The details of locations on a world are revealed by its Terrain. Terrain provides specifics about locations: its wealth, its population, its productivity, even its dangers.

World mapping divides the surface of a world into a series of hexagons (hexes) which define location and help in computing movement. Worlds are mapped with coarse scale World Hexes grouped into triangles to form a hexagon based world map. Each of the World Hexes is further divided into Terrain hexes, which may be divided into Local hexes, which may be divided into Single hexes. Each of the hexes is further detailed by a Terrain Type.

Terrain Within Terrain Within Terrain. Terrain is mapped with a hierarchy of hexes. The result is larger hexes which may appear impassible, but when analyzes more specifically reveal potential travel routes.

For example, a World Hex identified as Mountain (and probably impassible) may prove to be composed of many Terrain hexes, some of which are passable. It is only when terrain is explored that characters can discover its true nature.

MOARN Map Only As Really Necessary. Detail should be produced only as needed. Part of the adventure is encountering unexpected terrain.

THE TERRAIN CHARTS

Terrain is described and explained in a series of charts:

Terrain Overview. Fifty-four terrain types are shown in overview on this chart. Each type is named and numbered for ease of reference.

The Heights. The Heights chart shows the various levels or altitudes in the atmosphere on mainworlds. It shows the atmosphere type at various altitudes, and provides direction on the effects of atmosphere (or lack of atmosphere) on characters. It shows the types of atmosphere in which Flyers may operate.

The Depths. The Depths chart shows the depths of oceans on mainworlds. It shows the effects of pressure on vehicles which venture into the depths.

Vehicle Speeds. The Vehicle Speeds chart shows Speed values for various types of vehicles and their corresponding speeds in kph.

The chart also shows the typical or expected maximum speed of various vehicles in specific types of terrain.

For example, the chart shows a Car cannot operate in Clear terrain (because a Car is built to operate on Road), but an OffRoad can (at Speed=4 = Vslow = 30 kph) with 0 Mods.

Terrain Charts 1 - 9. The Charts show and describe the specific types of terrain.

UNDERSTANDING TERRAIN

Terrain is the character or nature of world surfaces. It may reflect the topography of land, the types of vegetations or natural features of land, the improvements or infrastructure, or a combination of these elements.

Terrain may be as simple as Clear: flat, unimproved land with no specific restrictions on travel or access. Terrain may be as complex as Domed City in Twilight Zone.

Mapped In Hexes. The Traveller Mapping System defines a hierarchy of mapping hexes: the 1000 km World Hex; the 100 km Terrain Hex; the 10 km Local Hex; and the 1 km Single Hex. Larger hexes have more general terrain; smaller hexes have more specific Terrain.

Identified by Terrain Types. Terrain is identified by Type or Name. Each Terrain Type describes specific features which restrict or enhance travel, and which identify interesting features.

WHAT TERRAIN DOES

Terrain has three important effects:

It Provides Character. Terrain provides character and interest to world surfaces. Terrain defines the details of locations and provides insights into potential benefits or consequences of exploring those locations.

Its Shows (Potential) Value and Resources. Terrain establishes the potential for finding value and important resources in specific locations. Certainly Wooded terrain can provide lumber; Baked Lands can probably provide pools of liquid base metal; Frozen Lands may provide solidified gases.

But Terrain also directs or narrows searches. Characters will probably not search Swamps for starship repair parts; they probably won't hunt tigers in Cities (but!). Terrain tells reasonable people what to expect and not to expect in specific locations.

Movement and Impediments. Terrain constrains movement by individuals and by vehicles. It clearly establishes the expected speeds for specific vehicles and it directs of channels movement to specific routes.

VEHICLE OPERATIONS

Vehicles are classified by the territory they cover.

Local. The vehicle is designed for travel on a daily basis in and around a specific location and within a Terrain Hex (an area 100 km in diameter). A car used for city driving or a delivery truck are Local. Such vehicles occasionally venture into adjacent Terrain Hexes.

Regional. The vehicle is designed for travel in several World Hexes (each about 1000 km in diameter). Many Cargo Trucks or Truck Trains are Regional. Such vehicles occasionally venture into adjacent World Hexes.

Continental. The vehicle is designed for travel within a World Triangle (a cluster of 3 to 28 World Hexes).

World. The vehicle is designed to travel anywhere on the World.

A territory classification assumes the vehicle will venture occasionally into neighboring territories. For example, a Regional vehicle will sometimes visit adjacent regions.

Vehicle Speeds. The Vehicle Speeds Chart details the expected travel speeds for vehicles based on Terrain.

THE TERRAIN TYPES

The 36 basic Terrain types address most situations to be encountered on world surfaces. The 18 additional Terrain types cover some special situations.

11. Clear. Simple and relatively flat. Vegetation is slight and unobtrusive. Other names for Clear terrain: Plains, Prairie, or Steppe.

12. Clear- Wooded. Clear, but more than half covered with mega-flora*.

13. Wetland. Relatively flat, and at least half covered with Shallow water (0.5 meters deep). Wetland is a Marsh.

14. Wetland Wooded. Wetland more than half covered with mega-flora*.

15. Rough. Uneven, obstructed, and rocky. Some names for Rough terrain include: Badlands,

16. Rough Wooded. Rough more than half covered with mega-flora*.

21. Mountain. Dominated by steep slopes and rocky peaks or ridges.

22. Desert. Clear characterized by little vegetation, lack of water, and extreme temperature.

23. Chasm. Deep gorge well below typical land or surface levels.

24. Cropland. Clear characterized by extensive and intensive agricultural uses. Cropland is Clear terrain with an overlay of Roads.

25. Rural. Clear which has been settled. Rural is an inferior or less productive form of Cropland. Rural is Clear terrain with an overlay of Roads.

26. Ruins. Includes sophont-constructed, now abandoned, buildings or installations.

31. Ocean. Saltwater ocean fed by continental drainage.

32. Islands. Includes a small group of islands in the Ocean.

33. Shore. The boundary between Continent and Ocean.

34. River. A channel of flowing water large enough to pose a barrier to travel.

35. Lake. An isolated body of fresh water that occupies more than half a hex. Ground transportation bypasses lakes rather than crossing them.

36. Ice Cap. A covering of frozen water near the North or South Pole.

41. Baked Lands. Lands under intense stellar heating.

42. Twilight Zone. Hospitable territory between the hot and cold hemispheres of Twilight Zone planets.

43. Frozen Lands. In constant shadow and extremely cold.

44. Ice Field. The location is covered with frozen Ocean.

45. Precipice. An extreme change of land elevation which is an absolute barrier to ground vehicle travel.

46. Exotic. Abnormal, unusual, unexpected, or inexplicable elements (geysers, volcanic events), meteorologicals (fogs, hazes, constant storms), aesthetics (beautiful landscapes, stunning atmospheric displays), or other.

51. City. A high population community with associated governmental, cultural, educational, commercial, and manufacturing facilities. For Transportation, treat City as Highway.

52. Domed. A City with associated environmental protections against Vacuum, Tainted Atmosphere, or Weather. For Transportation, treat Domed as Road.

53. Arcology. A complex of high population density hyperstructures. An Arcology is a self-sufficient isolated community with only limited exterior contacts.

54. Suburban. A moderate population community near and associated with a City.

55. Town. A low population community providing governmental, cultural, commercial, and educational support for the area.

56. Starport (or Spaceport). A landing ground for starships and interaction with off world enterprises.

61. Highway. A high quality transportation network component supporting wheeled vehicles.

62. Road. A local transport network supporting wheeled road vehicles.

63. Trail. A rudimentary, unpaved path for persons and Vlite vehicles.

64. Air Corridor. A path and assigned altitude for Flyers and under computerized air traffic control.

65. Grid. A surface Highway under centralized computer traffic control for safety and efficiency. Any surface vehicle with Grid Controls can use log into the Grid and use the roadways.

66. High Speed. A high-speed, high-volume passenger and cargo network using its own dedicated vehicles on rails or proprietary roadbeds.

ADDITIONAL TERRAIN TYPES

The additional Terrain types address special or less frequent situations.

71. Ocean Depths. A section of Ocean significantly deeper than normal.

72. Abyss. A section of Ocean (on an Ocean World) significantly deeper than normal.

73. Caverns. Surface terrain is underlain by extensive caves, tunnels, or other natural underground locations.

74. Crater. Dominated by a large impact crater.

75. Wasteland. Contaminated by natural or sophont processes, which may be chemical, biological, radiation, or other processes.

76. Penal Colony. Contains a prison or prison camp.

81. Volcanic. Experiences significant geothermal or volcanic activity.

82. Noble Estate. Contains the private territory of a noble.

83. Reserve. Set aside as a protected area.

84. Mines. Extensively mined for natural resources.

85. Resources. The location is the source of extensive and rich natural resources.

86. Resources Oil. The location is the source of extensive and rich natural petrochemical resources.

91. Vlite Airport. A rudimentary landing ground for Flyers suitable for Vlite Winged craft.

92. Lite Airport. A landing ground for Flyers suitable for Lite and Vlite Winged craft.

93. Airport. A landing ground for Flyers suitable for Medium and smaller Winged Flyers. Runways (usually more than one) are about 3,000 meters long.

94. Heavy Airport. A landing ground for Flyers suitable for Heavy and smaller Winged Flyers.

95. Vheavy Airport. A landing ground suitable for all winged Flyers.

96. AirPad. A landing ground for vertical landing and takeoff Flyers.

96. Open Field. Clear terrain equivalent to 91, Vlite Airport.

97. Road. Road terrain equivalent to 92, Lite Airport.

98. Highway. Highway terrain equivalent to 93, Medium Airport.

---

*Mega-Flora. Plant life or vegetation larger in size than persons is Mega-Flora (a typical mega-flora is a tree). Mega-flora is a barrier to most vehicles.

HEIGHTS AND DEPTHS

Altitude in the atmosphere and depth in water are types of Terrain. They are expressed in Levels.

Altitudes

Atmosphere Type determines the effects of atmosphere on travel (especially on Flyers).

The **Levels of the Atmosphere Chart** shows the various levels for various world atmosphere types.

The Surface level is the world surface. Levels above the surface correspond to the standard ranges.

Upper (Range=7) is further divided into several sublevels. Objects at a sublevel are treated for most purposes as at the level; the sublevels merely allow differentiation for various flyers and for the dissipation of the atmosphere.

NOP. The conventional term for flying close to the surface of a world (primarily to avoid detection) is called Nap of the Planet. By ancient convention, on Terra (and only on Terra) this level is called NOE.

Depths

Water on a world has depth measured in levels. Submersibles, some forms of Armor, and some spacecraft can submerge below the surface of oceans, and may be able to venture deep into the depths.

Chart 14 Depths details the levels of Depth.

The **Depths of the Oceans Table** shows the various depths and when they typically are present.

Pressure. Objects at any appreciable depth are subject to Pressure as shown. Pressure shown in units roughly equal to Bars (or Atmospheres).

Pressure inflicts damage to objects in D. Pressure-1 includes 1D hits per Minute. A submarine at resting on the Continental Shelf is subject to Pressure-15 every minute.

INSIGHTS INTO TERRAIN

Various terrain types are related.

Desert and **Baked Lands** are related.

Desert is dry territory, usually hot. **Baked Lands** are territory under constant stellar (solar) heating, usually on Twilight Zone worlds. **Desert** only occurs on worlds with atmospheres. **Baked Lands** may be vacuum, or may be on a world with atmosphere.

Ice Cap, **Ice Field**, and **Frozen Lands** are related.

Ice Cap is a mass of ice (or other frozen liquids and gases) accumulated toward the poles of a world; it may overlie Land or Ocean. **Ice Field** is a region of frozen Ocean; it overlies only Ocean; liquid Ocean may be present under the Ice Field. **Frozen Lands** is a region of very cold Land; it overlies only Land. The Ocean or Land underneath may have other terrain features present.

Chasm and **Precipice** are related.

Precipice is a sheer cliff or rock wall which cannot be crossed by world surface travel. **Chasm** is a canyon or deep crevasse (best thought of as paired Precipices). **Chasm** produces the only hospitable or habitable locations on Atmosphere= F Thin Low worlds.

City, Domed, Arcology, Suburb, Town, Cropland, and **Rural** are related.

City is a dense highly populated location with its associated infrastructure to support the demands of the population: markets; roads and bridges; entertainment; services. **Domed** is a **City** in an inhospitable location requiring protection from Atmosphere (or other Threats). **Arcology** is a hyper dense population center which avoids unnecessary interactions with other locations; it strives to be self-supplying for its energy, food, and other product needs. **Suburb** is medium-density population center near a **City;** it appears only near or adjacent to a **City. Town** is a low-density population center isolated from other population centers. **Cropland** is agricultural land with significant population involved in its support and usually dispersed with the territory. **Rural** is similar to **Cropland** but not as productive. All populated terrain types include Roads, and some include Highways.