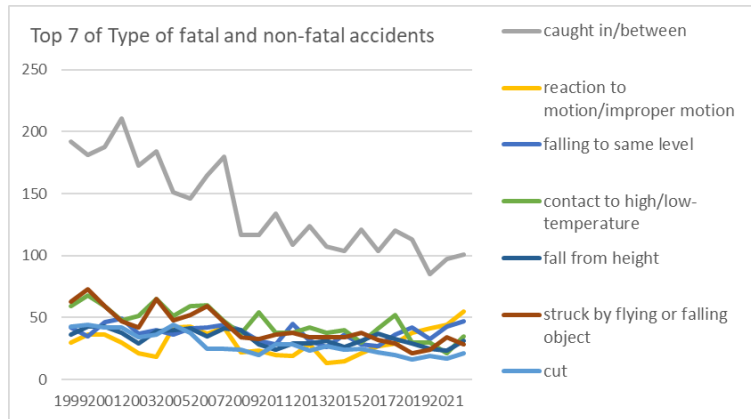
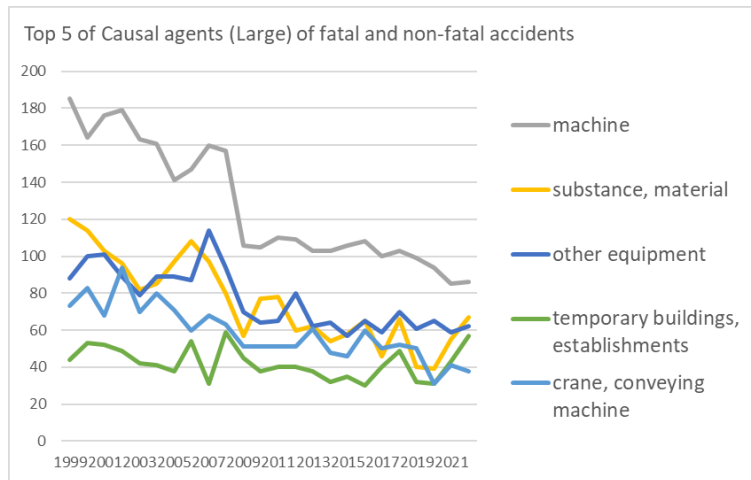


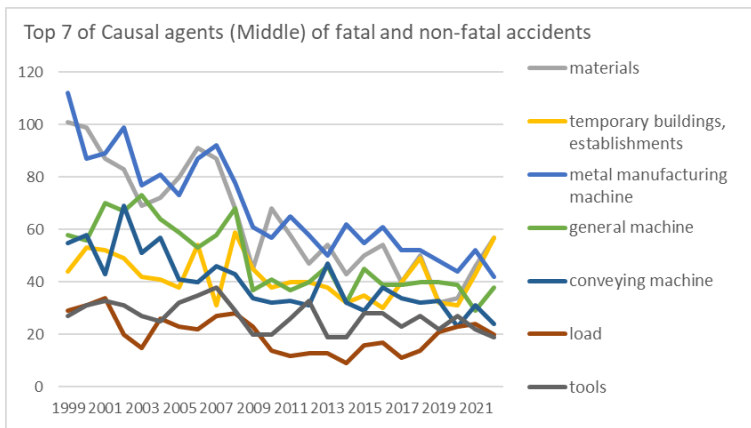
Transition of fatal and non-fatal accidents in 0111 nonferrous metal making in Japan (1999-2022)



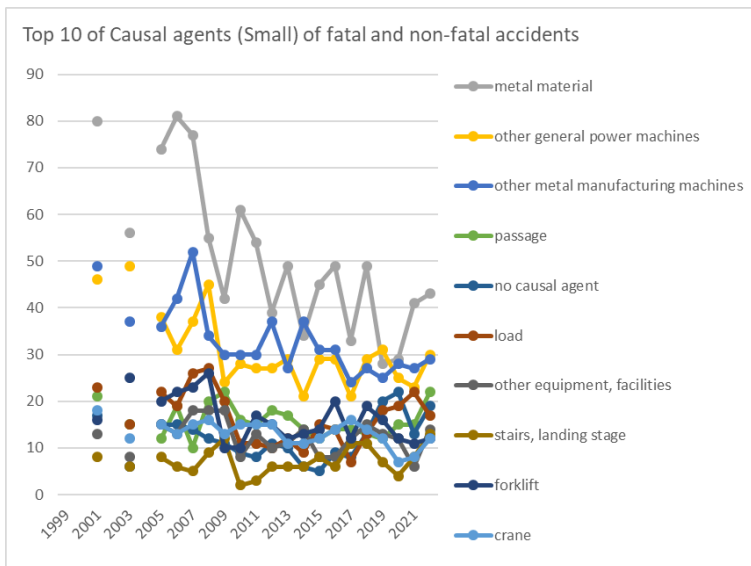
Transition of Top 7 of Type of fatal and non-fatal accidents in 0111 nonferrous metal making in Japan (1999-2022)



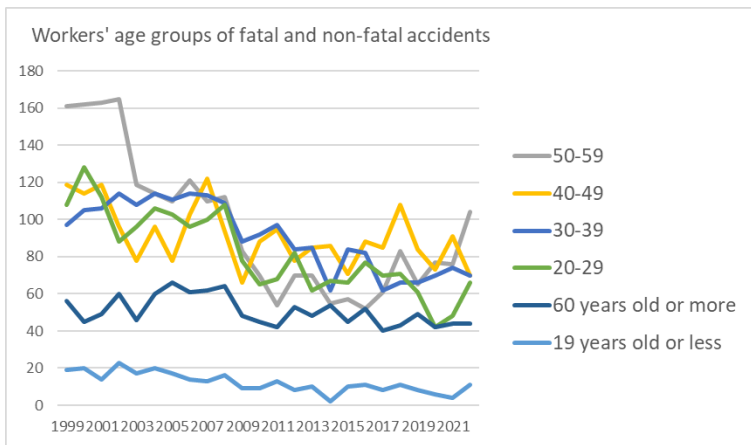
Transition of Top 5 of Causal agents (Large) of fatal and non-fatal accidents in 0111 nonferrous metal making in Japan (1999-2022)



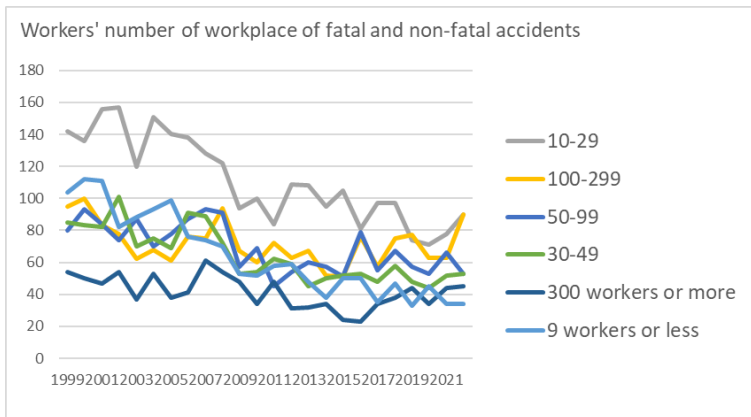
Transition of Top 7 of Causal agents (Middle) of fatal and non-fatal accidents in 0111 nonferrous metal making in Japan (1999-2022)



Transition of Top 10 of Causal agents (Small) of fatal and non-fatal accidents in 0111 nonferrous metal making in Japan (1999-2022)



Transition of workers' age groups of fatal and non-fatal accidents in 0111 nonferrous metal making in Japan (1999-2022)



Transition of workers' number of workplace of fatal and non-fatal accidents in 0111 nonferrous metal making in Japan (1999-2022)

motion/improper motion	30	36	36	30	21	18	42	43	37	42	22	23	20	19	28	13	15	21	27	29	38	41	44	55	730	motion/improper motion
falling to same level	42	35	46	49	37	40	36	41	42	44	40	31	28	45	31	26	36	28	27	36	42	33	43	47	905	falling to same level
contact to high/low-temperature	59	68	59	48	51	65	51	59	60	47	37	54	38	38	42	38	40	30	41	52	30	30	21	35	1,093	contact to high/low-temperature
fall from height	36	43	43	38	29	39	40	41	35	41	40	28	24	29	29	31	26	31	37	33	29	25	23	31	801	fall from height
struck by flying or falling object	63	73	59	47	42	65	48	52	59	46	34	33	36	38	34	34	34	38	32	29	21	24	34	28	1,003	struck by flying or falling object
cut	43	44	42	42	34	36	44	38	25	25	24	20	28	28	23	27	24	25	22	20	16	19	17	21	687	cut
crashed by	30	26	25	32	16	20	17	29	28	23	19	15	26	20	13	22	9	26	9	17	14	20	14	15	485	crashed by
collapse	12	14	13	6	14	3	11	12	21	14	10	10	5	14	10	6	15	8	5	6	10	5	6	11	241	collapse
crash	22	19	23	19	15	19	14	26	19	21	12	16	9	14	13	6	10	11	12	23	10	18	13	9	373	crash
contact to harmful substance	10	8	6	9	11	6	15	10	6	6	10	6	12	7	4	3	3	6	3	11	3	2	6	4	167	contact to harmful substance
explosion	12	11	11	4	5	4	5	4	13	7	6	3	4	5	3	1	4	5	3			2	5	4	121	explosion
others	2	3	1		5	2	1	2	1	1		3	2	3	2		3	1	2		3	1	11	2	51	others
fire		1				1		2	1	1		1	1	1		3	2			2	2		2	2	22	fire
traffic accident (public road)	3	7	5	2	5	5	8	1	3	2		3	2	2	4	4	2	6	1	1	2	2			70	traffic accident (public road)
injury to the sole of the foot	4	1	3	1	2	1	1	2	2	1		2		2		1	2	1		1		1	1		29	injury to the sole of the foot
burst				7	2			1	2					1				3	1	2					19	burst

electric shock		3	2	1		1				1	1	2													1			12	electric shock	
unclassifiable		1			2	1	1			1					2	1	1									1			11	unclassifiable
traffic accident (others)										1		1			1	3												6	traffic accident (others)	
drown			1									1			1													3	drown	
total	560	574	563	546	464	510	485	509	520	503	372	369	369	375	360	326	333	362	326	382	333	310	337	365	10,153		total			

Transition of Causal agents (Large) of fatal and non-fatal accidents in 0111 nonferrous metal making in Japan (1999-2022)

Causal (L) agents	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	total	Causal (L) agents
machine	185	164	176	179	163	161	141	147	160	157	106	105	110	109	103	103	106	108	100	103	99	94	85	86	3,050	machine
substance, material	120	114	103	96	82	85	97	108	97	80	57	77	78	60	62	54	58	65	46	66	40	39	55	67	1,806	substance, material
other equipment	88	100	101	89	79	89	89	87	114	94	70	64	65	80	62	64	57	65	59	70	61	65	59	62	1,833	other equipment
temporary buildings, establishments	44	53	52	49	42	41	38	54	31	59	45	38	40	40	38	32	35	30	40	49	32	31	43	57	1,013	temporary buildings, establishments
crane, conveying machine	73	83	68	94	70	80	71	60	68	63	51	51	51	51	61	48	46	60	50	52	50	31	41	38	1,411	crane, conveying machine
others	11	20	23	11	9	15	22	23	17	16	11	13	10	13	12	10	8	13	12	17	23	24	24	23	380	others
load	29	31	34	20	15	26	23	22	27	28	23	14	12	13	13	9	16	17	11	14	21	23	24	20	485	load
environment	10	9	6	8	4	13	4	8	6	6	9	7	3	9	9	6	7	4	8	11	7	3	6	12	175	environment
total	560	574	563	546	464	510	485	509	520	503	372	369	369	375	360	326	333	362	326	382	333	310	337	365	10,153	total

natural environment	10	9	6	8	4	13	4	8	6	6	9	7	3	9	9	6	7	4	8	11	7	3	6	12	175	natural environment
kiln, caldron	20	24	23	16	21	23	18	18	31	24	15	20	12	14	14	12	15	9	16	12	11	13	16	11	408	kiln, caldron
hazards, harmful substances	19	15	16	13	13	13	17	17	10	12	12	9	20	13	8	11	8	11	6	16	8	5	9	10	291	hazards, harmful substances
other causal agent	4	3	6	2	2	3	5	6	3	3		4	2	2	1	3	2	3	4	4	3	2	11	4	82	other causal agent
power transmission mechanism	9	14	8	5	4	7	4	4	5	8	4	3	3	4	3	4	1	4	4	7	7	3	1	3	119	power transmission mechanism
woodworking machine	4	5	6	7	7	7	4	3	3	3	2	2	3	4	2	4	3	2	3	3	1	6	1	2	87	woodworking machine
construction machine	2	2	3		2	2	1		2		2	2	2	2	2	1	2	2	1	1	3	2	2	1	39	construction machine
welding equipment	1	3	1		1	1			1		2	1	1	4	1	1		4			1			1	24	welding equipment
vehicle	2	3	5	3	5	5	10	2	5	4	2	3	2	2	1	4	3	5		4	3	1			74	vehicle
electric equipment	2	3	4	2	1	3	1		1	1	3	3					1			1	2	2			30	electric equipment
chemical facilities	1	2		2	1		3	2	2	1					1			4	2	3			1		25	chemical facilities
unclassifiable				1	1	3	2	2		1					1	1	1	1							14	unclassifiable
pressure vessel	1	1	2				1		2	1				2		1		1							12	pressure vessel
engine				1										1					1						3	engine

environment																									environment	
other tools			17		19		12	16	21	17	7	4	10	22	12	9	18	16	12	13	11	18	12	9	275	other tools
conveyor			12		16		10	8	7	6	11	13	9	6	19	10	9	6	11	5	7	7	11	8	191	conveyor
ladder			9		3		12	14	11	9	10	11	9	7	3	5	8	9	10	11	10	7	7	8	173	ladder
hand tool			14		9		9	14	12	10	9	4	8	7	10	10	2	4	3	5	7	6	4	7	154	hand tool
working platform, boot board			10		8		5	14	7	14	3	9	7	6	6	3	6	5	6	7	7	2	7	7	139	working platform, boot board
human power hauling equipment			9		9		8	3	8	9	3	6	4	10	6	4	3	7	2	6	4	3	7	7	118	human power hauling equipment
building, establishment			9		6		8	4	6	9	2	6	10	4	5	5	4	2	5	10	3	4	5	6	113	building, establishment
other temporary buildings, establishments			1		6		3	5		5	4	5	2	4	3	3	3	1	1	7	3	4	4	6	70	other temporary buildings, establishments
other hazards, harmful substances			4		6		4	7	6	4	3	3	7	7	2	1	4	5	4	5	4	4	2	5	87	other hazards, harmful substances
power press			11		15		9	16	19	16	9	8	12	9	7	8	6	6	12	7	5	3	5	4	187	power press
grinding machine, buffing machine			9		6		14	16	7	10	8	7	9	8	6	9	8	8	12	7	7	3	11	4	169	grinding machine, buffing machine
roll machine (except printingroll machine)			11		12		14	11	9	11	9	8	6	7	8	5	10	6	7	4	2	7	3	4	154	roll machine (except printingroll machine)
other causal agent			6		2		5	6	3	3		4	2	2	1	3	2	3	4	4	3	2	11	4	70	other causal agent
power transmission mechanism			8		4		4	4	5	8	4	3	3	4	3	4	1	4	4	7	7	3	1	3	84	power transmission mechanism

lathe			10		4		3	4	2	5	6	2	4	2	3	3	1	5	2	4	1	5	4	3	73	lathe
machine/equipment as load			11				1	3	1	1	3	3	1	3	1		1	3	4	1	3	4	2	3	49	machine/equipment as load
lumber, bamboo			1		1			1	1	3	1			3	2						1	2	1	3	20	lumber, bamboo
truck			12		7		11	7	11	7	9	6	6	7	13	4	6	10	9	6	5	2	6	2	146	truck
harmful substance			6		5		13	3	3	4	4	3	9	4	4	4	3	6		4		1	4	2	82	harmful substance
slinging tool			7		5		8	5	6	3	3	5	7	4	4	5	2	3	1	3	1	2	3	2	79	slinging tool
mixer, grinder			6		3		1	5	6	5	2	3	1	2	4	4	3	2	5	2	4	7	1	2	68	mixer, grinder
other powered conveying machines			2		3			2	5	3	3	2	1	2	2	3		2	2	1	4	1	3	2	43	other powered conveying machines
other environments			2		2		2	2	1	3	1	1	1	2	2	2	2	2	2	1	2	1	1	2	34	other environments
explosive substance			5							1	5		1	1	1	1				2				2	19	explosive substance
elevator, lift			2				1	2	1					1				2		1	1		1	2	14	elevator, lift
human power machine			2		1		1	1		1		2				2					1		1	2	14	human power machine
drill press, milling machine			7		12		8	7	7	9	5	4	5		6	4	8	7	2	5	7	3	3	1	110	drill press, milling machine
injection molding machine			3		5		4	3	4	5	2	1	2	2	4	2	1		2	5	2			1	48	injection molding machine
shearing machine			2		2		3		3	3	3	5	4	2	1	1		4		2	3	2	2	1	43	shearing machine
inflammable substance					1			5	1	3		3	3		1	5			2	3			1	1	29	inflammable substance
circular sawing machine			4		2		2	3		1		2	2	1	1	2	1	1			1	3		1	27	circular sawing machine
industrial robot			2		3		1	2	2			1	1	1	1		1	2	3				2	1	23	industrial robot

opening			2				1	4	2		2		1	1	1			1	2			1	2	1	21	opening	
stone, sand, substance			1		3				2				1		1	1	2	2	1	1			1	1	1	18	stone, sand, substance
roof, beam, haze, crossbeam, principal rafter			1		1			1	1	2			2			1	1		1				1	1	1	14	roof, beam, haze, crossbeam, principal rafter
human power cranes					1		1	1	1				1			1			1	1			2	2	1	13	human power cranes
leveling, transporting or loading machine			2		2								1			1						2	1		1	11	leveling, transporting or loading machine
other woodworking machines					2				1		2			1		1			1						1	9	other woodworking machines
gas welding equipment									1		2	1	1	3											1	9	gas welding equipment
scaffolding							1	1						1			1	1		1					1	7	scaffolding
cars, bus, motorcycle			4		5		10	2	5	2	2	3	2	2	1	4	3	4		4	3	1				57	cars, bus, motorcycle
other powered crane					2		3	2	1		2	1	1	1	2	1	2	1		1			1	1		21	other powered crane
other kiln, caldron					2		1	1	2	1			1	1	1		1	3	2		1	4				21	other kiln, caldron
band sawing machine			2		1		2		1	2			1	1	1	1	2	1	1	2			1	1		20	band sawing machine
chemical facilities					1		3	2	2	1				1			4	2	3				1			20	chemical facilities
inflammable gas			1		1			2						1			1			2	4			2		14	inflammable gas

other welding equipment			1											1	1							1						4	other welding equipment		
wood planer machine					1				1																			1	3	wood planer machine	
food manufacturing machine			1		1																								3	food manufacturing machine	
mobile crane							1	1																					3	mobile crane	
engine														1															2	engine	
hollow chisel mortiser, wood borer																													2	hollow chisel mortiser, wood borer	
chain saw																													2	chain saw	
other construction machines																													2	other construction machines	
printing machine																													2	printing machine	
boiler																													2	boiler	
chamfering machine, router, woodworking milling machine																													1	chamfering machine, router, woodworking milling machine	
hardening machine																													1	1	hardening machine
cargo lifting appliance																													1	1	cargo lifting appliance
timbering																													1	1	timbering
standing tree																													1	1	standing tree

Age	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	total	Age
50-59	161	162	163	165	119	114	110	121	110	112	83	70	54	70	70	55	57	52	61	83	65	77	76	104	2,314	50-59
40-49	119	114	119	96	78	96	78	103	122	94	66	88	95	78	85	86	71	88	85	108	84	73	91	70	2,187	40-49
30-39	97	105	106	114	108	114	111	114	113	109	88	92	97	84	85	62	84	82	62	66	66	70	74	70	2,173	30-39
20-29	108	128	112	88	96	106	103	96	100	108	78	65	68	82	62	67	66	77	70	71	61	42	48	66	1,968	20-29
60 years old or more	56	45	49	60	46	60	66	61	62	64	48	45	42	53	48	54	45	52	40	43	49	42	44	44	1,218	60 years old or more
19 years old or less	19	20	14	23	17	20	17	14	13	16	9	9	13	8	10	2	10	11	8	11	8	6	4	11	293	19 years old or less
total	560	574	563	546	464	510	485	509	520	503	372	369	369	375	360	326	333	362	326	382	333	310	337	365	10,153	total

Transition of workers' number of workplace of fatal and non-fatal accidents in 0111 nonferrous metal making in Japan (1999-2022)

Workers scale	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	total	Workers scale
10-29	142	136	156	157	120	151	140	138	128	122	94	100	84	109	108	95	105	81	97	97	74	71	78	90	2,673	10-29
100-299	95	100	83	78	62	68	61	76	75	94	67	60	72	63	67	52	51	76	57	75	77	63	63	90	1,725	100-299
50-99	80	93	84	74	87	70	78	87	93	91	57	69	45	54	60	57	51	79	55	67	57	53	66	53	1,660	50-99
30-49	85	83	82	101	70	75	69	91	89	72	53	54	62	59	45	50	52	53	48	58	48	44	52	53	1,548	30-49
300 workers or more	54	50	47	54	37	53	38	41	61	54	48	34	48	31	32	34	24	23	34	38	44	34	44	45	1,002	300 workers or more
9 workers or less	104	112	111	82	88	93	99	76	74	70	53	52	58	59	48	38	50	50	35	47	33	45	34	34	1,545	9 workers or less
total	560	574	563	546	464	510	485	509	520	503	372	369	369	375	360	326	333	362	326	382	333	310	337	365	10,153	total

Transition of occurred months of fatal and non-fatal accidents in 0111 nonferrous metal making in Japan (1999-2022)

Month	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	total	Month
December	41	46	37	29	29	37	25	37	27	41	34	35	24	22	16	23	23	20	20	32	14	21	31	41	705	December

March	48	55	45	53	40	50	39	40	59	49	35	33	40	30	24	29	19	34	37	36	28	36	33	37	929	March
October	29	45	39	44	36	44	45	54	40	44	30	43	32	34	44	31	21	22	19	27	31	32	25	35	846	October
May	50	58	48	47	50	35	33	36	41	40	30	37	27	29	35	26	33	32	31	31	26	22	30	31	858	May
September	50	43	48	47	36	52	42	49	42	49	24	21	24	20	36	30	21	31	29	32	31	24	28	31	840	September
November	52	54	54	45	28	41	42	46	33	32	31	19	39	39	26	30	31	22	20	32	31	28	20	31	826	November
August	44	44	42	38	46	44	53	35	42	34	29	32	22	36	35	34	18	36	29	26	33	26	26	29	833	August
January	48	44	44	46	32	52	40	43	46	45	26	21	22	42	28	22	37	33	26	27	27	29	23	29	832	January
July	56	37	54	62	46	41	41	46	47	43	30	29	35	34	27	30	38	39	27	48	26	23	29	28	916	July
June	53	40	53	34	47	46	41	40	45	46	40	40	39	24	27	24	32	32	30	28	28	24	31	26	870	June
February	44	56	44	40	32	41	43	31	53	42	33	29	37	31	29	28	29	43	32	32	35	25	22	25	856	February
April	45	52	55	61	42	27	41	52	45	38	30	30	28	34	33	19	31	18	26	31	23	20	39	22	842	April
total	560	574	563	546	464	510	485	509	520	503	372	369	369	375	360	326	333	362	326	382	333	310	337	365	10,153	total

Transition of prefectures of fatal and non-fatal accidents in 0111 nonferrous metal making in Japan (1999-2022)

Prefecture	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	total	Prefecture
Osaka	65	50	52		40		45	56	51	58	35	35	42	41	34	28	41	33	34	47	28	26	29	49	919	Osaka
Aichi	39	52	59		34		39	43	43	32	38	30	35	28	29	22	30	36	27	26	27	28	27	32	756	Aichi
Saitama	47	55	47		43		40	36	43	42	31	31	26	31	28	26	21	22	23	31	20	27	24	30	724	Saitama
Ibaraki	27	30	36		24		20	22	37	21	13	19	13	11	13	12	18	16	18	17	13	15	13	20	428	Ibaraki
Shizuoka	34	36	34		15		27	27	40	29	23	18	11	16	18	25	14	17	13	25	15	18	24	16	495	Shizuoka
Fukuoka	13	13	22		15		8	11	14	14	14	14	10	11	17	13	12	11	13	15	13	9	12	16	290	Fukuoka
Mie	17	19	16		21		13	8	15	16	6	15	6	13	13	8	9	9	9	4	9	11	13	14	264	Mie
Chiba	17	14	13		9		8	12	10	15	11	12	21	11	12	12	13	13	13	12	12	11	15	13	279	Chiba
Okayama	9	12	17		7		8	13	7	11	11	12	5	8	10	10	7	13	18	20	8	7	11	13	237	Okayama

Niigata	6	14	11		7		10	13	8	13	7	8	10	15	9	5	13	7	7	5	11	10	7	13	209	Niigata
Hiroshima	9	6	9		11		14	16	10	10	8	13	6	8	11	2	5	9	5	1	10	7	11	13	194	Hiroshima
Toyama	34	27	13		20		24	30	22	22	22	15	17	26	12	18	15	19	20	16	17	14	18	11	432	Toyama
Kanagawa	19	17	20		11		19	14	16	15	7	7	20	9	11	10	12	18	8	11	15	4	11	11	285	Kanagawa
Hyogo	24	22	22		21		19	17	23	22	29	13	20	18	17	16	13	13	9	14	12	10	11	10	375	Hyogo
Fukushima	14	15	15		17		8	11	15	9	4	6	5	9	17	10	8	3	6	7	6	5	13	8	211	Fukushima
Gunma	14	8	12		5		16	16	14	12	5	9	9	9	7	6	9	9	5	11	8	5	5	8	202	Gunma
Kyoto	13	13	15		14		13	14	19	14	9	9	14	9	9	6	10	7	3	7	10	6	7	7	228	Kyoto
Tokyo	28	12	17		14		10	14	10	14	10	3	6	7	10	10	6	8	3	11	7	8	2	7	217	Tokyo
Shiga	8	8	11		10		16	13	11	21	4	6	9	13	6	7	5	10	6	9	7	3	6	7	196	Shiga
Gifu	15	18	16		17		22	18	14	22	10	10	7	12	12	9	12	10	9	14	9	18	18	6	298	Gifu
Nagano	14	24	12		22		14	14	14	12	7	11	13	10	11	8	9	11	8	11	6	7	14	6	258	Nagano
Ehime	2	2	6		5		6	4	3	4	3	4	6	1		7	1	6	3	3	3	1	2	6	78	Ehime
Yamanashi	2	6	6		6		5	4	1	3	3	3	3	2	2	2	1	4	3	1	2	1	2	5	67	Yamanashi
Hokkaido	1	4	1		4		4		2	1	3	3	1	4	1	1	1	1	8	3	2	2	2	5	54	Hokkaido
Tochigi	23	18	18		13		15	21	18	8	10	10	8	12	7	13	9	8	5	12	18	12	10	4	272	Tochigi
Yamaguchi	10	10	4		1		6	5	9	8	5	3	4	3	6	4	3	7	5	5	8	5	4	4	119	Yamaguchi
Aomori	3	2	3				3	2	3	6	4	6	5		2	2	1	1	3	5	1	1	1	4	58	Aomori
Kumamoto	5	21	5		7		6	7	2	4	2	1	3	4		5	3	2	5	4	7	4	4	3	104	Kumamoto
Fukui	5	9	4		8		2	4	6	4	7	7	2	6	4	3	2	6	4	5	2	4	3	3	100	Fukui
Kagawa	5	4	7		8		2	1	4	4	3	1	4	4	3	2		3		3		2	1	3	64	Kagawa
Iwate	2	3	1		3		2	2	5	6		4	3	3	2	3		2	6	2	2	2	3	3	59	Iwate
Yamagata	10	1	7		3		8	5	6	7	2	4	2	2	4	5	3	4	8	6	3	4	4	2	100	Yamagata
Akita	6	10	6		2		3	6	8	3	5	3	3	5	2	4	3	4	3		6	8	1	2	93	Akita

Nagasaki	4		6		3		1	1	1	2	1	1	2		2	1	1	2	1	2	3			2	36	Nagasaki
Tottori		2			2		1	2	1			1	2				2	1	1			1		2	18	Tottori
Saga		1	3				4	1						1	1				1				1	2	15	Saga
Miyagi	8	2	7		9		5	10	2	5	5	7	4	2	8	3	8	7		4	4	5	2	1	108	Miyagi
Ishikawa		5	2		3		1		1	1	1	2	3	2	2		3	1	1		1	1	2	1	33	Ishikawa
Kagoshima		1	2				2		1	1	1	2	3	1	1		2		1	1	4	1		1	25	Kagoshima
Okinawa	1		1				2			1						1				1	2		1	11	Okinawa	
Kochi																	1		2			2	1	1	7	Kochi
Oita	4	2	2		2		3	2	4	5	6	3	1	2	2	1	2	2	4	3	1	2	1		54	Oita
Nara	1	1	1		2		3	5	1	2	6	5	1	1	2	5	2	3	3	4	1		1		50	Nara
Miyazaki		1	1		4		3	4	3	3		1	3	3	3	1		2		3					35	Miyazaki
Tokushima	1	3			2		2	3	1	1			1			1			1	1		1	1		19	Tokushima
Wakayama	1	1	1				1	1	2		1			1			1	1	1	1					13	Wakayama
Shimane							2	1				2					2				1				8	Shimane
total	560	574	563	546	464	510	485	509	520	503	372	369	369	375	360	326	333	362	326	382	333	310	337	365	10,153	total

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