API Changes

Method name	Old value (870)	New value (880)	Marked backward compatible in 870	Interface (870)	Interface (880)	Rationale for change	Impact
Added Optional Arguments							
ESMF_StateGet	N/A	vm	Yes	21.7.8	21.7.8	Supports access to the VM on which the object was created.	No impact
ESMF_StateReconcile	N/A	keywordEnforcer, checkflag	No	21.7.15	21.7.14	Supports consistency checking of the reconciled State. This check requires communication and should only be used for debugging purposes.	Because of addition of the keywordEnforcer, code that was using optional arguments without keywords needs to be changed to specify keywords to compile.
ESMF_ArrayBundleGet	N/A	vm	Yes	27.5.8	27.5.8	Supports access to the VM on which the object was created.	No impact
ESMF_FieldRegridStore	N/A	transposeRoutehandle	Yes	26.6.70	26.6.71	Allows the user to get the transpose of the regrid routeHandle. This can be useful for data assimilation.	No impact
ESMF_RouteHandleGet	N/A	vm	No	37.5.4	37.5.4	Supports access to the VM on which the object was created.	No impact
NUOPC_AdvertiseFields	N/A	vm	No	3.9.4	3.9.4	Allows the user to advertise fields on a specific VM.	No impact (as long the Fortran standard will always rearrange arguments based on type)
Added Methods							
ESMF_FieldEmptyReset	N/A	N/A	No	N/A	26.6.47	Add the capability for the user to reset a Field to a less complete status.	No impact
ESMF_InfoLog	N/A	N/A	No	N/A	40.4.21	Supports writing information about Info object into the ESMF log.	No impact
ESMF_GeomAssignment(=)	N/A	N/A	No	N/A	35.2.1	Supports assignment operation between Geom objects.	No impact
ESMF_GeomOperator (==)	N/A	N/A	No	N/A	35.2.2	Supports equality operation between Geom objects.	No impact
ESMF_GeomOperator(/=)	N/A	N/A	No	N/A	35.2.3	Supports not-equal operation between Geom objects.	No impact
ESMF_GeomMatch	N/A	N/A	No	N/A	35.2.10	Add the capabiity to detect different levels of equality between Geom objects.	No impact
Removed Methods from Public							
ESMF_StateRead	ESMF_StateRead	N/A	No	21.7.14	N/A	Broken experimental interface. This is removed until better implementation is included.	If users uses this method, it will not compile. Please contact ESMF support if you have any questions.
ESMF_StateWrite	ESMF_StateWrite	N/A	No	21.7.21	N/A	Broken experimental interface. This is removed until better implementation is included.	If users uses this method, it will not compile. Please contact ESMF support if you have any questions.
ESMF_RouteHandlePrint	ESMF_RouteHandlePrint	N/A	No	37.5.6	N/A	Non-public debugging interface was accidentally made public. This is removed for correction.	If users uses this method, it will not compile. Please contact ESMF support if you have any questions.
Deprecated Classes, Methods, Arguments	**To be removed in 9.0.0**						
Deprecated Classes							
deprecated since 8.1.0:							
ESMF_Attribute	N/A	N/A	No	55	55	The underlying implementation for metadata storage has changed and is available through the native ESMF_Info API.	Code that uses the legacy ESMF_Attribute API through derived type, methods, or named constants should migrate to use the ESMF_Info class API.

Deprecated Methods							
deprecated since 5.3.1:							
ESMF_StateRemove	N/A	N/A	yes	21.7.15	21.7.15	A different overload of the method exists that is more consisent with the overall API.	Code that uses the scalar version of ESMF_StateRemove() should change to the list version.
Deprecated Arguments							
deprecated since 8.6.0:							
ESMF_VMGet	accDeviceCount	accDeviceCount	yes	51.6.19	51.6.19	Arguments that reflect ESMF's accelerator support strategy better have become available in the general ESMF_VMGet() method (51.6.18).	Code that uses the "accDeviceCount" argument should be changed to using the alternative arguments from 51.6.18.
deprecated since 8.5.0:							
ESMF_ConfigLoadFile	delayout	delayout	yes	46.3.15	47.3.16	This argument was never used internally, and it is unclear what the original intention was.	Code that currently passes the "delayout" argument into ESMF_ConfigLoadFile should be changed to not pass this argument.
deprecated since 8.1.0:							
ESMF_FieldBundleSMM	zeroregion	zeroregion	yes	25.5.33	25.5.33	Replaced with zeroregionflag for consistency.	Code that uses the "zeroregion" argument should be changed to using the "zeroregionflag" argument.
ESMF_FieldRegridStore	weights, indices	weights, indices	yes	26.6.60	26.6.67	Replaced with factorList and factorIndexList for consistency.	Code that uses the "weights" argument should be changed to using the "factorList" argument. Code that uses the "idices" argument should be changed to using the "factorIndexList" argument.
ESMF_ArrayBundleSMM	zeroregion	zeroregion	yes	27.5.23	27.5.23	Replaced with zeroregionflag for consistency.	Code that uses the "zeroregion" argument should be changed to using the "zeroregionflag" argument.
deprecated since 5.2.0rp1:							
ESMF_ArrayGet	localDeList	localDeList	yes	28.5.18	28.5.18	Replaced with localDeToDeMap for consistency.	Code that uses the "localDeList" argument should be changed to using the "localDeToDeMap" argument.