean 1 Strongly Agree- 5 Strongly Disagree	SD	% Agree Strongly Agree + Agree
Manage quantity/improve quality of stormwater runoff to GSB	1.396	0.626	88.50%
Eliminate further loss of shoreline and wetland habitats	1.434	0.671	87.40%
Restore shoreline and wetland habitats.	1.459	0.731	87.00%
Increase understanding of human-use patterns that influence resource sustainability (commercial development, recreation, etc.)	1.61	0.703	85.60%
Restore/sustain fish stocks/other living marine resources in GSB	1.542	0.744	85.20%
Improve water quality	1.412	0.636	82.40%
Incorporate local social/cultural heritage into management of GSB resources (such as public input and community advisory boards)	1.738	0.759	81.40%
Establish areas in GSB where motorized crafts are limited to no-wake and non-motorized crafts are encouraged to use.	1.672	1.001	80.40%
Purchase add'l non-wetland areas to add to publicly owned lands	1.553	0.81	79.30%
Provide increased levels of public access to GSB and its resources	1.864	0.87	74.70%
Increase coastal community resilience in the face of natural and human-induced disasters (such as hurricanes and rising seas)	1.839	0.983	70.90%
Create "fishery reserve areas" in GSB where no fishing is allowed	2.045	1.199	64.20%

Findings: Resource Uses

- “Controversial” (based on support:opposition)
 - 20 of 45 were controversial uses
 - Ranges: 10-67% oppose, 12-65% support
 - 7 highly controversial (>25% opposed/supported)
 - Difference between <20%
- Support/Opposition
 - 80%+ support: 16 uses
 - 9 virtually unopposed
 - 60-80% support: 9 uses
 - 75%+ opposition: 2 uses
 - High-rise condo construction & Industrial manufacturing
 - Other: Offshore oil/gas exploration/drilling



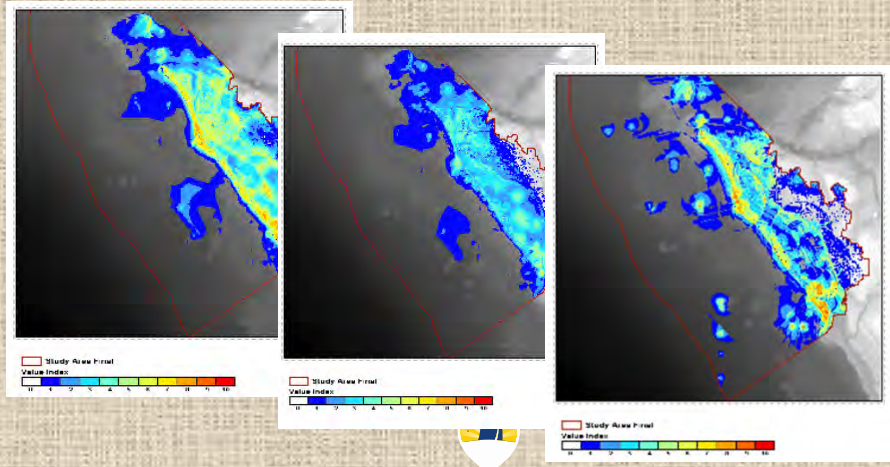
Findings: Resource Uses

- Highest responses for controversial uses
 - Agricultural land use: 70.88%
(SUPPORT/oppose 17 points)
 - Private dock development: 65.26%
(support/OPPOSE 14 points)
- Non-response rate average: 2.73%
 - Desalinization plant/water treatment: 9.47%;
Mooring fields: 12.28%
 - Others: Beach nourishment: 5.26%



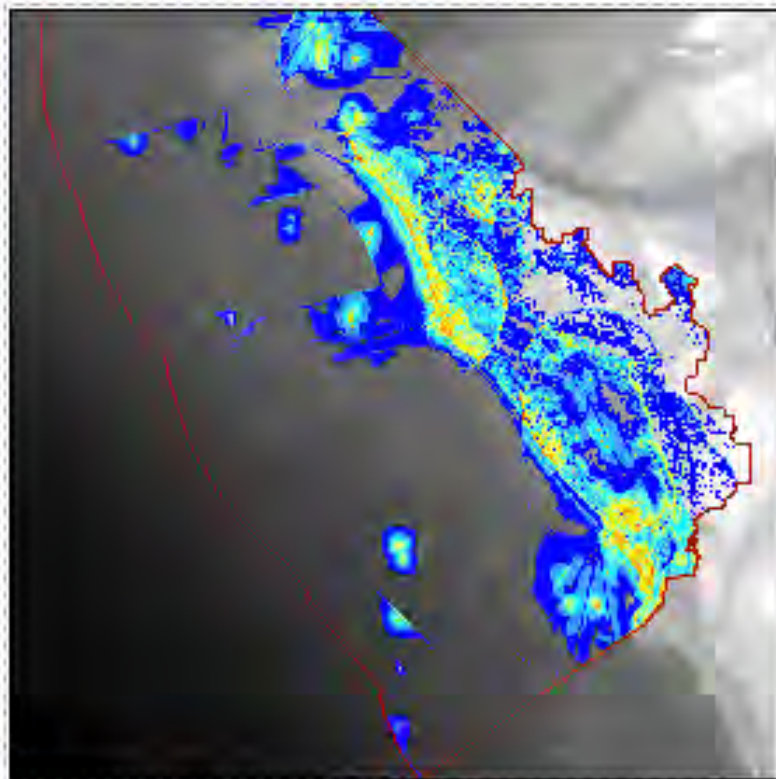
Findings: SOLVES Mapping

- 7 “controversial” uses
 - Agriculture
 - Land-based aquaculture
 - Off-shore aquaculture
 - Desalinization
 - Private dock development
 - Commercial fishing
 - Transportation infrastructure
 - + oil/gas drilling
- Value: recreation
 - Others: aesthetics, biodiversity
- Environmental Data Layers
 - Landsat 8, Band 1 “coastal”
 - Coastal DEM
 - Distance to shore
 - Distance to access
 - Distance to transportation
 - Distance to artificial reefs

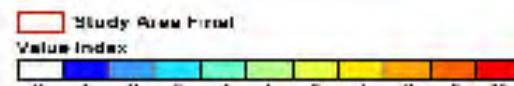
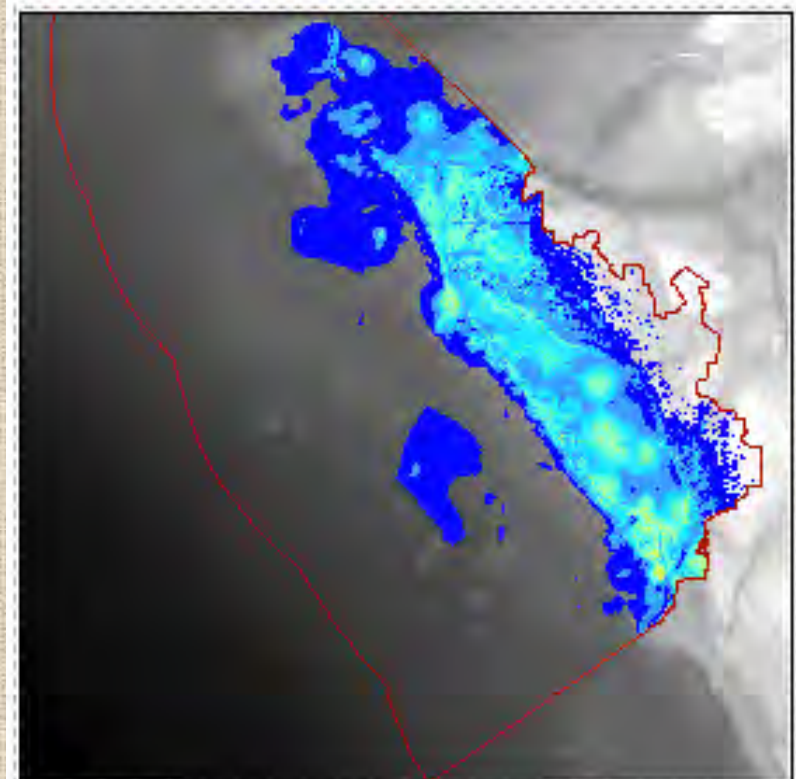


Agriculture

Favor

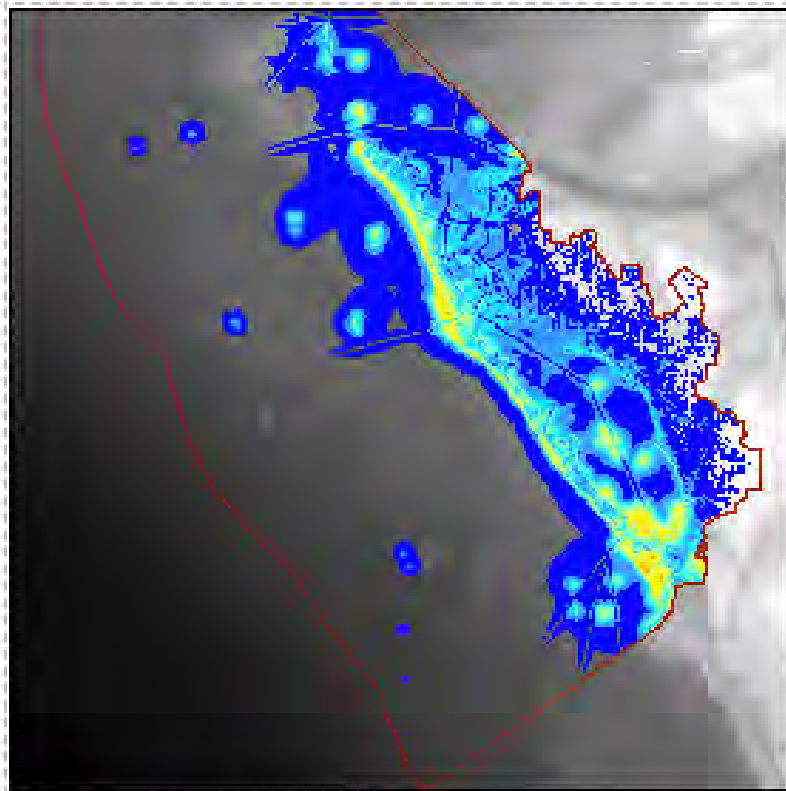


Oppose

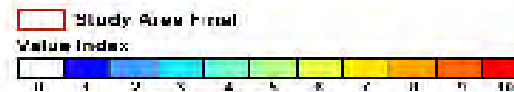
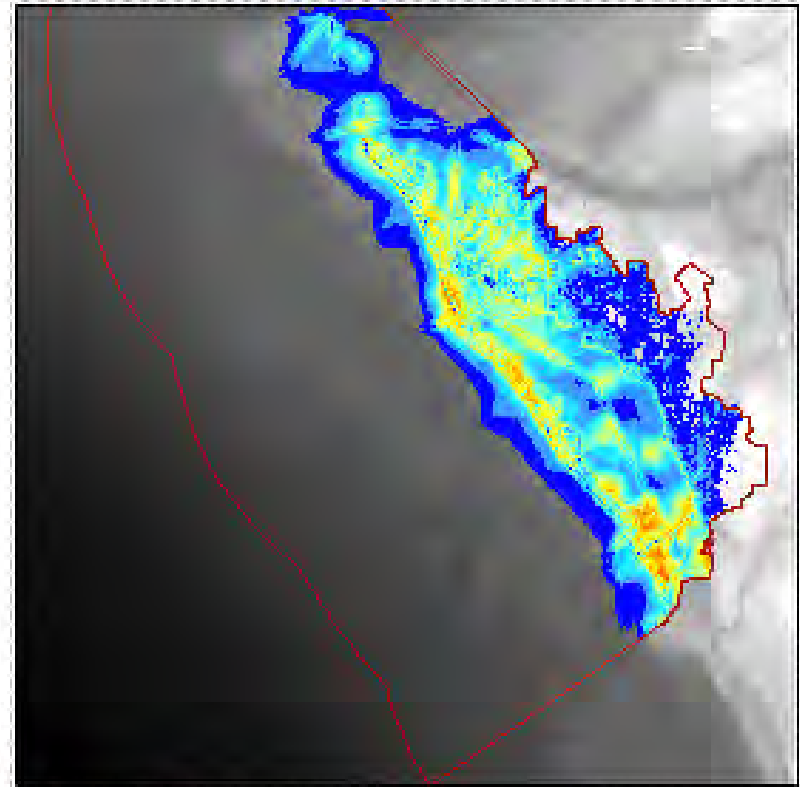


Land based aquaculture

Favor

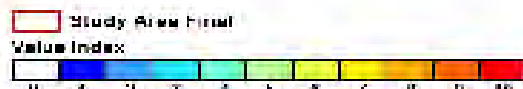
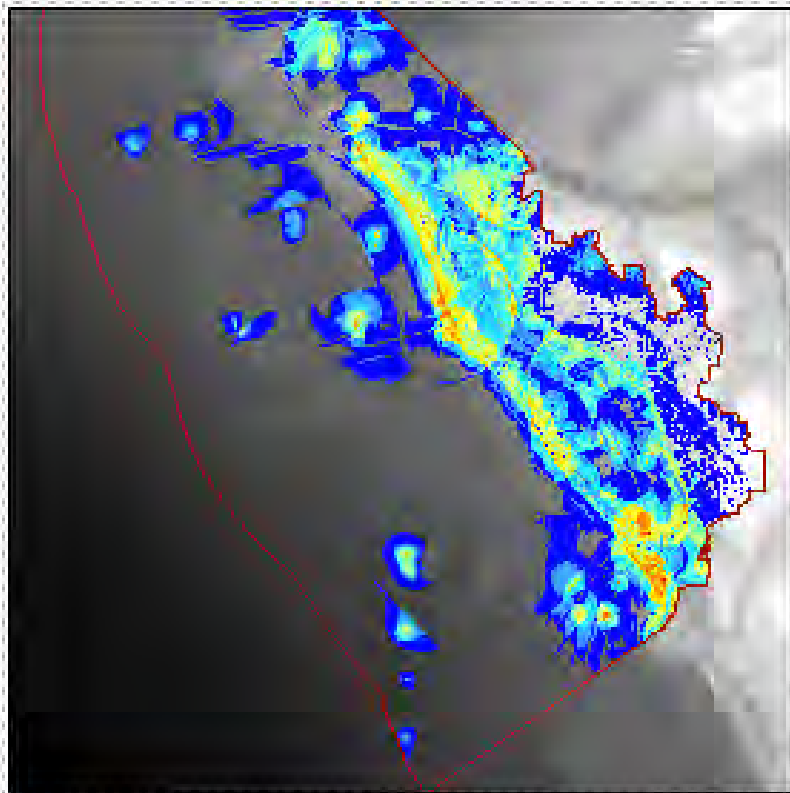


Oppose

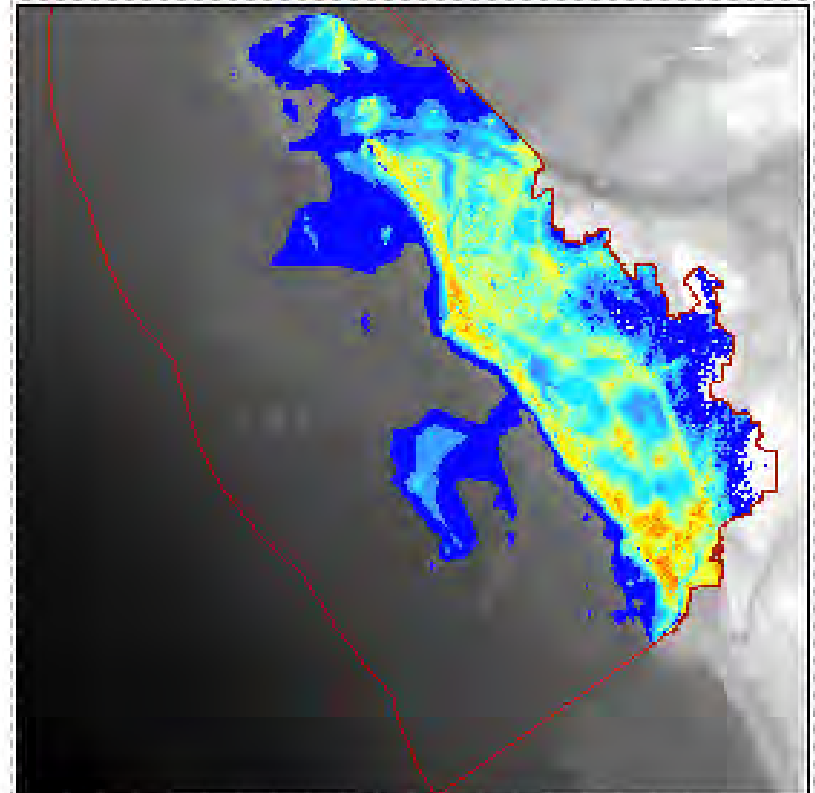


Off-shore aquaculture

Favor

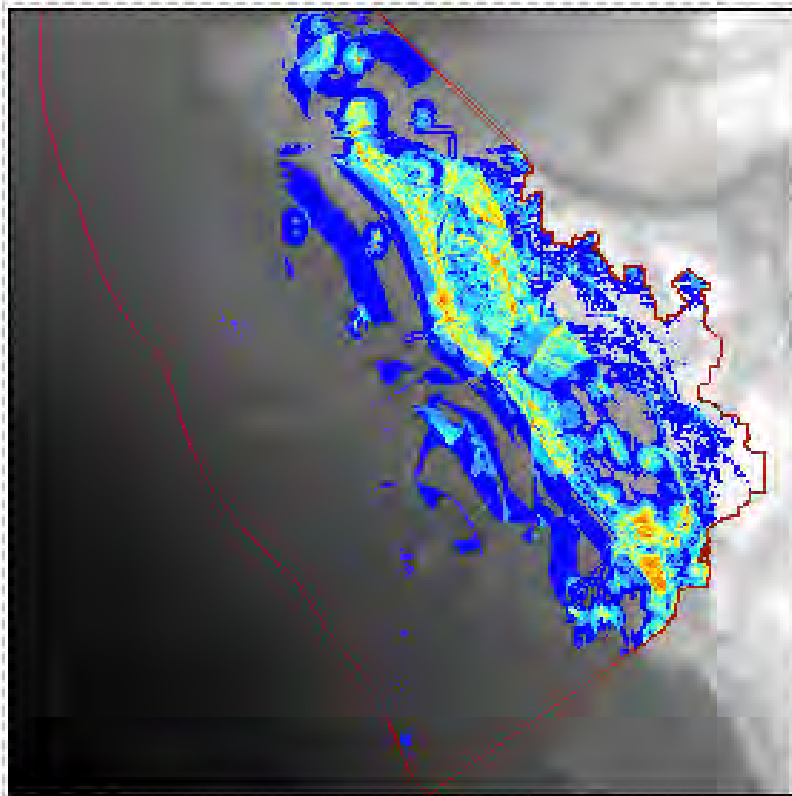


Oppose

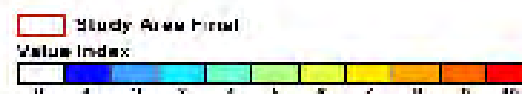
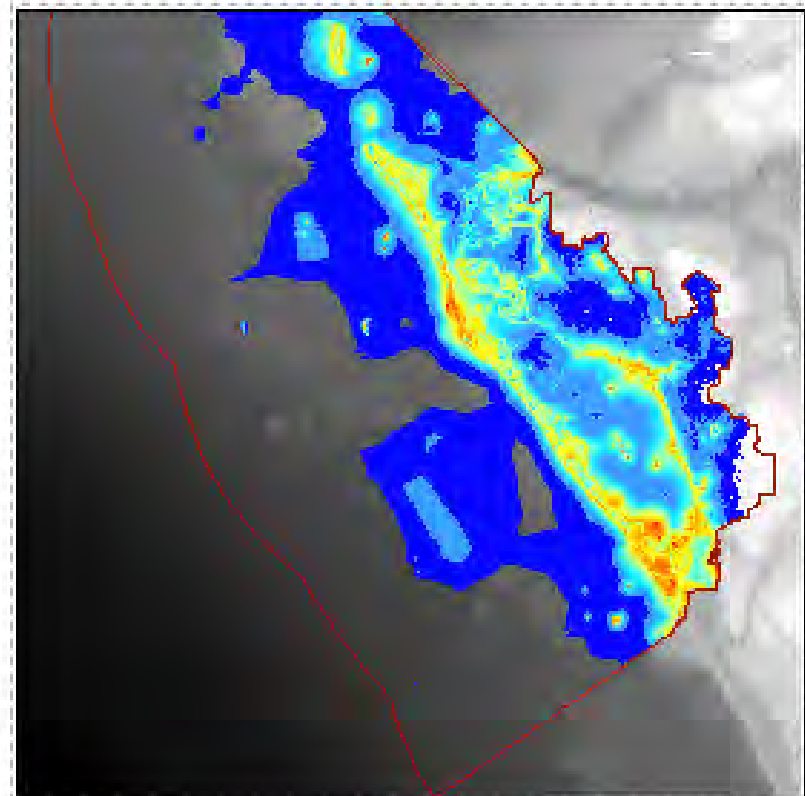


Desalination

Favor

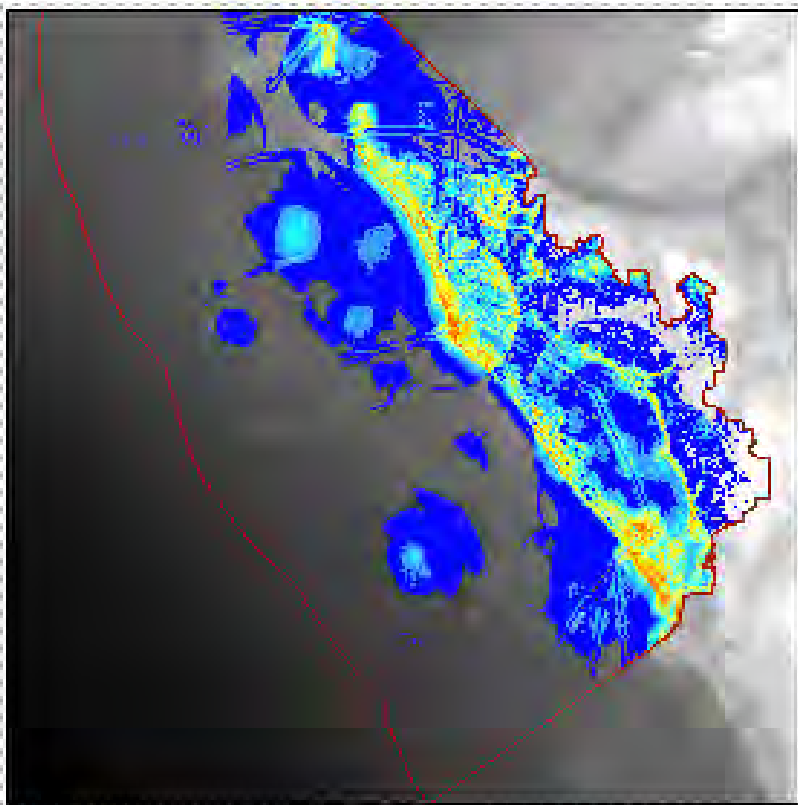


Oppose

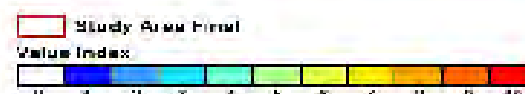
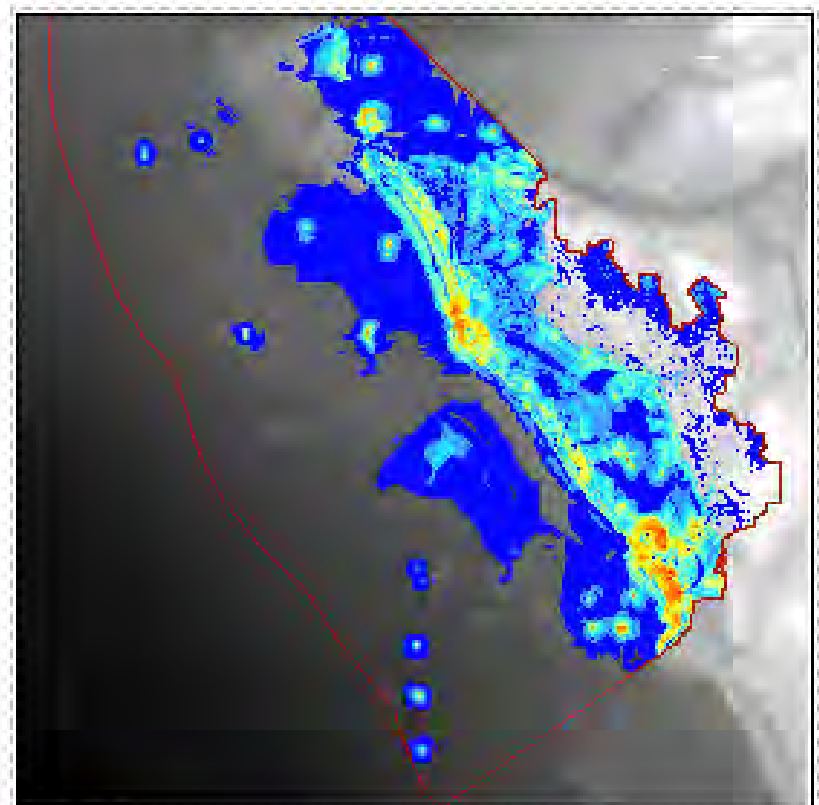


Private dock development

Favor

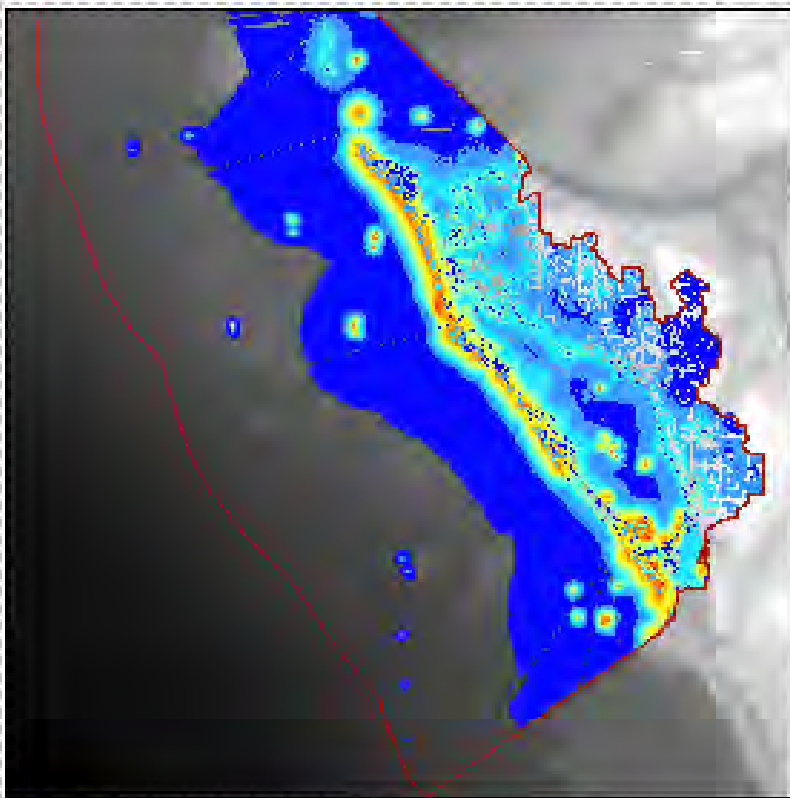


Oppose

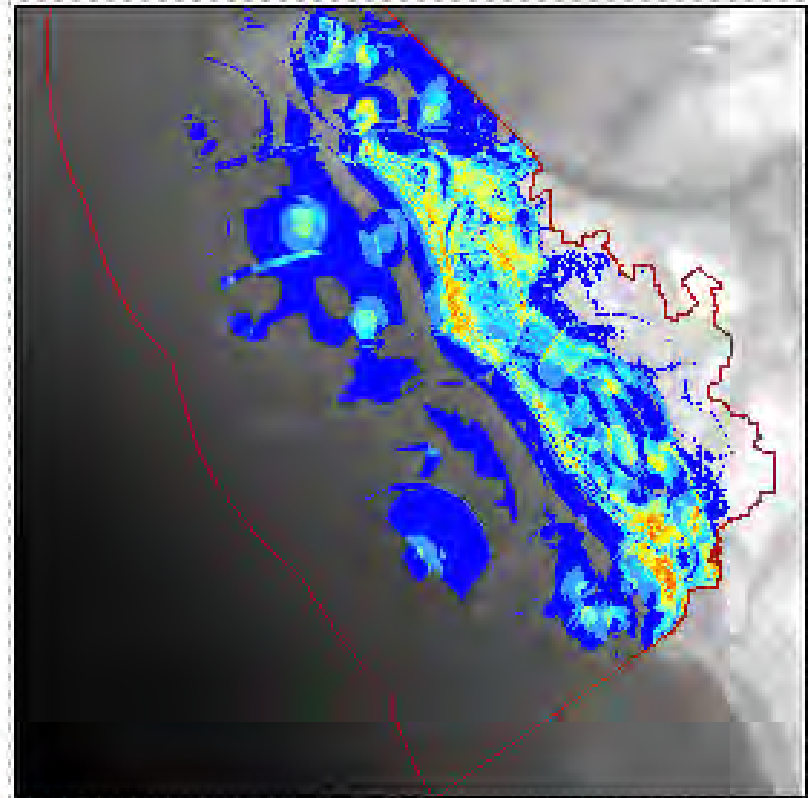


Commercial fishing

Favor

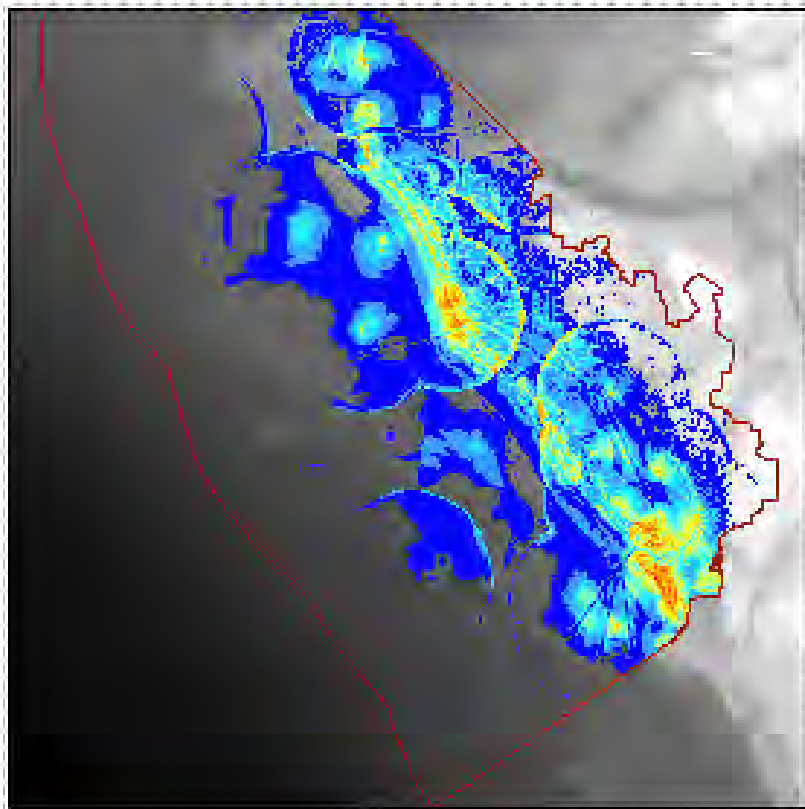


Oppose

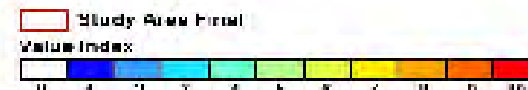
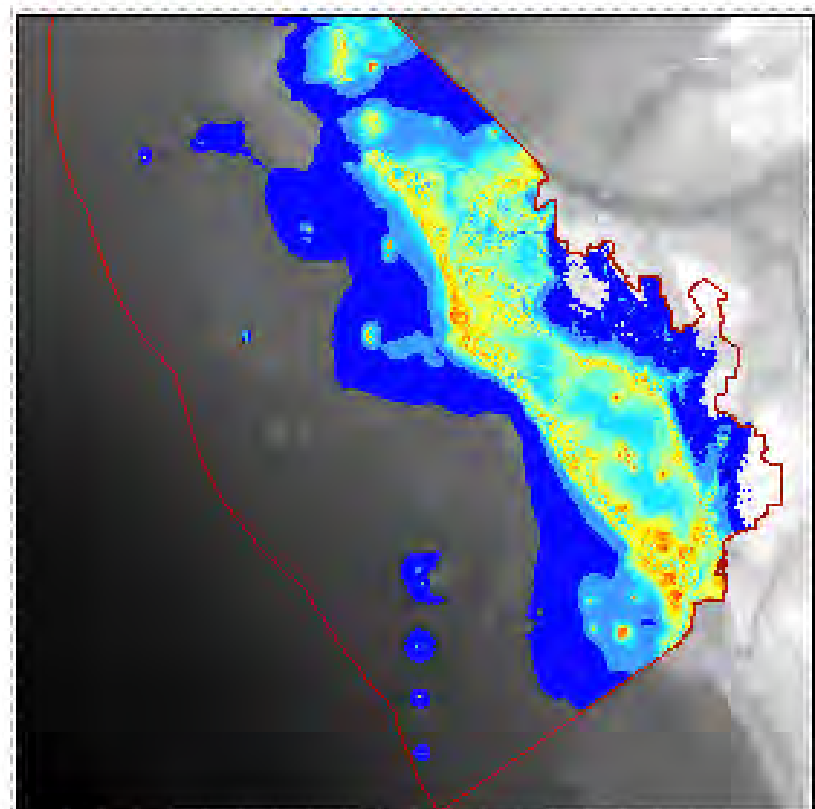


Transportation infrastructure

Favor

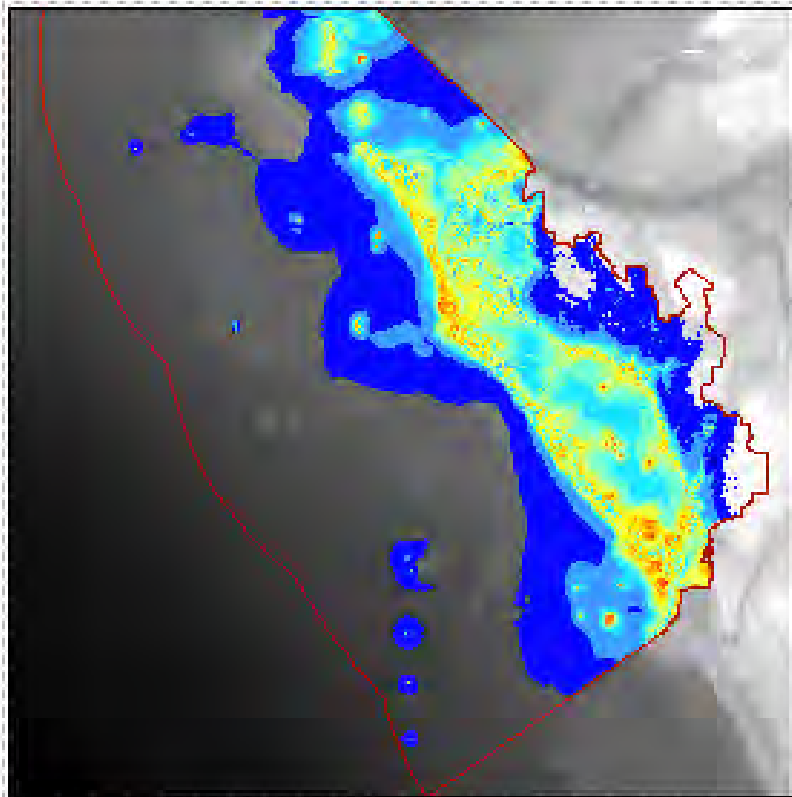


Oppose



Off-shore oil and gas drilling

Favor

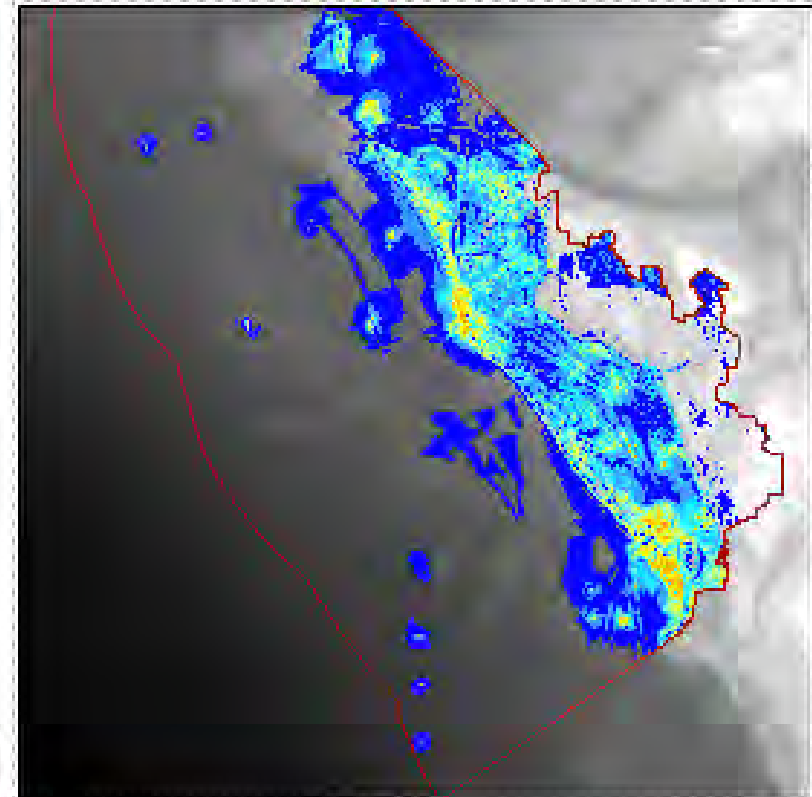


Study Area Perimeter

Value Index



Oppose



Study Area Perimeter

Value Index



Discussion

- Generally:
- Recreational values across the board associated with shoreline and beaches.
- Anthropogenic structures such as artificial reefs and channels were important parameters for recreational values of some subgroups (e.g. those who favor transportation infrastructure).
- Values tend to drop off with distance from shore, but there is a great deal of variability in the near shore environment.
 - Lagoon areas were especially variable in the spatial distribution of recreational values.



Conclusions/ Next steps

- Exploring using other survey questions as bridge to potential management applications.
- How do we apply this output to management questions?
- Metadata analysis?



Questions/Comments

- Thank You
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