NATO STANDARD

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NATO IMAGERY INTERPRETABILITY RATING SCALE (NIIRS)

Edition A Version 1

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NORTH ATLANTIC TREATY ORGANIZATION

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NATO LETTER OF PROMULGATION

28 September 2018

1. The enclosed Allied Intelligence Publication AIntP-07, Edition A, Version 1, NATO IMAGERY INTERPRETABILITY RATING SCALE (NIIRS), which has been approved by the nations in the Military Committee Joint Standardization Board, is promulgated herewith. The agreement of nations to use this publication is recorded in STANAG 7194.

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Brigadier General, HUNAF
Director, NATO Standardization Office

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RECORD OF RESERVATIONS

CHAPTER	RECORD OF RESERVATION BY NATIONS
Note: The reservations listed on this page include only those that were recorded at time of promulgation and may not be complete. Refer to the NATO Standardization Document Database for the complete list of existing reservations.	

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RECORD OF SPECIFIC RESERVATIONS

[nation]	[detail of reservation]
USA	The GOB table should read: "Identify feedhorn on THIN SKIN B when not operational." The US will remove this reservation when an additional criteria is added to the GOB Table for NIIRS Level 9 for SAR imagery.

Note: The reservations listed on this page include only those that were recorded at time of promulgation and may not be complete. Refer to the NATO Standardization Document Database for the complete list of existing reservations.

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References

ALLIED INTELLIGENCE PUBLICATION FOR NATO IMAGERY INTERPRETABILITY RATING SCALE (NIIRS)

MC 0114	*Procedures for Production of NATO Agreed Intelligence.*
MC 0570	*NATO Strategic Intelligence Vision, Mission and Strategy (2008-2014).*
MC 0582/1	*NATO Joint Intelligence, Surveillance and Reconnaissance (JISR) Concept.*
AAP-15	*NATO Glossary of Abbreviations used in NATO Documents and Publications*
AAP-47	*Allied Joint Doctrine Development*
AEDP-02	*NATO Intelligence Surveillance and Reconnaissance (ISR) Interoperability Architecture (NIIA), Volumes 1-4.*
AEDP-04	*NATO Secondary Imagery Format (NSIF).*
AEDP-09	*Air Reconnaissance Primary Imagery Data Standard.*
AEDP-17	*NATO Standard ISR Library Interfaces and Services.*
AIntP-14	*Allied Intelligence Publication for Joint Intelligence, Surveillance and Reconnaissance Procedures in Support of NATO Operations.*
AJP-01	*Allied Joint Doctrine.*
AJP-2	*Allied Joint Doctrine for Intelligence, Counter-intelligence and Security.*
AJP-2.1 AJP-2.6 AJP-2.7	*Allied Joint Doctrine for Intelligence Procedures.* *Allied Joint Doctrine for Imagery Intelligence (IMINT).* *Allied Joint Doctrine for Joint Intelligence, Surveillance and Reconnaissance.*
AJP-3.17	*Allied Joint Doctrine for Geospatial Support.* *.*
APP-06	*NATO Glossary of Terms and Definitions.*
ATP-47	*Handbook for Air Reconnaissance Tasking and Reporting.*

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Preface

Context

1. Lessons learned from recent NATO operations have continued to demonstrate the importance of imagery and imagery intelligence (IMINT) within NATO`s approach to exploit multiple sources of intelligence in support of operations. This publication serves as the standard to quantify the interpretability or usefulness of imagery.

2. To facilitate and enable interoperability, a quality rating of the imagery collected must adhere to an established standard. Allied Intelligence Publication (AIntP-07) *NATO Imagery Interpretability Rating Scale (NIIRS)* promotes interoperability for the exchange of data between joint intelligence, surveillance and reconnaissance (JISR) collection management activities, imagery exploitation, and imagery capabilities within the IMINT discipline.

Scope

3. AIntP-07 establishes common and consistent criteria for quantifying image quality and utility that is applicable to all imagery sensors. The NIIRS consists of a set of tables and numeric values associated with image quality. The NIIRS defines the levels of image interpretability by the types of tasks an analyst can perform with imagery of a given rating level. Nations must apply and use the NIIRS tables and the assigned values in this publication. NIIRS is used to submit imagery collection request, exploit and analyze the collected imagery, and for the archiving of imagery products. While this NIIRS standard does not apply to motion imagery, imagery analysts can use it to rate single imagery frames derived from motion imagery sensors. However, the ratings are only applicable for the single imagery frames that were rated and are not indicative of the motion imagery data set.

Purpose

4. This doctrine is intended primarily for NATO operational level commanders and staffs. AIntP-07 can also be used as a reference document for intelligence staffs and is applicable at any level of command.

5. All NATO imagery producing Nations and partner nations are required to incorporate this scale into their basic training program for personnel assigned to intelligence posts in direct support of NATO operations.

6. This authoritative standard establishes a high degree of confidence for users accessing imagery products deposited in image libraries and can be used by organizations external to the NATO alliance.

Application

7. The NIIRS provides the authoritative standard by which visual interpretability is measured and allows for the clear articulation of imagery requests and collection requirements between collection managers, mission planners to develop predictive equations, imagery sensor operators and imagery analysts (IAs). This standard is also used by imagery sensor developers to assess sensor design, sensor performance and image quality.

Structure

8. AIntP-07 consists of two chapters supplemented with an annex consisting of six tables.

a. Chapter 1. Describes the NIIRS methodology and introduces the key terminology associated with the NIIRS rating scale.

b. Chapter 2. Describes the primary types of imaging sensors and their operating spectral modalities.

Linkages

9. AIntP-07 is subordinate to Allied Joint Publication (AJP-2.6), *Allied Joint Doctrine for Imagery Intelligence (IMINT),* providing the imagery-rating standard for imagery requests, collection requirements, imagery exploitation, and imagery analysis. Other documents that are linked to AIntP-07 include:

a. *Allied Joint Doctrine for Intelligence Procedures* (AJP-2.1), as it describes framework procedures, interdependencies, and generic considerations to facilitate the delivery of joint intelligence products in support of peacetime and crisis operations.

b. *Allied Joint Doctrine for Joint Intelligence, Surveillance, and Reconnaissance* (AJP-2.7), as it lays out the processes whereby agencies with intelligence collection and/or processing, exploitation and dissemination (PED) capabilities are tasked.

10. The position of AIntP-07 within the Allied joint doctrine architecture and the AJP-2 intelligence doctrine series is shown in Figure 1.1.

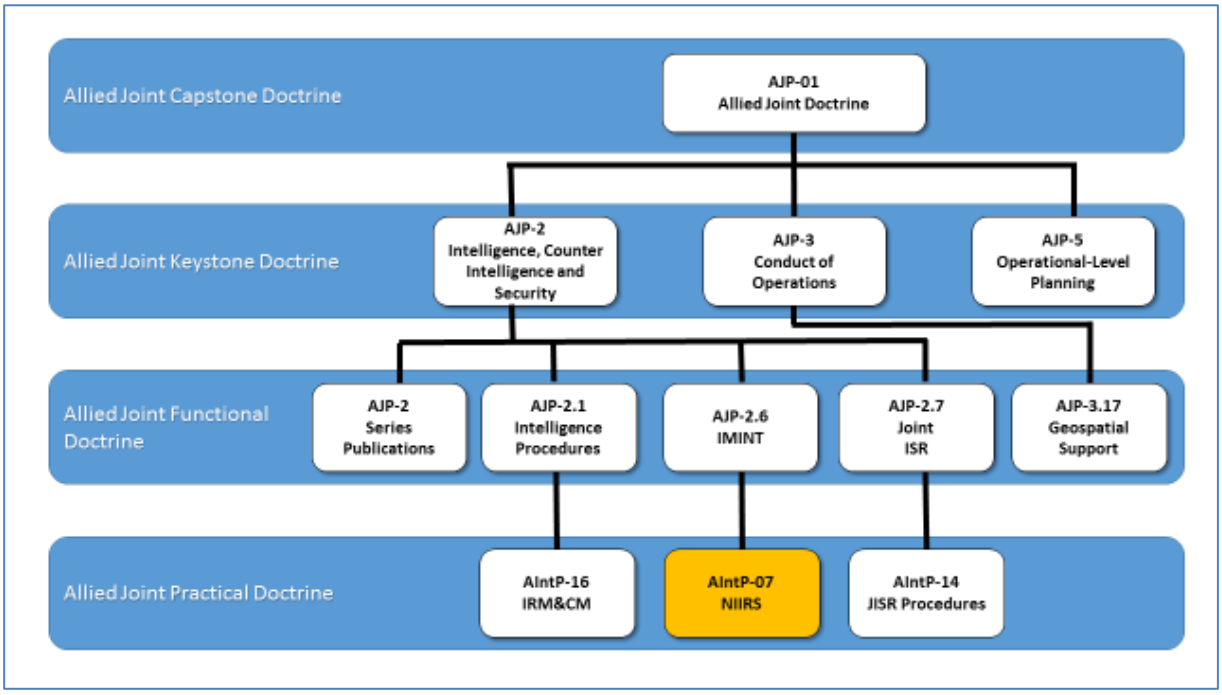

Figure 1.1 - AIntP-07 within the NATO Allied Joint Doctrine Architecture.

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CHAPTER 1 – OVERVIEW

Section 1 - Introduction.

1. The NIIRS is a numeric scale of semantic criteria used to quantify the visual interpretability of imagery acquired from various types of imaging systems. NIIRS defines the different levels of image quality based on the types of tasks an analyst can perform with images of a given rating level. The NIIRS consists of 10 graduated levels, from 0 (poor quality) to 9 (high quality), with several interpretation tasks or criteria for each level.

Section 2 - NIIRS Methodology.

2. The NIIRS consists of sets of descriptive criteria that equate the discernibility of specific objects or details to a specific number value. The assignment of a NIIRS value to an image indicates that a user is able to visually discern at least one object, or an object of similar size and configuration, listed at that assigned NIIRS level and all objects listed for lower NIIRS levels. With a NIIRS 2 panchromatic image, analysts should be able to detect large hangars at an airfield, while with a NIIRS 6 an IA should be able to distinguish specific types of fighter aircraft.

3. The NIIRS is essentially a statement of interpretability policy. Although NIIRS values are often calculated by equations as a means of quantifying the predicted or measured visual interpretability of an image, the NIIRS level is a subjective judgement and not a calculated value.

4. The NIIRS value of a product varies depending on the design and specifications of the sensor, atmospheric conditions, object illumination and a host of other factors. While it is possible to equate a specific ground sample distance (GSD)[1] to a specific NIIRS value, this method of calculating a NIIRS value should only be used to provide an estimated value. The only reliable measure of NIIRS is achieved by the visual examination of products by experienced users.

Section 3 - NIIRS Considerations.

5. The NIIRS criteria link visual interpretability to the discernibility of specific, natural features and man-made structures and equipment. These criteria are limited in number and are representative of features commonly present in imagery that can be used to determine the NIIRS of an image. As the equipment listed in the criteria is

[1] The GSD is the specific measurements between two objects required for a sensor to distinguish two independent objects. Measurements are limited to visible and infrared collection systems. The lower the distance, the higher the image resolution. An image with a one-meter GSD will have adjacent pixels image locations 1 meter apart on the ground. Interpretability changes equivalent to a doubling or halving of the GSD will result in a decrement or increment of 1.0 NIIRS respectively.

upgraded and replaced over time, the NIIRS may become outdated and require an updated version.

6. Recent increases in the number and variety of sensors available has led to a broadening of the traditional definition of the term *interpretability* to extend beyond simply visual interpretability. The relative quality of a product is based on geometric[2], signal[3] and temporal[4] criteria. Interpretability embodies these quality-based criteria that affect the visual interpretation and utility of a product. The NIIRS standard described in this document is primarily focused on visual interpretability and does not address these other aspects of sensor performance and interpretability.

7. The NIIRS standard ensures that no disparities exist between various NIIRS criteria used by the IMINT and geospatial community, so that products from different sensors with approximately the same spatial resolution have the same NIIRS rating. The development of visible electro-optical sensors should conform to a common set of NIIRS and relevant GSD parameters.

8. In order to maintain the metric reliability and consistency of the GSD, it is mandatory for the Nations to test and validate their imaging sensor capabilities against this rating scale.

Section 4 - Terminology.

9. The terms and definitions used in this publication align with Allied Administrative Publication (AAP-06), *NATO Glossary of Terms and Definitions,* wherever possible. The following terms and definitions are applicable to this publication:

a. **Band.** A discrete portion of the electro-optical spectrum sampled by an imaging sensor.

b. **Detect.** The capability to find or discover the presence or existence of an installation, object, activity, or item of intelligence interest based on its general shape (configuration) and on other contextual information in the scene. Some level of identification is implied in detection, so that the relatively gross feature or item detected can be properly named or classified.

c. **Determine.** The capability to conclusively decide or ascertain specific intelligence items of interest through observation and reasoning, conclude what the objects are, and establish an object's detailed characteristics and functions.

[2] Geometric criteria are those associated with the system and product geometries. Imaging system geometric criteria include ground geolocation accuracy, ground sampling distance, and elevation (height).
[3] Signal criteria are those associated with the intensity or signal level in imagery and geospatial products to include radiance accuracy, spectral sensitivity, signal uniformity, sharpness, and noise.
[4] Temporal criteria are those associated with temporal knowledge of the sensor and scenes to include absolute and relative time accuracies and temporal resolution. Frame and scan rates, band synchronization, dwell time, and revisit rates are examples of temporal parameters.

d. **Discern.** This term is synonymous with the definition of distinguish and used interchangeably in the NIIRS criteria.

e. **Distinguish.** The capability to determine that two detected objects are of different types or classes based on one or more distinguishable features.

f. **Electro-optical sensor.** Electro-optical sensors are electronic detectors that convert light, or a change in light, into an electronic signal. An optical sensor converts light rays into electronic signals. It measures the physical quantity of light and then translates it into a form that is readable by an instrument.

g. **Identify.** The capability to name an object by type or class based primarily on its configuration and detailed components. As used in NIIRS, identification is based on observation of actual physical detail and not information from other sources.

h. **Interpretability.** The suitability of imagery for interpretation with respect to answering adequately requirements on a given type of target in terms of quality and scale.

i. **Radar imaging sensors.** Radar imaging sensors measure the distance, or range, to an object by transmitting an electromagnetic signal to and receiving an echo reflected from the object. Radars imaging sensors can operate during day or night under most weather conditions.

j. **Reliability.** The capability to call out the specific intelligence item with a high level of repeatability and certainty.

k. **Resolution.** A measurement of the smallest detail which can be distinguished by a sensor system under specific conditions. For the purpose of this document, resolution refers to the ability to distinguish separation between objects in an image and is expressed in meters or sub-meters, depending on the system and collection.

Section 5 - Terminology Delineating Between NIIRS Levels.

1. To assign a NIIRS value to a given object captured on an image, the IA uses four terms (detect, distinguish, identify, and determine) to delineate between the NIIRS levels. The initial step for the IA is to detect the presence of an object. Once an IA finds an object of interest, the IA may then be able to make a distinction between similar objects found on the image. With greater resolution associated with the image, the IA can make a positive identification of an object based on its configuration and detailed components. As the image resolution increases, the IA can make a determination on specific intelligence items of interest; conclude what the object is; and establish an object's detailed characteristics and functions.

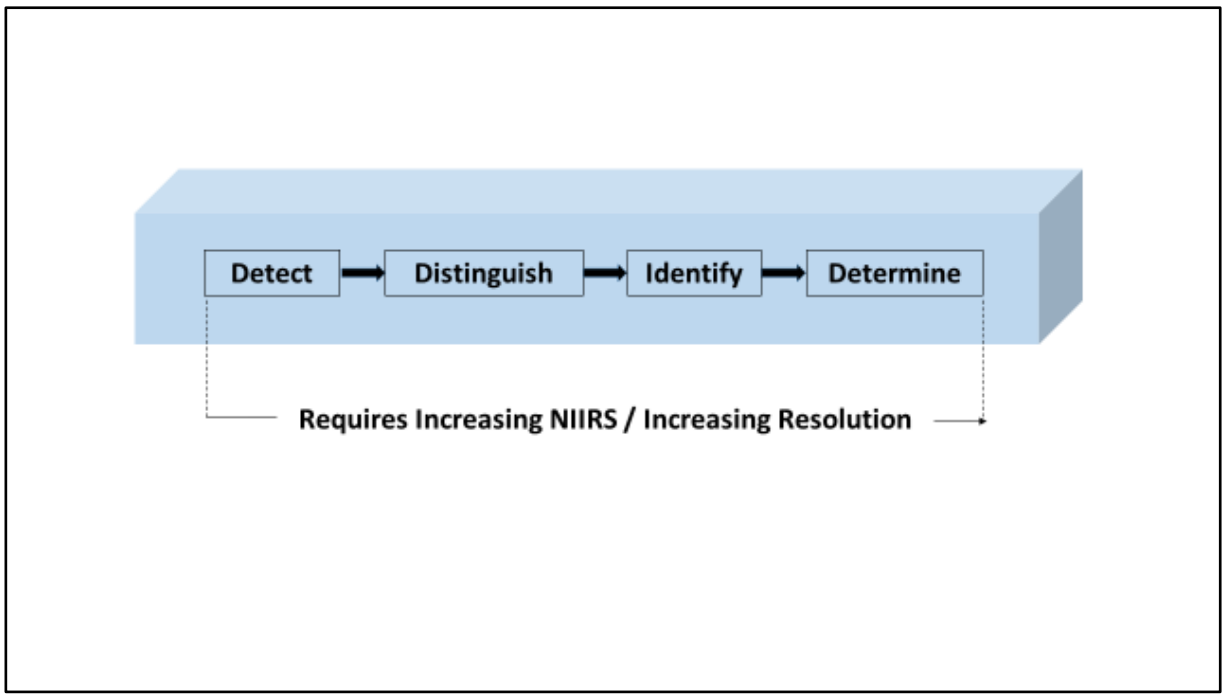

Figure 1.2 - Terminology Delineating between NIIRS Levels

As depicted in Figure 1.2, the IA applies the appropriate term depending on image quality to delineate between the NIIRS levels.

CHAPTER 2 – NATO IMAGERY INTERPRETABILITY RATING SCALE

Section 1 – Introduction.

1. All imagery is produced by capturing energy from the electromagnetic spectrum. This publication is specifically focused on imagery produced by captured energy from within specific parts of electromagnetic spectrum such as visual light, near infrared, thermal infrared and radar bands.

a. **Electro-optical (EO) imagery**. EO imagery refers to the collection of electromagnetic energy from the visual, near infrared and/or thermal infrared parts of the electromagnetic spectrum. EO sensors are passive, only collecting electromagnetic energy emitted by or reflected off the object itself.

- **Visual imagery**. Imagery from EO sensors that capture the visible parts of the electromagnetic spectrum will either be in grayscale or colour. Colour imagery adds a dimension to the analysis, and is more easily interpreted since the images resemble what the human eye sees. As with the human eye, EO imagery can be degraded or obscured by dust, smoke, haze, cloud, rain, fog, sun-reflection, light level, and angle of illumination.
- **Infrared imagery**. Near infrared imagery captures reflected energy in the infrared waveband of the electromagnetic spectrum. Infrared sensors are excellent for collection at night and periods of very low illumination.
- **Thermal infrared imagery**. Thermal infrared imagery captures an object's radiant temperatures. Thermal infrared is used to measure the temperature differences between terrain features and surrounding objects on the ground, producing a near-optical quality image. Thermal imagery complements visual imagery by day, and are commonly used together to locate and identify objects not readily noticeable in either the EO or thermal alone. Based on the shape of the shadow or scar, it may be possible to identify the object.

b. **Radar imagery.** Radar is an active collection system that, depending on the power and frequency of the transmitter, can penetrate virtually all atmospheric conditions. Radar imagery is generally limited only by the capability of the platforms and sensors conducting the collection mission. Radar operates on the principle that all materials reflect a portion of the electromagnetic radiation directed at the object(s) and that the distance from the antenna to the object can be measured based on the time it takes for the signal to travel to the object and back to the sensor (this return energy is called backscatter). The intensities of the signal returns are captured and recorded as digital counts that are displayed as gray tones. The greater the signal return, the higher the count, then the brighter the pixel display. For example, a stagnant lake exhibits a very smooth surface reflecting most of the energy forward away from the sensor resulting in

no-return (or almost no-return) backscatter energy; hence, the lake is a very dark black in the image.

- **Synthetic aperture radar (SAR) imagery.** SAR is a radar imaging system generated by coherently integrating (adding) the many received radar backscatter returns sequentially collected from the target of interest as the platform/sensor traverses a distance from the start of, to the end of, the imaging sequence. The collected data is next processed as if it came from a single very large antenna, hundreds of meters long for airborne or many kilometers long for a satellite. The term synthetic aperture comes from this method of simulating a very long single antenna (aperture). The long synthetic aperture is needed to obtain sufficient image spatial resolution in the azimuthal direction (direction of flight). Range resolution is accomplished by increasing the bandwidth of the transmitted wave forms/pulses. Applying first-order estimates, SAR wavelengths are 10,000 X longer than EO visible wavelengths; therefore, a 10,000 X longer SAR aperture is required to obtain the same resolution as an EO visible (i.e. 1-meter EO telescope and 10 kilometer synthetic aperture). Operating obliquely at high altitude, synthetic aperture radar can provide extensive area coverage and excellent standoff ranges.

Section 2 – NIIRS and the Electromagnetic Spectrum.

2. Imagery consists of energy that is reflected (EO reflective) by an object or energy that is absorbed and emitted by an object (EO emissive). EO reflective is usually associated with daytime and EO emissive is usually associated with nighttime coverage. The NIIRS standard consists of EO reflective, EO emissive and radar imagery rating criteria across the electromagnetic spectrum.

a. Within the electromagnetic spectrum, EO reflective imagery includes: panchromatic imagery[5]; multispectral imagery[6]; hyperspectral imagery[7]; day-time near-wavelength infrared (NIR) imagery; day-time short-wavelength infrared (SWIR) imagery, and day-time mid-wavelength infrared (MWIR) imagery.

[5] Panchromatic imagery is black and white, displayed as a grey scale image, and generally has a higher resolution than infrared. It is acquired with a sensor that is sensitive to all or most of the visible spectrum. Panchromatic imagery is collected by sampling a broad range of the visible and near infrared EO spectrum in a single band.
[6] Spectral imagery is collected by a series of sensors sensitive to specific wavelengths, usually grouped in bands. By adding or subtracting the different bands, colour imagery may be generated. Multispectral imagery has a set of two to ten bands.
[7] For each pixel in an image, a hyperspectral camera acquires the light intensity (radiance) for a large number (typically a few tens to several hundred) of contiguous spectral bands. Every pixel in the image thus contains a continuous spectrum (in radiance or reflectance) and can be used to characterize the objects in the scene with great precision and detail.

b. EO emissive imagery refers to the self-emitted illumination (spatial and thermal signature) of an object and includes nighttime MWIR imagery and nighttime long-wavelength infrared (LWIR)[8] imagery.

c. The following diagram illustrates the two primary imaging sensor types (EO reflective and EO emissive), the various spectral operating modalities[9], and radar imagery bands.

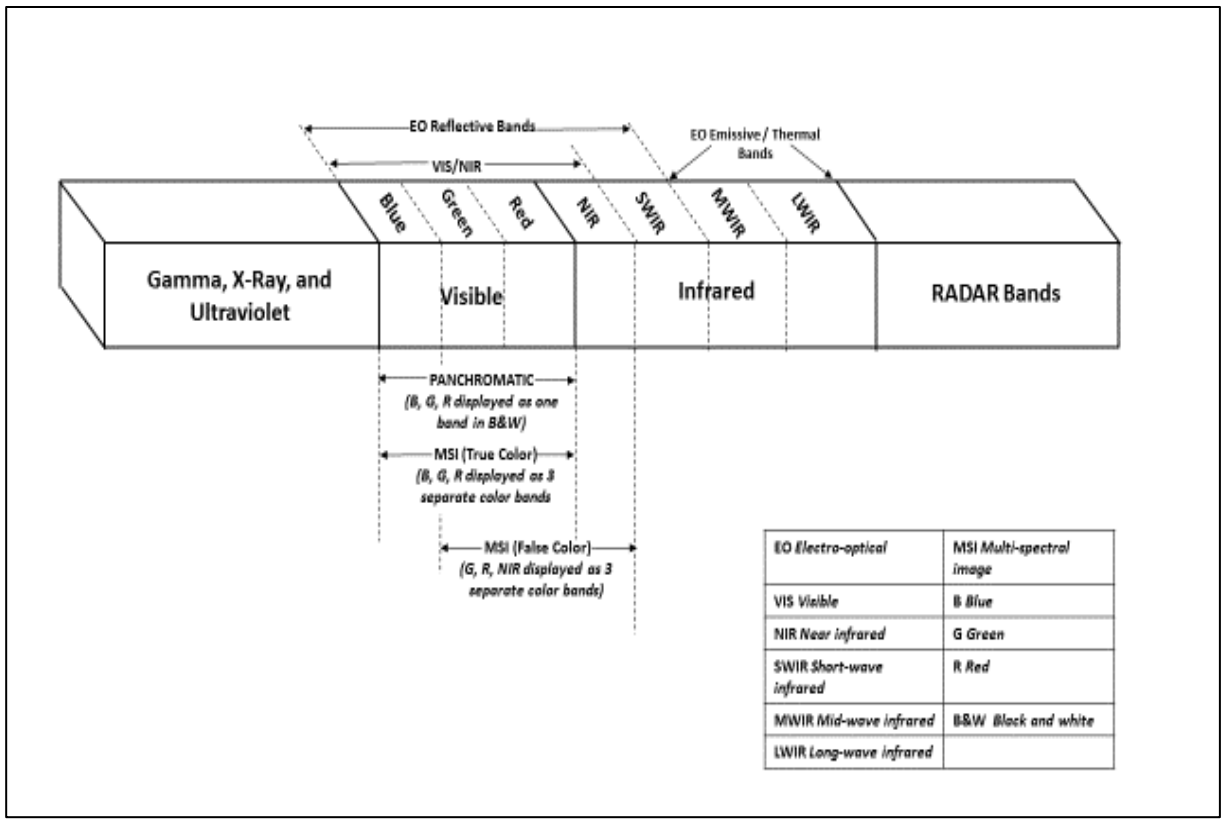

Figure 2.1 – NIIRS Relevant Electromagnetic Spectrum.

[8] LWIR refers to the thermal imaging region in which sensors can obtain a completely passive image based on thermal emissions only, requiring no external light or thermal source, such as the Sun, Moon, or infrared illuminator.
[9] There is overlap between EO reflective and emissive imagery bands near the end of the SWIR band and near the beginning of the MWIR boundary.

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Annex A - NIIRS Tables

Section 1 - Introduction

A.1. AIntP-07 consists of a set of tables for orders of battle including air, cultural, ground, naval, missile, and electronic. Each table consists of four columns and ten rows. The first column corresponds to the NIIRS rating level. For each row under the NIIRS rating level column there is a corresponding numeric value. The three additional columns are the primary imaging sensor types: EO reflective, EO emissive, and SAR. Depending on the type of imaging sensor, a criterion with detailed descriptions is provided to determine and assign the appropriate NIIRS rating.

A.2. Where a criterion is not specified for a particular order of battle and level for a given scale, one may use a related order of battle to determine the NIIRS level. This is accomplished by an IA's judgment of the interpretability of the objects in the scene, as well as their spatial resolution relative to the related OB. The following are examples of where SAR OB criteria and EO emissive OB criteria are interchangeable:

- The SAR GOB, COB, MOB, and EOB criteria are interchangeable. The image quality equation that links the criteria to tasking/NIIRS (drives collection) are the same for these four orders of battle.

- The EO emissive GOB, COB, MOB, and EOB criteria are interchangeable. The image quality equation that link the criteria to tasking/NIIRS (drives collection) are the same for these four orders of battle.

Section 2 – Guidance on the NIIRS Rating Methodology.

A.3. The NIIRS tables contain specific criteria for various types of EO imaging sensors and SAR sensors to allow a numeric rating value from 0-9 to be applied to the image. In general, ratings that are applied to an image are based on the average of individual assessments from various locations in the image. In particular, if an image has significant variation in resolution, dynamic range, or noise level, average values should be determined carefully to ensure an accurate representation of the overall image. In addition, if a characteristic is clearly visible at one level, but the next level is not achievable, an intermediate rating, based on the IA's judgment, using a single decimal value between the numeric rating values can be applied (e.g. NIIRS 7.5).

A.4. The following examples illustrate the NIIRS method:

- Example 1: Image satisfies all of a NIIRS 5 criteria and at least one of the NIIRS 6 criteria. Image should be rated a NIIRS 6.

- Example 2: Image satisfies most, but not all, of a NIIRS 5 criteria and at least one of the NIIRS 6 criteria. Image should be rated a NIIRS 5.

Table 1: Air Order of Battle (AOB)[10]

AIR ORDER OF BATTLE			
NIIRS Level	**EO Reflective Imagery**	**EO Emissive Imagery**	**SAR Imagery**
0	Interpretability of the imagery is precluded by obscuration, degradation, or low resolution.	Interpretability of the imagery is precluded by obscuration, degradation, or low resolution.	Interpretability of the imagery is precluded by obscuration, degradation, or low resolution.
1	Interpretability of the imagery is precluded by low resolution.	Detect large aircraft. Detect individual large buildings (e.g., hospitals, factories) in an urban area.	Determine azimuth of main runway at a large airfield.
2	Distinguish between taxiways and runways at medium to large airfields. Identify individual revetments / hardened aircraft bunkers. Detect the presence of large airfields by the configuration of the facility (e.g. POL storage, major support facilities, runways).	Detect small aircraft. Identify wing configuration on large aircraft. Detect large helicopters.	Detect parallel taxiways.
3	Identify the wing configuration (e.g. straight, swept, delta) of all large aircraft (e.g. 707, 747; BEAR, BLACK JACK). Detect the presence of small fighter aircraft.	Consistently identify wing-mounted jet engines on large aircraft. Identify runway landing hash marks at far end(s) of the primary runway. Determine tail configuration of large aircraft.	Identify the basic functional areas of an airfield or air base (e.g., hangars, weapons or POL storage, passenger terminals).

[10] Object names, abbreviations, and acronyms included in these tables are representative examples for imagery analysts (IA's), but not all are represented and included in the lexicon's abbreviation and acronym list.

AIR ORDER OF BATTLE			
NIIRS Level	**EO Reflective Imagery**	**EO Emissive Imagery**	**SAR Imagery**
3 *(Cont.)*	Detect weapons storage areas by their physical security and configuration (e.g. 5-10 or more buildings / bunkers).	Identify runway landing hash marks at the far end(s) of the primary runway.	
	Identify a control tower at an airfield.		
	Detect radar sites (e.g. GCI, GCA, ILS) at an airfield.		
4	Identify a BADGER, BACKFIRE, or CANBERRA by its overall configuration.	Distinguish between small fighter and small commercial aircraft by the wing configuration.	Detect large fighter aircraft (e.g., FENCER, F-15, and TORNADO) on a known parking apron.
		Detect individual rotor blades on medium to large helicopters.	Identify the wing configuration (e.g. straight, swept, delta) of large aircraft (e.g., BEAR, B-1, CHARGER).
		Determine specific model of large aircraft.	
5	Identify the propellers on transport aircraft (e.g. RS, COOT, COKE, CURL; CA - DASH 7, BUFFALO; INT - F-27).	Detect cockpit windows on large aircraft.	Distinguish between large bomber and cargo aircraft (e.g., BEAR vs. CANDID).
	Identify small fighter aircraft by type (e.g. RS - FLOGGER, FISHBED, US - F-16; INT - TORNADO, JAGUAR; FR - SUPER ENTENDARD, MIRAGE).	Detect individual rotor blades on small helicopters.	Detect small helicopters (e.g., HOPLITE, IROQUOIS, and ALOUETTE).
	Identify medium helicopters (e.g. HIP, HIND; BLACKHAWK, SUPER FRELON, PUMA).	Detect tail configuration of medium helicopters.	

AIR ORDER OF BATTLE			
NIIRS Level	**EO Reflective Imagery**	**EO Emissive Imagery**	**SAR Imagery**
6	Detect the presence of missiles uploaded on medium or large fighter aircraft.	Identify small aircraft by specific variant of a given model.	Identify large helicopters by type (e.g., HALO, HOOK, SUPER FRELON, and SEA STALLION).
		Detect propellers on medium-sized aircraft.	Identify wing configuration of small fighter aircraft as swept, delta, or straight (e.g., ALPHA JET, MIRAGE 2000, and FROGFOOT).
	Distinguish between FITTER-A and other FITTER models by the number of wing fences.	Detect wing fences on large aircraft.	
	Identify individual approach lights at the end of a runway.		
7	Detect canard on missiles carried on fighter aircraft.	Identify adjustable exhaust components on a jet afterburner.	Identify medium helicopters by type (e.g., HIP, HIND, PUMA).
	Distinguish between farings, bulges, and antennas on fighter-sized aircraft.		Identify fighter aircraft by type (e.g., FENCER, TORNADO, KFIR, MIRAGE).
	Identify the individual steps on a mobile passenger stairway.		
	Detect canopy seam on small fighter aircraft. (e.g. RS - FLOGGER, FISHBED, US - F-16; INT - TORNADO, JAGUAR; FR - SUPER ENTENDARD, MIRAGE).		
	Identify all structural lines to include butt joints, lap joints, rivet lines, and weld seams on a large commercial or military transport. (e.g. BOEING -747, CONDOR, C-5, AIRBUS-340).		

AIR ORDER OF BATTLE			
NIIRS Level	**EO Reflective Imagery**	**EO Emissive Imagery**	**SAR Imagery**
8	Identify separate rungs on cockpit ladders.	Identify access panels on fighter aircraft.	Identify small helicopters by type (e.g., HOPLITE, IROQUOIS, ALOUETTE).
	Detect elements internal to the cockpit (e.g. seat, other cockpit components).		
9	Criteria are not available.	Criteria are not available.	Distinguish between antenna configurations on aircraft models (e.g., CURL-A vs. CURL-B, HIP vs. HIP-C).
			Distinguish between models of fighter aircraft (e.g., FLANKER-BC, F-15 AE).

Table 2: Cultural Order of Battle (COB)

CULTURAL ORDER OF BATTLE			
NIIRS Level	**EO Reflective Imagery**	**EO Emissive Imagery**	**SAR Imagery**
0	Interpretability of the imagery is precluded by obscuration, degradation, or very poor resolution.	Interpretability of the imagery is precluded by obscuration, degradation, or very poor resolution.	Interpretability of the imagery is precluded by obscuration, degradation, or very poor resolution.
1	Identify a small cluster of houses in a rural area by overall pattern.	Detect individual large buildings (e.g., hospitals, factories) in an urban area.	Detect lines of transportation, either road or rail, but do not distinguish between.
2	Identify individual 2 or 3 story buildings.	Detect lines of rolling stock on rail lines. Identify highway overpasses.	Distinguish between forested areas and agricultural fields.
3	Detect trains or strings of standard rolling stock on railroad tracks (not individual cars).	Identify individual railcars.	Detect multiple wings of large buildings.
	Detect large vehicles (e.g. trucks/buses) on highways.	Identify single-family dwelling.	
	Detect rows of vehicles parked in a parking area.		
4	Distinguish between rail tank cars, box cars and gondola cars.	Identify electrical power support catenaries (support structure over tracks) on an electric railway.	Detect smokestacks in industrial facilities.
	Distinguish between large trucks and buses.	Identify a tractor trailer by the separation of the cab.	
		Reliably identify a catwalk on the top of large POL tanks.	
5	Reliably identify the front windshield on a light colored automobile.	Detect individual passenger vehicles outside of parking lots.	Distinguish between a large vertical mast antenna and a large power transmission tower.
	Detect civilian SAT COM dish	Reliably identify street lights (not in parking lots).	

CULTURAL ORDER OF BATTLE			
NIIRS Level	**EO Reflective Imagery**	**EO Emissive Imagery**	**SAR Imagery**
5 *(Cont.)*	(approximately 1.62 m) on a roof top.	See criteria above.	See criteria above.
	Identify trucks as cab-over-engine or engine-in-front.	Identify HVAC systems on rooftops.	
	Detect (but not necessarily distinguish) cattle, camels, horses and/or similar sized animals in open areas.	Detect windows/skylights on residential buildings.	
6	Reliably detect a sunroof on a light colored automobile.	Discern cars from pickup trucks.	Detect cargo on a railroad flatcar.
	Detect people on sidewalks or market areas (includes the shadows cast by people).	Identify passenger vehicle tire.	
	Detect individual oil drums / 55 gallon barrels.	Detect rectangular engine exhaust vent on an armored vehicle.	
7	Determine the presence of a luggage rack on the roof of a light colored vehicle.	Identify limbs (e.g., arms, legs) on an individual.	Detect the break between cab and trailer on a tractor-trailer truck.
	Determine the direction a railroad switch is set based upon rail position.		
8	Reliably identify the arms and legs on an individual.	Identify cargo (e.g., shovels, rakes, ladders) in an open-bed, light duty truck.	Detect individual rail ties.
	Reliably distinguish between a person on a motorcycle and a person on a motor scooter.		
	Identify the ribbing in the bed of a pick-up truck.		

CULTURAL ORDER OF BATTLE			
NIIRS Level	**EO Reflective Imagery**	**EO Emissive Imagery**	**SAR Imagery**
9	Distinguish hands / feet from limbs.	Criteria are not available.	Criteria are not available.
	Identify farm or construction tools by general shape (e.g. shovel, pitchfork, pick, ax, sledgehammer).	Criteria are not available.	Criteria are not available.

Table 3: Ground Order of Battle (GOB)

GROUND ORDER OF BATTLE			
NIIRS Level	**EO Reflective Imagery**	**EO Emissive Imagery**	**SAR Imagery**
0	Interpretability of the imagery is precluded by obscuration, degradation, or low resolution.	Interpretability of the imagery is precluded by obscuration, degradation, or low resolution.	Interpretability of the imagery is precluded by obscuration, degradation, or low resolution.
1	Identify a small cluster of houses in a rural area by overall pattern.	Detect individual large buildings (e.g., hospitals, factories) in an urban area.	Detect lines of transportation, either road or rail, but do not distinguish between.
		Determine location of smokestack when engine is in operation.	
2	Identify individual 2 or 3 story buildings.	Detect lines of rolling stock on rail lines.	Distinguish between forested areas and agricultural fields.
			Detect very large defensive berm (e.g., Iraqi defense during DESERT SHIELD/STORM).
			Detect known ICBM facility.
3	Identify the areas of a ground forces installation (e.g. living areas, athletic fields, motor pools, parade grounds, obstacle course).	Identify individual railcars.	Identify a barracks area based on pattern of buildings.
	Identify radar / guidance areas of a SAM site based on configuration.		Detect known KRUG site.
	Detect mobile ICBM or IRBM base by patterns of buildings and roads.		Detect rail transfer point (RTP) at missile facility.
	Detect a SAM support facility for SA-2 / CSA-1 missiles on the		

GROUND ORDER OF BATTLE			
NIIRS Level	**EO Reflective Imagery**	**EO Emissive Imagery**	**SAR Imagery**
3 *(Cont.)*	basis of its configuration.	See criteria above.	See criteria above.
	Identify a major missile test range (e.g. Tyuratam) by the presence of roads with wide radius curves, railroad loading docks, and the presence of heavy equipment like missile gantries.		
	Detect a launch complex at a known missile test range.		
	Identify a SA-IO A/B launch site based on site configuration.		
	Identify radar and guidance areas at a SAM site by the site configuration, mounds, and presence of numerous concrete aprons.		
4	Identify revetted bunkers at a ground forces facility.	Identify a tractor trailer by the separation of the cab.	Detect large vertical lattice mast antenna.
	Identify an AA gun site.		Detect a convoy or preparations for deployment at a motor pool.
	Detect a small convoy of civilian vehicles (cars, pick-ups, SUVs)		Detect coastal defense artillery battery based on location and dispersal pattern.

GROUND ORDER OF BATTLE			
NIIRS Level	**EO Reflective Imagery**	**EO Emissive Imagery**	**SAR Imagery**
4 *(Cont.)*	Identify the presence of a SAT COM Site (ORBITA) by the presence of large sat com dishes (10.0 m or greater).	See criteria above.	See criteria above.
	Distinguish between an occupied and an unoccupied fixed SAM site.		
	Detect a security fence erected around a missile launch site, Transporter.		
	Detect field deployed SAM unit on the basis of equipment types present (e.g. launcher, missile, transloader).		
	Detect individual single bay garages at SS-25 / 27 bases.		
5	Identify by general type, tracked vehicles, when in groups.	Identify HVAC systems on rooftops	Detect a battery of towed artillery (not revetted) based on deployment pattern.
	Detect the gun tube on large field artillery guns.	Detect individual passenger vehicles outside of parking lots.	Detect a LOW BLOW radar at a fixed SA-3 site based on position.
	Identify the individual posts in a Rhombic or Quadrant array.		
	Distinguish between TALL KING A, B, C, D, radar.		
	Detect a building mounted VHF communication antenna.		
	Detect an erected missile on a SRBM / MRBM TEL.		

GROUND ORDER OF BATTLE			
NIIRS Level	**EO Reflective Imagery**	**EO Emissive Imagery**	**SAR Imagery**
5 *(Cont.)*	Identify propellant/warhead oxygen (26-meter), hydrogen (44-meter), fuel and oxidizer containers/canisters /tanks.	See criteria above.	See criteria above.
	Distinguish between mobile missile TELS and Missile Support Vans (MSs) in a known support base.		
	Identify missile transporter vehicles with prime movers.		
6	Identify the shape of a tank turret as round, elliptical or angular.	Detect rectangular engine exhaust vent on an armored vehicle.	Detect deployed mast mounted TWIN EAR B antenna.
	Distinguish between an ODD PAIR and an ODD GROUP by the antenna placement on the van.		Identify a single vehicle as a large truck (e.g., KRAZ255, M939).
	Detect the leveling / transport equipment on a TINSHIELD radar.		Distinguish between wheeled and tracked vehicles in garrison based on vehicle size and dimension.
	Identify the leveling / transport equipment on a BARLOCK or BACKTRAP Radar.		Detect a warhead van at a known rail transfer point (RTP).
	Distinguish between a SPOON REST C/D by the number of elements.		

GROUND ORDER OF BATTLE			
NIIRS Level	**EO Reflective Imagery**	**EO Emissive Imagery**	**SAR Imagery**
6 *(Cont.)*	Identify individual SA-3, missiles on launchers. Identify an SA-2 / CSA-1 transporter by overall configuration and details of chassis construction.	See criteria above.	See criteria above.
	Distinguish between SA-6 TEL and its associated STRAIGHT FLUSH.		
	Distinguish between SA-6 TEL and its associated STRAIGHT FLUSH radar when in travel mode.		
	Identify mobile tracked/wheeled SAM equipment by model (e.g. UR - SA-6, SA-13, SA-9, SA-8; US - CHAPARRAL; FR - CROTALE; INT - ROLAND).		
	Identify an SA-2 or CSA-1 missile by the presence and relative positions of wings and control fins.		
7	Identify gun barrels on 2S6.	Identify limbs (e.g., arms, legs) on an individual.	Distinguish between electronic van trailers (without tractor) and van trucks in garrison.
	Distinguish between tracks made by wheeled and tracked vehicles.		Distinguish between THIN SKIN A (trailer mounted) and THIN SKIN B (truck mounted).

GROUND ORDER OF BATTLE			
NIIRS Level	**EO Reflective Imagery**	**EO Emissive Imagery**	**SAR Imagery**
7 *(Cont.)*	Identify a ZSU-23/4 self-propelled anti-aircraft gun (SPAAG) by the GUN DISH radar.	See criteria above.	Determine general function of engineering equipment when in garrison (e.g., bridge sections, boats, earthmovers and mine laying/ clearing).
	Identify the data link antenna on a BILL BOARD EW radar.		Distinguish between a turreted, tracked APC and a medium tank by size and configuration. (e.g., BMP 1/2 vs. T-72).
	Identify the feed structure of the target acquisition radar (TAR) on the 2S6 when deployed.		Distinguish between C802 SACCADE missile launcher and radar vehicle when in garrison.
	Distinguish between the individual FEED HORNS on a SQUARE PAIR radar. Identify whip antennas on BBVs and trailers. Detect individual elements of a YAGI array on a mobile electronics van. Identify exhaust nozzle on an SA-5 solid fuel booster. Detect support bands on a SA-12 (types A and B) canister.		Determine if an SA-3 missile launcher is loaded or empty.
	Identify the hinge line on the control surface of sustainer fins of an SA-3.		
	Identify a MOD III or IV SA-2 missile by sustainer fin tip chord variations.		

GROUND ORDER OF BATTLE			
NIIRS Level	**EO Reflective Imagery**	**EO Emissive Imagery**	**SAR Imagery**
8	Detect a stack of military small arms (e.g. rifles, shoulder-fired weapons, etc.).	Criteria are not available.	Detect the vertical ribs on the sail of a LONG TRACK radar.
	Identify type of muzzle brake on towed field guns as multiple baffles.		Distinguish between PMP center sections and ramp sections when mounted on KRAZ 255 truck.
	Identify individual grates in engine vents on tanks and APC.		Distinguish between 2S6 and ZSU-23/4 SPAA guns by overall configuration.
	Identify the muzzle brake perforations on a D-30 howitzer.		Distinguish between CSSC2 SILKWORM and CSSC3 SEERSUCKER missiles.
	Identify FEED HORN on small (1.7 m or smaller) dish antenna.		
	Identify framework on rear sides of CLAM SHELL parabolic dish.		
	Detect a person carrying military small arms (e.g. rifle, RPG).		
	Identify joints and welds on a TEL or TELAR.		
	Identify seams, welds, joints, and construction lines on a NO-DONG class MRBM.		
	Identify screws and bolts on missile component.		

GROUND ORDER OF BATTLE			
NIIRS Level	**EO Reflective Imagery**	**EO Emissive Imagery**	**SAR Imagery**
9	Identify the type of clothing on an individual (e.g., civilian attire or military uniform).	Criteria are not available.	Identify feedhorn on THIN SKIN B when not operational.
	Identify a shoulder fired WPN (e.g. RPG / SA-7/14; REDEYE, STINGER).		Detect both gun tubes on 2S6 SP AAA gun.
	Detect whether an individual is wearing external body armor.		Detect exhaust nozzle on solid fuel booster packs on SA-5 missile.
	Read tactical vehicle markings.		
	Distinguish between types of military small arms being carried by an individual (e.g. rifle or RPG).		

Table 4: Naval Order of Battle (NOB)

NAVAL ORDER OF BATTLE			
NIIRS Level	**EO Reflective Imagery**	**EO Emissive Imagery**	**SAR Imagery**
0	Interpretability of the imagery is precluded by obscuration, degradation, or low resolution.	Interpretability of the imagery is precluded by obscuration, degradation, or low resolution.	Interpretability of the imagery is precluded by obscuration, degradation, or low resolution.
1	Criteria are not available.	Distinguish between naval and commercial port facilities based on type and configuration of large functional areas.	Detect a large vessel in open water.
		Determine location of smokestack when engine is in operation.	
2	Detect the presence of a large ocean-going vessel in open water.	Identify a large fixed dry dock at a port facility.	Detect large freighters or tankers at a known civilian port facility.
	Detect a large shallow-water marina.	Identify individual cargo bays on large freighter.	
	Detect a mid-size port facility.	Determine if the aft of a ship is rounded or square.	
3	Detect small boats (e.g. fishing vessels, small combatants, patrol boats).	Reliably identify the presence of a large submarine.	Distinguish between ships and floating dry docks.
	Distinguish between naval and civilian port facilities by type and configuration of large functional areas.	Detect shipping containers on a large freighter.	
	Identify a dry dock at a known port facility.	Determine status of floating dry dock as occupied or unoccupied.	

NAVAL ORDER OF BATTLE			
NIIRS Level	**EO Reflective Imagery**	**EO Emissive Imagery**	**SAR Imagery**
3 *(Cont.)*	Identify a large surface ship in port by type (e.g. auxiliary ship, combatant, non-combatant / merchant).	Detect the superstructure on naval ships.	See criteria above
	Identify aircraft carriers by the size of the ship and the shape of the deck.		
4	Identify a Russian ship as either a cruiser or a destroyer by its relative size and hull shape. Identify a TYPHOON in port or at anchorage.	Clearly distinguish individual shipping containers.	Identify square bow shape of ROPUCHA LST.
	Determine if ship holds are open or closed.	Count the number of cranes on a multi-hold cargo ship.	Detect SS/SSN at known port facility (e.g., KILO, TYPE 209, VICTOR III).
	Detect aircraft on an aircraft carrier.		Detect coastal defense artillery battery based on location and dispersal pattern.
	Distinguish between a freighter and a tanker on the basis of equipment on deck.		Distinguish between DON AS and SMOLNYY AX class ship based on super-structure configuration.
	Identify cranes at a port by type (e.g. JIB, GANTRY, SHEAR LEG).		
5	Distinguish between SSBN's and other classes of submarines (e.g. SSN, SSGN).	Identify the orientation of closed hatch doors on a large cargo vessel.	Distinguish between SS/SSN and SSBN.

NAVAL ORDER OF BATTLE			
NIIRS Level	**EO Reflective Imagery**	**EO Emissive Imagery**	**SAR Imagery**
5 *(Cont.)*	Identify a KASHIN-CLASS by the twin pair of square smoke stacks.	Consistently determine location of smokestack when engine is not active on a large vessel.	Distinguish between DON AS and SMOLNYY AX based on superstructure configuration.
	Detect the presence of a medium caliber bow gun on a destroyer.	Reliably identify location of the sail on a large or medium-sized submarine.	
		Discern differences in equipment configuration on two or more ships of the same class.	
6	Identify surface-to-air missile launch tubes or canisters on combatants (e.g. SA-N-3 GOBLET).	Identify mooring bollard as single or double Reliably determine the orientation of a bow gun barrel on a frigate class vessel.	Identify SS by class (e.g. KILO, DAPHNE, TYPE 209).
	Detect a BAND STAND communication system on a SOVREMENNYY Class ship.	Determine if the helicopter landing pad on any vessel is occupied.	Identify bow gun on a destroyer.
	Identify missile tracking and control radars on guided missile cruisers / destroyers (e.g. UR - TOP DOME, FRONT DOME, KITE SCREECH, UK).	Identify life boats on a large vessel.	
	Identify individual hatch covers (12) of inclined launched SA-N-6 forward of superstructure on KIROV-class ship.		
	Identify individual gun barrels on a KIROV.		
	Identify missile doors on a SSGN or SSBN submarine.	See criteria above.	See criteria above.

NAVAL ORDER OF BATTLE			
NIIRS Level	**EO Reflective Imagery**	**EO Emissive Imagery**	**SAR Imagery**
7	Detect the gun turret hatches.	Identify individual posts and rails on deck edge life rails.	Distinguish between OSAI and OSAII PCFGs based on missile canister shape.
	Detect the presence of personnel on deck.		Identify closed missile hatches on a DELTA IV SSBN.
	Identify individual posts and rails of protective railing around the perimeter of the deck.		
	Identify the hull numbers on a (IR) COMBATTANTE IIB Class PTG (aka: KAMAN P 227 SHAMSHIR).		
	Identify detail on torpedo tubes (e.g. banding).		
	Identify individual elements of weapons and electronics systems (e.g. feed horns, muzzle breaks, screens, feed mounts).		
	Identify winch cables on deck-mounted cranes.		
	Identify the configuration (e.g. shape, number of blades) of a submarine propeller in dry dock.		

NAVAL ORDER OF BATTLE			
NIIRS Level	**EO Reflective Imagery**	**EO Emissive Imagery**	**SAR Imagery**
8	Identify mounting rings on the life support / rescue canisters.	Identify individual rungs on bulkhead mounted ladders.	Determine the location of the running light on the stern fin of DELTA III.
	Identify ship's pendant number on life rings mounted on bulkheads.	See criteria above.	Identify the individual RBU tubes on surface combatants (e.g., KIROV CGN, KARA CG, KRIVAK FFG).
	Identify individual rungs on between-deck ladders.		
9	Criteria are not available.	Criteria are not available.	Detect gun barrels on PHALANX CIWS.

Table 5: Missile Order of Battle (MOB)

MISSILE ORDER OF BATTLE			
NIIRS Level	**EO Reflective Imagery**	**EO Emissive Imagery**	**SAR Imagery**
0	Interpretability of the imagery is precluded by obscuration, degradation, or low resolution.	Interpretability of the imagery is precluded by obscuration, degradation, or low resolution.	Interpretability of the imagery is precluded by obscuration, degradation, or low resolution.
1	Criteria are not available.	Criteria are not available.	Criteria are not available.
2	Criteria are not available.	Criteria are not available.	Detect known ICBM facility.
3	Detect mobile ICBM or IRBM base by patterns of buildings and roads.	Criteria are not available.	Detect rail transfer point (RTP) at missile facility.
	Detect a SAM support facility for SA-2 / CSA-1 missiles on the basis of its configuration.		
	Identify a major missile test range (e.g. Tyuratam) by the presence of roads with wide radius curves, railroad loading docks, and the presence of heavy equipment like missile gantries.		
	Detect a launch complex at a known missile test range.		
	Identify a SA-IO A/B launch site based on site configuration.		
	Identify radar and guidance areas at a SAM site by the site configuration, mounds, and presence of numerous concrete aprons.		

MISSILE ORDER OF BATTLE			
NIIRS Level	**EO Reflective Imagery**	**EO Emissive Imagery**	**SAR Imagery**
4	Distinguish between an occupied and an unoccupied fixed SAM site.	Criteria are not available.	Detect SS/SSN at known port facility (e.g., KILO, TYPE 209, VICTOR III).
	Detect a security fence erected around a missile launch site, transporter.	Criteria are not available.	See criteria above.
	Detect field deployed SAM unit on the basis of equipment types present (e.g. launcher, missile, transloader).		
	Detect individual single bay garages at SS-25 / 27 bases.		
5	Detect an erected missile on a SRBM / MRBM TEL.	Criteria are not available.	Distinguish between SS/SSN and SSBN.
	Distinguish between open and closed sliding roofs on a single bay garage at a SS-25 / 27 mobile missile bases.		
	Identify propellant/ warhead/ oxygen (26 meter), hydrogen (44 meter), fuel and oxidizer containers/canisters/tanks.		
	Distinguish between mobile missile TELS and missile support vans (MSVs) in a known support base.		
	Identify missile transporter vehicles with prime movers.		

MISSILE ORDER OF BATTLE			
NIIRS Level	**EO Reflective Imagery**	**EO Emissive Imagery**	**SAR Imagery**
6	Identify individual SA-3, missiles on launchers.	Criteria are not available.	Criteria are not available.
	Identify an SA-2 / CSA-1 transporter by overall configuration and details of chassis construction.		
	Distinguish between SA-6 TEL and its associated STRAIGHT FLUSH radar when in travel mode.	Criteria are not available.	Criteria are not available.
	Identify mobile tracked/wheeled SAM equipment by model (e.g. UR - SA-6, SA-13, SA-9, SA-8; US - CHAPARRAL; FR - CROTALE; INT - ROLAND).		
	Identify an SA-2 or CSA-1 missile by the presence and relative positions of wings and control fins.		
7	Identify exhaust nozzle on a SA-5 solid fuel booster.	Criteria are not available.	Identify closed missile hatches on a DELTA IV SSBN.
	Detect support bands on a SA-12 (types A and B) canister.		Determine if an SA-3 missile launcher is loaded or empty.
	Identify the hinge line on the control surface of sustainer fins of an SA-3.		
	Identify a MOD III or IV SA-2 missile by sustainer fin tip chord variations.		

MISSILE ORDER OF BATTLE			
NIIRS Level	**EO Reflective Imagery**	**EO Emissive Imagery**	**SAR Imagery**
8	Identify joints and welds on a TEL or TELAR.	Criteria are not available.	Distinguish between CSSC-2 SILKWORM and CSSC-3 SEERSUCKER missiles.
	Identify seams, welds, joints, and construction lines on a NO-DONG class MRBM.		Determine the location of the running light on the stern fin of DELTA III.
	Identify screws and bolts on missile components.		
9	Criteria are not available.	Criteria are not available.	Detect exhaust nozzle on solid fuel booster packs on SA-5 missile.

Table 6: Electronic Order of Battle (EOB)

ELECTRONIC ORDER OF BATTLE			
NIIRS Level	**EO Reflective Imagery**	**EO Emissive Imagery**	**SAR Imagery**
0	Interpretability of the imagery is precluded by obscuration, degradation, or low resolution.	Interpretability of the imagery is precluded by obscuration, degradation, or low resolution.	Interpretability of the imagery is precluded by obscuration, degradation, or low resolution.
1	Criteria are not available.	Criteria are not available.	Criteria are not available.
2	Criteria are not available.	Criteria are not available.	Criteria are not available.
3	Identify radar / guidance areas of a SAM site based on configuration.	Criteria are not available.	Detect known KRUG site.
4	Identify the presence of a Sat Com Site (ORBITA) by the presence of large sat com dishes (10.0 meter or greater).	Criteria are not available.	Detect large vertical lattice mast antenna.
5	Detect civilian SAT COM dish (approx. 1.62 meter) on a roof top.	Criteria are not available.	Distinguish between a large vertical mast antenna and a large power transmission tower.
	Detect a building mounted VHF communication antenna.		
	Identify the individual posts in a rhombic or quadrant array.		
	Distinguish between TALL KING A, B, C, D, radar.		
6	Distinguish between an ODD PAIR and an ODD GROUP by the antenna placement on the van.	Criteria are not available.	Criteria are not available.
	Detect the leveling / transport equipment on a TINSHIELD radar.		

ELECTRONIC ORDER OF BATTLE			
NIIRS Level	**EO Reflective Imagery**	**EO Emissive Imagery**	**SAR Imagery**
6 *(Cont.)*	Identify the leveling / transport equipment on a BARLOCK or BACKTRAP radar.	Criteria are not available.	Criteria are not available.
	Distinguish between a SPOON REST C/D by the number of elements.		
7	Identify the DATA LINK ANTENNA on a BILL BOARD EW radar.	Criteria are not available.	Distinguish between electronic van trailers (without tractor) and van trucks in garrison.
	Identify the feed structure of the target acquisition radar (TAR) on the 2S6 when deployed.		
	Distinguish between the individual FEED HORNS on a SQUARE PAIR radar.		
	Identify whip antennas on BBVs and trailers.		
	Detect individual elements of a Yagi array on a mobile electronics van.		
8	Identify feed horn on small (1.7 meter or smaller) dish antenna.	Criteria are not available.	Criteria are not available.
	Identify framework on rear sides of CLAM SHELL parabolic dish.		
9	Criteria is not available	Criteria are not available.	Criteria are not available.

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Part I – Acronyms and abbreviations[11]

AA	antiaircraft
AAA	antiaircraft artillery
AAP	Allied administrative publication
ACQ	acquisition (radar)
ADMG	air defence machine gun
AEDP	Allied engineering documentation publication
AIntP	Allied intelligence publication
AJP	Allied joint publication
AOB	air order of battle
APC	armoured personnel carrier
APP	Allied procedural publication
ATP	Allied tactical publication
BBV	air-cushioned vehicle (hovercraft)
BMP	infantry fighting vehicle
CIWS	close-in weapons system
CG	guided-missile cruiser
CGN	nuclear-powered guided missile cruiser
COB	cultural order of battle
COMM SYS	communication system
EO	electro-optical
EOB	electronic order of battle
FFG	fast frigate ship
GCA	ground controlled approach
GCI	ground controlled intercept (radar)
GOB	ground order of battle
GSD	ground sample distance
HVAC	heating, ventilation, and air conditioning
IA	imagery analyst
IMINT	imagery intelligence
ICBM	intercontinental ballistic missile

[11]The acronyms and abbreviated terms referenced in the NIIRS criteria within each OB table include references to specific weapon systems, components of weapon systems, equipment, and objects. Refer to the appropriate imagery interpretation keys and handbooks for more detailed information.

ILS	instrument landing system
IR	infrared
IRBM	intermediate-range ballistic missile
IRM&CM	intelligence requirements management and collection management
ISR	intelligence, surveillance and reconnaissance
JISR	joint intelligence, surveillance and reconnaissance
LST	landing ship-tank
LWIR	long-wave infrared
MC	Military Committee
MCJSB	Military Committee Joint Standardization Board
MOB	missile order of battle
MRBM TEL	medium-range ballistic missile transporter-erector-launcher
MSI	multi-spectral imaging
MSV	missile support van
MWIR	mid-wave infrared
NATO	North Atlantic Treaty Organization
NIIA	North Atlantic Treaty Organization ISR interoperability architecture
NIIRS	North Atlantic Treaty Organization imagery interpretability rating scale
NOB	naval order of battle
NSO	NATO Standardization Office
OB	order of battle
PCFG	fast attack craft, missile
PED	processing, exploitation and dissemination
PMP	project management professional (floating pontoon bridge)
POL	petroleum, oils, and lubricants
PTG	missile-armed patrol boat
RBU	anti-submarine rocket launchers
RPG	rocket propelled grenade
RTP	rail transfer point
SA	surface to air
SAM	surface to air missile
SAR	synthetic aperture radar
SAT COM	satellite communications
SP	self-propelled (artillery)
SPAA	self-propelled antiaircraft
SPAAA	self-propelled antiaircraft artillery
SPAAG	self-propelled antiaircraft gun
SRBM TEL	short-range ballistic missile transporter-erector-launcher

SS	submarine
SSBN	nuclear ballistic missile submarine
SSGN	conventional missile submarine
SSN	nuclear powered submarine
STANAG	standardization agreement
SUV	sport utility vehicle
SWIR	shortwave infrared
TAR	target acquisition radar
TEL	transporter erector launcher
TELAR	transporter erector launcher and radar
VHF	very high frequency
WPN	weapon

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Part II - Terms and definitions

electro-optical imagery
Portion of the electromagnetic spectrum covering the visible and Infrared (IR) wavelengths of light. (This term and definition are only applicable in this publication)

imagery
Collectively, the representations of objects reproduced electronically or by optical means on film, electronic display devices, or other media. (NATO Agreed)

imagery exploitation
The cycle of processing and printing imagery to the positive or negative state, assembly into imagery packs, identification, interpretation, mensuration, information extraction, the preparation of reports and the dissemination of information. (NATO Agreed)

imagery intelligence
Intelligence derived from imagery acquired by sensors which can be ground based, sea borne, or carried by air or space platforms. (NATO Agreed)

imagery interpretation
The process of location, recognition, identification, and description of objects, activities, and terrain represented on imagery. (NATO Agreed)

imagery interpretation key
Any diagram, chart, table, list, or set of examples, etc., which is used to aid imagery interpreters in the rapid identification of objects on imagery. (NATO Agreed)

NATO imagery interpretability rating scale
A numeric scale of semantic criteria used to quantify the visual interpretability of imagery products. (This term is a new term and definition and will be processed for NATO Agreed status)

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