

Characterization of the thermic habitat of yellowfin and bigeye tunas in the Atlantic Ocean

presentation of the methodology

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ICCAT / AOTTP / CISEF CONSORCIUM

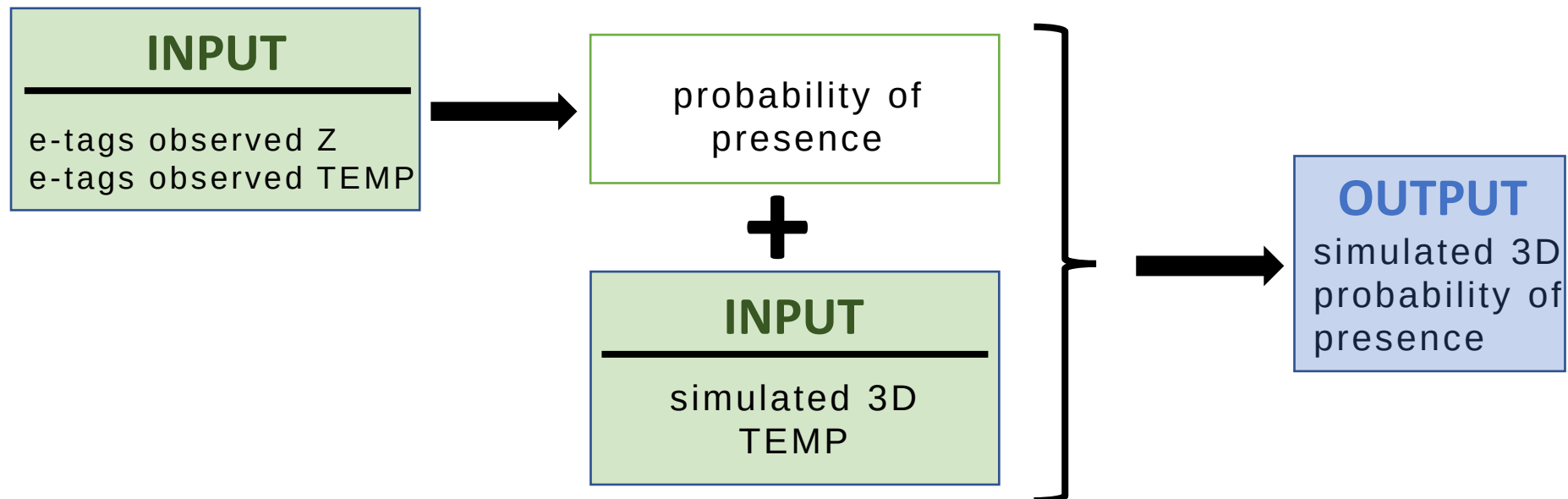


CONTEXT & OBJECTIVES

- ➔ Characterize the thermal habitat of Yellowfin and Bigeye tunas
- as the probability of presence in function of the temperature, in the water column (3D)
 - by using AOTTP e-tags data

Method : statistical thermic habitat model

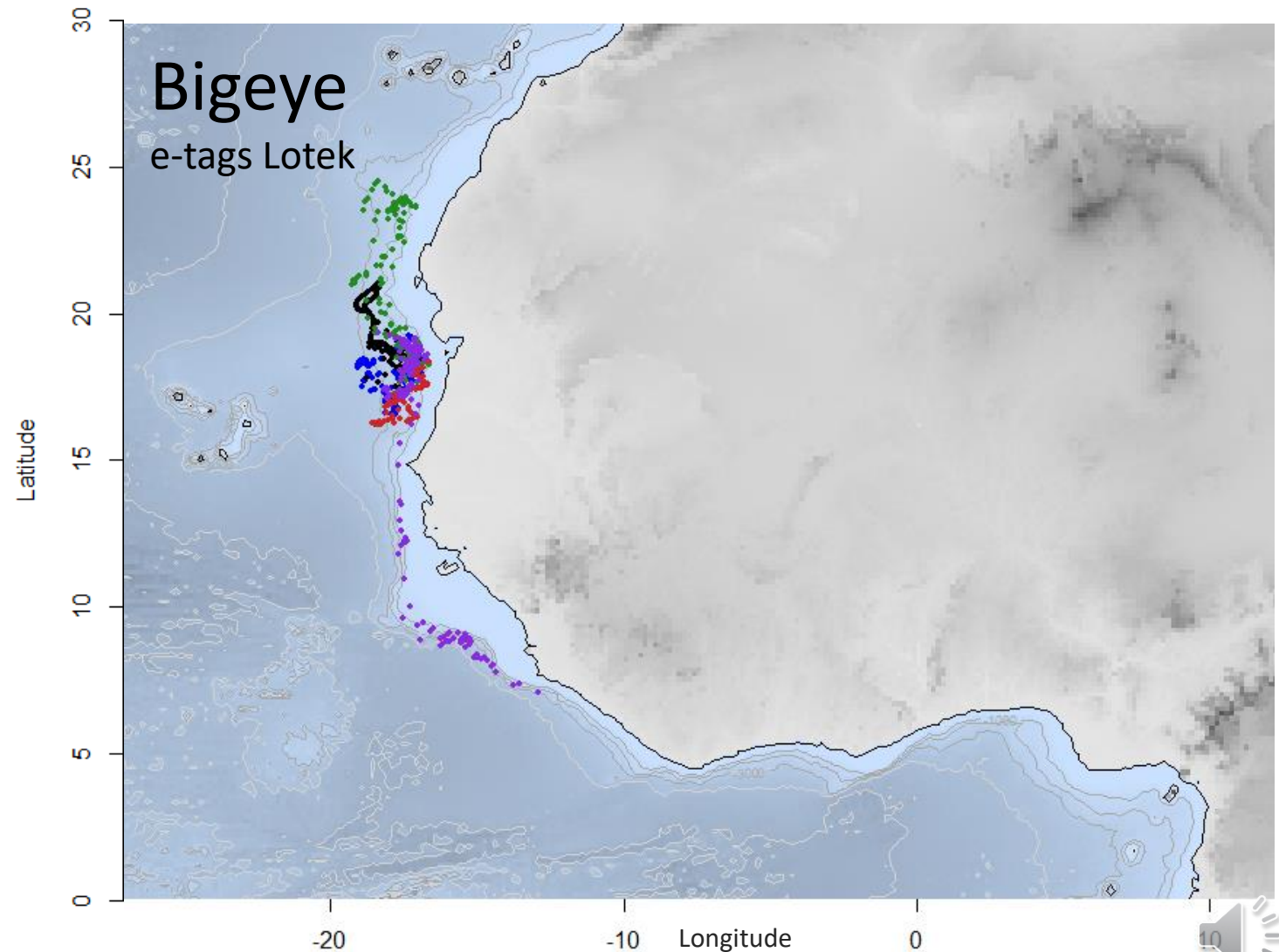
Conceptual diagram of the thermic habitat model



DATA SET : e-tags LOTEK

- Bigeye tuna & Yellowfin tuna
 - Electronic tags > 42 days
 - Years : 2017 & 2019

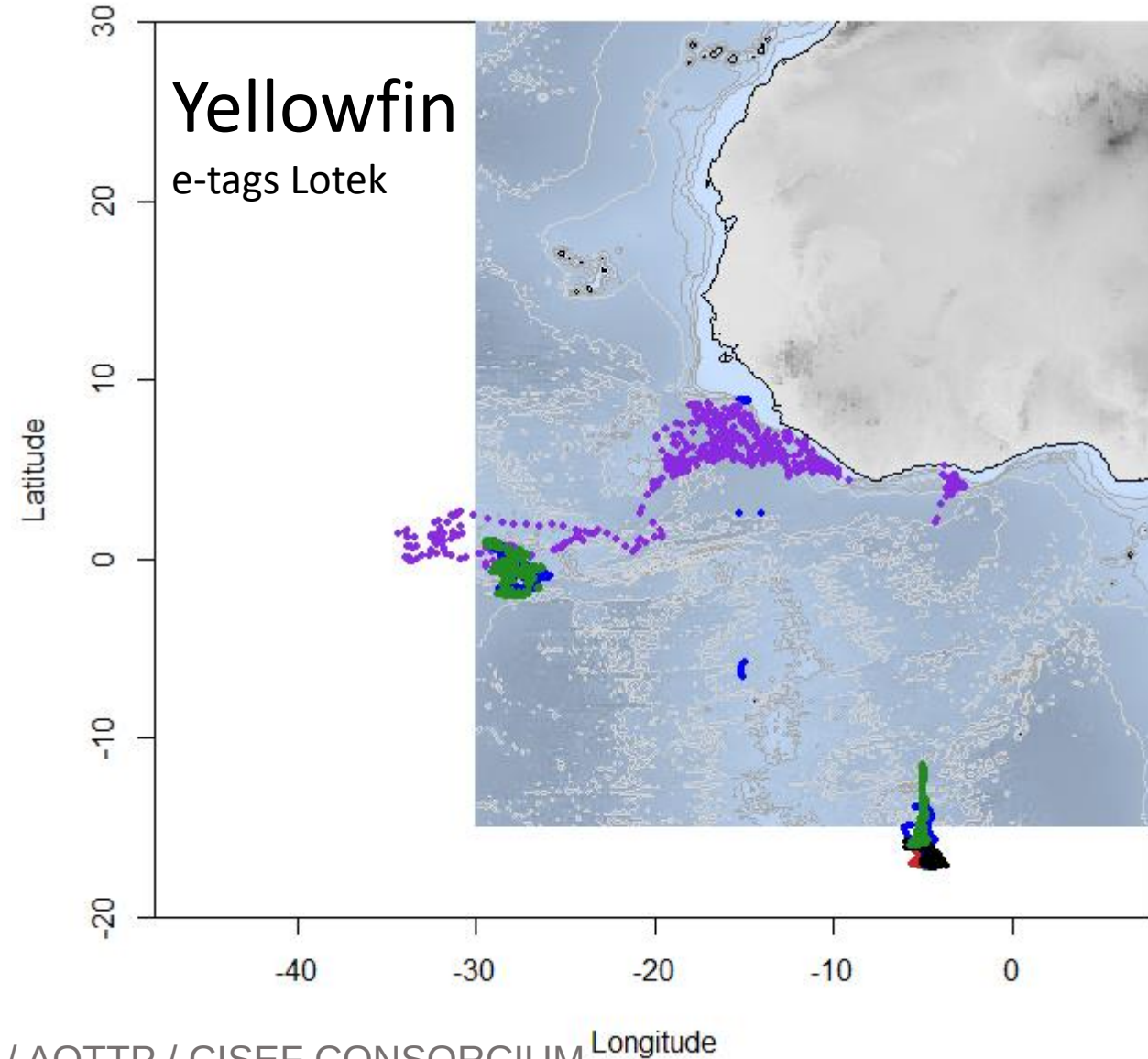
Types	BET	YET
LOTEK e-tags	5	13
WC e-tags	<i>not used yet</i>	<i>not used yet</i>
pop-up	<i>not used yet</i>	<i>not used yet</i>



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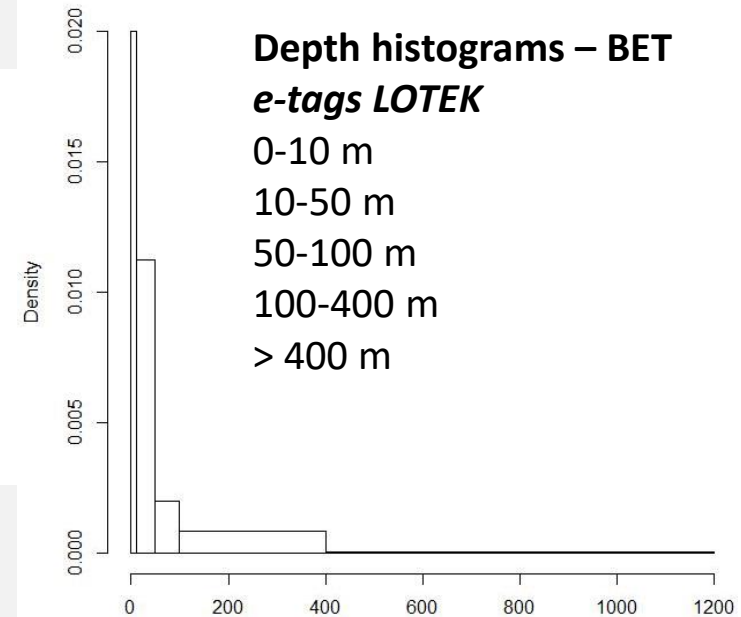
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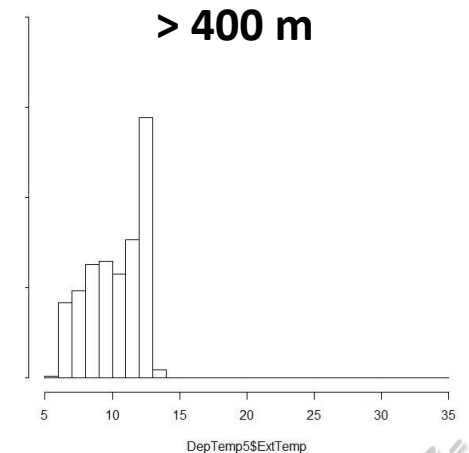
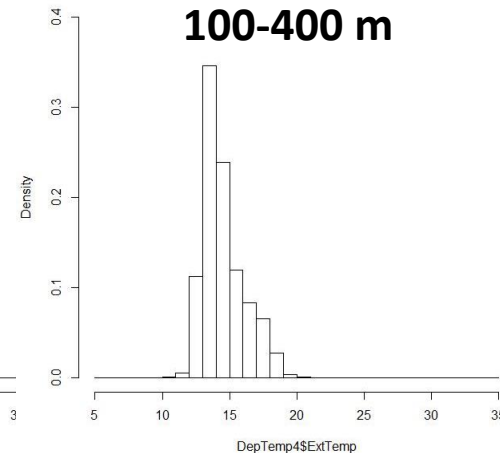
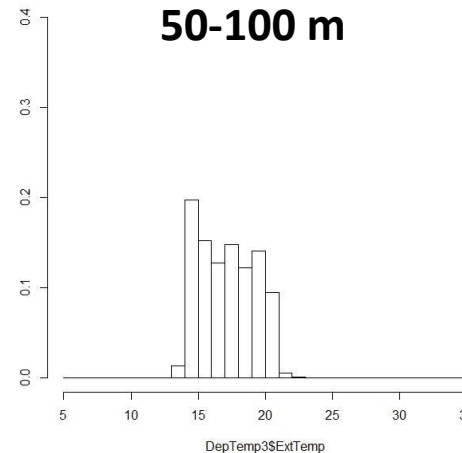
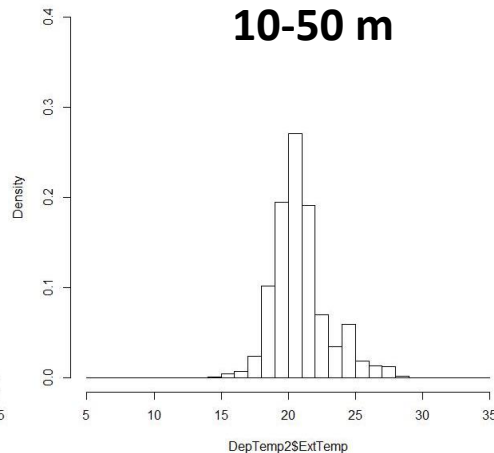
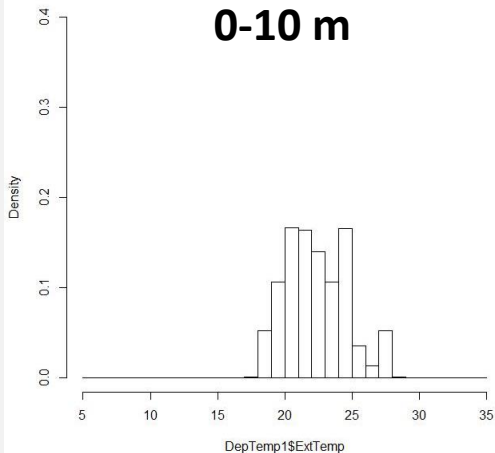
Bigeye tuna probability histograms

Probability of presence in function of

- depth layers
 - temperature for each depth layer
- are calculated



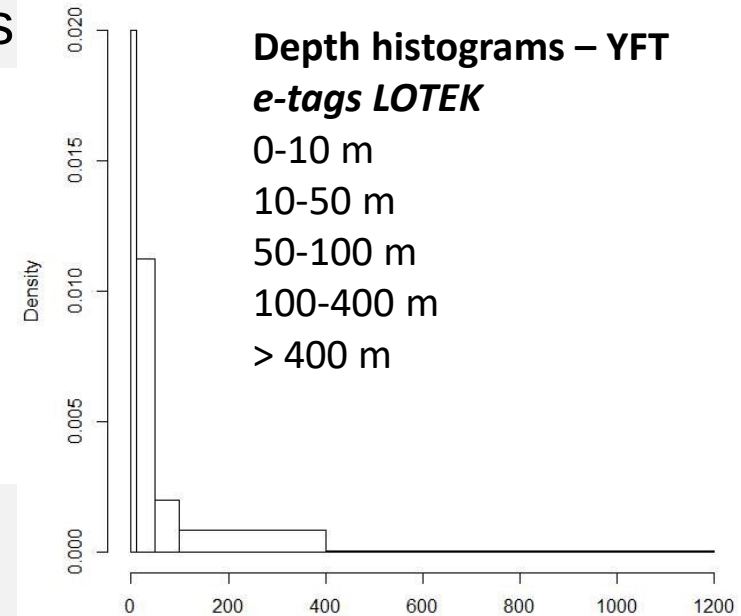
Temperature histograms (/1°C) – BET – *e-tags* LOTEK



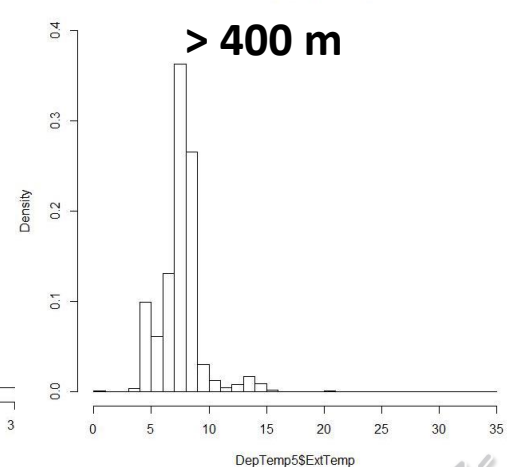
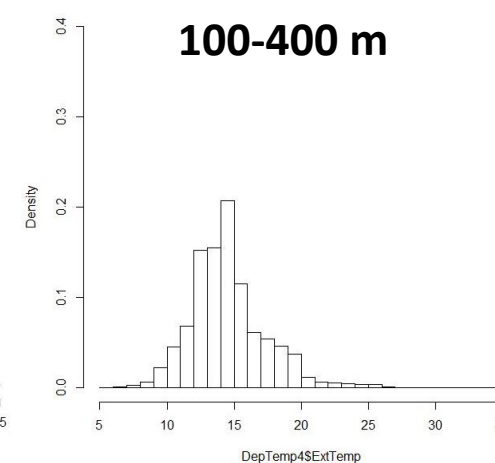
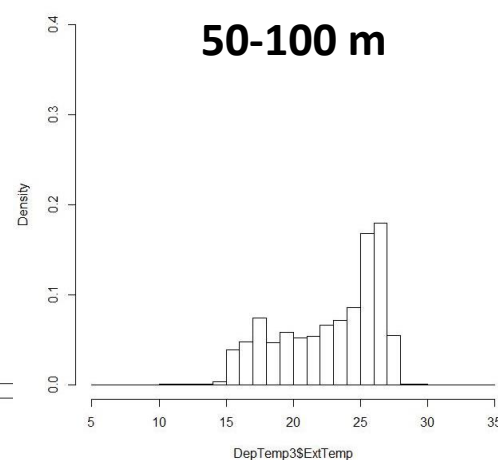
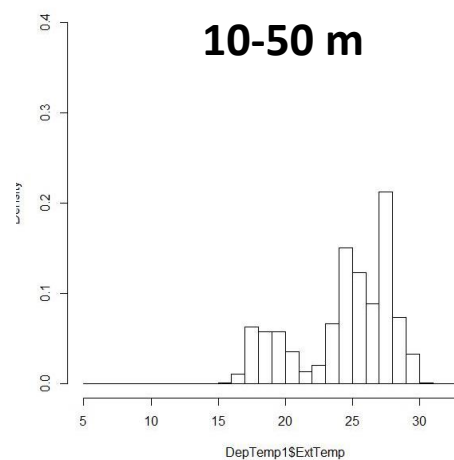
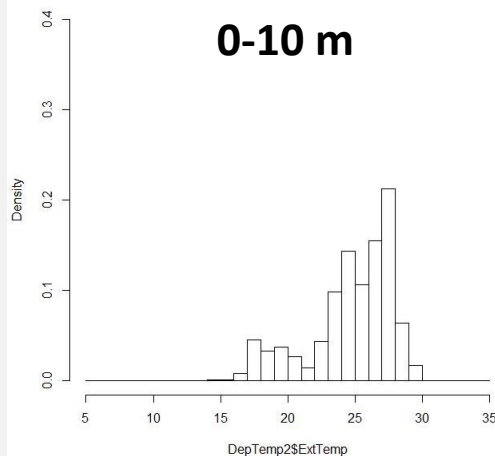
Yellowfin tuna probability histograms

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Temperature histograms (/1°C) – YFT – *e-tags LOTEK*



Application to temperature simulated fields

3D Global Model CMEMS*

- configuration : reanalysis-phy-001-030

- **monthly fields** from **2010 to 2018**

Period of the observations : 2017 & 2019

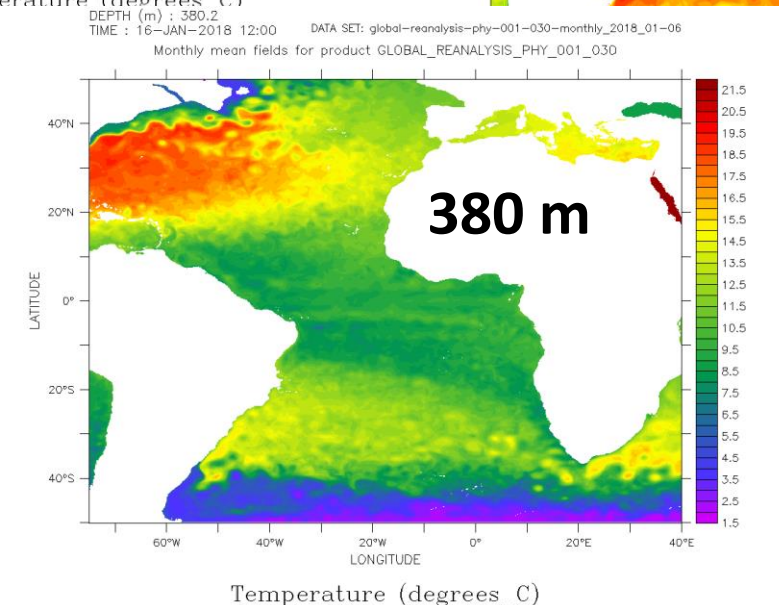
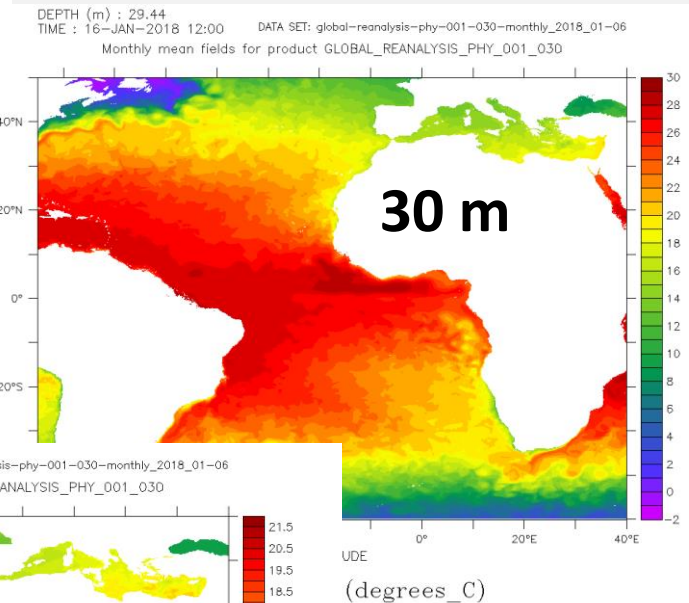
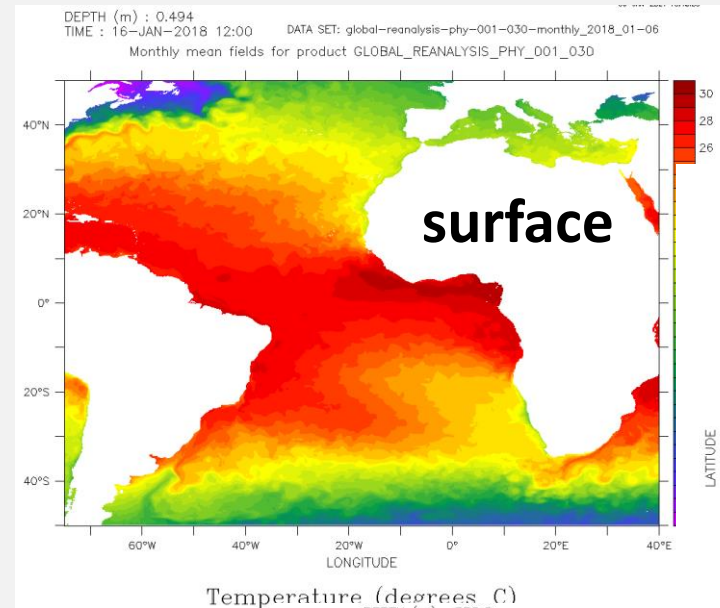
mainly spring and summer

Perspective: application to 3D fields

- Application of probability of presence to monthly fields (seasonal and interannual variability) at each depth of the grid → **in progress**

- Application with **all** e-tags → **to be done**

Example : January 2018



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