

## THE FIELD ORGANIZATION OF METEOROLOGICAL AND ATMOSPHERIC- GEOGRAPHICAL TERMINOLOGY IN ENGLISH AND UZBEK: A COMPARATIVE STRUCTURAL ANALYSIS

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**Abstract.** This study investigates the field organization of meteorological and atmospheric-geographical terminology in English and Uzbek within the framework of linguistic field theory. Drawing upon Saussurean structuralism and subsequent developments in European and Russian linguistics, the research examines paradigmatic and syntagmatic relations, nucleus–periphery structuring, and cross-level interactions across phonological, morphological, and lexical-semantic domains. The comparative analysis demonstrates that while English predominantly employs prefixation and derivational morphology to encode spatial and atmospheric distinctions, Uzbek, as an agglutinative language, relies primarily on suffixation and syntactic constructions. The findings reveal both typologically universal mechanisms and language-specific strategies in the formation and distribution of meteorological terminology. The study contributes to comparative linguistics and terminological theory by demonstrating how linguistic structure, cognitive categorization, and cultural perception interact within a unified nominative field.

**Keywords:** linguistic field theory, meteorological terminology, atmospheric lexicon, nucleus and periphery, comparative linguistics, English, Uzbek, structural semantics.

### 1. Introduction

The systematic analysis of language as an interconnected structure of signs remains central to modern linguistics. The foundations of linguistic field theory originate in Ferdinand de Saussure's structuralist conception of language as a system governed by relations rather than isolated units (Saussure, 1916/2011). Meaning arises through differential value within paradigmatic and syntagmatic axes, and the linguistic sign functions as a unity of signifier and signified established by social convention.

Within this framework, terminology may be viewed as a structured nominative field organized around invariant semantic functions. Meteorological and atmospheric-geographical terminology constitutes a particularly productive domain, as it integrates natural phenomena, spatial orientation, and culturally embedded environmental perception.

This article aims to (1) define the structural organization of meteorological terminology in English and Uzbek, (2) identify nucleus–periphery relations across linguistic levels, and (3) determine typological correspondences between the two languages.

### 2. Theoretical Framework

The notion of “field,” initially introduced in physics (Faraday, 1846), was transferred to linguistics in the early twentieth century. Ipsen (1924) and Trier (1931) conceptualized the semantic field as a system of lexemes whose meanings are defined by mutual delimitation. Weisgerber (1953) further emphasized the role of language in shaping worldview.

Russian linguistics significantly developed the field model. Shcherba (1974) and Vinogradov (1977) elaborated the nucleus–periphery principle, while Bondarko (1991) formulated the theory of functional-semantic fields, according to which linguistic units from different levels interact to realize a shared semantic function.

Thus, a linguistic field is understood as a hierarchical structure consisting of:

- **Nucleus** – central, productive, and semantically stable units
- **Near periphery** – derived or contextually extended forms
- **Far periphery** – figurative or stylistically marked expressions

This model serves as the methodological basis of the present analysis.

### 3. Meteorological Terminology as a Multilevel Field

Meteorological and atmospheric terminology forms a multidimensional nominative field that includes phonological, morphological, and lexical-semantic levels.

#### 3.1 Phonological Level

Following Trubetzkoy's (1939/1969) theory of distinctive features, phonological oppositions contribute to terminological differentiation. In both languages, repetition of consonantal clusters and vowel patterns enhances rhythmic and articulatory prominence in geographical expressions.

For example, English alliterative constructions such as “*seashore*” and “*Seychelles*” foreground sibilant contrasts, while Uzbek examples involving consonant clustering illustrate phonetic density. Although phonology does not directly generate terminological meaning, it reinforces structural stability and cultural memorability.

#### 3.2 Morphological Level

Morphology constitutes the productive core of the field.

##### Uzbek

As an agglutinative language, Uzbek primarily employs suffixation:

- **-lik**: *yog'ingarchilik* (precipitation), *namlik* (humidity)
- **-li**: *shamolli* (windy), *bulutli* (cloudy)
- **-sizlik**: *yog'ingsizlik* (absence of precipitation)

These derivational models form the nucleus of the morphological subsystem due to their regularity and productivity.

##### English

English uses both derivational suffixes and prefixes:

- **Suffixes**: *-land* (Greenland), *-shire* (Yorkshire), *-hill* (Richmond Hill)
- **Prefixes**: *North-*, *South-* (North Wind), *New-* (New York), *Upper-* (Upper Atmosphere)

Prefixation in English encodes spatial orientation, scale, and stratification. In contrast, Uzbek expresses equivalent meanings syntactically (e.g., *Shimoliy shamol*, *Yuqori atmosfera*). Despite typological differences, both systems fulfill identical invariant semantic functions.

### 3.3 Lexical-Semantic Level

At the lexical-semantic level, meteorological terminology reflects environmental categorization and cultural perception. According to Gak (1998) and Novikov (1982), lexical meaning exists within a structured semantic network.

Examples such as *Black Sea*, *Rocky Mountains*, *Great Plains* (English) and *Qizilqum*, *Sho'rko'l*, *Beshtepa* (Uzbek) demonstrate descriptive and metaphorical motivation based on color, number, or relief. These naming strategies reveal the interaction between objective natural features and culturally mediated cognition.

### 4. Nucleus–Periphery Organization

In both languages, meteorological terminology exhibits hierarchical structuring:

- **Nucleus:** primary atmospheric terms (wind, rain, pressure; *shamol*, *yomg'ir*, *bosim*)
- **Near periphery:** derivational and compound forms
- **Periphery:** metaphorical or discourse-dependent expressions

Polysemantic units may shift position depending on context, confirming the dynamic nature of the field.

### 5. Conclusion

The comparative analysis confirms that meteorological and atmospheric terminology in English and Uzbek constitutes a structured nominative field governed by systematic relations. While English relies more heavily on prefixation and analytic constructions, Uzbek demonstrates high derivational productivity through suffixation.

Despite typological differences, both languages organize terminology according to nucleus–periphery principles and express invariant semantic categories related to natural phenomena. The field approach thus proves effective for integrating structural, functional, and cognitive dimensions of terminological analysis.

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