# *About This Standard*

**Standard Identifier**     **NFDD v2.0**

**Title of Standard**

National System for Geospatial-Intelligence (NSG) Feature Data Dictionary (NFDD), Version 2.0, 27 February 2009

**Standards History**

| Introduced to Registry | Date Emerging | Date Mandated | Last Status Update | Last Status Review | Inactive/ Retired |
|---|---|---|---|---|---|
| 2009-07-30 | n/a | 2009-07-30 | 2009-07-30 | 2009-07-30 | n/a |

**Replaced**              NFDD v1.8

**Standards Body**         NGA                                                     Broken Link?
**URL to Access or**       https://nsgreg.nga.mil/fdd/view?i=80050
**Acquire**

**Working Group**
  **Primary Owner**          Geospatial Intelligence (GWG)
  **Secondary Interests**     Application / Messaging
                                  Discovery
                                  DoD Intelligence
                                  Modeling and Simulation
                                  Messaging Format/Symbology

**Service Area**           GEOINT: Geospatial

**KIPs**                   No KIP Found

**Standard Applicability**

  **2009-07-30**

The NFDD is applicable to the storage, manipulation, interchange, and exploitation of geospatial intelligence data. Systems participating within the NSG must utilize the NFDD in order to ensure consistent NSG-wide geospatial data semantics, support net-centric geospatial services, and achieve geospatial data interoperability.

**Standard Abstract**

  **2009-07-30**

The NSG Feature Data Dictionary (NFDD) specifies the semantic content of the NSG through profiling, integrating, and extending concepts from multiple authoritative community-specific feature data dictionaries (DGIWG DFDD, AIXM, MIDB, IHO S-57, NATO AML, and others). These concepts characterize aspects of real-world entities (or objects) and related properties, including those that are not necessarily visible or have a tangible physical form (e.g. Airspace). The NFDD is a comprehensive dictionary and coding scheme for feature types, feature attributes (properties or characteristics associated with features), and attribute values (domain of feature attributes). A standardized dictionary is required to support encoding in order to maximize interoperability and to understand the production, exchange, distribution, and exploitation of digital geographic data. It is intended to be independent from level of resolution (scale),

representation, and portrayal. The appropriate selection of NFDD feature types and feature attributes are intended to be implemented as part of the overall solution for an application, by means of a database (supported by a data schema or model), or in a product or dataset (defined according to a format specification and a data model). The NFDD allows for NSG participants to define feature types and feature attributes for cases where such feature types and feature attributes are not readily defined in external feature dictionaries such as the DGWIG-developed DFDD. It is managed by the NGA NCGIS and GWG using a responsive maintenance model in accordance with ISO 19135 to support rapidly evolving DoD/IC requirements.

## Profiling Questions

**GEOINT: Geospatial**

- Does the application acquire, process, analyze, access, present and/or transfer geospatial information in digital/electronic form or does the application participate in the NSG or does the application use, display and/or communicate information about geospatial concepts (e.g. definitions or descriptions of items of geospatial information)?

## Products Incorporating This Standard

NGA Topographic Feature Data Management (TFDM) Data Content Specifications (DCS),NAVOCEANO Riverine Operations DCS,NGA Global Navigation Services (Aeronautical and Maritime) pilots,NGA Geospatial-Intelligence Knowledge Base (GKB)

## Relevant Information

The NFDD draws geospatial concepts from multiple community dictionaries (e.g., the DFDD, AIXM, MIDB, S-57, AML, and others) to specify an integrated feature data dictionary tailored to the requirements of the US DoD/IC and includes unique geospatial concepts not found elsewhere. The NFDD is in active use within the NSG community, including NGA. It profiles and extends the DISR-mandated international DGIWG FDD to address NSG-unique requirements and capabilities. The NFDD serves as the sole vehicle to permit access to the profiled content of the DFDD and other authoritative dictionaries, as well as to DoD/IC extensions. The DGIWG FACC used in legacy DoD/IC systems was retired by the DGIWG (July 2004) and is not maintained; neither are the US National Extensions to the DGIWG FACC that are used in legacy data products (and which previously were maintained within the FACC register). The DFDD and NFDD replace these legacy standards/capabilities. Citation was authored by the GWG Application Schemas for Feature Encoding Focus Group.

## Implementation Guidance

The NFDD v2.0 is compatible with the currently mandated DFDD 2007-1, and guidance applied in the use of DFDD 2007-1 may apply here as well. For system-specific recommendations for integration and employment of the NFDD (e.g., within the C/JMTK or in concert with web-based services such as the Web Feature Service (WFS) - ISO 19142), contact the NGA / National Center for Geospatial Intelligence Standards (ncgis-mail@nga.mil). In particular, experienced assistance is available for the migration of existing systems, capabilities, specifications, and formats that are based on other geospatial data dictionaries to a NFDD-basis.

## Standard Selection Criteria

### Interoperability/Supportability

The register-based and web-enabled NFDD is one of a family of standards developed by NGA to support acquiring, processing, analyzing, accessing, presenting and transferring geospatial information in digital/electronic form between different users, systems and locations. The NFDD is designed to support net- and data-centric specification of items of geospatial information, drawing geospatial concepts from multiple community dictionaries (e.g. Digital Geospatial Information Working Group Feature Data Dictionary (DFDD), Aeronautical Information Exchange Model (AIXM), Modernized Integrated Database (MIDB), IHO S-57, NATO Additional Military

Layers (AML), and others) to specify an integrated feature data dictionary tailored to the requirements of the US DoD/IC.

## Technical Maturity

The NFDD was initially released in 2005 and has been subsequently enhanced on the basis of evolving information systems technology and standards. Version 1.8 was mandated in the DISR in 2007. Significant enhancements have occurred over the subsequent two years. The NFDD is in active use within NGA and the National System for Geospatial Intelligence (NSG) and its component systems. The NFDD profiles and extends the (DISR-mandated) DGIWG-developed DFDD to address NSG-unique requirements and capabilities. The NFDD specifies the set of well-defined feature types and attributes that establish the geospatial semantic content of both the NSG Entity Catalog (NEC) and NSG Application Schema (NAS) Platform Independent Model, and their mission- and system-specific profiles.

## Public Availability

The NFDD v2.0 specification is published at https://nsgreg.nga.mil/fdd/view?i=80050/.

## Implementability

The NFDD specifies geospatial information concepts used within the NSG community to characterize real-world entities (or objects) and related properties. Technology appropriate for implementing and using these geospatial information concepts is well established. In particular, the NFDD has been used within a net-centric architecture based on Open Geospatial Consortium (OGC) open web services such as the Web Feature Server (WFS - ISO 19142) as well as in relational DBMS (including COTS GIS) environments. It may be employed within widely-used ESRI Shapefiles for geospatial data exchange.

## Authority

The NFDD is managed by the NGA NCGIS and the Geospatial Intelligence Standards Working Group (GWG), using ISO 19135 as a maintenance model to support rapidly evolving DoD/IC requirements. It is in active use within the NSG. The NFDD profiles and extends the DISR-mandated international DGIWG-developed DFDD to address NSG-unique requirements and capabilities. The NFDD specifies the semantic content of the geospatial semantic content of both the NSG Entity Catalog (NEC) and NSG Application Schema (NAS) Platform Independent Model for the NSG, and their mission- and system-specific profiles.

**Standard Type**    Non-Military

**Standard Classification**  Unclassified

**Keywords for Search**  Attribute, Catalog, Chart, DFDD, DGIWG, Data Model, Feature, Geographic, Geospatial, Intelligence, MCG&I, Map, Metadata, NFDD, NSG, NSG FDD