

ECOSYSTEM & SOCIOECONOMIC PROFILE UPDATE

KALEI SHOTWELL, SEPTEMBER GROUND FISH PLAN TEAM 2022



ESP Definition: A standardized framework that facilitates the integration of ecosystem and socioeconomic factors within the stock assessment process and acts as a proving ground for use in management advice.



NOAA
FISHERIES

OUTLINE

This Year

Overview of AFSC ESPs for 2022, data streamlining, and reproducibility progress

Next Year

Plans for 2023 AFSC ESPs, updating and reorganizations ideas, initiating RFIs

National

Progress on the National ESP program development and associated workshops



ESP REPORT SUMMARY

Stock	Year initiated	Full ESP	Partial update	Report card
Sablefish	2017	2017 - 2019	2020	2021
Gulf of Alaska Pollock	2019	2019	2020	2021
EBS Pacific Cod	2020	2021		2021
GOA Pacific Cod	2020	2021		2021
St Matthew Blue King Crab	2019	2019	2020	2022
Bristol Bay Red King Crab	2020	2020		2021, 2022
Bering Sea Snow Crab	2021	2022		

Note: Report cards are produced annually unless no SAFE



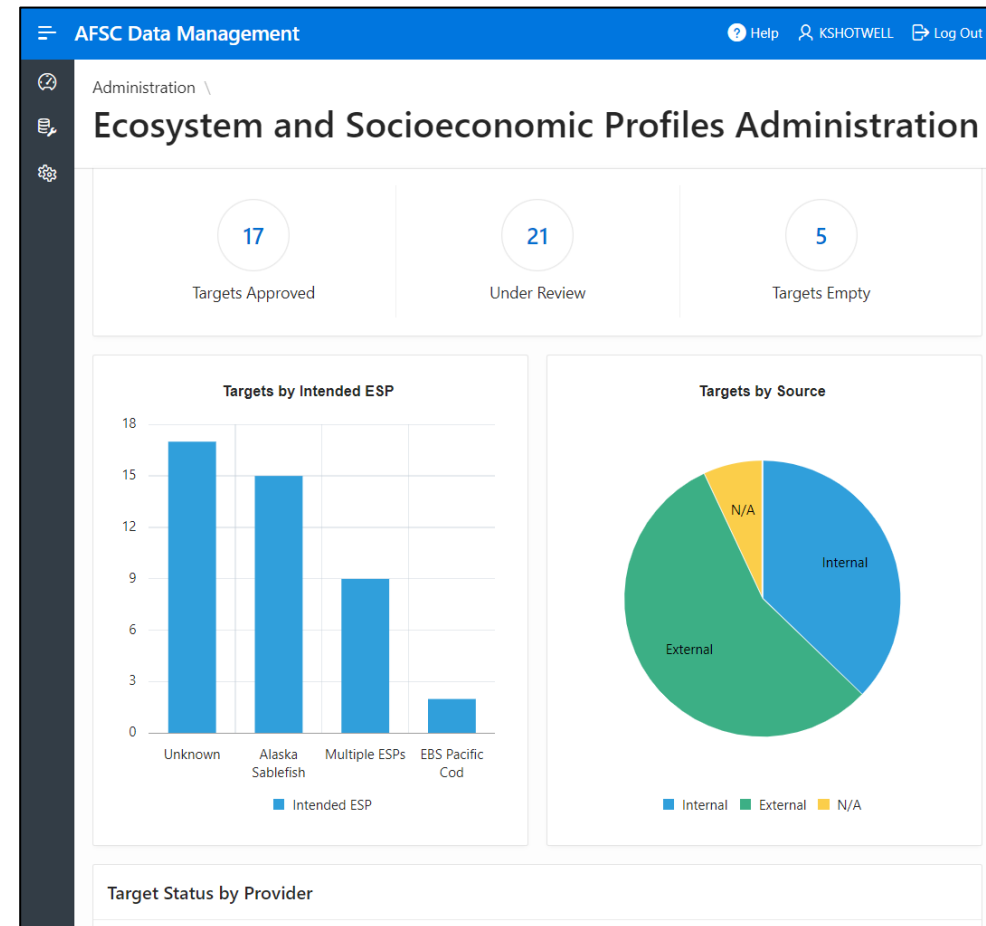
CURRENT (2022) ESPS

- Full ESPS
 - Draft Snow Crab ESP in May
 - Final Snow Crab ESP in September (last week)
- Report Card ESPS
 - St Matts Blue and Bristol Bay Red King Crab in September (last week)
 - Sablefish, GOA pollock, GOA Pacific cod, and EBS Pacific cod in November
 - Only updated indicator data or minor changes (e.g., data updates)

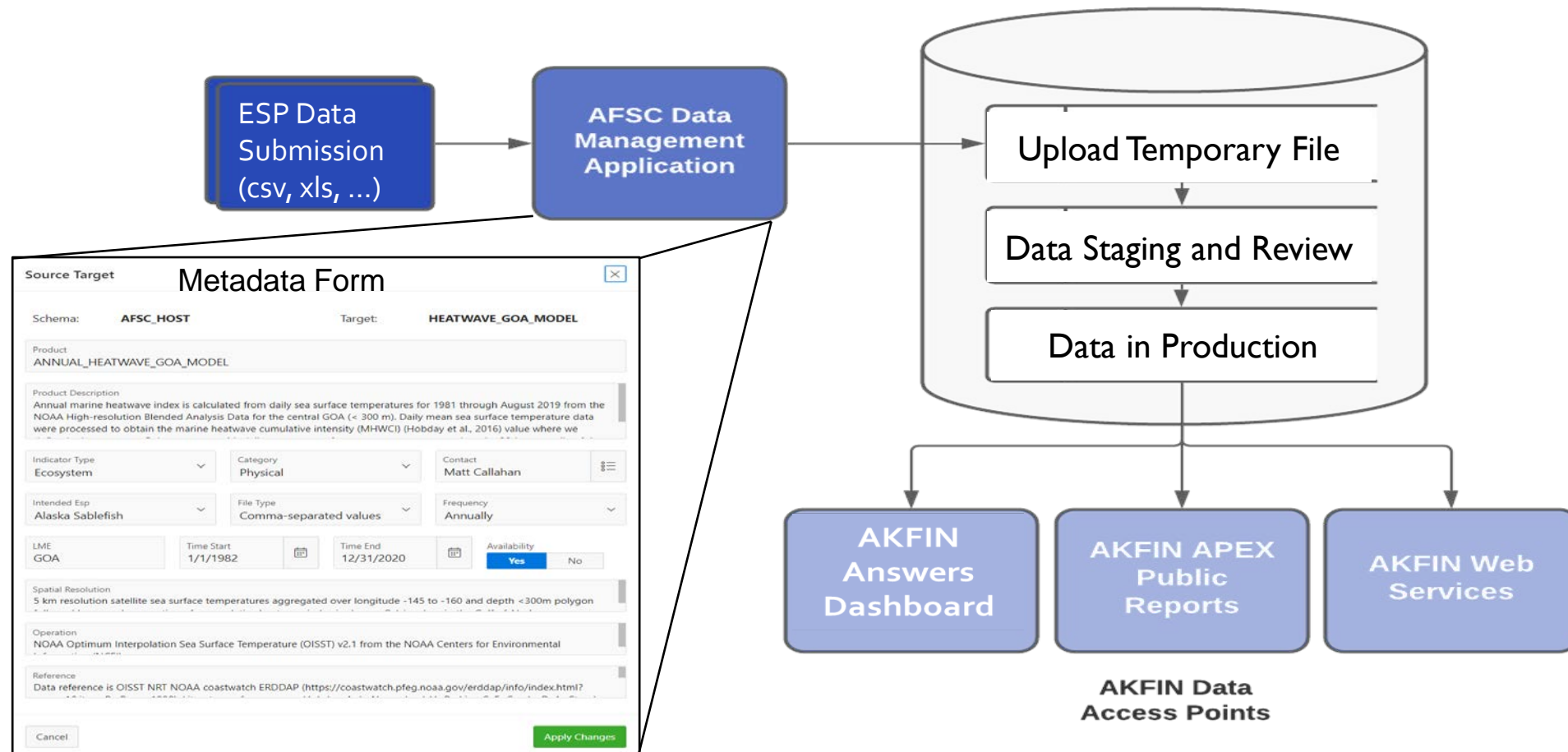


DATA STREAMLINING

- Bring Your Own Data (BYOD)
 - AKFIN account-based uploader tool
 - Metadata collection, feedback loop, tracking, scheduled reminders
 - Internal AKFIN data automatic
- Administrative View
 - Indicator status visualizations
 - Summaries by data contributors
 - Indicators lookup table



BYOD WORKFLOW



REPRODUCIBILITY PROGRESS

ESPs should be designed to take future needs into account and maximize reproducibility

← → ↻ atyrell3.github.io/AKesp/

AKesp 0.0.1 Vignettes ▾ Functions News

Alaska ESP templates

The purpose of this package

This package was created to facilitate the development and maintenance of the Alaska Fisheries Science Center's Ecosystem and Socioeconomic Profiles.

Create figures

This package can quickly generate styled figures based on indicator input data.

Create ESP templates and reports

1. This package can create templates for ESP report cards. Up-to-date data is pulled from AKFIN and processed into figures and tables. The text is populated with default information and placeholders. The report is knit to Word, where it can be edited.
2. This package can create templates for partial and full ESP templates, this package can knit a final Word report, inclu

Developed by Abigail Tyrell. Made with

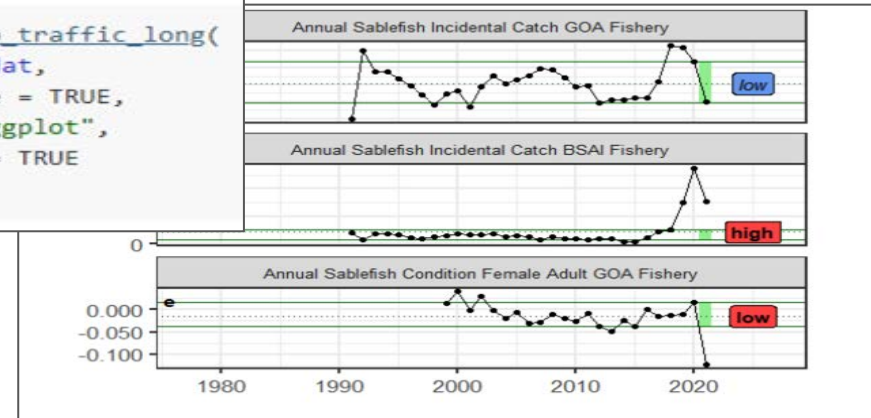
```
rmarkdown::render(system.file("esp-report-card-template.Rmd",
package = "AKesp"
),
output_dir = getwd(),
params = list(
esp_data = AKesp::get_esp_data("Alaska Sablefish"),
fish = "Sablefish",
region = "Alaska",
stock_image = here::here("inst/images/noaa.jpg"),
con_model_path = here::here("inst/images/noaa.jpg"),
bayes_path = here::here("inst/images/noaa.jpg")
)
)
```

Indicator category	Indicator	2017 Status	2018 Status	2019 Status	2020 Status	2021 Status
Lower Trophic	Spring Chlorophyll a Biomass EGOA Satellite	neutral	neutral	neutral	low	neutr
	Spring Chlorophyll a Biomass SEBS Satellite	low	neutral	low	neutral	neutr
	Spring Chlorophyll a Peak EGOA Satellite	neutral	low	neutral	low	neutr
	Spring Chlorophyll a Peak SEBS Satellite	low	high	neutral	neutral	neutr
	Annual Copepod Community Size EGOA Survey	neutral	low	low	neutral	NA
	Annual Copepod Community Size WGOA Survey	neutral	low	high	neutral	NA
	Summer Euphausiid Abundance Kodiak Survey	low	NA	neutral	NA	NA
	Annual Sablefish Growth YOY Middleton Survey	neutral	neutral	high	neutral	neutral

```
AKesp::esp_traffic_tab_long(
data = dat,
year = 2016:2020
)
```

Slide from Abigail Tyrell

```
AKesp::esp_traffic_long(
data = dat,
paginate = TRUE,
out = "ggplot",
silent = TRUE
)
```



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FUTURE (2023) ESPS

- Full ESPS
 - Update full Sablefish ESP in September
 - Initiate EBS Pollock ESP, present progress report in September
 - Evaluate and update indicators for Bristol Bay Red and Snow Crab
- Report Card ESPS
 - Snow and Bristol Bay Red King Crab report cards in September
 - Sablefish, GOA pollock, GOA Pacific cod, and EBS Pacific cod in November



UPDATING AND REORGANIZING ESPS

- BYOD changes
 - New stock assessment archiving module currently in testing phase
 - Expanding indicator data to include more information (e.g., error estimates)
- Reporting changes
 - Updating standard graphics to align with Econ, IEA efforts
 - Reorganizing the community category within the socioeconomic sections
 - Standard Operating Procedures (SOP) and reports on website



REQUEST FOR INDICATORS (RFI)

- Proposed Schedule
 - RFI reports for all ESPs in Jan-Feb
 - Review by ESP teams in Feb-Mar
 - Indicators approved by Mar-Apr
- Submissions Workflow
 - Indicators submitted through BYOD, then available through web service
 - ESP r package creates R Markdown reports that go to the ESP Teams

Request for Indicators: Ecosystem and Socioeconomic Profile of the Myfish stock in the Myarea

[List of ESP team who wrote the RFI request]
[Current Year]

[Picture of stock, if desired]

Description of Process

Short description of ESP process and justification for conducting the Request for Indicators for this stock (this will likely be consistent text for all RFIs)

Reference to Plan Team and SSC Recommendations, author request, and/or research priorities to conduct an ESP for this stock

Table of stepwise plan and cycle for review of indicator submissions in response to this RFI|

Initial Recommendation	December [year]
Request Opening	First Week of January [year]
Proposed Indicators Due	First Week of February [year]
Notification of Selected Indicators	Last Week of February [year]

Stock Request

Description of main ecosystem and socioeconomic indicator needs for recommended ESP

Ecosystem Processes

- Summary of ecosystem processes that identify dominant pressures on the stock, evaluate by life history stage where possible
- Include conceptual model if available
- List of needed indicators based on dominant drivers

Socioeconomic Processes

- Summary of socioeconomic processes that identify dominant pressures on the stock, evaluate by life history stage where possible
- Include conceptual model if available
- List of needed indicators based on dominant drivers



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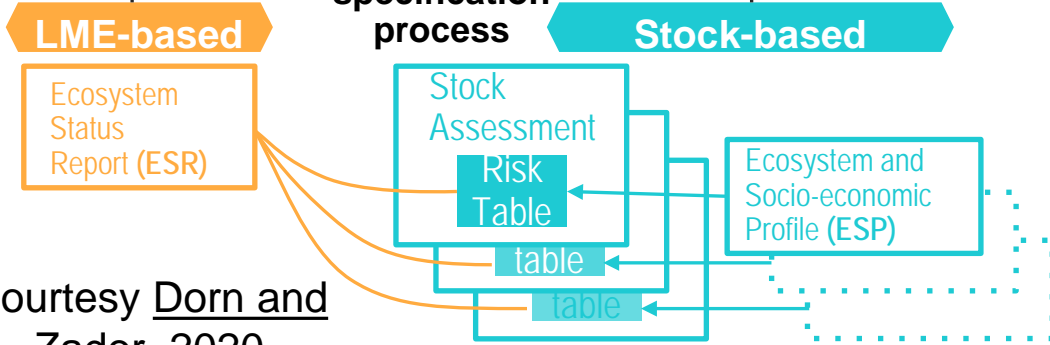
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ESP DECISIONS

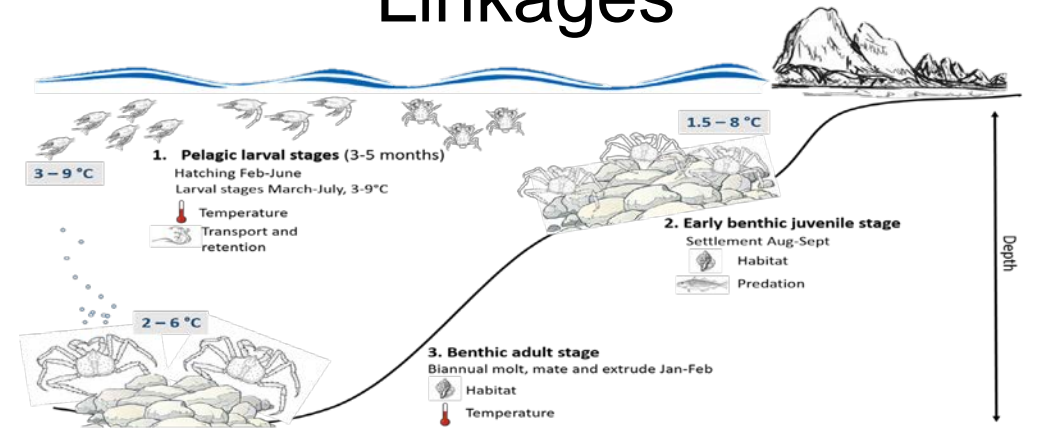
Risk Tables

Annual harvest
specification
process



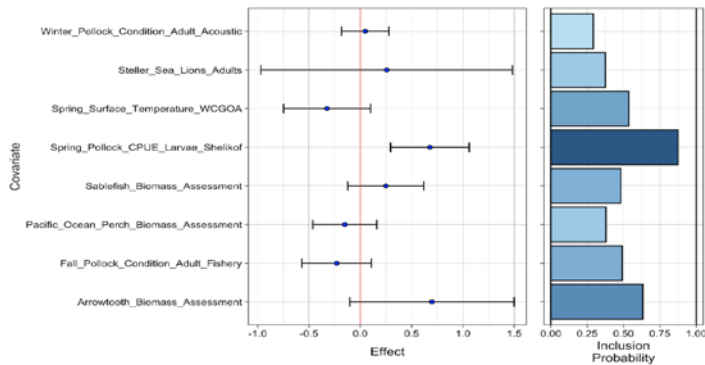
Courtesy Dorn and Zador, 2020

Linkages



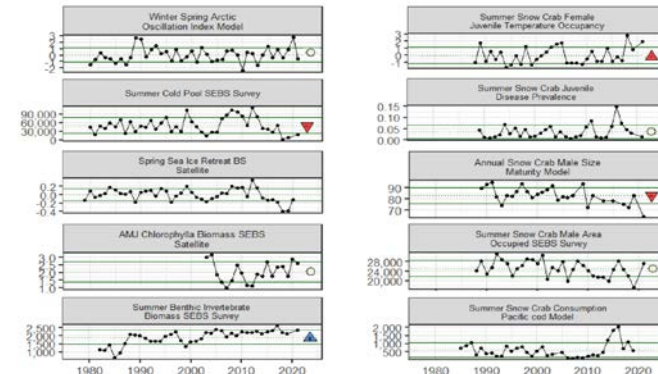
Courtesy Erin Fedewa

Models



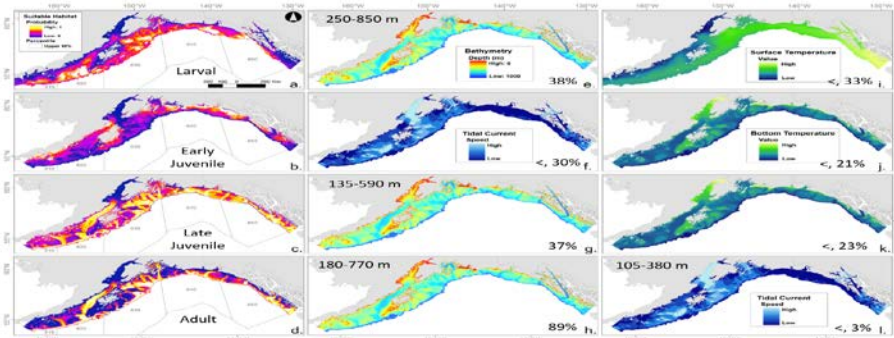
Courtesy
C. Cunningham

Rebuilding & TAC



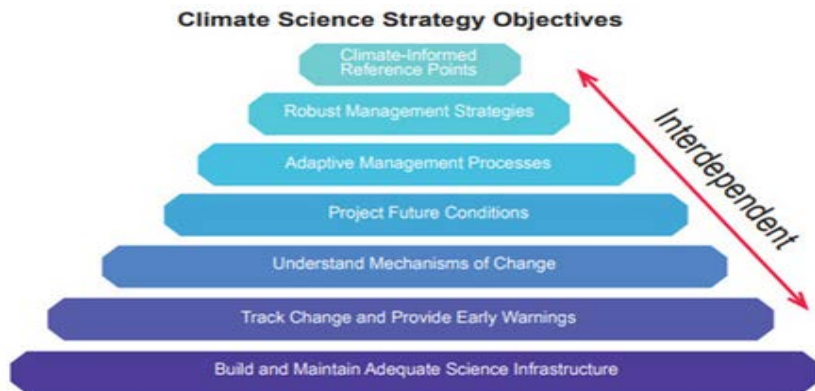
ESP MOMENTUM

EFH Research Plan

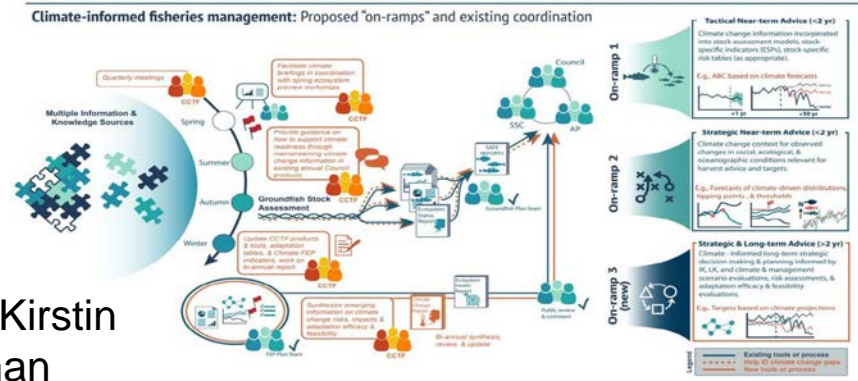


Courtesy Jodi Pirtle

EBS and GOA RAPs

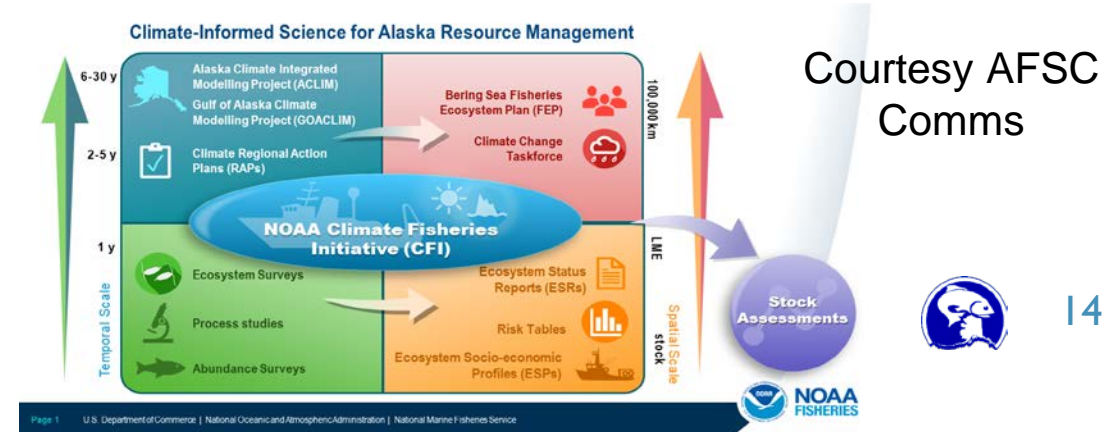


CLIMs and CCTF



Courtesy Kirstin Holsman

NOAA Initiatives



Courtesy AFSC Comms

NATIONAL ESP PROGRAM



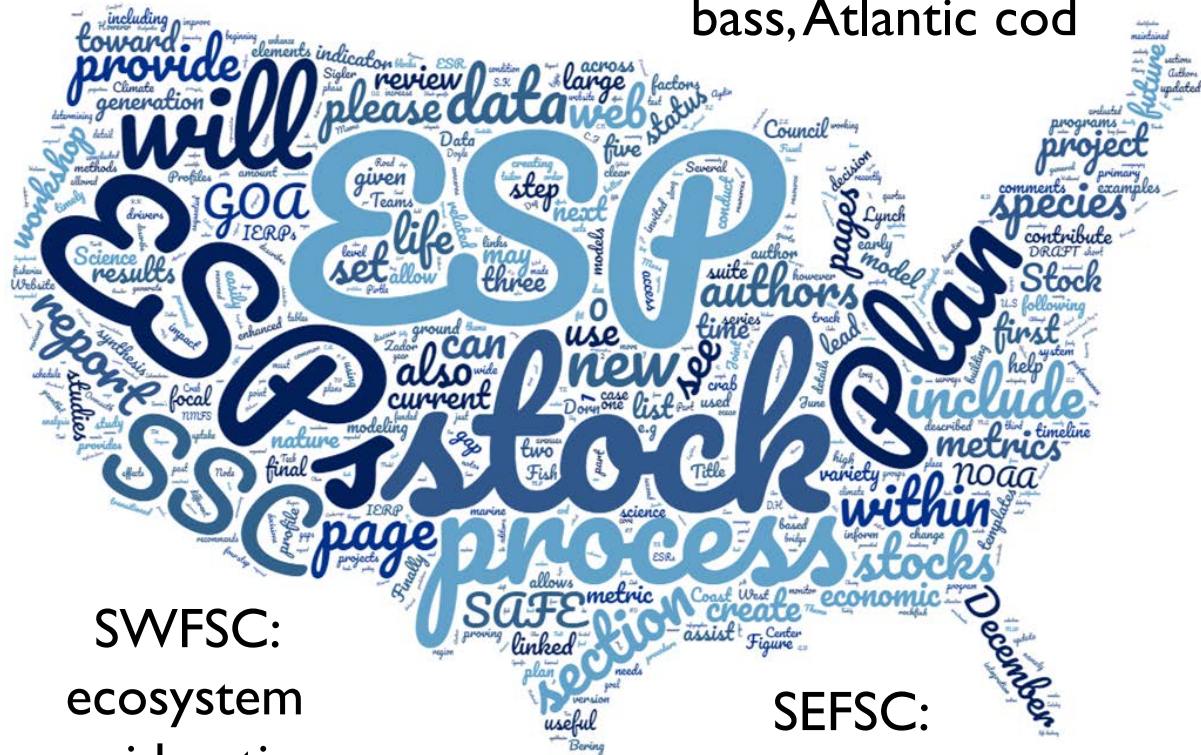
AFSC:
sablefish, pollock,
Pacific cod, king crab,
snow crab



PIFSC: uku

NWFSC:
~sablefish

NEFSC:
bluefish, black sea
bass, Atlantic cod



SWFSC:
ecosystem
considerations

SEFSC:
~gray snapper



NATIONAL PROGRAMS

Forum

Providing communication avenues through working groups and dedicated workshops

Metrics

Developing common set of measures to track progress toward EBFM

Support

Creating request for proposals that highlight or prioritize development of products



NATIONAL ESP WORKSHOPS

- Preliminary Workshop July 2022
 - 40+ person workshop included reps from all centers, RO, HQ offices
 - Reviewed ESP progress, center share out, brainstorming discussions
- Proposal in CA/MSA 2023 RFP
 - Series of focused workshops to develop ESP programs at different centers
 - Special sessions at existing conferences to communicate ESP progress
 - Annual meeting to create and refine National ESP Program elements





PLAN TEAM FEEDBACK

- 1) Are these ESP updates useful and do you want them to continue annually in September?
- 2) Is the ESP schedule acceptable for adequate Plan Team review (e.g. full ESPs in Sept, report cards in Nov)?
- 3) Any feedback on the AKFIN submission tool (BYOD), reproducibility efforts, or request for indicators (RFI)?
- 4) Do you want to receive updates on the National ESP Program as it develops?

QUESTIONS?



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