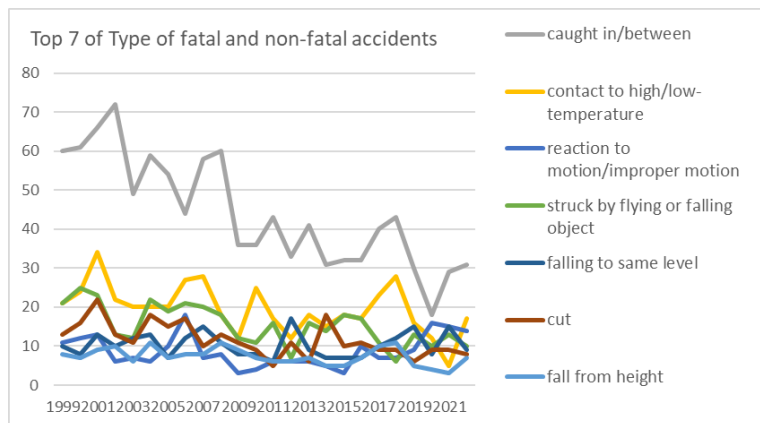
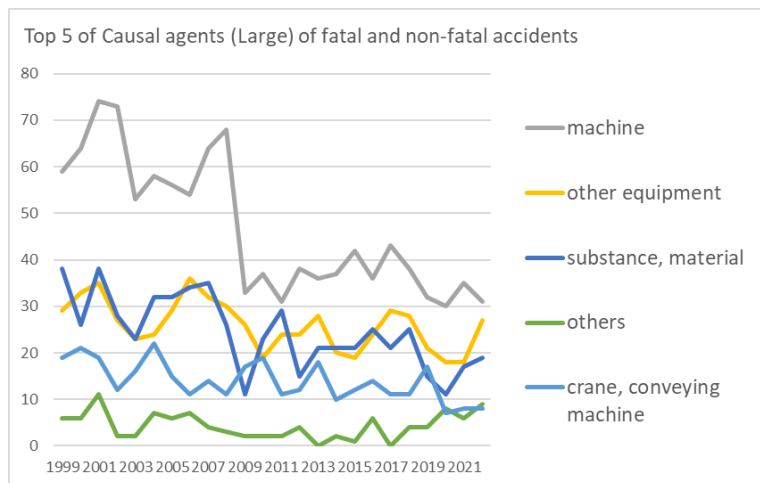


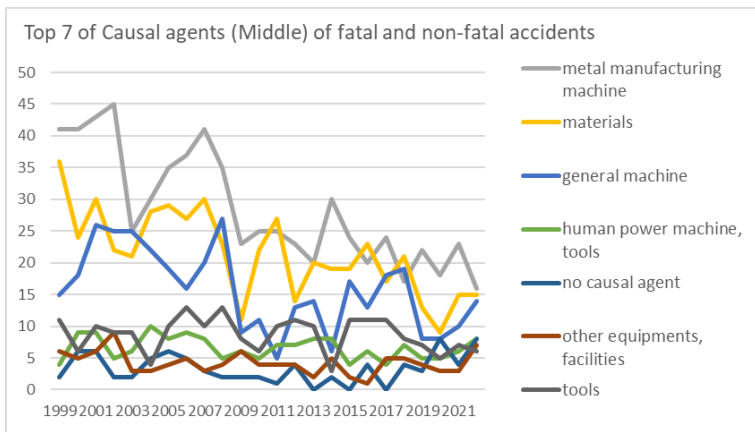
Transition of fatal and non-fatal accidents in 011102 nonferrous metals casting products in Japan (1999-2022)



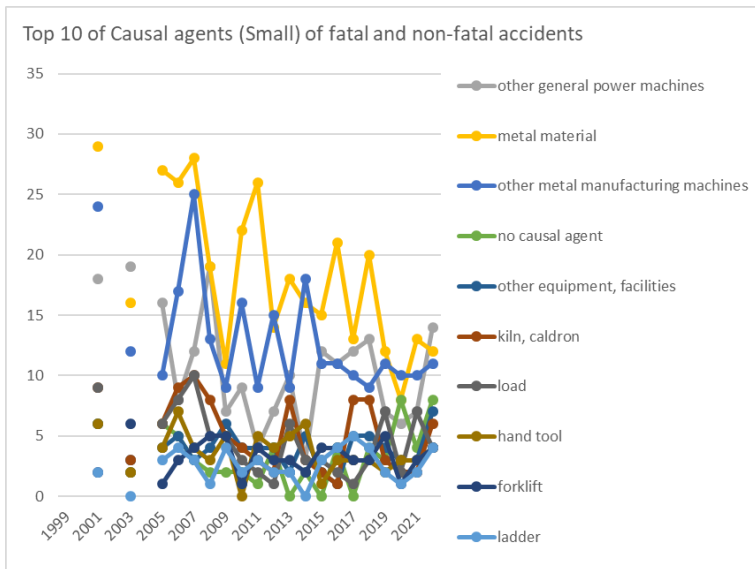
Transition of Top 7 of Type of fatal and non-fatal accidents in 011102 nonferrous metals casting products in Japan (1999-2022)



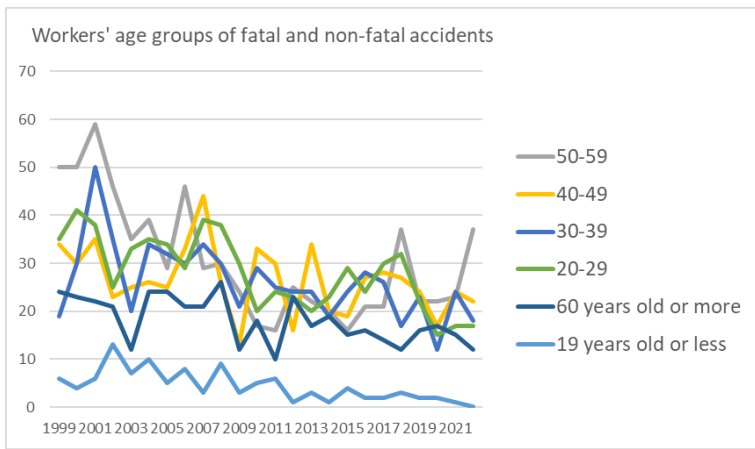
Transition of Top 5 of Causal agents (Large) of fatal and non-fatal accidents in 011102 nonferrous metals casting products in Japan (1999-2022)



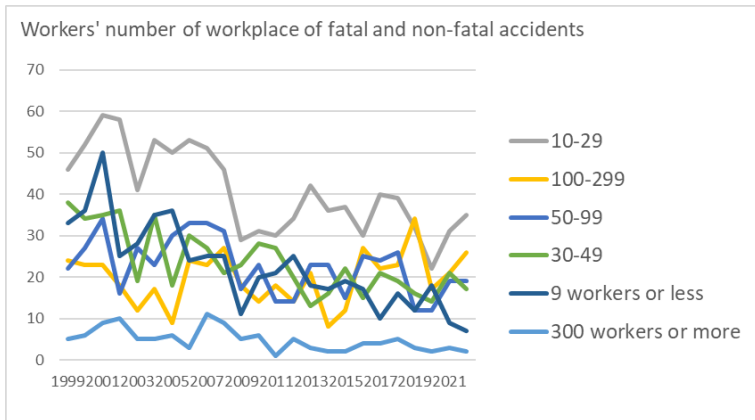
Transition of Top 7 of Causal agents (Middle) of fatal and non-fatal accidents in 011102 nonferrous metals casting products in Japan (1999-2022)



Transition of Top 10 of Causal agents (Small) of fatal and non-fatal accidents in 011102 nonferrous metals casting products in Japan (1999-2022)



Transition of workers' age groups of fatal and non-fatal accidents in 011102 nonferrous metals casting products in Japan (1999-2022)



Transition of workers' number of workplace of fatal and non-fatal accidents in 011102 nonferrous metals casting products in Japan (1999-2022)

temperature	21	24	34	22	20	20	20	27	28	18	12	25	17	12	18	15	18	17	23	28	16	12	5	17	469	high/low-temperature
reaction to motion/improper motion	11	12	13	6	7	6	10	18	7	8	3	4	6	6	6	5	3	10	7	7	9	16	15	14	209	reaction to motion/improper motion
struck by flying or falling object	21	25	23	13	12	22	19	21	20	18	12	11	16	7	16	14	18	17	11	6	13	10	13	10	368	struck by flying or falling object
falling to same level	10	8	13	10	12	13	7	12	15	11	8	8	6	17	9	7	7	7	10	12	15	8	15	9	249	falling to same level
cut	13	16	22	13	11	18	15	17	10	13	11	9	5	11	6	18	10	11	9	9	6	9	9	8	279	cut
fall from height	8	7	9	10	6	11	7	8	8	11	9	7	6	6	7	5	5	7	10	11	5	4	3	7	177	fall from height
crashed by	5	8	9	7	5	6	3	6	8	5	6	4	6	6	5	4	1	6	3	4	5	4	6	3	125	crashed by
crash	11	9	7	6	4	6	4	9	3	8	5	7	4	5	4	2	4	3	3	4	4	2	4	2	120	crash
collapse	1	2	4	1	4	1	3	2	9	5	1	6	1	4	3		5	4	2		4	1	1	2	66	collapse
fire								1	1								1						1	2	6	fire
explosion	2	2	7			1	1		3	1		1	1	2		1	1	1	2			1		1	28	explosion
traffic accident (public road)	2	3	1			1	2					2		2	4			2		1	1				21	traffic accident (public road)
contact to harmful substance	1			2	1	2	3	2		1					1				1	2			1		17	contact to harmful substance
others	1	1	1			1															1		2		7	others
injury to the sole of the foot	1		1		1		1					1						1							6	injury to the sole of the foot
burst				1										1						1					3	burst

traffic accident (others)												1															2	traffic accident (others)
unclassifiable						1											1										2	unclassifiable
drown																												drown
electric shock																												electric shock
total	168	178	210	163	132	168	149	167	170	159	103	122	111	112	120	102	107	118	121	128	109	85	104	106	3,212	total		

Transition of Causal agents (Large) of fatal and non-fatal accidents in 011102 nonferrous metals casting products 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	59	64	74	73	53	58	56	54	64	68	33	37	31	38	36	37	42	36	43	38	32	30	35	31	1,122	machine
other equipment	29	33	35	27	23	24	29	36	32	30	26	19	24	24	28	20	19	24	29	28	21	18	18	27	623	other equipment
substance, material	38	26	38	28	23	32	32	34	35	26	11	23	29	15	21	21	21	25	21	25	15	11	17	19	586	substance, material
others	6	6	11	2	2	7	6	7	4	3	2	2	2	4		2	1	6		4	4	8	6	9	104	others
crane, conveying machine	19	21	19	12	16	22	15	11	14	11	17	19	11	12	18	10	12	14	11	11	17	7	8	8	335	crane, conveying machine
temporary buildings, establishments	11	11	18	11	13	15	3	16	8	16	7	16	10	14	9	9	6	9	14	13	9	7	12	5	262	temporary buildings, establishments
load	5	14	13	6	2	6	7	8	11	5	5	5	2	3	6	3	4	2	2	4	8	3	7	4	135	load
environment	1	3	2	4		4	1	1	2		2	1	2	2	2		2	2	1	5	3	1	1	3	45	environment
total	168	178	210	163	132	168	149	167	170	159	103	122	111	112	120	102	107	118	121	128	109	85	104	106	3,212	total

Transition of Causal agents (Middle) of fatal and non-fatal accidents in 011102 nonferrous metals casting products in Japan (1999-2022)

Causal (M) 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 (M) agents
metal manufacturing machine	41	41	43	45	25	30	35	37	41	35	23	25	25	23	20	30	24	20	24	17	22	18	23	16	683	metal manufacturing machine
materials	36	24	30	22	21	28	29	27	30	23	11	22	27	14	20	19	19	23	17	21	13	9	15	15	515	materials
general machine	15	18	26	25	25	22	19	16	20	27	9	11	5	13	14	6	17	13	18	19	8	8	10	14	378	general machine
human power machine, tools	4	9	9	5	6	10	8	9	8	5	6	5	7	7	8	8	4	6	4	7	5	5	6	8	159	human power machine, tools
no causal agent	2	6	6	2	2	5	6	5	3	2	2	2	1	4		2		4		4	3	8	4	8	81	no causal agent
other equipments, facilities	6	5	6	9	3	3	4	5	3	4	6	4	4	4	2	5	2	1	5	5	4	3	3	7	103	other equipments, facilities
tools	11	6	10	9	9	4	10	13	10	13	8	6	10	11	10	3	11	11	11	8	7	5	7	6	209	tools
kiln, caldron	8	11	9	4	4	7	7	9	11	8	5	4	3	2	8	3	2	4	9	8	3	3	2	6	140	kiln, caldron
temporary buildings, establishments	11	11	18	11	13	15	3	16	8	16	7	16	10	14	9	9	6	9	14	13	9	7	12	5	262	temporary buildings, establishments
conveying machine	14	8	9	7	12	15	5	5	9	9	9	8	6	6	13	3	6	7	6	5	10	2	6	5	185	conveying machine
load	5	14	13	6	2	6	7	8	11	5	5	5	2	3	6	3	4	2	2	4	8	3	7	4	135	load

hazards, harmful substances	2	2	8	6	2	4	3	7	5	3		1	2	1	1	2	2	2	4	4	2	2	2	4	71	hazards, harmful substances
crane	5	13	9	4	4	6	8	5	4	1	8	9	5	5	4	7	6	5	5	5	6	5	2	3	134	crane
natural environment	1	3	2	4		4	1	1	2		2	1	2	2	2		2	2	1	5	3	1	1	3	45	natural environment
woodworking machine	1	3	4	2	3	5	2		2	2	1			1	1		1	2	1	2	1	4	1	1	40	woodworking machine
other causal agent	4		5			1		2	1	1			1					2			1		2	1	21	other causal agent
power transmission mechanism	2	1	1	1		1		1	1	4		1	1	1	1	1		1							18	power transmission mechanism
vehicle			1	1		1	2	1	1	1		2		1	1			2		1	1				16	vehicle
electric equipment		1	1								1										2	2			7	electric equipment
welding equipment		1			1											1		1							4	welding equipment
construction machine		1																			1		1		3	construction machine
unclassifiable						1												1							2	unclassifiable
pressure vessel																		1							1	pressure vessel
engine																										engine
mobile silviculture machine																										mobile silviculture machine

human power machine			1					1																1			1	6	human power machine	
other woodworking machines					2																							1	4	other woodworking machines
lumber, bamboo										2																		1	3	lumber, bamboo
drill press, milling machine			4		3		7	4	2	5	2		2		3	2	5	3	1	1	3	3	2					52	drill press, milling machine	
injection molding machine			3		3		2	3	4	5	2	1	1	2	2		1		2	5								36	injection molding machine	
mixer, grinder			3		1			3	2	2		1		2	2	3	2		2	1	1	2	1					28	mixer, grinder	
building, establishment			4		2		1	2	1	4		3	2	1	1	2	1		2	1			1					28	building, establishment	
lathe			2		3		3	1	1	3	3	1	1	1	1	1	1	1				1	2					27	lathe	
band sawing machine			2		1		2		1	2				1	1		1	1	1	1			1	1				16	band sawing machine	
machine/equipment as load			4				1		1				2		2			1		1	1	1	1	1	1			15	machine/equipment as load	
power transmission mechanism			1					1	1	4		1	1	1	1	1		1										13	power transmission mechanism	
industrial robot			1		1			2	2					1			1	2	2				1					13	industrial robot	
truck					1		1	1	1			1		2	3		1	1			1							13	truck	
cars, bus, motorcycle			1				2	1	1	1			2		1	1			1	1								13	cars, bus, motorcycle	
other powered crane					1		1	1	1		1				1	1	1	1			1		1					11	other powered crane	

harmful substance						3	1	2	1					1	1	1						1		11	harmful substance
other powered conveying machines			1					3	1		2	1			1									9	other powered conveying machines
other kiln, caldron				1		1		1								3	1					1		8	other kiln, caldron
forging pressure hammer			1		1			1	1	1			1											7	forging pressure hammer
circular sawing machine			2													1				1	2			6	circular sawing machine
human power cranes						1						1					1	1		1	1			6	human power cranes
explosive substance			5																1					6	explosive substance
centrifugal machine			1			1			1			1			1									5	centrifugal machine
opening			1				1				1						1			1				5	opening
inflammable gas							1								1			1	1		1			5	inflammable gas
elevator, lift			2													1			1					4	elevator, lift
transmission										1										2	1			4	transmission
roof, beam, haze, crossbeam, principal rafter			1					1							1									3	roof, beam, haze, crossbeam, principal rafter
wood planer machine									1												1			2	wood planer machine
shearing machine						1						1												2	shearing machine
roll machine (except printingroll machine)					1																	1		2	roll machine (except printingroll machine)

cargo lifting appliance																									cargo lifting appliance	
gondola																										gondola
lumberyard equipment, logging cableway																										lumberyard equipment, logging cableway
simple skyline yarding equipment																										simple skyline yarding equipment
loader																										loader
straddle carrier																										straddle carrier
rough terrain hauler																										rough terrain hauler
railway vehicle																										railway vehicle
boiler																										boiler
other pressure vessels																										other pressure vessels
chemical facilities																										chemical facilities
gas welding equipment																										gas welding equipment
industrial dryer																										industrial dryer
electric power facilities																										electric power facilities
radiation																										radiation
abnormal environment																										abnormal environment
total	168	178	210	163	132	168	149	167	170	159	103	122	111	112	120	102	107	118	121	128	109	85	104	106	3,212	total

Transition of workers' age groups of fatal and non-fatal accidents in 011102 nonferrous metals casting products in Japan (1999-2022)

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	50	50	59	46	35	39	29	46	29	30	24	17	16	25	22	20	16	21	21	37	22	22	23	37	736	50-59
40-49	34	30	35	23	25	26	25	33	44	26	13	33	30	16	34	20	19	27	28	27	24	17	24	22	635	40-49
30-39	19	30	50	35	20	34	32	30	34	30	21	29	25	24	24	19	24	28	26	17	23	12	24	18	628	30-39
20-29	35	41	38	25	33	35	34	29	39	38	30	20	24	23	20	23	29	24	30	32	22	15	17	17	673	20-29
60 years old or more	24	23	22	21	12	24	24	21	21	26	12	18	10	23	17	19	15	16	14	12	16	17	15	12	434	60 years old or more
19 years old or less	6	4	6	13	7	10	5	8	3	9	3	5	6	1	3	1	4	2	2	3	2	2	1		106	19 years old or less
total	168	178	210	163	132	168	149	167	170	159	103	122	111	112	120	102	107	118	121	128	109	85	104	106	3,212	total

Transition of workers' number of workplace of fatal and non-fatal accidents in 011102 nonferrous metals casting products 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	46	52	59	58	41	53	50	53	51	46	29	31	30	34	42	36	37	30	40	39	32	22	31	35	977	10-29
100-299	24	23	23	18	12	17	9	24	23	27	18	14	18	14	21	8	12	27	22	23	34	17	21	26	475	100-299
50-99	22	27	34	16	27	23	30	33	33	31	17	23	14	14	23	23	15	25	24	26	12	12	19	19	542	50-99
30-49	38	34	35	36	19	35	18	30	27	21	23	28	27	20	13	16	22	15	21	19	16	14	21	17	565	30-49
9 workers or less	33	36	50	25	28	35	36	24	25	25	11	20	21	25	18	17	19	17	10	16	12	18	9	7	537	9 workers or less
300 workers or more	5	6	9	10	5	5	6	3	11	9	5	6	1	5	3	2	2	4	4	5	3	2	3	2	116	300 workers or more
total	168	178	210	163	132	168	149	167	170	159	103	122	111	112	120	102	107	118	121	128	109	85	104	106	3,212	total

Transition of occurred months of fatal and non-fatal accidents in 011102 nonferrous metals casting products 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
March	24	23	15	18	9	17	13	15	21	15	12	8	14	10	10	9	4	9	15	17	9	13	10	15	325	March
September	13	13	22	16	14	15	10	14	12	14	6	7	2	5	14	6	7	8	8	9	7	9	7	11	249	September
February	14	13	15	6	11	15	13	8	20	14	9	10	12	15	10	10	8	15	13	11	15	7	7	10	281	February
August	12	14	20	4	10	15	17	13	15	16	9	8	8	5	8	11	8	15	13	11	13	5	12	9	271	August
November	16	18	18	13	6	11	19	15	9	9	11	9	12	13	7	7	8	7	7	8	11	9	5	9	257	November
December	14	16	11	11	7	10	7	7	10	11	5	17	8	10	7	7	8	8	8	10	5	5	10	9	221	December
April	13	17	16	27	16	7	14	17	12	12	12	8	7	7	15	8	10	3	10	8	7	9	7	8	270	April
January	10	12	12	14	8	22	15	19	9	15	5	6	8	12	7	9	14	12	8	9	12	7	7	8	260	January
May	17	19	16	10	12	15	9	10	11	10	9	13	9	9	11	5	18	5	6	10	7	6	10	8	255	May
July	14	8	20	21	12	12	5	19	20	13	7	9	9	8	12	10	12	17	13	15	5	5	10	7	283	July
June	13	13	27	13	17	15	13	14	19	12	11	14	10	11	7	10	6	9	10	10	8	4	14	6	286	June
October	8	12	18	10	10	14	14	16	12	18	7	13	12	7	12	10	4	10	10	10	10	6	5	6	254	October
total	168	178	210	163	132	168	149	167	170	159	103	122	111	112	120	102	107	118	121	128	109	85	104	106	3,212	total

Transition of prefectures of fatal and non-fatal accidents in 011102 nonferrous metals casting products 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
Aichi	18	18	28		15		14	13	19	13	13	12	10	15	14	5	12	17	9	7	10	10	10	16	298	Aichi
Osaka	19	20	19		6		17	24	18	14	12	12	13	10	15	5	6	13	12	15	11	5	11	13	290	Osaka
Saitama	18	17	21		13		11	14	10	14	8	11	8	12	12	11	12	6	10	10	8	10	6	10	252	Saitama
Okayama	4	5	14		5		5	10	5	11	9	7	4	4	7	5	3	4	9	14	3	5	7	9	149	Okayama
Fukuoka	6	7	9		9		2	5	4	5	8	6	6	3	5	3	4	3	9	1	5	1	6	6	113	Fukuoka
Nagano	8	13	7		15		11	9	11	9	5	7	7	6	6	6	7	5	7	8	3	5	7	5	167	Nagano
Hiroshima	3	4	3		4		7	10	3	2	3	6	3	4	8	2	1	3	4	1	6	3	3	5	88	Hiroshima

Shizuoka	9	5	11		4		9	9	21	10	10	9	5	7	8	11	4	8	6	12	7	6	7	4	182	Shizuoka
Gifu	8	11	6		4		5	9	9	12	4	7	3	5	6	4	6	7	7	9	5	10	8	4	149	Gifu
Hyogo	6	9	12		5		8	5	9	8	8	3	6	6	5	9	7	10	4	9	5	2		4	140	Hyogo
Tokyo	8	6	5		2		3	6	4	6	3	1	3	4	1	5	1	4		5	3	4		4	78	Tokyo
Niigata	4	6	1		1		5	4	4	7	1	4	2	6	3		7	1	2	1	6	1	1	4	71	Niigata
Yamanashi	1	4	1		4		4	3	1	1		2	3	2	2	1		3	1		1	1	1	3	39	Yamanashi
Hokkaido		1	1				2		1		1								6	2		1	2	3	20	Hokkaido
Toyama	10	7	4		4		8	3	9	5	3	7	5	6	3	5	3	5	5	1	1	3	6	2	105	Toyama
Ibaraki	4	9	14		6		5	6	6	4	1		5	1	1	2	2	3	4	2	3	1	1	2	82	Ibaraki
Kanagawa	4	6	9		2		7	1	3	4	1	2	3	1	1	1	8	2	2	4	4		1	2	68	Kanagawa
Mie	8	6	5		6				2	7	2	5	2	3	4	1	2	1	3	1	1	4	3	2	68	Mie
Fukushima	3	4	1		7		2	5	6	1		1	1	1	2	3	3	1	1	1	1		3	2	49	Fukushima
Gunma	2	2	4				1						1	2	1	2	1	3		1	1		1	2	24	Gunma
Yamagata	6	1	5		3		5	3	4	4	1	3		1	3	3	1	3	1	4	3	3	1	1	59	Yamagata
Chiba	1		2				1	1	3	3	2	2	2	1	2	1	3	1	2		1	1	4	1	34	Chiba
Nagasaki	2		4		2			1	1	1		1				1	1	1		1	3			1	20	Nagasaki
Kagoshima													3		1		1		1	1	3			1	11	Kagoshima
Tochigi	2		3		2		1	6	3	2	1		1	2		3	2	3	1	3	2	1	4		42	Tochigi
Miyagi	1	2	5		5		4	5	2	1	2	1	1		1		2	3			2	1	1		39	Miyagi
Shiga	2	1	3		3		1	3		5	1	1	1	2	1		2	1	4	1	2	1			35	Shiga
Kyoto	1	3	6		1		2		2	1	2	2	2	2	1	2			1	2	2		3		35	Kyoto
Iwate		2			1		1		4	2		1	2		2	1		2	3	2	1	2	3		29	Iwate
Yamaguchi	3	1						2			1	2	2		2	1	1		1	1	2				19	Yamaguchi

Nara							1	1			1			1	1	4		2	3	2	1		1			18	Nara	
Akita	2							3	1	1			2	2				2	1		2					16	Akita	
Ishikawa		2	2				1			1		2	2	1			2					1	2			16	Ishikawa	
Fukui		2	1		1			1	1			2		2		1				2		2				15	Fukui	
Kumamoto	3	2	2		1											1				1	1					11	Kumamoto	
Miyazaki							1	2	2	2		1				1				2						11	Miyazaki	
Tokushima	1	1						1	1	1			1			1				1		1	1			10	Tokushima	
Oita	1				1				1	1					1		1	1	1	1						9	Oita	
Ehime		1	1				1					1	2			1										7	Ehime	
Shimane							2	1				1					2									6	Shimane	
Kagawa			1							1						1										3	Kagawa	
Saga							2																			2	Saga	
Aomori								1																		1	Aomori	
Kochi																				1						1	Kochi	
Wakayama																												Wakayama
Tottori																												Tottori
Okinawa																												Okinawa
total	168	178	210	163	132	168	149	167	170	159	103	122	111	112	120	102	107	118	121	128	109	85	104	106	3,212	total		

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