API Changes							
Method name	Old value (530)	New value (610)	Marked backward compatible in 530	Interfaces affected (530)	Interface (610)	Rationale for change	Impact
Added Arguments							
						Allow items to be returned in the order in which they	
ESMF_StateGet	N/A	itemorderflag	Yes	18.7.8	19.7.8	were added	No impact
50V5 0/ / 5			Yes, but see Deprecated Interface			Consistency with other container	
ESMF_StateRemove	N/A	relaxedFlag	section	18.7.14	19.7.14	classes Allow items to be	No impact
ESMF_FieldBundleGet	N/A	itemorderflag	Yes	22.5.9	23.5.9	returned in the order in which they were added	No impact
ESMF FieldBundleGet	N/A	itemorderflag	Yes	22.5.10	23.5.10	Allow items to be returned in the order in which they were added	No impact
ESIMF_FleidBulldleGet	IN/A	itemordemag	Tes	22.5.10	23.5.10	were added	If keywords are not
ESMF FieldBundleRead	N/A	timeslice	No	22.5.15	23.5.15	Consistency and completeness of the I/O interfaces	used for the optional argument, they must now be introduced.
LOWI _i leidbulldleitead	IN/A	unieslice	INO	22.3.13	23.3.13	the I/O interfaces	If keywords are not
ESMF FieldBundleWrite	N/A	timeslice	No	22.5.30	23.5.30	Consistency and completeness of the I/O interfaces	used for the optional argument, they must now be introduced.
	N/A	overwrite	No	22.5.30	23.5.30	Consistency and completeness of the I/O interfaces	If keywords are not used for the optional argument, they must now be introduced.
	N/A	status	No	22.5.30	23.5.30	Consistency and completeness of the I/O interfaces	If keywords are not used for the optional argument, they must now be introduced.
ESMF FieldRead	N/A	variableName	No	23.6.51	24.6.51	Consistency and completeness of the I/O interfaces	If keywords are not used for the optional argument, they must now be introduced.
						Support for bit-for-	
ESMF_FieldRegrid	N/A	termorderflag	Yes	23.6.56	24.6.56	bit reproducibility Support for bit-for-	No impact
ESMF_FieldRegridStore	N/A	srcTermProcessing	Yes	23.6.58	24.6.58	bit reproducibility Support for	No impact
	N/A	pipeLineDepth	Yes	23.6.58	24.6.58	performance reproducibility	No impact
	N/A	ignoreDegenerate	Yes	23.6.58	24.6.58	Allow user to skip degenerate cells Get list of	No impact
	N/A	unmappedDstList	Yes	23.6.58	24.6.58	unmapped points	No impact

API Changes							
Method name	Old value (530)	New value (610)	Marked backward compatible in 530	Interfaces affected (530)	Interface (610)	Rationale for change	Impact
ESMF_FieldSMM	N/A	termorderflag	Yes	23.6.62	24.6.62	Support for bit-for- bit reproducibility	No impact
ESMF_FieldSMMStore	N/A	srcTermProcessing	Yes	23.6.64	24.6.64	Support for bit-for- bit reproducibility	No impact
	N/A	pipeLineDepth	Yes	23.6.64	24.6.64	Support for performance reproducibility	No impact
ESMF_FieldSMMStore	N/A	srcTermProcessing	Yes	23.6.65	24.6.65	Support for bit-for- bit reproducibility	No impact
	N/A	pipeLineDepth	Yes	23.6.65	24.6.65	Support for performance reproducibility	No impact
ESMF FieldWrite	N/A	variableName	No	23.6.67	24.6.67	Consistency and completeness of the I/O interfaces	If keywords are not used for the optional argument, they must now be introduced.
	N/A	overwrite	No	23.6.67	24.6.67	Consistency and completeness of the I/O interfaces	If keywords are not used for the optional argument, they must now be introduced.
	N/A	status	No	23.6.67	24.6.67	Consistency and completeness of the I/O interfaces	If keywords are not used for the optional argument, they must now be introduced.
	N/A	itemorderflag	Yes	24.5.9	25.5.9	Allow items to be returned in the order in which they were added	
ESMF_ArrayBundleGet		•				Allow items to be returned in the order in which they	
ESMF_ArrayBundleRead	N/A	itemorderflag	Yes	24.5.10	25.5.10 25.5.15	Consistency and completeness of the I/O interfaces	No impact If keywords are not used for the optional argument, they must now be introduced.
ESMF_ArrayBundleRead ESMF_ArrayBundleWrite	N/A	overwrite	No	24.5.15	25.5.15	Consistency and completeness of the I/O interfaces	If keywords are not used for the optional argument, they must now be introduced.
	N/A	status	No	24.5.26	25.5.26	Consistency and completeness of the I/O interfaces	If keywords are not used for the optional argument, they must now be introduced.
ESMF_ArrayRedistStore	N/A	pipeLineDepth	Yes	25.5.28	26.5.28	Support for bit-for- bit reproducibility	No impact
ESMF_ArrayRedistStore	N/A	pipeLineDepth	Yes	25.5.29	26.5.29	Support for bit-for- bit reproducibility	No impact

API Changes							
Method name	Old value (530)	New value (610)	Marked backward compatible in 530	Interfaces affected (530)	Interface (610)	Rationale for change	Impact
ESMF_ArraySMM	N/A	termorderflag	Yes	25.5.33	26.5.33	Support for bit-for- bit reproducibility	No impact
ESMF_ArraySMMStore	N/A	srcTermProcessing	Yes	25.5.35	26.5.35	Support for bit-for- bit reproducibility	No impact
	N/A	pipeLineDepth	Yes	25.5.35	26.5.35	Support for performance reproducibility	No impact
ESMF_ArraySMMStore	N/A	srcTermProcessing	Yes	25.5.36	26.5.36	Support for bit-for- bit reproducibility	No impact
	N/A	pipeLineDepth	Yes	25.5.36	26.5.36	Support for performance reproducibility	No impact
ESMF ArrayWrite	N/A	overwrite	No	25.5.38	26.5.38	Consistency and completeness of the I/O interfaces	If keywords are not used for the optional argument, they must now be introduced.
	N/A	status	No	25.5.38	26.5.38	Consistency and completeness of the I/O interfaces	If keywords are not used for the optional argument, they must now be introduced.
						Allow user to select coordinate	
ESMF_GridCreate	N/A	coordNames	No	28.6.14	29.6.13	to use in file Support for creating XGrid	No impact
ESMF_XGridCreate	N/A	sideAMesh	No	31.6.4	32.6.4	from Mesh	No impact
	N/A	sideBMesh	No	31.6.4	32.6.4	Support for creating XGrid from Mesh	No impact
	N/A	sideAMeshPriority	No	31.6.4	32.6.4	Support for creating XGrid from Mesh	No impact
	N/A	sideBMeshPriority	No	31.6.4	32.6.4	Support for creating XGrid from Mesh	No impact
ESMF_XGridCreateFromSparseMat	N/A	sideAMesh	No	31.6.5	32.6.5	Support for creating XGrid from Mesh	No impact
	N/A	sideBMesh	No	31.6.5	32.6.5	Support for creating XGrid from Mesh	No impact
	N/A	sideAMeshPriority	No	31.6.5	32.6.5	Support for creating XGrid from Mesh	No impact
	N/A	sideBMeshPriority	No	31.6.5	32.6.5	Support for creating XGrid from Mesh	No impact

API Changes							
Method name	Old value (530)	New value (610)	Marked backward compatible in 530	Interfaces affected (530)	Interface (610)	Rationale for change	Impact
						Support for	
						retrieving a Mesh	
ESMF_XGridGet	N/A	sideAMesh	No	31.6.7	32.6.7	from XGrid	No impact
						Support for	
	N/A	sideBMesh	No	31.6.7	32.6.7	retrieving a Mesh from XGrid	No impact
	I W/A	SIGEDIVIESTI	NO	31.0.7	32.0.1	Presence test for	No impact
						label without error	
ESMF_ConfigFindLabel	N/A	isPresent	Yes	43.3.4	44.3.4	being generated	No impact
						3 3	Pass
Removed Arguments							
						Consistency and	
ESME FieldWrite	annond	N/A	No	23.6.67	24.6.67	completeness of the I/O interfaces	Use the new "status"
ESMF_FieldWrite	append	IN/A	No	23.0.07	24.0.07	Consistency and	argument
						completeness of	Use the new "status"
ESMF_ArrayWrite	append	N/A	No	25.5.38	26.5.38	the I/O interfaces	argument
	прреше						a. gao
A Ob							
Arguments Name Changes						Cupport both	
						Support both Meshes and Grids	Use the new argument
ESMF_XGridCreate	sideA	sideAGrid	No	31.6.4	32.6.4	in XGrid	keyword.
_Xondoreate	Sidert	Side/ (Sild	140	01.0.4	02.0.4	Support both	KCyWord.
						Meshes and Grids	Use the new argument
	sideB	sideBGrid	No	31.6.4	32.6.4	in XGrid	keyword.
						Support both	
						Meshes and Grids	
	sideAPriority	sideAGridPriority	No	31.6.4	32.6.4	in XGrid	keyword.
						Support both	
	ai da DDaia aita	aid a D Cuid Dui a uita :	NI-	24.0.4	20.0.4	Meshes and Grids	
	sideBPriority	sideBGridPriority	No	31.6.4	32.6.4	in XGrid Support both	keyword.
						Meshes and Grids	Use the new argument
ESMF_XGridCreateFromSparseMat	sideA	sideAGrid	No	31.6.5	32.6.5	in XGrid	keyword.
	0.007	0.00, 10.10	110	0.10.0	02.0.0	Support both	
						Meshes and Grids	Use the new argument
	sideB	sideBGrid	No	31.6.5	32.6.5	in XGrid	keyword.
						Support both	
						Meshes and Grids	Use the new argument
	sideAPriority	sideAGridPriority	No	31.6.5	32.6.5	in XGrid	keyword.
						Support both	114
	oido D.Driority	oido D. Crid Drio rit:	No	24.6.5	22.6.5	Meshes and Grids	_
	sideBPriority	sideBGridPriority	No	31.6.5	32.6.5	in XGrid Support both	keyword.
						Meshes and Grids	Use the new argument
ESMF_XGridGet	sideA	sideAGrid	No	31.6.7	32.6.7	in XGrid	keyword.

API Changes							
Method name	Old value (530)	New value (610)	Marked backward compatible in 530	Interfaces affected (530)	Interface (610)	Rationale for change	Impact
	sideB	sideBGrid	No	31.6.7	32.6.7	Support both Meshes and Grids in XGrid	Use the new argument keyword.
Added Interfaces							
ESMF_SciCompAssignment(=)	N/A	SciComp assignment(=)	N/A	N/A	17.4.1	Allow automatic documentation of model metadata in CESM	No impact
ESMF_SciCompOperator(==)	N/A	SciComp operator(==)	N/A	N/A	17.4.2	Allow automatic documentation of model metadata in CESM	No impact
ESMF_SciCompOperator(/=)	N/A	SciComp operator(/=)	N/A	N/A	17.4.3	Allow automatic documentation of model metadata in CESM	No impact
ESMF_SciCompCreate	N/A	ESMF_SciCompCreate	N/A	N/A	17.4.4	Allow automatic documentation of model metadata in CESM	No impact
ESMF_SciCompDestroy	N/A	ESMF SciCompDestroy	N/A	N/A	17.4.5	Allow automatic documentation of model metadata in CESM	No impact
ESMF_SciCompGet	N/A	ESMF SciCompGet	N/A	N/A	17.4.6	Allow automatic documentation of model metadata in CESM	No impact
ESMF_SciCompPrint	N/A	ESMF SciCompPrint	N/A	N/A	17.4.7	Allow automatic documentation of model metadata in CESM	No impact
						Allow automatic documentation of model metadata in	
ESMF_SciCompSet	N/A	ESMF_SciCompSet	N/A	N/A	17.4.8	CESM Allow automatic documentation of model metadata in	No impact
ESMF_SciCompValidate ESMF_StateRemove	N/A N/A	ESMF_SciCompValidate ESMF_StateRemove	N/A	N/A N/A	17.4.9	CESM Consistency with other container classes	No impact

API Changes							
Method name	Old value (530)	New value (610)	Marked backward compatible in 530	Interfaces affected (530)	Interface (610)	Rationale for change	Impact
FOME D INV. LIO		FOME D INV LIG			00.04	Allow user to generate regrid weights from grid files. The weights	
ESMF_RegridWeightGen	N/A	ESMF_RegridWeightGer	N/A	N/A	22.3.1	are written to a file. Standard ESMF	No impact
ESMF_RouteHandlePrint	N/A	ESMF_RouteHandlePrint	t N/A	N/A	34.5.1	class method	No impact
ESMF_AttributeGet	N/A	ESMF_AttributeGet	N/A	N/A	37.11.8	Allow retrieval of internal object information	No impact
ESMF_AttributeGet	N/A	ESMF_AttributeGet	N/A	N/A	37.11.10	Allow retrieval of internal object information	No impact
ESMF AttributeSet	N/A	ESMF AttributeSet	N/A	N/A	37.11.28	Specify whether information is to be used for the retrieval of internal object information	No impact
ESMF_UtilSort	N/A	ESMF_UtilSort	N/A	N/A	48.4.6	Add a general purpose in-place sorting utility	No impact
Deprecated Interfaces							
ESMF_StateRemove	ESMF_StateRemove	N/A	Yes	18.7.14	19.7.14	Consistency with other container classes	No impact - but migration to the new ESMF_StateRemove interface 19.7.15 is recommended
Removed Interfaces							
ESMF GridCreate	ESMF GridCreate	N/A	No	28.6.13	N/A	Replace GFDL GridSpec package with the CIM 1.5.1 grids package	Code relying on this interface will no longer work