

The Gare hypothesis:

Hypothesis:

The growth of populations, human and managed livestock, gradually increases the levels of energy conversion, and other significant climatic/atmospheric factors in a specific location. These locations are of limited, but ever increasing, geographic expanses. These fixed/limited points in the region, have evolved specific roles, and characteristics, in the regional atmospheric ecosystem and therefore water cycle. The regional atmosphere evolves very slowly, primarily from the typical sources of humidity, movement of air masses and energy levels. In a natural setting the forces that evolve the climate are volume and types of vegetation, adjacent regional forces, and solar intensity. The specific features of these limited points in the regional atmospheric ecosystem include;

- Watershed impacts.
- Weather front generation, containment and dispersion.
- Atmospheric water sources or sinks.
- Seed nuclei sources and sinks.
- Sources of longwave energy.
- Sources and sinks of shortwave solar energy.

All of these factors are modified by the growth of living populations, primarily due to;

- Energy conversion.
- Seed nuclei generation.
- Shortwave energy reflection.
- Shortwave energy adsorption.
- Long wave energy modification.
- Increased levels of vibrational energy.
- Water pollution.
- Water import.
- Energy import.
- Net water usage : groundwater.
- Atmospheric pollution.
- Reductions and changes in groundwater flows.
- Greenhouse gas emissions.

These factors are all significantly increased, and therefore directly related to population, as well as the energy/water usage profiles of the typical city dweller. This also true of managed livestock populations, in that feed change, microbiological changes, as well as population sizes dictate the energy/water profile of the typical member of the animal population. Increases in methane emissions, water usage, soil depletion and energy usage, all contribute to the atmospheric impact of large animal populations, (i.e. cattle, poultry, swine, and grazing herds).

The changing energy/water profiles, of a region, impacts regional climate primarily through changes in the amounts of water suspended in the atmosphere. As well as the levels of sensible and latent heat, and the availability of seed nuclei. The impact of these significant atmospheric changes has long been evidenced by such factors as heat islands, and the rainy weekend effect.

The sensible and latent heat generated by the concentrations of life disburse into the surrounding atmosphere drawing water saturated air towards the energy concentrations. The temperature of air determines its holding capacity. As the heated air disburse from the cities, especially in the cool of the night, moisture from the surrounding environment is drawn towards the city. Over many years this moisture robbing effect has many impacts on the surrounding environment via its ecosystem and weather.

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Those impacts include;

Immediate and short term impacts: biome.

- A counterbalancing effect as the moisture leaves the air surrounding the cities, moisture from adjacent regions moves to fill the vacuum. Streams of water vapor are generated moving atmospheric moisture into the region.
- Winds are generated as the heavier moisture laden air moves into the region.

Long term impacts: biome.

- Evolved vegetation is starved of atmospheric water.
- Evolved vegetation is starved of heat after sunset.
- Dependent species of insect and animal populations are stressed.
- Weaker instances of species, of all domains, die.
- Heavily dependent varieties become regionally extinct.
- Species less dependent on atmospheric moisture thrive and become dominant.
- Soil health degrades, impacting soil carrying capacities.
- Desertification creeps into vulnerable regions.

Long term impacts: weather

- Regional desertification generates increasing imbalances in atmospheric energy levels.
- Drier regions accelerate regional fronts, trapping latent and sensible heat.
- Front collisions are more energetic, generating higher peak weather conditions.

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