THE UNIVERSITY OF TEXAS AT AUSTIN
BUREAU OF ECONOMIC GEOLOGY
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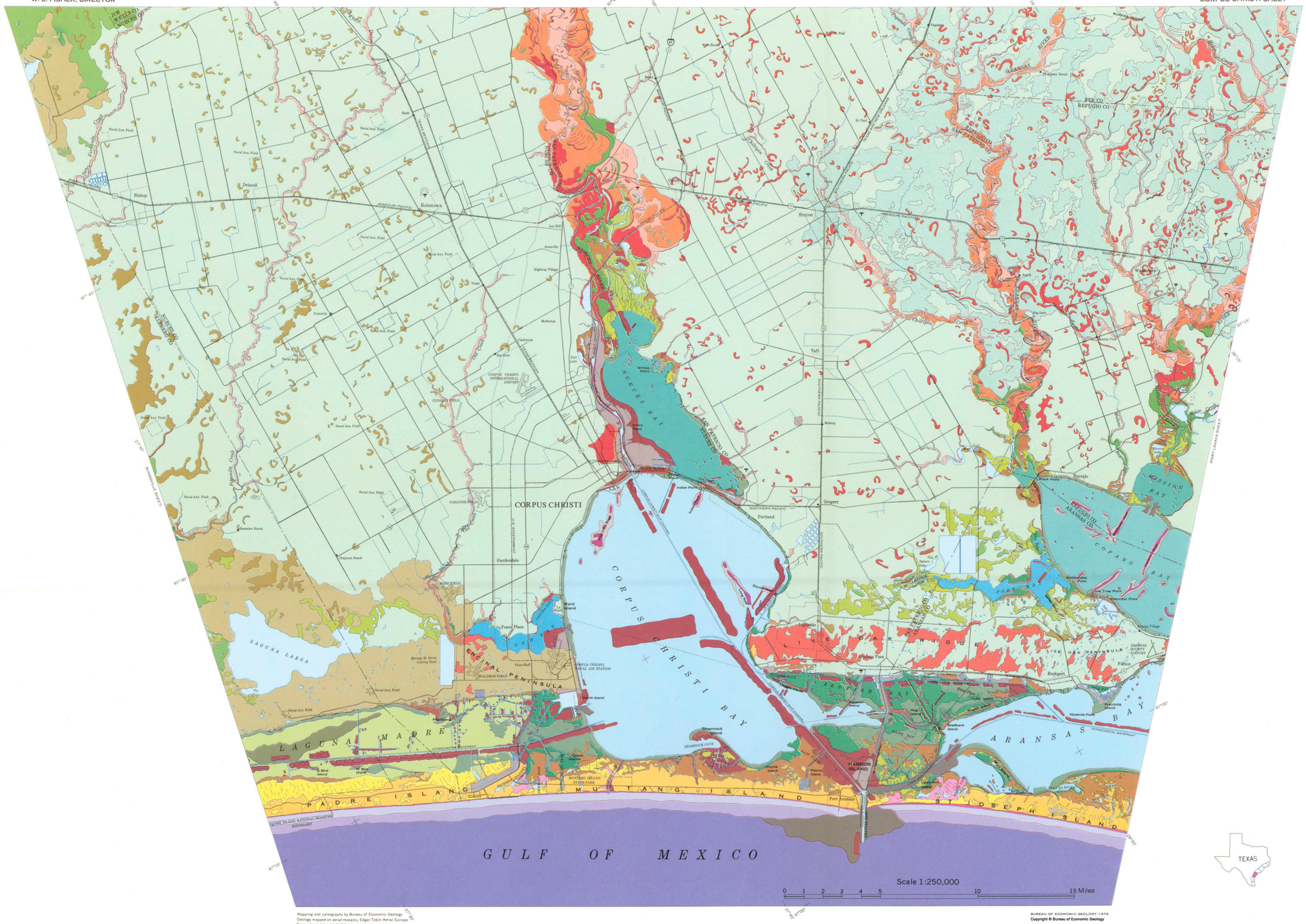
ENVIRONMENTAL GEOLOGIC ATLAS,
TEXAS COASTAL ZONE
CORPUS CHRISTI SHEET



ENVIRONMENTS AND BIOLOGIC ASSEMBLAGES

EXPLANATION *

SUBAQUEOUS ENVIRONMENTS AND ASSEMBLAGES

(Principally benthonic organisms with limited mobility)

- Shelf, open marine, normal salinity (35 °/₀₀), mottled mud, diverse organisms, principally mollusks, crustaceans, and echinoderms, depth > 30 feet
- Lower shoreface, open marine, normal salinity (35 °/₀₀), moderate wave action, sand, silt, and mud, infauna dominant, mud shrimp, mollusks, depth 15 to 30 feet
- Upper shoreface, surf zone, shifting sand, normal salinity (35 °/₀₀), mollusks, sand dollars, starfish, crustaceans, depth low tide to 15 feet
- Inlet and tidal delta, connects open Gulf and bays, sand, mud and shell, diverse epifauna, mollusks, echinoderms, coral and bryozoans, clionid sponges, depth < 40 feet; small tidal deltas in bays < 10 feet; sand, mud and shell, fauna variable
- Bay and lagoon margin, shoal water bordering bay, sand to mud, shifting sandbars, sparse marine grass, variable salinity and temperature, mollusks, depth < 3 feet; in Laguna Madre, seasonally hypersaline shoal water bordering mainland, sand, some shell, shifting sandbars, sparse grass, algae, salinity 30 - 60 °/₀₀, temperature 12 - 43°C, mollusks, low diversity, depth < 3 feet; unmapped salt-water marsh along shore
- Grassflats, shallow bay margin with dense grasses, salinity 25 to 35 °/₀₀, moderately diverse mollusk assemblage, depth < 5 feet; (lighter shade) hypersaline, sparse to moderate grass, sand, shell, and muddy sand, salinity 30 - 60 °/₀₀, temperature 12 - 43°C, abundant mollusks, low diversity, algae, depth < 4 feet
- Open bay, lower end of bay with tidal influence, salinity 20 to 35 °/₀₀, mottled mud, high species diversity, infauna, mollusks, depth 6 to 15 feet
- Enclosed hypersaline bay or lagoon center, away from tidal or river influence, mud, mottled, salinity 30 - 60 °/₀₀, abundant mollusks, low diversity, depth 4 to 6 feet
- Enclosed bay with reef, away from tidal or river influence, mottled mud, similar to open bay but reduced species diversity, clams, with oyster reefs, depth 3 to 8 feet
- Reef, dense oysters, distinct mounds or ridges commonly aligned normal to circulation, firm substrate, salinity 10 to 30 °/₀₀, depth < 8 feet, associated mollusks, coral, bryozoans
- Reef flank and margin, level bottom between reefs, few clumps of oysters, sand, mud, and broken shell, salinity 10 to 30 °/₀₀, depth < 12 feet
- Enclosed bay, little tidal or river influence, except during extreme high tides or rainfall, mottled mud, similar to open bay but reduced species diversity, clams, depth 3 to 6 feet
- River-influenced bay; very low salinity during high rainfall periods, near fresh-water discharge, laminated mud and silt, mottled mud, low species diversity with mollusks, crustaceans, depth 3 to 6 feet
- Subaqueous and subaerial spoil, artificial, sand and silt, poorly sorted, assemblage depends on age of spoil, depth and elevation variable
- Fresh- to brackish-water bodies, landlocked ponds and lakes, variable substrate, inland bodies fresh, coastal bodies temporarily brackish or saline

SUBAERIAL ENVIRONMENTS AND ASSEMBLAGES

(Principally floral assemblages)

- Beach, swash zone, high wave energy, sand, shell, mollusks and crustacean infauna, back-beach sea-oats and halophytes, dunes, ghost crab, low tide to + 5 feet
- Vegetated barrier flat, foredune ridge, stabilized blowouts; sand, shell, relief 5 to 30 feet, salt-tolerant grasses, vines, local fresh-water marsh, ghost crab, rodents, snakes, fowl
- Washover channel and fan, sand, local mud, barren, algal mats, local ponds and fresh-water marsh
- Active dunes, coppice dune, blowouts, back-island dunes, barren, relief 3 to 30 feet, rodents, snakes
- Sandflats, wind-tidal, local mud, algal mats, emergent-submergent, −1 foot to +2 feet MSL; and barren lower stream courses, ephemeral, sand
- Active clay-sand dunes, accretionary, intense wind, salt-tolerant grasses, snakes
- Berms along and near bay-lagoon margin, storm deposits, sand, shell, local salt- and brackish-water marsh in swales and ponds, salt-tolerant grasses, snakes, fowl
- Salt-water marsh, frequently inundated by tides, sand, muddy sand to mud, cordgrass, glasswort, seepweed, sea-oxeye, mammals, fowl
- Brackish- to fresh-water marsh, sand, muddy sand, and mud, grades into salt-water marsh, coastal sacahuista, marshy cordgrass, big cordgrass, bullrush, cattail, rushes, mammals, snakes, fowl
- Inland fresh-water marsh, sand or mud, rushes, cattail, sloughgrass, mammals, snakes, fowl; some areas occupied by high-moisture, non-marsh plants. (lighter shade) ephemeral marsh
- Prairie grasslands, flat to gently rolling upland, prairie grasses, mud and sand substrate, much of area cultivated, bluestem, Indiangrass, chaparral, mesquite, hackberry, huisache, cactus, fowl and small mammals, stippled in areas of dense brush and oaks
- Swamp, drainage poor, sediment and water by overbanking fluvial systems, dwarf palmetto, elm, bay, mulberry, water oak, grapevine, and yaupon, raccoon, opossum, some mink and squirrels, fowl, snakes
- Frequently flooded fluvial areas, water-tolerant plants, mud to sand, fresh-water reeds, rushes, and trees, mammals and fowl
- Fluvial woodland, water-tolerant hardwoods, pecan, hickory, live oak, water oak, blackjack oak, elm, hackberry, red haw, ash, carpetgrass, Bermudagrass, greenbriar, yaupon, grape, mammals, fowl, snakes
- Fluvial grassland, grasses and brushes, bluestem, sacahuista, mesquite, catclaw, *Acacia*, mammals, fowl, snakes
- Oak mottes and groves, live oak and dwarfed live oak, permeable and well drained, near the coast, salt spray may kill leaves on windward side, grow rapidly leeward producing sculptured oak mottes, rodents, snakes
- Poorly drained depressions, mud substrate, occasionally flooded, locally seasonal hydrophytes, other high-moisture plants and prairie grasses
- Loose sand and loess prairies, bunch grasses, commonly overgrazed, scattered oak mottes, fresh-water marsh in blowouts and depressions in wet cycles, rodents, mammals, snakes, fowl
- Brushland, moderately stabilized dunes, inactive clay-sand dunes, some loess deposits, mesquite, chaparral, other scrub, distinctive grasses, cactus, game, fowl, climax vegetation
- Barren land, abandoned tidal creeks, small bayside beaches, sandflats, active point bars
- Made land, filled, graded, sand, mud, and shell, locally some vegetation

Sources of data given in text

* This map shows principally the distribution of major subaerial floral and subaqueous benthonic faunal assemblages. The legend includes only general biologic groups that are common or abundant. Refer to text for lists of specific plants and animals.

Mapping and cartography by Bureau of Economic Geology
Geology mapped on aerial mosaics, Edgar Tobin Aerial Surveys
Base adapted from U.S.G.S. topographic maps
Sources of data and credit for contributions to maps given in text

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