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Geoarchaeological results on the Northern Peruvian coast: environmental changes and societal responses in the Sechura Desert during the last two millennia

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GEOGRAPHICAL SETTING

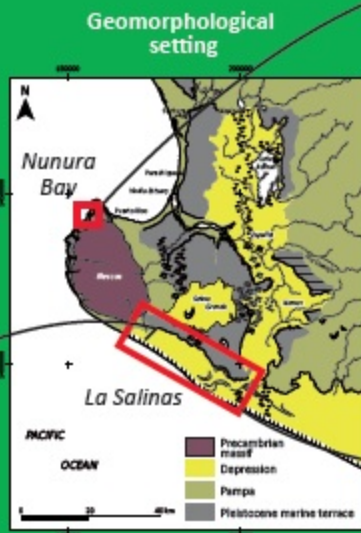
Various coastal configurations: small bays and vast depressions



Constraining and changing environments

- Evolution in the past?
- Controlling factors?
- Geographical disparities?

PALAEOLAAGOON RECONSTRUCTIONS



Nunura Sequence



Morpho-sedimentary evidences



Palaeoenvironmental evidences

$\delta^{18}O$ (‰) on shells

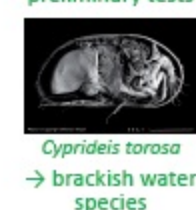
P9 low	-1,107
P2	-0,750
P6	-0,560
P5 low	-0,451
P10	-0,307
P20	-0,161
P14	-0,083
P22 low	0,051
P22 top	0,075
P5 top	1,651

Freshwater inputs ++
 ↓
 Salinity ++

Mollusks determination



Ostracods preliminary tests



Radiocarbon datings

- Datings on «live position» shells
- Calculation of a local reservoir effect $\Delta R = -12 \pm 36$ years
- Correlations with archaeological ages

Archaeozoological evidences

Las Salinas-Bayovar-01

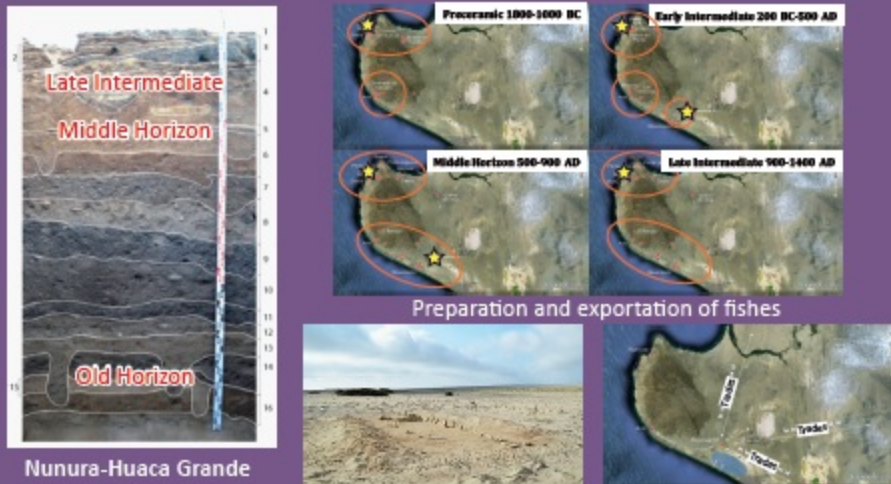
37 000 otoliths = warm water species: *Micropogonias altipinnis*, *Albula* sp.



Active fishery
 489-697 AD
 ↓
 651-766 AD

ADAPTED SOCIETAL RESPONSES

Continuous settlement of the western part of the Desert with perennial and opportunist sites



SUMMARY OF RESULTS

During the 1st millennium AD...

- coastal environments different than today's ones → contrasts between vast lagoon and small lagoon >> variations of hydrosedimentary dynamics in specific palaeoclimatic context (wetter, ENSO events)
- adaptations of prehispanic populations → highest variability of resources (ENSO) in Las Salinas >> opportunist settlement → Perennial geosystems in Nunura Bay >> long and continuous cultural chronology

A SUITABLE PALAEOCLIMATE

Wetter conditions than today during the second part of the 1st millennium AD

Important input of continental water in the lagoonal systems
 Warm water supplies from the ocean («tropical» fishes)

