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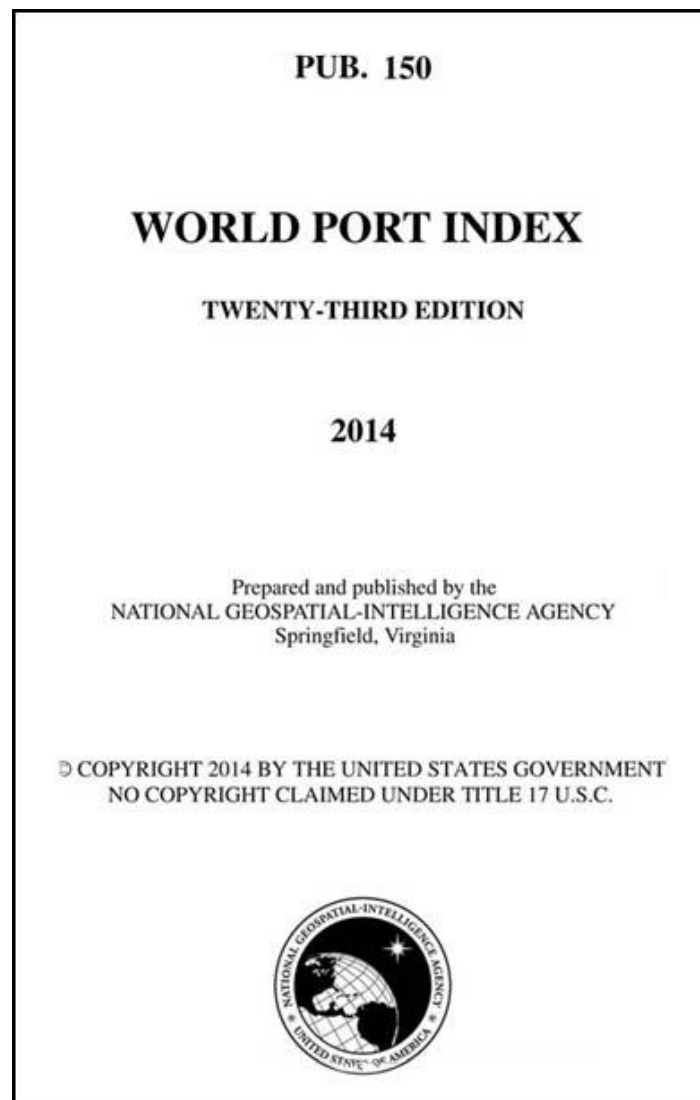
NGA World Port Index Update NIPWG 9 (rev.)

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WORLD PORT INDEX

TWENTY-THIRD EDITION

2014

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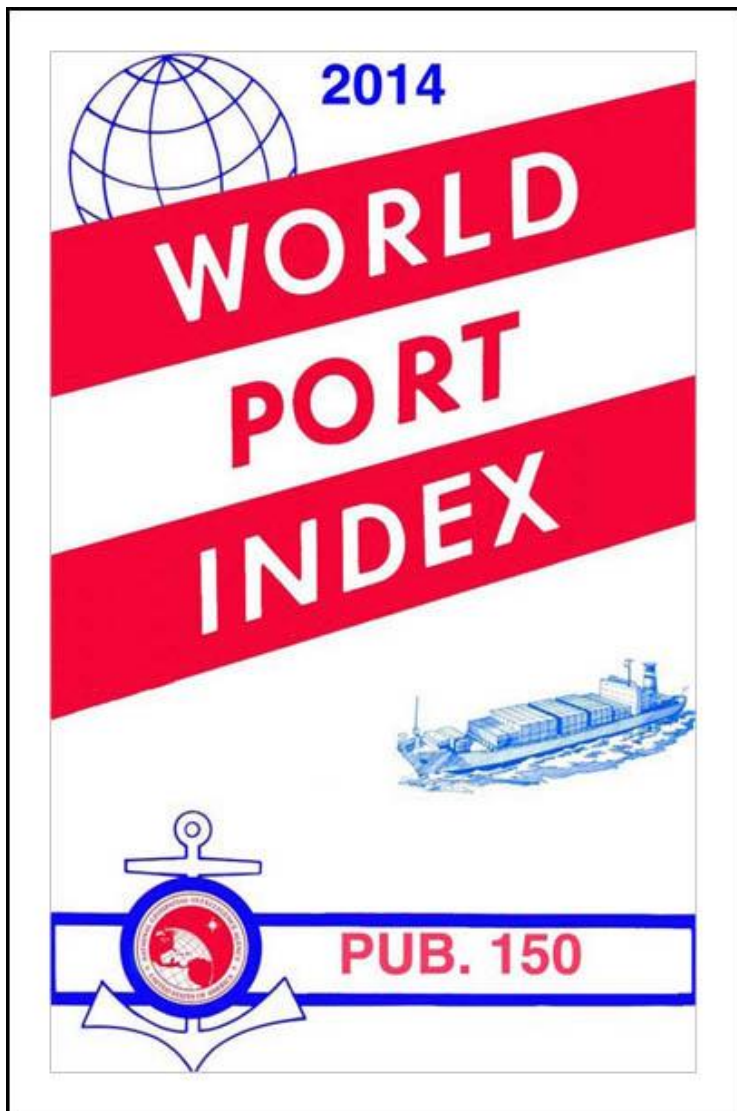*Know the Earth... Show the Way... Understand the World*

Purpose of the World Port Index (WPI)

The World Port Index provides the location, characteristics, known facilities, and available services of a great many ports and shipping facilities and oil terminals throughout the world. The selection of these places is based on criteria established by NGA and are not random choices.

- Contains information on 3,629 ports, shipping facilities, and oil terminals.

- Location, characteristics, known facilities, and available services.

- Ports with a depth of at least 4 meters are listed.

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WORLD PORT INDEX

FEET

a	76-over	e	56-60	j	36-40	n	16-20
b	71-75	f	51-55	k	31-35	o	11-15
c	66-70	g	46-51	l	26-30	p	6-10
d	61-65	h	41-45	m	21-25	q	0-5

METERS

a	23.2-over	e	17.1-18.2	j	11.0-12.2	n	4.9-6.1
b	21.6-22.9	f	15.5-16.8	k	9.4-10.7	o	3.4-4.6
c	20.1-21.3	g	14.0-15.2	l	7.9-9.1	p	1.8-3.0
d	18.6-19.8	h	12.5-13.7	m	6.4-7.6	q	0-1.5

CODE KEY

HARBOR SIZE	HARBOR TYPE	SHELTER AFFORDED	MAX SIZE VESSEL
L - Large	Cn - Coastal Natural	E - Excellent	L - Over 500' Length
M - Medium	Cb - Coastal Breakwater	G - Good	M - Up to 500' Length
S - Small	Ct - Coastal Tide Gate	F - Fair	
V - Very Small	Rn - River Natural	P - Poor	
	Rb - RIVER BASIN N - NONE	N - None	
	Rt - River Tide Gate		
	Lc - Lake or Canal		
	Or - Open Roadstead		
	Th - Typhoon Harbor		

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CODE KEY

REPAIRS	DRYDOCK AND MARINE RAILWAY
A - Major	
B - Moderate	L - Large
C - Limited	M - Medium
D - Emergency Only	S - Small
N - None	

INDEX NUMBER	PORT	COUNTRY CODE	LATITUDE	LONGITUDE	PUBLICATION	CHART	HARBOR SIZE	HARBOR TYPE	SHELTER
60	ICELAND WEST COAST								
70	KEFLAVIK	IS	6400N	02233W	181	38604	V	OR	F
75	STRAUMSVIK	IS	6403N	02203W	181	38604	V	CN	F
80	HAFNARFJORDUR	IS	6404N	02157W	181	38604	V	CN	F
90	SKERJAFJORDUR	IS	6409N	02201W	181	38603	V	CN	G
100	REYKJAVIK	IS	6409N	02156W	181	38603	M	CB	G
105	GRUNDARTANGI	IS	6416N	02200W	181	38606	M	CB	G
160	BILDUDALUR	IS	6541N	02336W	181	38030	V	CN	F
170	THINGEYRI	IS	6553N	02329W	181	38030	V	CN	E
185	BOLUNGAVIK	IS	6610N	02314W	181	38690	V	CB	F
190	ISAFJORDUR	IS	6604N	02307W	181	38030	V	CN	N
200	ICELAND NORTH COAST								
230	BLONDUOS	IS	6540N	02018W	181	38683	V	OR	P
240	SKAGASTROND	IS	6550N	02019W	181	38683	V	CN	G
250	SAUDARKROKUR	IS	6545N	01940W	181	38670	V	CN	P
260	SIGLUFJORHURD	IS	6609N	01855W	181	38681	V	CN	F
270	OLAFSFJORDHUR	IS	6605N	01838W	181	38670	V	CN	F
280	DALVIK	IS	6559N	01831W	181	38681	V	CB	F
310	AKUREYRI	IS	6541N	01805W	181	38681	V	CN	F
320	HUSAVIK	IS	6602N	01720W	181	38670	V	CN	P
330	KOPASKER	IS	6617N	01627W	181	38670	V	CN	P
340	RAUFARHOFN	IS	6627N	01556W	181	38670	V	CN	P
360	ICELAND EAST COAST								
380	VOPNAFJORDHUR	IS	6545N	01450W	181	38650	V	CN	F
400	SEYDHISFJORDHUR	IS	6516N	01400W	181	38641	S	CN	F
420	NESKAUPSTADUR	IS	6509N	01341W	181	38641	V	CN	F
430	ESKIFJORDHUR	IS	6504N	01401W	181	38641	V	CN	F
450	BUDIR	IS	6456N	01401W	181	38641	V	CN	F
470	DJUPIVOGUR	IS	6440N	01417W	181	38641	V	CN	F
480	HORNABJORDUR	IS	6415N	01514W	181	38630	V	CN	F
490	ICELAND SOUTH COAST								
510	VESTMANNAEYJAR	IS	6326N	02017W	181	38610	S	CN	E
540	GREENLAND EAST COAST								
542	QUTDLEQ	GL	6131N	04213W	181	38060	V	CN	G
543	KUSANARTOQ	GL	6146N	04213W	181	38060	S	CN	G
545	GREENLAND WEST COAST								
560	NANORTALIK HAVN	GL	6007N	04512W	181	38580	V	CN	P
580	QAQURTOG	GL	6043N	04603W	181	38588	V	CN	F
585	NARSAQ	GL	6055N	04603W	181	15020	V	CN	P
590	NARSARSSUAQ	GL	6109N	04526W	181	15020	V	CN	F
605	GRONNEDAL (KANGILINNGUIT)	GL	6114N	04806W	181	38582	V	CN	F
610	PAAMUIT (FREDERIKSHAB)	GL	6200N	04940W	181	38561	S	CN	F
630	KANGERLUARSORUSEQ	GL	6342N	05133W	181	38542	V	CN	G

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Legacy Publication Limitations (The Four Ds)

- **D**ifficult to display.

- **D**ifficult for user to extract information.

- **D**ifficult to update and maintain.

- **D**ifficult to search and display results.

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Modernization Goals

- Database structure (was Oracle—shifted to Postgres).

- Improved visual display of information.

- More robust search options.

- Output options in CSV, JSON, Shapefile, File Geodatabase, and Geopackage.

- Crowdsourcing capabilities for updating.

- Better user experience.

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Development Timeline

- **2014**—Original NGA presentation at SNPWG 18 (Cadiz).

- **2017**—WENDWG 7 discussed limitations (positioning and updating/editing abilities) of the legacy WPI. Requested member states to submit changes to NGA. Italy and Croatia first to submit changes.

- **2019**—At WENDWG 9, NGA stated it would begin developing an updated web-based WPI where IHO member states would be able to directly submit additions, corrections, and deletions to the database. The NGA FG MOD (FG Modernization) program began to upgrade all NGA Maritime Safety functions. The WPI was part of this process although low on the priority timeline.

- **2019 to present**—Full-time Marine Analyst assigned to lead WPI development team. Team included a Data Scientist, a Notice to Mariners Subject Matter Expert (SME), and a Sailing Directions SME Other SMEs added as necessary.

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Development Timeline (continued)

- **2019-2021—**Application development, web site development, and application testing phases conducted by ESRI and NGA

- **February 2021—**WPI applications go live for US Government customers. Launch of ArcGIS Online (AGOL), a behind-the-scenes workaround to enable users to access the WPI Viewer Application.

- **Late-September 2022—**Projected start time for full capabilities for all WPI applications.

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New Web Applications

- **Viewer Application—**Available to anyone. View-only format (no updating/editing capabilities). Upgraded search and downloading functions. Work is in progress to allow simultaneous filtering of multiple Fields using logical phrases.

- **Add-a-Port Application (Geoform)—**Trusted partners can submit a new port and its applicable information. Submissions will be reviewed by NGA prior to being added to the WPI database. Users will be able to populate all Fields except for certain pre-populated Fields and the new WPI number. The new WPI number will be assigned by NGA.

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New Web Applications (continued)

- **Editor Application—**Trusted partners can update information for most Fields for an existing port in the WPI database. Submissions will be reviewed by NGA prior to updating the database.

- **WPI Editor Request Application—**Hydrographic offices and others will be vetted by NGA to allow authorized access to the Editor Application.

   Note 1—Access to the WPI will be through in in-development web address. The NGA Maritime Safety Information web site (https://msi.nga.mil) will always be available as a back up for WPI access.

   Note 2—The upgraded Viewer Application and the new Editor Request Application are scheduled to be available by the end of September; however, this may be delayed by contractor and/or NGA security issues.

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WPI Viewer Application
(Major Search Tools)

- Ports Search Tool (search by port name).

- WPI Data Download Tool.

- Select Tool (search a specified geographical area; similar to a bounding box).

- Filter Tool (access to all search Fields).

- Attribute Table (results shown in tabular format).

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WPI Data Download Tool

WPI Data Outputs

- File Geodatabase.

- CSV.

- JSON.

- Shapefile.

- Geopackage.

WPI Viewer Filtering Tool and Filtering Terms

Filtering Terms

- Is.
- Is less than.
- Is greater than.
- Is any of.
- Is at least.
- Is at most.
- Is any of.
- Is none of.
- Is between.
- Is not between.
- Is blank.
- Is not blank.

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Sample Port Data Display

- Better display of results.

- Data sorted by topics.

- Latitude/longitude values are more precise.

- Numerical values are more precise.

- Elimination of letter codes and code keys.

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WPI Sample Port Field Display

World Port Index Number	Region Name	Main Port Name	Alternate Port Name	UN/LOCODE	Country Code	Tidal Range (m)	Entrance Width (m)	Channel Depth (m)	Anchorage Depth (m)	Cargo Pier Depth (m)	Oil Terminal Depth (m)
40590	Italy East Coast -- 40390	Manfredonia		IT MFR	Italy	0.00		6.40	6.40	9.40	
40500	Italy East Coast -- 40390	Brindisi		IT BDS	Italy	1.00		14.00	23.20	11.00	9.40
40480	Italy East Coast -- 40390	Gallipoli		IT GAL	Italy	0.00		11.00	12.50	12.50	
40250	Sicilia -- 40090	Augusta	Megarese; Priolo Gargallo	IT AUG	Italy	0.00		23.20	21.60		15.50
40110	Sicilia -- 40090	Milazzo		IT MLZ	Italy	0.00		9.40	23.20	9.40	23.20
40100	Sicilia -- 40090	Messina		IT MSN	Italy	1.00		23.20	11.00	7.90	7.90
39960	Italy West Coast Cont -- 39730	Napoli	Naples	IT NAP	Italy	0.00		14.00	20.10	9.40	12.50

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More Robust Search Options

- General—Port name, harbor type, harbor size, etc.

- Geographic—Position, ocean basin, country, etc.

- Port/pier/facilities information—Type of facility, alongside depth, etc.

- Pilotage, tugs, and communications availability.

- Approaches—VTS, TSS, ETA message.

- Services (longshoremen, electricity, medical, etc.) and supplies (water, fuel, provisions, repairs, etc.).

- Port restrictions—Channel depth, entrance restrictions, ice restrictions, etc.

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WPI Add-a-Port (Geoform) Application

Information Groups/Fields

- Name and Location—Name(s), UN/LOCODE, Country (4 Fields).

- Depths (7 Fields).

- Maximum Vessel Size (6 Fields).

- Physical Environment—Harbor Information, Entrance Restrictions (12 Fields).

- Approach—ETA, VTS, TSS, Quarantine (9 Fields).

- Pilots, Tugs, Communications (13 Fields).

- Facilities—Cargo Type, Moorings (19 Fields).

- Cranes—Type, Lifting Power (8 Fields).

- Services and Supplies (16 Fields).

Note.—Total number of Fields—94

WPI Editor Application

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WPI Editor Request Application

- Create an account, including Username and Password.

- NGA will develop and provide a web link to bring you to the WPI Editor Access Request (in work).

- Populate the Editor Access Request with required information (full name, business organization, and business e-mail) and optional information (business telephone number, job title, and comments).

- NGA will develop and provide a web link to bring you to the WPI Editor Application (in work).

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WPI Editor Access Request

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Bumps in the Road

- Updating the Help Document for the WPI Add-a-Port (Geoform) Application. This will also affect the Help Document of the WPI Editor Application.

- Previous WPI Data Reviewer no longer working at NGA as of 1 August. New WPI Data Reviewer appointed middle of August.

- Moratorium on updating WPI database from new port submissions in effect until 31 October. This will allow new personnel time to develop familiarity and experience to successfully operate this complicated GIS system.

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End Result

- Expanded information availability.

- More robust search options.

- Better visual display of information.

- Improved data input/update processes.

- Improved user experience.

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Questions?

Comments?

Suggestions?

Insight?

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