National Park Service
U.S. Department of the Interior

Natural Resource Stewardship and Science

Nitrogen Critical Loads and Estimated Exceedances in NPS Areas (2013–2015)

- Critical loads are the amount of depostion below which significant harmful effects on specified sensitive elements of the environment do not occur according to present knowledge.
- These critical loads (adapted from Pardo et. al 2011) are developed at the ecoregion scale and should only be used to evaluate risk. Where park specific or more recent critical loads exist, these should be used instead.
- **Bolded red** text denotes modeled deposition levels exceed the critical load.
- Total nitrogen deposition (2013-2015 3-year average, wet and dry) produced by National Atmospheric Deposition Program (NADP).
- 'NA' indicates that no critical load has been developed yet for this indicator.
- All values are in kg/ha/yr

Unit Code	State	NPS Unit	Ecoregion	Maximum Total Nitrogen Deposition in NPS Unit Ecoregion	Forest Minimum Critical Load	Forest Maximum Critical Load	Herbaceous Plants Min. Critical Load	Herbaceous Plants Max. Critical Load	Lichen Minimum Critical Load	Lichen Maximum Critical Load	Mycorrhizal Fungi Min. Critical Load	Mycorrhizal Fungi Max. Critical Load	Nitrate Leaching Min. Critical Load	Nitrate Leaching Max. Critical Load
ABLI	KY	Abraham Lincoln Birthplace NHP	Eastern Temperate Forests	**9.7**	**3**	**8**	17.5	17.5	**4**	**8**	**5**	12	**8**	**8**
ACAD	ME	Acadia NP	Eastern Temperate Forests	**5.3**	**3**	8	17.5	17.5	**4**	8	**5**	12	8	8
AGFO	NE	Agate Fossil Beds NM	Great Plains	**4.5**	NA	NA	5	25	NA	NA	12	12	10	25
ALFL	TX	Alibates Flint Quarries NM	Great Plains	**7.0**	NA	NA	**5**	25	NA	NA	12	12	10	25
ALPO	PA	Allegheny Portage Railroad NHS	Eastern Temperate Forests	**11.2**	**3**	**8**	17.5	17.5	**4**	**8**	**5**	12	**8**	**8**
AMIS	TX	Amistad NRA	Great Plains	**6.6**	NA	NA	**5**	25	NA	NA	12	12	10	25
AMIS	TX	Amistad NRA	North American Deserts	**6.7**	NA	NA	**3**	8.4	**3**	**3**	NA	NA	NA	NA
ANTI	MD	Antietam NB	Eastern Temperate Forests	**9.9**	**3**	**8**	17.5	17.5	**4**	**8**	**5**	12	**8**	**8**
APIS	WI	Apostle Islands NL	Northern Forests	**7.9**	**3**	26	**7**	21	**4**	**6**	**5**	**7**	8	8
APPA	ME	Appalachian NST	Eastern Temperate Forests	**15.3**	**3**	**8**	17.5	17.5	**4**	**8**	**5**	**12**	**8**	**8**
APPA	ME	Appalachian NST	Northern Forests	**10.9**	**3**	26	**7**	21	**4**	**6**	**5**	**7**	**8**	**8**
APCO	VA	Appomattox Court House NHP	Eastern Temperate Forests	**7.6**	**3**	8	17.5	17.5	**4**	8	**5**	12	8	8
ARCH	UT	Arches NP	North American Deserts	**3.3**	NA	NA	**3**	8.4	**3**	**3**	NA	NA	NA	NA
ARPO	AR	Arkansas Post N MEM	Eastern Temperate Forests	**8.8**	**3**	**8**	17.5	17.5	**4**	**8**	**5**	12	**8**	**8**
ASIS	MD	Assateague Island NS	Eastern Temperate Forests	**11.6**	**3**	**8**	17.5	17.5	**4**	**8**	**5**	12	**8**	**8**
AZRU	NM	Aztec Ruins NM	North American Deserts	**4.0**	NA	NA	**3**	8.4	**3**	**3**	NA	NA	NA	NA
BADL	SD	Badlands NP	Great Plains	**6.2**	NA	NA	**5**	25	NA	NA	12	12	10	25
BAND	NM	Bandelier NM	North American Deserts	**2.9**	NA	NA	3	8.4	3	3	NA	NA	NA	NA
BAND	NM	Bandelier NM	Northwestern Forested Mountains	**4.4**	**4**	17	**4**	10	**2.5**	7.1	5	10	**4**	17
BEOL	CO	Bent's Old Fort NHS	Great Plains	**4.4**	NA	NA	5	25	NA	NA	12	12	10	25
BIBE	TX	Big Bend NP	North American Deserts	**4.3**	NA	NA	**3**	8.4	**3**	**3**	NA	NA	NA	NA
BICY	FL	Big Cypress N PRES	Eastern Temperate Forests	**6.4**	**3**	8	17.5	17.5	**4**	8	**5**	12	8	8
BICY	FL	Big Cypress N PRES	Tropical Humid Forests	**6.8**	**5**	10	NA	NA	NA	NA	NA	NA	NA	NA
BIHO	MT	Big Hole NB	Northwestern Forested Mountains	**2.5**	4	17	4	10	**2.5**	7.1	5	10	4	17
BISO	TN	Big South Fork NRRA	Eastern Temperate Forests	**8.6**	**3**	**8**	17.5	17.5	**4**	**8**	**5**	12	**8**	**8**
BITH	TX	Big Thicket N PRES	Eastern Temperate Forests	**13.1**	**3**	**8**	17.5	17.5	**4**	**8**	**5**	**12**	**8**	**8**
BITH	TX	Big Thicket N PRES	Great Plains	**13.1**	NA	NA	**5**	25	NA	NA	**12**	**12**	**10**	25
BICA	WY	Bighorn Canyon NRA	Great Plains	**3.9**	NA	NA	5	25	NA	NA	12	12	10	25
BICA	WY	Bighorn Canyon NRA	North American Deserts	**2.7**	NA	NA	3	8.4	3	3	NA	NA	NA	NA
BICA	WY	Bighorn Canyon NRA	Northwestern Forested Mountains	**3.9**	4	17	4	10	**2.5**	7.1	5	10	4	17
BISC	FL	Biscayne NP	Tropical Humid Forests	**8.7**	**5**	10	NA	NA	NA	NA	NA	NA	NA	NA
BLCA	CO	Black Canyon Of The Gunnison NP	North American Deserts	**2.8**	NA	NA	3	8.4	3	3	NA	NA	NA	NA
BLRI	NC	Blue Ridge PKWY	Eastern Temperate Forests	**9.6**	**3**	**8**	17.5	17.5	**4**	**8**	**5**	12	**8**	**8**
BLUE	WV	Bluestone NSR	Eastern Temperate Forests	**7.4**	**3**	8	17.5	17.5	**4**	8	**5**	12	8	8
BOWA	VA	Booker T Washington NM	Eastern Temperate Forests	**7.3**	**3**	8	17.5	17.5	**4**	8	**5**	12	8	8
BRCA	UT	Bryce Canyon NP	North American Deserts	**4.9**	NA	NA	**3**	8.4	**3**	**3**	NA	NA	NA	NA
BRCA	UT	Bryce Canyon NP	Northwestern Forested Mountains	**4.9**	**4**	17	**4**	10	**2.5**	7.1	5	10	**4**	17
BUFF	AR	Buffalo NR	Eastern Temperate Forests	**10.1**	**3**	**8**	17.5	17.5	**4**	**8**	**5**	12	**8**	**8**
CANA	FL	Canaveral NS	Eastern Temperate Forests	**5.9**	**3**	8	17.5	17.5	**4**	8	**5**	12	8	8
CACH	AZ	Canyon De Chelly NM	North American Deserts	**4.1**	NA	NA	**3**	8.4	**3**	**3**	NA	NA	NA	NA

NPS Critical Loads and Deposition

Unit Code	State	NPS Unit	Ecoregion	Maximum Total Nitrogen Deposition in NPS Unit Ecoregion	Forest Minimum Critical Load	Forest Maximum Critical Load	Herbaceous Plants Min. Critical Load	Herbaceous Plants Max. Critical Load	Lichen Minimum Critical Load	Lichen Maximum Critical Load	Mycorrhizal Fungi Min. Critical Load	Mycorrhizal Fungi Max. Critical Load	Nitrate Leaching Min. Critical Load	Nitrate Leaching Max. Critical Load
CACH	AZ	Canyon De Chelly NM	Temperate Sierras	4.1	NA	NA	NA	NA	4	7	NA	NA	NA	NA
CANY	UT	Canyonlands NP	North American Deserts	3.5	NA	NA	3	8.4	3	3	NA	NA	NA	NA
CACO	MA	Cape Cod NS	Eastern Temperate Forests	4.3	3	8	17.5	17.5	4	8	5	12	8	8
CAHA	NC	Cape Hatteras NS	Eastern Temperate Forests	6.7	3	8	17.5	17.5	4	8	5	12	8	8
CALO	NC	Cape Lookout NS	Eastern Temperate Forests	5.9	3	8	17.5	17.5	4	8	5	12	8	8
CARE	UT	Capitol Reef NP	North American Deserts	4.7	NA	NA	3	8.4	3	3	NA	NA	NA	NA
CARE	UT	Capitol Reef NP	Northwestern Forested Mountains	4.7	4	17	4	10	2.5	7.1	5	10	4	17
CAVO	NM	Capulin Volcano NM	Great Plains	4.8	NA	NA	5	25	NA	NA	12	12	10	25
CARL	NC	Carl Sandburg Home NHS	Eastern Temperate Forests	7.6	3	8	17.5	17.5	4	8	5	12	8	8
CAVE	NM	Carlsbad Caverns NP	North American Deserts	4.3	NA	NA	3	8.4	3	3	NA	NA	NA	NA
CAVE	NM	Carlsbad Caverns NP	Temperate Sierras	4.7	NA	NA	NA	NA	4	7	NA	NA	NA	NA
CAWO	MD	Carter G. Woodson Home NHS	Eastern Temperate Forests	13.6	3	8	17.5	17.5	4	8	5	12	8	8
CAGR	AZ	Casa Grande Ruins NM	North American Deserts	5.4	NA	NA	3	8.4	3	3	NA	NA	NA	NA
CATO	MD	Catoctin Mountain Park	Eastern Temperate Forests	11.8	3	8	17.5	17.5	4	8	5	12	8	8
CEBR	UT	Cedar Breaks NM	Northwestern Forested Mountains	5.5	4	17	4	10	2.5	7.1	5	10	4	17
CHCU	NM	Chaco Culture NHP	North American Deserts	3.0	NA	NA	3	8.4	3	3	NA	NA	NA	NA
CHIS	CA	Channel Islands NP	Mediterranean California	6.6	17	39	6	33	3.1	6	7.8	9.2	10	17
CHAT	GA	Chattahoochee River NRA	Eastern Temperate Forests	15.6	3	8	17.5	17.5	4	8	5	12	8	8
CHOH	DC	Chesapeake & Ohio Canal NHP	Eastern Temperate Forests	13.8	3	8	17.5	17.5	4	8	5	12	8	8
CHCH	GA	Chickamauga & Chattanooga NMP	Eastern Temperate Forests	12.4	3	8	17.5	17.5	4	8	5	12	8	8
CHIC	OK	Chickasaw NRA	Great Plains	10.6	NA	NA	5	25	NA	NA	12	12	10	25
CHIR	AZ	Chiricahua NM	Southern Semi-Arid Highlands	6.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
CIRO	ID	City Of Rocks N RES	North American Deserts	5.4	NA	NA	3	8.4	3	3	NA	NA	NA	NA
COLO	VA	Colonial NHP	Eastern Temperate Forests	10.0	3	8	17.5	17.5	4	8	5	12	8	8
COLM	CO	Colorado NM	North American Deserts	3.5	NA	NA	3	8.4	3	3	NA	NA	NA	NA
CONG	SC	Congaree NP	Eastern Temperate Forests	7.8	3	8	17.5	17.5	4	8	5	12	8	8
CORO	AZ	Coronado N MEM	Southern Semi-Arid Highlands	6.4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
COWP	SC	Cowpens NB	Eastern Temperate Forests	7.1	3	8	17.5	17.5	4	8	5	12	8	8
CRLA	OR	Crater Lake NP	Northwestern Forested Mountains	3.4	4	17	4	10	2.5	7.1	5	10	4	17
CRMO	ID	Craters Of The Moon NM & PRES	North American Deserts	2.7	NA	NA	3	8.4	3	3	NA	NA	NA	NA
CRMO	ID	Craters Of The Moon NM & PRES	Northwestern Forested Mountains	2.9	4	17	4	10	2.5	7.1	5	10	4	17
CUGA	KY	Cumberland Gap NHP	Eastern Temperate Forests	8.2	3	8	17.5	17.5	4	8	5	12	8	8
CUIS	GA	Cumberland Island NS	Eastern Temperate Forests	5.1	3	8	17.5	17.5	4	8	5	12	8	8
CURE	CO	Curecanti NRA	North American Deserts	3.0	NA	NA	3	8.4	3	3	NA	NA	NA	NA
CURE	CO	Curecanti NRA	Northwestern Forested Mountains	3.0	4	17	4	10	2.5	7.1	5	10	4	17
CUVA	OH	Cuyahoga Valley NP	Eastern Temperate Forests	14.0	3	8	17.5	17.5	4	8	5	12	8	8
DEVA	CA	Death Valley NP	North American Deserts	6.9	NA	NA	3	8.4	3	3	NA	NA	NA	NA
DEWA	PA	Delaware Water Gap NRA	Eastern Temperate Forests	9.8	3	8	17.5	17.5	4	8	5	12	8	8
DEWA	PA	Delaware Water Gap NRA	Northern Forests	8.6	3	26	7	21	4	6	5	7	8	8
DEPO	CA	Devils Postpile NM	Northwestern Forested Mountains	5.5	4	17	4	10	2.5	7.1	5	10	4	17
DETO	WY	Devils Tower NM	Northwestern Forested Mountains	5.0	4	17	4	10	2.5	7.1	5	10	4	17
DINO	CO	Dinosaur NM	North American Deserts	3.5	NA	NA	3	8.4	3	3	NA	NA	NA	NA
EBLA	WA	Ebey's Landing NH RES	Marine West Coast Forests	3.9	5	5	NA	NA	2.7	9.2	5	5	NA	NA
EFMO	IA	Effigy Mounds NM	Eastern Temperate Forests	13.6	3	8	17.5	17.5	4	8	5	12	8	8
EISE	PA	Eisenhower NHS	Eastern Temperate Forests	11.2	3	8	17.5	17.5	4	8	5	12	8	8
ELMA	NM	El Malpais NM	North American Deserts	4.3	NA	NA	3	8.4	3	3	NA	NA	NA	NA
ELMA	NM	El Malpais NM	Temperate Sierras	4.3	NA	NA	NA	NA	4	7	NA	NA	NA	NA
ELMO	NM	El Morro NM	North American Deserts	3.1	NA	NA	3	8.4	3	3	NA	NA	NA	NA
ELRO	NY	Eleanor Roosevelt NHS	Eastern Temperate Forests	8.1	3	8	17.5	17.5	4	8	5	12	8	8
EUON	CA	Eugene O'Neill NHS	Mediterranean California	8.8	17	39	6	33	3.1	6	7.8	9.2	10	17
EVER	FL	Everglades NP	Tropical Humid Forests	10.0	5	10	NA	NA	NA	NA	NA	NA	NA	NA
FLFO	CO	Florissant Fossil Beds NM	Northwestern Forested Mountains	4.3	4	17	4	10	2.5	7.1	5	10	4	17
FOBO	AZ	Fort Bowie NHS	Southern Semi-Arid Highlands	3.9	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
FOCA	FL	Fort Caroline N MEM	Eastern Temperate Forests	7.0	3	8	17.5	17.5	4	8	5	12	8	8
FODA	TX	Fort Davis NHS	North American Deserts	4.1	NA	NA	3	8.4	3	3	NA	NA	NA	NA

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FODO	TN	Fort Donelson NB	Eastern Temperate Forests	10.0	3	8	17.5	17.5	4	8	5	12	8	8
FOFR	GA	Fort Frederica NM	Eastern Temperate Forests	6.7	3	8	17.5	17.5	4	8	5	12	8	8
FOLA	WY	Fort Laramie NHS	Great Plains	3.7	NA	NA	5	25	NA	NA	12	12	10	25
FOLS	KS	Fort Larned NHS	Great Plains	9.8	NA	NA	5	25	NA	NA	12	12	10	25
FOMA	FL	Fort Matanzas NM	Eastern Temperate Forests	4.6	3	8	17.5	17.5	4	8	5	12	8	8
FONE	PA	Fort Necessity NB	Eastern Temperate Forests	10.2	3	8	17.5	17.5	4	8	5	12	8	8
FOPU	GA	Fort Pulaski NM	Eastern Temperate Forests	7.9	3	8	17.5	17.5	4	8	5	12	8	8
FOSU	SC	Fort Sumter NM	Eastern Temperate Forests	10.0	3	8	17.5	17.5	4	8	5	12	8	8
FOUN	NM	Fort Union NM	Great Plains	3.7	NA	NA	5	25	NA	NA	12	12	10	25
FOUS	ND	Fort Union Trading Post NHS	Great Plains	4.5	NA	NA	5	25	NA	NA	12	12	10	25
FOVA	WA	Fort Vancouver NHS	Marine West Coast Forests	6.4	5	5	NA	NA	2.7	9.2	5	5	NA	NA
FOWA	MD	Fort Washington Park	Eastern Temperate Forests	10.2	3	8	17.5	17.5	4	8	5	12	8	8
FOBU	WY	Fossil Butte NM	North American Deserts	4.4	NA	NA	3	8.4	3	3	NA	NA	NA	NA
FRDO	DC	Frederick Douglass NHS	Eastern Temperate Forests	14.8	3	8	17.5	17.5	4	8	5	12	8	8
FRSP	VA	Fredericksburg & Spotsylvania NMP	Eastern Temperate Forests	9.1	3	8	17.5	17.5	4	8	5	12	8	8
FRHI	PA	Friendship Hill NHS	Eastern Temperate Forests	8.5	3	8	17.5	17.5	4	8	5	12	8	8
GATE	NY	Gateway NRA	Eastern Temperate Forests	18.0	3	8	17.5	17.5	4	8	5	12	8	8
GARI	WV	Gauley River NRA	Eastern Temperate Forests	7.5	3	8	17.5	17.5	4	8	5	12	8	8
GWCA	MO	George Washington Carver NM	Eastern Temperate Forests	12.6	3	8	17.5	17.5	4	8	5	12	8	8
GWMP	VA	George Washington Memorial PKWY	Eastern Temperate Forests	13.8	3	8	17.5	17.5	4	8	5	12	8	8
GETT	PA	Gettysburg NMP	Eastern Temperate Forests	11.6	3	8	17.5	17.5	4	8	5	12	8	8
GICL	NM	Gila Cliff Dwellings NM	Temperate Sierras	4.5	NA	NA	NA	NA	4	7	NA	NA	NA	NA
GLAC	MT	Glacier NP	Northwestern Forested Mountains	7.5	4	17	4	10	2.5	7.1	5	10	4	17
GLCA	UT	Glen Canyon NRA	North American Deserts	4.0	NA	NA	3	8.4	3	3	NA	NA	NA	NA
GOGA	CA	Golden Gate NRA	Marine West Coast Forests	9.0	5	5	NA	NA	2.7	9.2	5	5	NA	NA
GOGA	CA	Golden Gate NRA	Mediterranean California	8.8	17	39	6	33	3.1	6	7.8	9.2	10	17
GOSP	UT	Golden Spike NHS	North American Deserts	5.3	NA	NA	3	8.4	3	3	NA	NA	NA	NA
GRCA	AZ	Grand Canyon NP	North American Deserts	5.7	NA	NA	3	8.4	3	3	NA	NA	NA	NA
GRCA	AZ	Grand Canyon NP	Temperate Sierras	6.2	NA	NA	NA	NA	4	7	NA	NA	NA	NA
GRPO	MI	Grand Portage NM	Northern Forests	6.4	3	26	7	21	4	6	5	7	8	8
GRTE	WY	Grand Teton NP	Northwestern Forested Mountains	8.6	4	17	4	10	2.5	7.1	5	10	4	17
GRKO	MT	Grant-Kohrs Ranch NHS	Northwestern Forested Mountains	2.1	4	17	4	10	2.5	7.1	5	10	4	17
GRBA	NV	Great Basin NP	North American Deserts	4.9	NA	NA	3	8.4	3	3	NA	NA	NA	NA
GRSA	CO	Great Sand Dunes NP & PRES	North American Deserts	4.9	NA	NA	3	8.4	3	3	NA	NA	NA	NA
GRSA	CO	Great Sand Dunes NP & PRES	Northwestern Forested Mountains	6.1	4	17	4	10	2.5	7.1	5	10	4	17
GRSM	NC	Great Smoky Mountains NP	Eastern Temperate Forests	9.1	3	8	17.5	17.5	4	8	5	12	8	8
GREE	MD	Greenbelt Park	Eastern Temperate Forests	14.5	3	8	17.5	17.5	4	8	5	12	8	8
GUMO	TX	Guadalupe Mountains NP	North American Deserts	5.1	NA	NA	3	8.4	3	3	NA	NA	NA	NA
GUMO	TX	Guadalupe Mountains NP	Temperate Sierras	6.1	NA	NA	NA	NA	4	7	NA	NA	NA	NA
GUCO	NC	Guilford Courthouse NMP	Eastern Temperate Forests	12.3	3	8	17.5	17.5	4	8	5	12	8	8
GUIS	FL	Gulf Islands NS	Eastern Temperate Forests	12.2	3	8	17.5	17.5	4	8	5	12	8	8
HAFO	ID	Hagerman Fossil Beds NM	North American Deserts	7.7	NA	NA	3	8.4	3	3	NA	NA	NA	NA
HAFE	WV	Harpers Ferry NHP	Eastern Temperate Forests	9.6	3	8	17.5	17.5	4	8	5	12	8	8
HEHO	IA	Herbert Hoover NHS	Great Plains	12.9	NA	NA	5	25	NA	NA	12	12	10	25
HOFR	NY	Home Of Franklin D Roosevelt NHS	Eastern Temperate Forests	8.3	3	8	17.5	17.5	4	8	5	12	8	8
HOME	NE	Homestead NM of America	Great Plains	12.9	NA	NA	5	25	NA	NA	12	12	10	25
HOCU	OH	Hopewell Culture NHP	Eastern Temperate Forests	9.7	3	8	17.5	17.5	4	8	5	12	8	8
HOFU	PA	Hopewell Furnace NHS	Eastern Temperate Forests	13.1	3	8	17.5	17.5	4	8	5	12	8	8
HOBE	AL	Horseshoe Bend NMP	Eastern Temperate Forests	7.4	3	8	17.5	17.5	4	8	5	12	8	8
HOSP	AR	Hot Springs NP	Eastern Temperate Forests	9.6	3	8	17.5	17.5	4	8	5	12	8	8
HOVE	UT	Hovenweep NM	North American Deserts	3.5	NA	NA	3	8.4	3	3	NA	NA	NA	NA
HUTR	AZ	Hubbell Trading Post NHS	North American Deserts	2.8	NA	NA	3	8.4	3	3	NA	NA	NA	NA
INDU	IN	Indiana Dunes NL	Eastern Temperate Forests	16.5	3	8	17.5	17.5	4	8	5	12	8	8
JELA	LA	Jean Lafitte NHP & PRES	Eastern Temperate Forests	12.9	3	8	17.5	17.5	4	8	5	12	8	8
JELA	LA	Jean Lafitte NHP & PRES	Great Plains	11.7	NA	NA	5	25	NA	NA	12	12	10	25

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JECA	SD	Jewel Cave NM	Northwestern Forested Mountains	5.8	4	17	4	10	2.5	7.1	5	10	4	17
JODR	WY	John D Rockefeller Jr Memorial PKWY	Northwestern Forested Mountains	6.3	4	17	4	10	2.5	7.1	5	10	4	17
JODA	OR	John Day Fossil Beds NM	Northwestern Forested Mountains	1.4	4	17	4	10	2.5	7.1	5	10	4	17
JOMU	CA	John Muir NHS	Mediterranean California	10.0	17	39	6	33	3.1	6	7.8	9.2	10	17
JOFL	PA	Johnstown Flood N MEM	Eastern Temperate Forests	10.1	3	8	17.5	17.5	4	8	5	12	8	8
JOTR	CA	Joshua Tree NP	North American Deserts	5.8	NA	NA	3	8.4	3	3	NA	NA	NA	NA
KEMO	GA	Kennesaw Mountain NBP	Eastern Temperate Forests	12.9	3	8	17.5	17.5	4	8	5	12	8	8
KIMO	SC	Kings Mountain NMP	Eastern Temperate Forests	8.2	3	8	17.5	17.5	4	8	5	12	8	8
KNRI	ND	Knife River Indian Villages NHS	Great Plains	8.0	NA	NA	5	25	NA	NA	12	12	10	25
LAKE	NV	Lake Mead NRA	North American Deserts	4.2	NA	NA	3	8.4	3	3	NA	NA	NA	NA
LAMR	TX	Lake Meredith NRA	Great Plains	7.1	NA	NA	5	25	NA	NA	12	12	10	25
LARO	WA	Lake Roosevelt NRA	North American Deserts	2.3	NA	NA	3	8.4	3	3	NA	NA	NA	NA
LARO	WA	Lake Roosevelt NRA	Northwestern Forested Mountains	2.3	4	17	4	10	2.5	7.1	5	10	4	17
LAVO	CA	Lassen Volcanic NP	Northwestern Forested Mountains	3.7	4	17	4	10	2.5	7.1	5	10	4	17
LABE	CA	Lava Beds NM	Northwestern Forested Mountains	2.6	4	17	4	10	2.5	7.1	5	10	4	17
LEWI	WA	Lewis and Clark NHP	Marine West Coast Forests	3.3	5	5	NA	NA	2.7	9.2	5	5	NA	NA
LIBO	IN	Lincoln Boyhood N MEM	Eastern Temperate Forests	11.2	3	8	17.5	17.5	4	8	5	12	8	8
LIBI	MT	Little Bighorn Battlefield NM	Great Plains	3.2	NA	NA	5	25	NA	NA	12	12	10	25
LIRI	AL	Little River Canyon N PRES	Eastern Temperate Forests	9.8	3	8	17.5	17.5	4	8	5	12	8	8
LYJO	TX	Lyndon B Johnson NHP	Great Plains	7.2	NA	NA	5	25	NA	NA	12	12	10	25
MACA	KY	Mammoth Cave NP	Eastern Temperate Forests	10.3	3	8	17.5	17.5	4	8	5	12	8	8
MANA	VA	Manassas NBP	Eastern Temperate Forests	10.1	3	8	17.5	17.5	4	8	5	12	8	8
MANZ	CA	Manzanar NHS	North American Deserts	3.9	NA	NA	3	8.4	3	3	NA	NA	NA	NA
MABI	VT	Marsh - Billings - Rockefeller NHP	Northern Forests	5.6	3	26	7	21	4	6	5	7	8	8
MAMC	DC	Mary McLeod Bethune Council House NHS	Eastern Temperate Forests	13.6	3	8	17.5	17.5	4	8	5	12	8	8
MEVE	CO	Mesa Verde NP	North American Deserts	4.1	NA	NA	3	8.4	3	3	NA	NA	NA	NA
MIMA	MA	Minute Man NHP	Eastern Temperate Forests	7.7	3	8	17.5	17.5	4	8	5	12	8	8
MISS	MN	Mississippi NRRA	Eastern Temperate Forests	18.5	3	8	17.5	17.5	4	8	5	12	8	8
MISS	MN	Mississippi NRRA	Great Plains	13.7	NA	NA	5	25	NA	NA	12	12	10	25
MNRR	SD	Missouri NRR	Great Plains	12.4	NA	NA	5	25	NA	NA	12	12	10	25
MOJA	CA	Mojave N PRES	North American Deserts	5.4	NA	NA	3	8.4	3	3	NA	NA	NA	NA
MONO	MD	Monocacy NB	Eastern Temperate Forests	11.7	3	8	17.5	17.5	4	8	5	12	8	8
MOCA	AZ	Montezuma Castle NM	Temperate Sierras	3.8	NA	NA	NA	NA	4	7	NA	NA	NA	NA
MOCR	NC	Moores Creek NB	Eastern Temperate Forests	11.6	3	8	17.5	17.5	4	8	5	12	8	8
MORR	NJ	Morristown NHP	Eastern Temperate Forests	11.3	3	8	17.5	17.5	4	8	5	12	8	8
MORR	NJ	Morristown NHP	Northern Forests	11.3	3	26	7	21	4	6	5	7	8	8
MORA	WA	Mount Rainier NP	Marine West Coast Forests	3.8	5	5	NA	NA	2.7	9.2	5	5	NA	NA
MORA	WA	Mount Rainier NP	Northwestern Forested Mountains	4.8	4	17	4	10	2.5	7.1	5	10	4	17
MORU	SD	Mount Rushmore N MEM	Northwestern Forested Mountains	6.7	4	17	4	10	2.5	7.1	5	10	4	17
MUWO	CA	Muir Woods NM	Mediterranean California	6.9	17	39	6	33	3.1	6	7.8	9.2	10	17
NATR	MS	Natchez Trace PKWY	Eastern Temperate Forests	12.2	3	8	17.5	17.5	4	8	5	12	8	8
NABR	UT	Natural Bridges NM	North American Deserts	4.7	NA	NA	3	8.4	3	3	NA	NA	NA	NA
NAVA	AZ	Navajo NM	North American Deserts	3.4	NA	NA	3	8.4	3	3	NA	NA	NA	NA
NERI	VA	New River Gorge NR	Eastern Temperate Forests	7.9	3	8	17.5	17.5	4	8	5	12	8	8
NEPE	WA	Nez Perce NHP	Great Plains	3.8	NA	NA	5	25	NA	NA	12	12	10	25
NEPE	WA	Nez Perce NHP	North American Deserts	3.1	NA	NA	3	8.4	3	3	NA	NA	NA	NA
NEPE	WA	Nez Perce NHP	Northwestern Forested Mountains	3.8	4	17	4	10	2.5	7.1	5	10	4	17
NISI	SC	Ninety Six NHS	Eastern Temperate Forests	6.7	3	8	17.5	17.5	4	8	5	12	8	8
NIOB	NE	Niobrara NSR	Great Plains	8.6	NA	NA	5	25	NA	NA	12	12	10	25
NOCA	WA	North Cascades NP	Northwestern Forested Mountains	5.5	4	17	4	10	2.5	7.1	5	10	4	17
OBED	TN	Obed WSR	Eastern Temperate Forests	8.4	3	8	17.5	17.5	4	8	5	12	8	8
OCMU	GA	Ocmulgee NM	Eastern Temperate Forests	10.6	3	8	17.5	17.5	4	8	5	12	8	8
OLYM	WA	Olympic NP	Marine West Coast Forests	3.7	5	5	NA	NA	2.7	9.2	5	5	NA	NA
OLYM	WA	Olympic NP	Northwestern Forested Mountains	3.7	4	17	4	10	2.5	7.1	5	10	4	17
ORCA	OR	Oregon Caves NM & PRES	Northwestern Forested Mountains	3.7	4	17	4	10	2.5	7.1	5	10	4	17

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ORPI	AZ	Organ Pipe Cactus NM	North American Deserts	3.1	NA	NA	3	8.4	3	3	NA	NA	NA	NA
OZAR	MO	Ozark NSRs	Eastern Temperate Forests	9.4	3	8	17.5	17.5	4	8	5	12	8	8
PAIS	TX	Padre Island NS	Great Plains	7.0	NA	NA	5	25	NA	NA	12	12	10	25
PAAL	TX	Palo Alto Battlefield NHP	Great Plains	7.1	NA	NA	5	25	NA	NA	12	12	10	25
PERI	AR	Pea Ridge NMP	Eastern Temperate Forests	12.1	3	8	17.5	17.5	4	8	5	12	8	8
PECO	NM	Pecos NHP	Northwestern Forested Mountains	4.3	4	17	4	10	2.5	7.1	5	10	4	17
PETE	VA	Petersburg NB	Eastern Temperate Forests	10.7	3	8	17.5	17.5	4	8	5	12	8	8
PEFO	AZ	Petrified Forest NP	North American Deserts	3.5	NA	NA	3	8.4	3	3	NA	NA	NA	NA
PETR	NM	Petroglyph NM	North American Deserts	5.1	NA	NA	3	8.4	3	3	NA	NA	NA	NA
PIRO	MI	Pictured Rocks NL	Northern Forests	9.0	3	26	7	21	4	6	5	7	8	8
PINN	CA	Pinnacles NP	Mediterranean California	3.0	17	39	6	33	3.1	6	7.8	9.2	10	17
PISP	AZ	Pipe Spring NM	North American Deserts	2.8	NA	NA	3	8.4	3	3	NA	NA	NA	NA
PIPE	MN	Pipestone NM	Great Plains	13.0	NA	NA	5	25	NA	NA	12	12	10	25
PISC	MD	Piscataway Park	Eastern Temperate Forests	11.1	3	8	17.5	17.5	4	8	5	12	8	8
PORE	CA	Point Reyes NS	Mediterranean California	5.1	17	39	6	33	3.1	6	7.8	9.2	10	17
PRWI	VA	Prince William Forest Park	Eastern Temperate Forests	10.1	3	8	17.5	17.5	4	8	5	12	8	8
RABR	UT	Rainbow Bridge NM	North American Deserts	2.4	NA	NA	3	8.4	3	3	NA	NA	NA	NA
REDW	CA	Redwood NSP	Marine West Coast Forests	5.4	5	5	NA	NA	2.7	9.2	5	5	NA	NA
REDW	CA	Redwood NSP	Northwestern Forested Mountains	4.9	4	17	4	10	2.5	7.1	5	10	4	17
RICH	VA	Richmond NBP	Eastern Temperate Forests	11.0	3	8	17.5	17.5	4	8	5	12	8	8
RIGR	TX	Rio Grande WSR	North American Deserts	4.8	NA	NA	3	8.4	3	3	NA	NA	NA	NA
ROCR	DC	Rock Creek Park	Eastern Temperate Forests	13.7	3	8	17.5	17.5	4	8	5	12	8	8
ROMO	CO	Rocky Mountain NP	Northwestern Forested Mountains	7.2	4	17	4	10	2.5	7.1	5	10	4	17
RUCA	AL	Russell Cave NM	Eastern Temperate Forests	8.9	3	8	17.5	17.5	4	8	5	12	8	8
SAGU	AZ	Saguaro NP	North American Deserts	4.7	NA	NA	3	8.4	3	3	NA	NA	NA	NA
SAGU	AZ	Saguaro NP	Southern Semi-Arid Highlands	5.4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SACN	WI	Saint Croix NSR	Eastern Temperate Forests	11.2	3	8	17.5	17.5	4	8	5	12	8	8
SACN	WI	Saint Croix NSR	Northern Forests	11.2	3	26	7	21	4	6	5	7	8	8
SAGA	NH	Saint-Gaudens NHS	Northern Forests	5.4	3	26	7	21	4	6	5	7	8	8
SAPU	NM	Salinas Pueblo Missions NM	Great Plains	3.7	NA	NA	5	25	NA	NA	12	12	10	25
SAAN	TX	San Antonio Missions NHP	Eastern Temperate Forests	7.5	3	8	17.5	17.5	4	8	5	12	8	8
SAAN	TX	San Antonio Missions NHP	Great Plains	12.1	NA	NA	5	25	NA	NA	12	12	10	25
SAND	CO	Sand Creek Massacre NHS	Great Plains	5.7	NA	NA	5	25	NA	NA	12	12	10	25
SAMO	CA	Santa Monica Mountains NRA	Mediterranean California	22.2	17	39	6	33	3.1	6	7.8	9.2	10	17
SARA	NY	Saratoga NHP	Eastern Temperate Forests	7.7	3	8	17.5	17.5	4	8	5	12	8	8
SAIR	MA	Saugus Iron Works NHS	Eastern Temperate Forests	8.8	3	8	17.5	17.5	4	8	5	12	8	8
SCBL	NE	Scotts Bluff NM	Great Plains	6.6	NA	NA	5	25	NA	NA	12	12	10	25
SEKI	CA	Sequoia & Kings Canyon NPs	Mediterranean California	9.5	17	39	6	33	3.1	6	7.8	9.2	10	17
SEKI	CA	Sequoia & Kings Canyon NPs	Northwestern Forested Mountains	9.5	4	17	4	10	2.5	7.1	5	10	4	17
SHEN	VA	Shenandoah NP	Eastern Temperate Forests	12.4	3	8	17.5	17.5	4	8	5	12	8	8
SHIL	MS	Shiloh NMP	Eastern Temperate Forests	7.8	3	8	17.5	17.5	4	8	5	12	8	8
SLBE	MI	Sleeping Bear Dunes NL	Eastern Temperate Forests	9.6	3	8	17.5	17.5	4	8	5	12	8	8
STRI	TN	Stones River NB	Eastern Temperate Forests	9.7	3	8	17.5	17.5	4	8	5	12	8	8
SUCR	AZ	Sunset Crater Volcano NM	Temperate Sierras	4.8	NA	NA	NA	NA	4	7	NA	NA	NA	NA
TAPR	KS	Tallgrass Prairie N PRES	Great Plains	10.0	NA	NA	5	25	NA	NA	12	12	10	25
THRO	ND	Theodore Roosevelt NP	Great Plains	5.5	NA	NA	5	25	NA	NA	12	12	10	25
THST	MD	Thomas Stone NHS	Eastern Temperate Forests	9.3	3	8	17.5	17.5	4	8	5	12	8	8
TICA	UT	Timpanogos Cave NM	Northwestern Forested Mountains	8.0	4	17	4	10	2.5	7.1	5	10	4	17
TIMU	FL	Timucuan Ecological & Historic PRES	Eastern Temperate Forests	7.4	3	8	17.5	17.5	4	8	5	12	8	8
TONT	AZ	Tonto NM	Temperate Sierras	3.8	NA	NA	NA	NA	4	7	NA	NA	NA	NA
TUMA	AZ	Tumacácori NHP	Southern Semi-Arid Highlands	4.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TUZI	AZ	Tuzigoot NM	Temperate Sierras	3.3	NA	NA	NA	NA	4	7	NA	NA	NA	NA
UPDE	PA	Upper Delaware SRR	Eastern Temperate Forests	7.8	3	8	17.5	17.5	4	8	5	12	8	8
UPDE	PA	Upper Delaware SRR	Northern Forests	8.5	3	26	7	21	4	6	5	7	8	8
VAFO	PA	Valley Forge NHP	Eastern Temperate Forests	13.5	3	8	17.5	17.5	4	8	5	12	8	8

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VAMA	NY	Vanderbilt Mansion NHS	Eastern Temperate Forests	8.3	3	8	17.5	17.5	4	8	5	12	8	8
VICK	LA	Vicksburg NMP	Eastern Temperate Forests	9.3	3	8	17.5	17.5	4	8	5	12	8	8
VOYA	MN	Voyageurs NP	Northern Forests	4.9	3	26	7	21	4	6	5	7	8	8
WACA	AZ	Walnut Canyon NM	Temperate Sierras	6.2	NA	NA	NA	NA	4	7	NA	NA	NA	NA
WABA	OK	Washita Battlefield NHS	Great Plains	8.1	NA	NA	5	25	NA	NA	12	12	10	25
WEFA	CT	Weir Farm NHS	Eastern Temperate Forests	9.9	3	8	17.5	17.5	4	8	5	12	8	8
WHIS	CA	Whiskeytown NRA	Mediterranean California	3.5	17	39	6	33	3.1	6	7.8	9.2	10	17
WHIS	CA	Whiskeytown NRA	Northwestern Forested Mountains	3.5	4	17	4	10	2.5	7.1	5	10	4	17
WHSA	NM	White Sands NM	North American Deserts	3.1	NA	NA	3	8.4	3	3	NA	NA	NA	NA
WHMI	WA	Whitman Mission NHS	North American Deserts	2.9	NA	NA	3	8.4	3	3	NA	NA	NA	NA
WICR	MO	Wilson's Creek NB	Eastern Temperate Forests	12.2	3	8	17.5	17.5	4	8	5	12	8	8
WICA	SD	Wind Cave NP	Northwestern Forested Mountains	6.1	4	17	4	10	2.5	7.1	5	10	4	17
WOTR	VA	Wolf Trap NP for the Performing Arts	Eastern Temperate Forests	12.2	3	8	17.5	17.5	4	8	5	12	8	8
VALR	HI	World War II Valor in the Pacific NM	Northwestern Forested Mountains	2.3	4	17	4	10	2.5	7.1	5	10	4	17
WUPA	AZ	Wupatki NM	North American Deserts	3.1	NA	NA	3	8.4	3	3	NA	NA	NA	NA
WUPA	AZ	Wupatki NM	Temperate Sierras	2.9	NA	NA	NA	NA	4	7	NA	NA	NA	NA
YELL	WY	Yellowstone NP	Northwestern Forested Mountains	6.2	4	17	4	10	2.5	7.1	5	10	4	17
YOSE	CA	Yosemite NP	North American Deserts	4.9	NA	NA	3	8.4	3	3	NA	NA	NA	NA
YOSE	CA	Yosemite NP	Northwestern Forested Mountains	5.8	4	17	4	10	2.5	7.1	5	10	4	17
YUHO	CO	Yucca House NM	North American Deserts	3.4	NA	NA	3	8.4	3	3	NA	NA	NA	NA
ZION	UT	Zion NP	North American Deserts	4.4	NA	NA	3	8.4	3	3	NA	NA	NA	NA
ZION	UT	Zion NP	Northwestern Forested Mountains	4.4	4	17	4	10	2.5	7.1	5	10	4	17
VAMA	NY	Vanderbilt Mansion NHS	Eastern Temperate Forests	8.3	3	8	17.5	17.5	4	8	5	12	8	8
VICK	LA	Vicksburg NMP	Eastern Temperate Forests	9.3	3	8	17.5	17.5	4	8	5	12	8	8
VOYA	MN	Voyageurs NP	Northern Forests	4.9	3	26	7	21	4	6	5	7	8	8
WABA	OK	Washita Battlefield NHS	Great Plains	8.1	NA	NA	5	25	NA	NA	12	12	10	25
WACA	AZ	Walnut Canyon NM	Temperate Sierras	6.2	NA	NA	NA	NA	4	7	NA	NA	NA	NA
WACO	TX	Waco Mammoth NM	Great Plains	10.3	NA	NA	5	25	NA	NA	12	12	10	25
WEFA	CT	Weir Farm NHS	Eastern Temperate Forests	9.9	3	8	17.5	17.5	4	8	5	12	8	8
WHIS	CA	Whiskeytown NRA	Northwestern Forested Mountains	3.5	4	17	4	10	2.5	7.1	5	10	4	17
WHIS	CA	Whiskeytown NRA	Mediterranean California	3.5	17	39	6	33	3.1	6	7.8	9.2	10	17
WHMI	WA	Whitman Mission NHS	North American Deserts	2.9	NA	NA	3	8.4	3	3	NA	NA	NA	NA
WHSA	NM	White Sands NM	North American Deserts	3.1	NA	NA	3	8.4	3	3	NA	NA	NA	NA
WICA	SD	Wind Cave NP	Northwestern Forested Mountains	6.1	4	17	4	10	2.5	7.1	5	10	4	17
WICR	MO	Wilsons Creek NB	Eastern Temperate Forests	12.2	3	8	17.5	17.5	4	8	5	12	8	8
WOTR	VA	Wolf Trap Farm Park	Eastern Temperate Forests	12.2	3	8	17.5	17.5	4	8	5	12	8	8
WRBR	NC	Wright Brothers NMem	Eastern Temperate Forests	5.8	3	8	17.5	17.5	4	8	5	12	8	8
WUPA	AZ	Wupatki NM	North American Deserts	3.1	NA	NA	3	8.4	3	3	NA	NA	NA	NA
WUPA	AZ	Wupatki NM	Temperate Sierras	2.9	NA	NA	NA	NA	4	7	NA	NA	NA	NA
YELL	WY	Yellowstone NP	Northwestern Forested Mountains	6.2	4	17	4	10	2.5	7.1	5	10	4	17
YOSE	CA	Yosemite NP	North American Deserts	4.9	NA	NA	3	8.4	3	3	NA	NA	NA	NA
YOSE	CA	Yosemite NP	Northwestern Forested Mountains	5.8	4	17	4	10	2.5	7.1	5	10	4	17
YUHO	CO	Yucca House NM	North American Deserts	3.4	NA	NA	3	8.4	3	3	NA	NA	NA	NA
ZION	UT	Zion NP	North American Deserts	4.4	NA	NA	3	8.4	3	3	NA	NA	NA	NA
ZION	UT	Zion NP	Northwestern Forested Mountains	4.4	4	17	4	10	2.5	7.1	5	10	4	17