

14th Meeting of the Hydrographic Services and Standards Committee

Report of the Defence Geospatial Information Working Group (DGIWG)



Al Armstrong (USA) Tom Bovey (GBR)

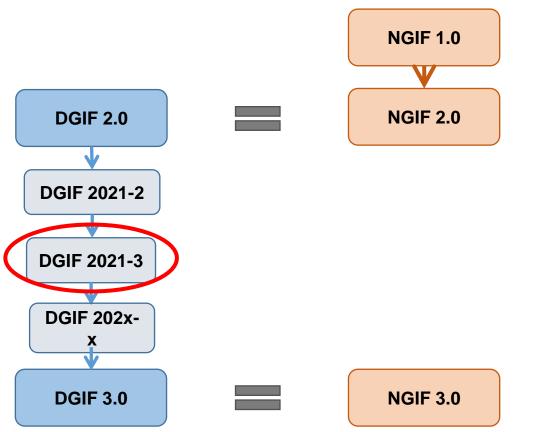


Agenda Item 07.8Aa HSSC-14, Denpasar, Bali, Indonesia - Hybrid Event, 16 – 19 May 2022



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Defence Geospatial Information Framework (DGIF)/ NATO Geospatial Information Framework (NGIF)...



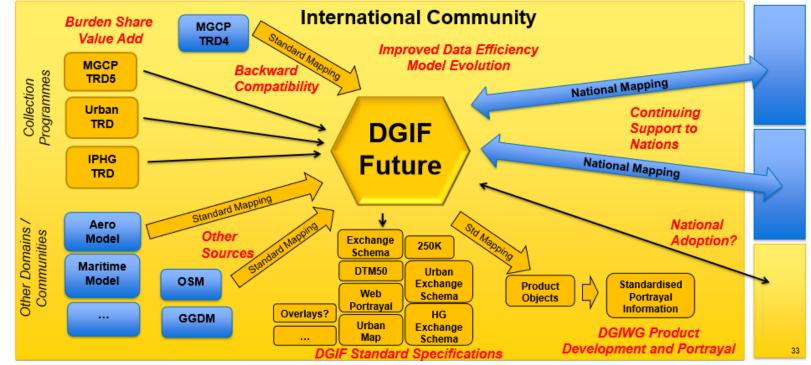
"Delivering Military Advantage through multinational geospatial interoperability"



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Implications/Benefits of DGIF to Nations

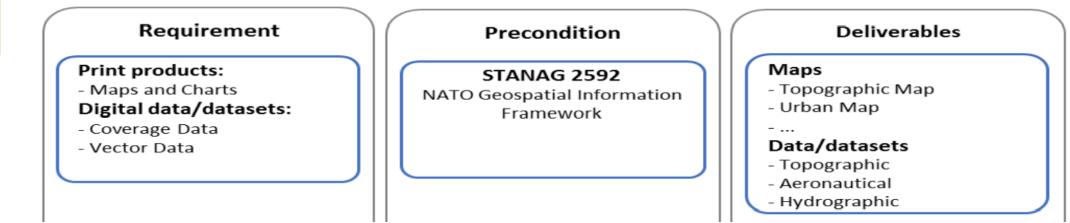
- Nations are able to influence the formation/development of the model
- Burden Sharing with other nations We don't have to do it all on our own
- Standardized Mappings
- Model Maintenance
- Defence Collaborative Environment UML based Tools developed
- Ensure a Holistic Geospatial Modelling Approach...





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NGIF Status



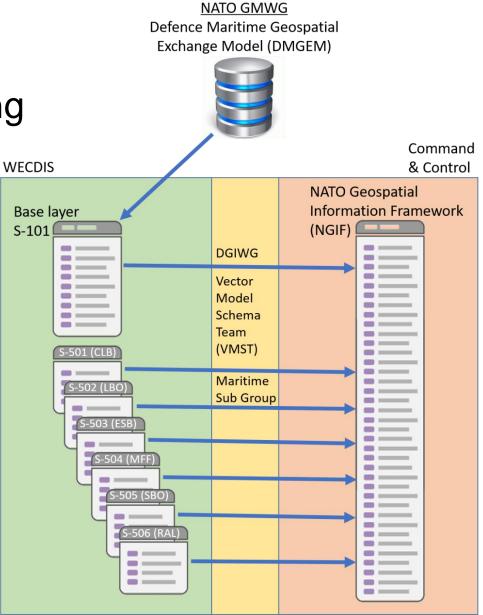
- STANAG 2592 Edition 2 / AGeoP-11 Edition B Version 1 promulgated 10-2018
- A new version/edition will be started pending the completion of relevant product specifications by DGIWG e.g.
 - Defence Topographic Map 1:50,000 (DTM50)
 - Tactical Pilot chart (TPC), 1:500k
 - New Defence Geospatial Information Model (DGIM) baselines



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DGIF Interoperability Maritime Focus: S-101 to DGIM mapping

- USA, FRA, UK working as part of the Maritime Sub Group of the DGIWG Vector Model Schema Team
- 85% Complete
- Overcoming 'one to many' mapping challenges (accounting for modelling differences)
- Identifying gaps & developing requirements, change proposals and omissions





IHO PROBLEMS OR OUTSTANDING ISSUES

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'One to Many' Mapping Challenges

S-101 Feature	S-57 Obj	S-101 Attribute	S-57 Att	Allowable Encoding	NGIF Entity	NGIF Attribute	Mult	NGIF Enumerant
	Acronym 🝸		Acronyn 🔻			*		
Sloping ground	(SLOGRD)	!Primitive	<null></null>	Point	Hill/Steep Terrain Face	Geometry	1•	Point Geometry Information
Sloping ground	(SLOGRD)	!Primitive	<null></null>	Surface	Embankment/Hill/Sand Dunes/	Geometry	1•	Surface Geometry Information
Sloping ground	(SLOGRD)	Category of slope	(CATSLO)	1 : cutting	Cut			
Sloping ground	(SLOGRD)	Category of slope	(CATSLO)	2 : embankment	Embankment			
Sloping ground	(SLOGRD)	Category of slope	(CATSLO)	3 : dune	Sand Dunes			
Sloping ground	(SLOGRD)	Category of slope	(CATSLO)	4 : hill	HIII			
Sloping ground	(SLOGRD)	Category of slope	(CATSLO)	5:pingo	Pingo			
Sloping ground	(SLOGRD)	Category of slope	(CATSLO)	6:cliff	Steep Terrain Face	Terrain Face Type	01	Cliff
Sloping ground	(SLOGRD)	Category of slope	(CATSLO)	7 : scree	Soil Surface Region	Terrain Morphology	01	Talus
Sloping ground	(SLOGRD)	Nature of surface	(NATSUR)	4 : sand				
Sloping ground	(SLOGRD)	Nature of surface	(NATSUR)	5 : stone				
Sloping ground	(SLOGRD)	Nature of surface	(NATSUR)	б:gravel				
Sloping ground	(SLOGRD)	Nature of surface	(NATSUR)	7:pebbles				
Sloping ground	(SLOGRD)	Nature of surface	(NATSUR)	9 : rock				
Sloping ground	(SLOGRD)	Nature of surface	(NATSUR)	11 : lava				



IHO PROBLEMS OR OUTSTANDING ISSUES

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'One to Many' Mapping Challenges

IGIF Entity	NGIF Attribute		IF Enumerant		S-101 Featur	re	-	S-57 Obj Acronym 🔻	S-101 Attribu		S-57 Att Acronyn		le Encoding							
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ut	Geometry	1* Sur	face Geometry Info	ormation	Sloping grou	nd		(SLOGRD)	Primitive!		<null></null>	Surface						NGIF Entity	NGIF	Attr
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ut					Sloping grou	nd		(SLOGRD)	Nature of su	face	(NATSUR)	4 : sand						Soil Surface Regi	on Geom	ietry
ut	NGIF Entity	N	GIF Attribute	Mult	NGIF Enumeran	t		S-101 Feature	•			101 Attribu			e Encoding			Soil Surface Regio	on Terra	in M
Cut	Embankment	G	eometry		Point Geometry	Informat	ion	Sloping groun	d		onym 🔻 OGRD) IPr	rimitive	Acror		· · · · ·			Soil Surface Regio	on	
Cut	Embankment	Ge	eometry	1*	Surface Geomet	ry Inform	ation	Sloping groun	d	(SL	OGRD) !Pr	rimitive	<null< td=""><td>> Surface</td><td></td><td></td><td></td><td>Soil Surface Regio</td><td>on</td><td></td></null<>	> Surface				Soil Surface Regio	on	
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ut	Embankment							Sloping groun	d	(SL	OGRD) Na	ature of su	inface (NAT	SUR) 4:sand				Soil Surface Regio	on	
	Embankment		NGIF Entity		NGIF Attribute			F Enumerant		S-10	01 Feature		S-57 Obj	S-101 Attribute			ncoding	Soil Surface Regi	on	
	Embankment		Sand Dunes	•	Geometry	1	v • Poir	nt Geometry II	nformation	Slop	ping ground		Acronym (SLOGRD)	!Primitive	Acror		Ŧ	Soil Surface Regi	on	
	Embankment		Sand Dunes		Geometry	1	* Sur	ace Geometr	Information	Slog	ping ground		(SLOGRD)	!Primitive	<null< td=""><td>> Surface</td><td></td><td> </td><td></td><td></td></null<>	> Surface				
	Embankment		Sand Dunes		, 						ping ground			Category of sl	ope (CATS	LO) 3:dune				
			Sand Dunes								ping ground		(SLOGRD)	Nature of surf		SUR) 4:sand				
	Embankment														`					
			Sand Dunes		NGIF Ent	ity	NG T	GIF Attribute	Mult	NGIF En	umerant		S-101 Featu		S-57 Obj Acronym	S-101 Attribute	S-57 A		oding -	
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			Sand Dunes		Hill								Sloping grou	IND	(SLOGRD)	Category of slop	e (CATSI	LO) 4 : hill		
			Sand Dunes		Hill								Sloping grou	Ind	(SLOGRD)	Nature of surfac	e (NATS	UR) 4:sand		
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					Hill			Pingo	<u>`</u>	Geome	etry		Point Geometry	Information	Sloping grou		Acronym V (SLOGRD)	!Primitive	Acronyn <null></null>	P
					Hill			Pingo		Geome	etry	1* 5	Surface Geome	try Information	Sloping grou	ind	(SLOGRD)	!Primitive	<null></null>	S
					Hill			Pingo							Sloping grou	ind	(SLOGRD)	Category of slope	(CATSLO)	5
					Hill			Pingo							Sloping grou	ind	(SLOGRD)	Nature of surface	(NATSUR) 4
								Pingo							Sloping grou	Ind	(SLOGRD)	Nature of surface	(NATSUR) 5
								Pingo							Sloping grou	ind	(SLOGRD)	Nature of surface	(NATSUR) 6
								Pingo							Sloping grou	ind	(SLOGRD)	Nature of surface	(NATSUR) 7
								Pingo							Sloping grou	ind	(SLOGRD)	Nature of surface	(NATSUR) 9

NGIF Entity	NGIF Attribute	Mult	NGIF Enumerant		S-101 Feature	S-57 Obj	S-101 Attribute	S-57 Att	Allowable Encoding
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Soil Surface Region	Geometry	1•	Point Geometry Information	Γ	Sloping ground	(SLOGRD)	!Primitive	<null></null>	Point
Soil Surface Region	Geometry	1•	Surface Geometry Information		Sloping ground	(SLOGRD)	!Primitive	<null></null>	Surface
Soil Surface Region	Terrain Morphology	01	Talus		Sloping ground	(SLOGRD)	Category of slope	(CATSLO)	7 : scree
Soil Surface Region					Sloping ground	(SLOGRD)	Nature of surface	(NATSUR)	4:sand
Soil Surface Region					Sloping ground	(SLOGRD)	Nature of surface	(NATSUR)	5 : stone
Soil Surface Region					Sloping ground	(SLOGRD)	Nature of surface	(NATSUR)	6:gravel
Soil Surface Region					Sloping ground	(SLOGRD)	Nature of surface	(NATSUR)	7 : pebbles
Soil Surface Region					Sloping ground	(SLOGRD)	Nature of surface	(NATSUR)	9 : rock
Soil Surface Region					Sloping ground	(SLOGRD)	Nature of surface	(NATSUR)	11 : lava

Allowable Encoding

Point Surface 5 : pingo 4 : sand 5 : stone 6 : gravel 7 : pebbles 9 : rock 11 : lava



IHO FUTURE WORK PROGRAMME

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Maritime Focus: S-101 to DGIM mapping

- Updating for latest DGIM baseline
- Updating source content to reflect latest edition of S-101
- Completion of mandatory attribution mapping
- Continue reverse mapping to account for one to many challenges
- Processing of requirement and change proposals within VMST



IHO ACTIONS REQUESTED FROM HSSC

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To note recent and ongoing maritime relevant activity