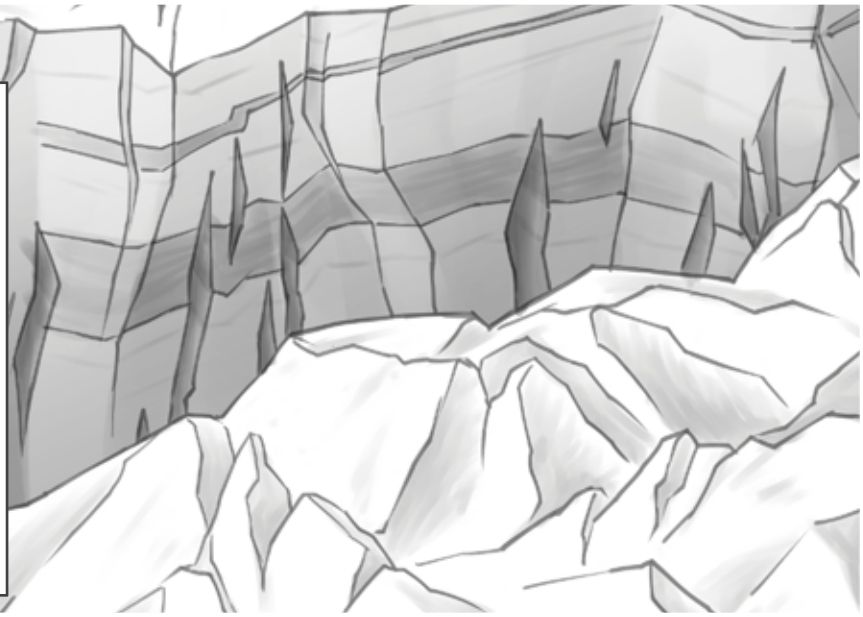
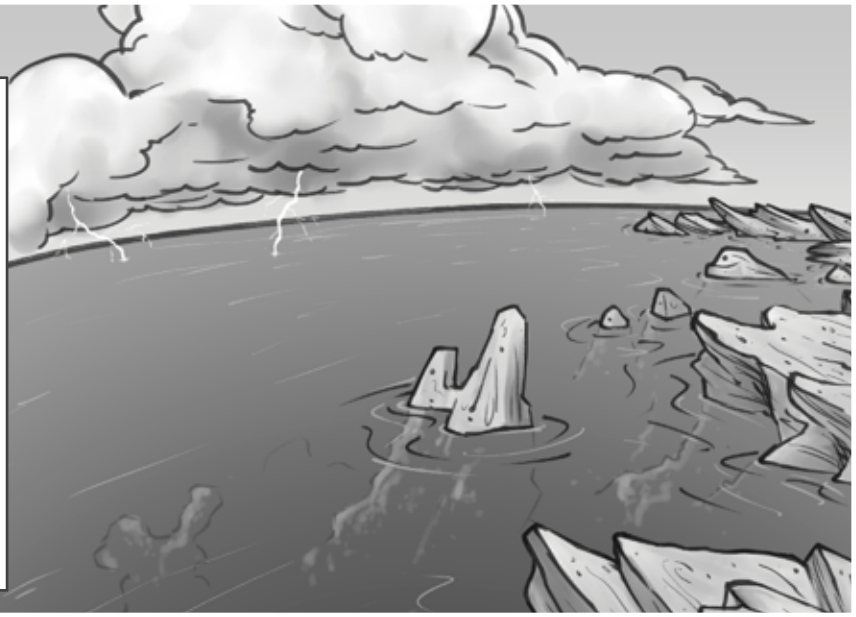
GSL383-Alpha: POLAR ICE CAP

Planet GSL383-Alpha is capped by vast frozen methane glaciers that form valleys and towers colored by bands of minerals. The glaciers lie primarily in the dark, and the temperature remains at –250°C. An oddity in GSL383-Alpha's orbit places the environment in the sun for short periods of time, quickly warming it to –170°C. During this time, the glaciers break up and melt, violently colliding and scraping against one another. As the glaciers move, they grind against the underlying bedrock, churning up mineral deposits that float up to the surface. When darkness falls again, the temperature drops, and the glaciers freeze in place, trapping the minerals.



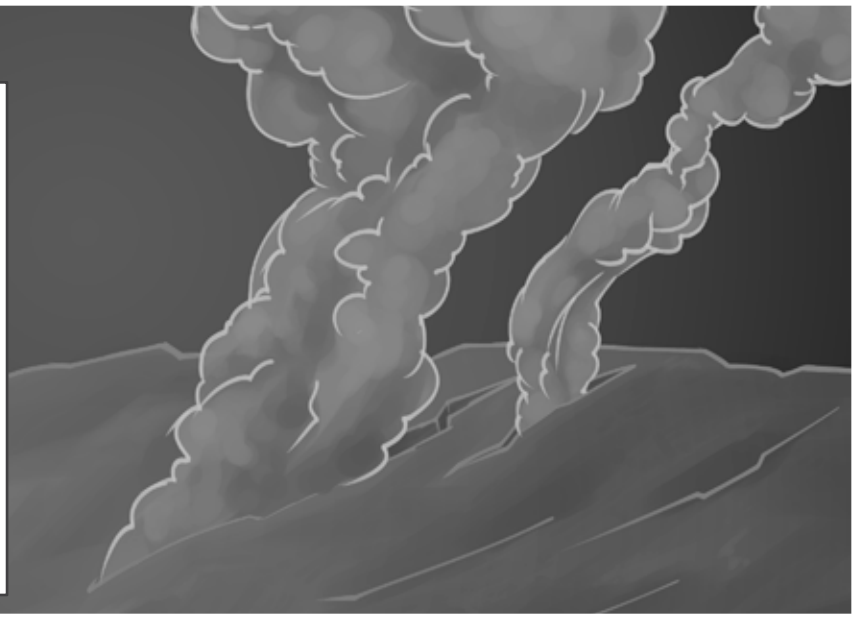
GSL383-Beta: EQUATORIAL REEF

Along the equator of GSL383-Beta, beneath a large ocean of liquid methane, lies a reef-like structure made of calcium, selenium, aluminum, and other elements. A slight wiggle in the planet's rotation creates strong currents that pull and push the liquid methane around the reef. Portions of the reef can fluctuate from being exposed and dry to deeply submerged in minutes as waves crash over it. Atmospheric disturbances caused by the strong ocean currents produce large electrical storms that generate lightning. The temperature at the reef is a steady –179°C.



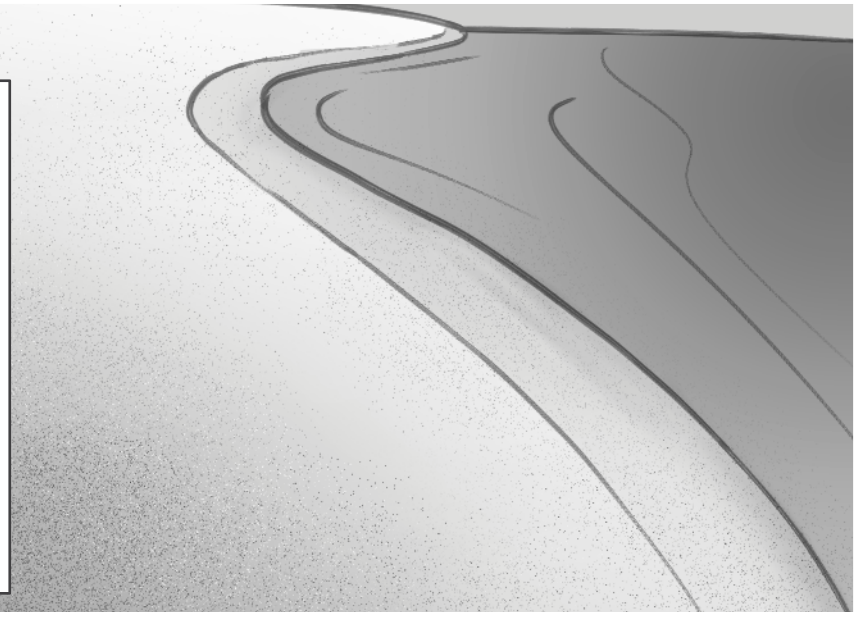
GSL383-Gamma: THERMAL VENTS

GSL383-Gamma is covered in thick sheets of ice. But deep beneath the surface is a mineral-rich ocean of liquid water, warmed by cracks in the planet's floor called thermal vents. Molten material from the planet's interior churns beneath the ocean floor, super-heating the inside of the vents to 450°C. Yet outside the vents, the water temperature remains a very cold –1°C. Buried under 9 km of ice, the thermal vents are under intense pressure, and no light penetrates to their depth. Toxic gases periodically spew from the vents into the water above.



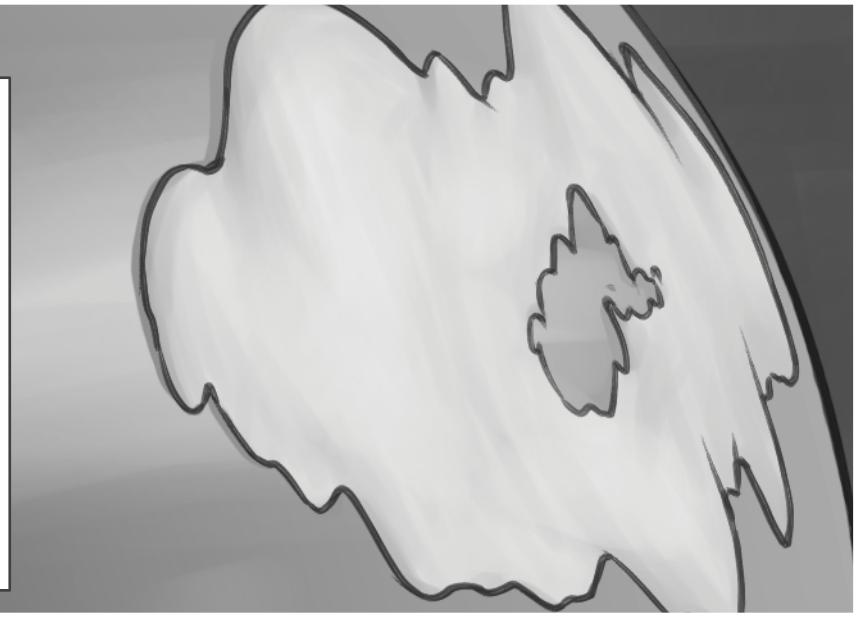
GSL383-Delta: CONTINENTAL SHORE

GSL383-Delta has one large continent, rimmed entirely by beaches made of sand-like saline mineral deposits. The salt and minerals precipitate out of the saturated ocean water. A large moon creates dramatic tides as it pulls on the ocean, causing conditions to fluctuate. The temperature along the shore ranges from 45°C when the tide is out to 20°C when the tide rolls in. When the tide is out, the beaches receive an intense amount of UV radiation. When the tide is in, the murky, sediment-filled water blocks most of the light.



GSL383-Epsilon: MID-CONTINENT

GSL383-Epsilon has a large continent that is uniformly flat and covered in a fine powder-like sediment. Preliminary reports show the sediment contains high levels of silicon and nickel, moderate amounts of fermium and boron, and trace amounts of carbon. Given the continent's position on the planet, UV radiation from the planet's sun is intense. Weather events are rare over the continent, with scattered showers of hydrochloric acid rains happening only twice during the planet's orbit.



GSL383-Zeta: INLAND LAKE

The most prominent feature of GSL383-Zeta is a large inland lake filled with liquid water. Gentle breezes ripple the surface, and the water temperature remains a steady 70°C. Crystalized mineral deposits form islands and cover the shore. Flares from the planet's sun cause periods of intense UV radiation. For a period of time after the solar flares, a phosphorescent glow appears where the the mineral islands meet the water.