May 13, 2026

SEQR EAF Workbook Guidance Updates - Air and Climate Related Questions

(Including Flood plains, Climate Change/Resiliency/Greenhouse Gas & Air Emissions)

A list of recommended changes to the SEQR workbooks as described in a separate memo that is designed to accompany the set of recommended revisions to the EAFs. Some, but not all of the text from the workbooks has been copied into this document where a revision is suggested. Please refer to the workbooks for additional context.

Short EAF Part 1

Q. 16, Short EAF (Part 1) 100-Year or 500-Year Flood Plain

Is the project site located in the 100-year flood plain?

Background Information

Floodplains are low-lying lands next to rivers and streams. When left in a natural state, floodplain systems store and dissipate floodwaters without adverse impacts on humans, buildings, roads, and other infrastructure. Natural floodplains add to our quality of life by providing open space, habitat for wildlife, fertile land for agriculture, and opportunities for fishing, hiking, and biking.

Floodplains can be viewed as a type of natural infrastructure that can provide a safety zone between people and the damaging waters of a flood. However, more buildings, roads, and parking lots are being built where forests and meadows used to be—decreasing the land's natural ability to store and absorb water. Coupled with changing weather patterns, construction in floodplains has the potential to make floods more severe and increase everyone's chance of being flooded.

A 100-year floodplain is the area that would be inundated by the 100-year flood, defined as having a one percent or greater chance of experiencing a flood in any single year. On federal flood maps, also known as Flood Insurance Rate Maps (FIRMs), the 100-year floodplain is called a Special Flood Hazard Area. On these maps, these areas are shaded and labeled with the letter "A" or "V" sometimes followed by a number or letter.

A 500-year floodplain is the area that would be inundated by the 500-year flood, better thought of as an area that has a 0.2 percent or greater chance of experiencing a flood in any single year. On these maps, these areas of “moderate flood hazard” are either labeled “Zone B” in older maps or “Zone X (shaded)” on more recent maps. If an area is labeled “Zone X” but is unshaded, it is considered to have “minimal flood hazard” for the purposes of the FIRM.

Answering the Question

The answer to this question will be automatically inserted into the PDF generated by the EAF Mapper.

If the project site is in a 100-year floodplain, the EAF Mapper will check "yes" on the SEAF PDF. If mapping coverage is available and the project site is not in the 100-year floodplain, the EAF Mapper will check "no" on the form.

Similarly, if the project site is in a 500-year floodplain, the EAF Mapper will check "yes" on the SEAF PDF. If mapping coverage is available and the project site is not in the 500-year floodplain, the EAF Mapper will check "no" on the form.

Importantly, at present, there is only partial coverage of 100-year and 500-year floodplain mapping in New York State. 500-year floodplains are only delineated in areas where there are “detailed” flood studies (VE zones, AE or Numbered A zones). Approximate A zones do not have mapped 500-year floodplains. If the project site is located in an area where there is no or partial coverage, the EAF Mapper will check neither 'yes' nor 'no' and instead will add a message in the report found on the last page of the SEAF Part 1 PDF that says 'insufficient data to answer this question.' If this response is received (neither a "yes" nor a "no"), the project sponsor should contact the municipality in which the project is located for any additional information on floodplain mapping in the area.

If the project sponsor believes the answer completed by the EAF Mapper is incorrect, they should provide supplemental information to the reviewing agency that explains the discrepancy.

The use of the EAF Mapper is recommended. If the project sponsor does not use the EAF Mapper, they may view flood maps and other National Flood Insurance Program (NFIP) products through the FEMA Map Service Center.(link leaves DEC's website) Links on this page will allow them to view the National Flood Hazard Layer (link leaves DEC's website) using the online map viewer in areas where there are digital mapping products. Alternatively, the project sponsor may locate the effective floodplain maps using a series of community drop down search menus. The project sponsor can then view scanned versions of FIRMs.

The National Flood Hazard Layer only includes areas of the state with digital mapping; and project sponsors will need to review paper based maps where no digital maps are available. Town, village, or city halls should have copies of flood maps. The U.S. Environmental Protection Agency’s NEPAssist mapping tool (link leaves DEC's website) may also help you find floodplain information.

Answer no if there is no portion of the proposed project site within a 100-year flood plain.

Answer yes if there is any portion of the proposed project site within a 100-year flood plain.

Answer no if there is no portion of the proposed project site within a 500-year flood plain.

Answer yes if there is any portion of the proposed project site within a 500-year flood plain.

Full EAF Part 1 Question C.2.d

Is the proposed action in a municipality with an adopted comprehensive or individual plan that addresses climate change? Yes No

If yes, identify the elements of the plan that are relevant to the action.

Background

New York's zoning enabling statutes (the state statutes that give cities, towns, and villages the power to enact local zoning laws) require that zoning laws be in accordance with a comprehensive plan. The comprehensive plan provides the rationale for zoning. To understand the power to zone, one must understand the comprehensive plan. The comprehensive plan is the culmination of a planning process that establishes the official land use policy of a community and presents goals and a vision for the future that guides official decision-making. The comprehensive plan includes a thorough analysis of current data showing land development trends and issues, community resources, and public needs for transportation, recreation, and housing. Zoning is merely one method—albeit an important one—for implementing the goals of a plan. Having a comprehensive or well-considered plan ensures that forethought and planning precede zoning and land use regulations, preventing ad-hoc or purely politically-minded decisions.

A comprehensive plan is therefore an expression of town, village or city land use goals and recommended actions to achieve those goals. All land use laws in a town, village or city must be consistent with a comprehensive plan adopted under town, village or general city law.

There are other plans that have land use components and that further advance and complement the goals laid out in the comprehensive plan. These include open space plans, economic development plans, local waterfront revitalization plans, agriculture and farmland protection plans, stream management plans, or main street plans, and hazard mitigation plans (where they include site or area specific recommendations for addressing and mitigating hazards).

Municipalities have incorporated issues pertaining to climate change within these existing plans or drafted separate climate action plans or climate adaptation plans. A climate action plan is a strategy document that sets goals and outlines a set of initiatives that reduce greenhouse gas emissions. Some local governments incorporate climate adaptation strategies into their climate action plans and others create a separate climate adaptation plan to improve their community's resilience to climate change based on local physical, economic, and social vulnerabilities. Climate adaptation plans can include zoning and planning related recommendations and strategies, including climate risk reduction overlays or area specific recommendations and goals.

Climate plans may also identify areas that have particularly important community benefits that should be maintained, such as green or open space in disadvantaged communities with urban heat islands. Finally, the plans may identify vulnerabilities specific to an area, such as increased vulnerability to drought due to certain site- specific conditions or the presence of vulnerable populations.

Goals and initiatives related to climate change can also be incorporated into other local plans such as energy action plans, sustainability plans, or open space plans. For more information and examples of

plans adopted by New York municipalities please see the Climate Smart Communities Guide to Climate Action Planning.

Answering Question C.2.d

Answer "yes" to this question if the municipality where the proposed action will occur has an adopted comprehensive plan that addresses climate change or incorporated climate change considerations into another local plan. Consider the elements of the plan that are relevant to the proposed action, and list those that are relevant.

Analysis

- Does the community have an adopted comprehensive plan or other local plan?
- Do these plans include climate change strategies or goals?
    - Pay special attention to the vision, goals and maps that may be included.
- Identify specific recommendations included in the plan or plans that are applicable to the geographic area(s) in which the project is located (in whole or in part), or specific recommendations for site type(s) or site condition(s) applicable to the project location.
    - For example: a comprehensive plan may make specific recommendations for areas with specific hazards (e.g., erosion hazard areas), identify general risk mitigation areas (e.g., future flood risk overlay districts), or make recommendations for zoning types or specific neighborhoods. If the project location corresponds with any of such recommendations (e.g., contains erosion hazard areas, is wholly or partially within a flood risk overlay district, or is part of a neighborhood addressed by the plan), corresponding recommendations or requirements should be identified here.
    - Climate change considerations could include requirements to reduce GHG emissions from transportation, policies for high-performing, zero-carbon buildings, initiatives to reduce waste, recommendations to increase carbon sequestration in natural and working lands, or considerations of future risks related to climate change.

Sometimes a community has neither a comprehensive plan nor an individual plan that addresses climate change. While many communities have comprehensive plans, many land use plans contain little to no mention of climate change. Other plans with land use implications should be considered when answering this question. As time goes by and comprehensive plans get updated, they will more likely address climate change.

In answering this question, project sponsors should identify information provided in those plans and as it they relates to the project site and surrounding community, including

- site or area specific hazards identified in the plans (e.g., increased risk for flooding, landslides, drought, or urban heat island);
- site or area specific vulnerabilities (such as the presence of vulnerable populations, or vulnerabilities related to activities or other land-uses present at the project location or surrounding community); and
- specific land-use recommendations for the project location or surrounding area, including recommendation for avoidance of certain uses (e.g., avoidance of siting of critical infrastructure

in a future flood risk area), specific design or build recommendations (such as additional set-backs or elevations to accommodate risks), or recommendations for special uses (such as encouraged development or land uses to accommodate future conditions).

Full EAF Part 1 E.2.i-k

E2 j. Is the project site in the 100-year Floodplain?

Floodplains are low-lying lands next to rivers and streams. When left in a natural state, floodplain systems store and dissipate floodwaters without adverse impacts on humans, buildings, roads, and other infrastructure. Natural floodplains add to our quality of life by providing open space, habitat for wildlife, fertile land for agriculture, and opportunities for fishing, hiking, and biking.

A 100-year floodplain is the area that would be inundated by the 100-year flood, defined as having a one percent or greater chance of experiencing a flood in any single year. On federal flood maps, also known as Flood Insurance Rate Maps (FIRMs), the 100-year floodplain is called a Special Flood Hazard Area. On these maps, these areas are shaded and labeled with the letter "A" or "V" sometimes followed by a number or letter.

Floodplains can be viewed as a type of natural infrastructure that can provide a safety zone between people and the damaging waters of a flood. However, more buildings, roads, and parking lots are being built where forests and meadows used to be—decreasing the land's natural ability to store and absorb water. Coupled with changing weather patterns, construction in floodplains has the potential to make floods more severe and increase everyone's chance of being flooded.

Answering the Question

The answer to this question will be automatically inserted into the PDF generated by the EAF Mapper.

If the project site is in a 100-year floodplain, the EAF Mapper will check "yes" on the SEAF PDF. If mapping coverage is available and the project site is not in the 100-year floodplain, the EAF Mapper will check "no" on the form.

Importantly, at present, there is only partial coverage of 100-year floodplain mapping in New York State. If the project site is located in an area where there is no or partial coverage, the EAF Mapper will check neither 'yes' nor 'no' and instead will add a message in the report found on the last page of the SEAF Part 1 PDF that says 'insufficient data to answer this question.' If this response is received (neither a "yes" nor a "no"), the project sponsor should contact the municipality in which the project is located for any additional information on floodplain mapping in the area.

If the project sponsor believes the answer completed by the EAF Mapper is incorrect, they should provide supplemental information to the reviewing agency that explains the discrepancy.

The use of the EAF Mapper is recommended. If the project sponsor does not use the EAF Mapper, they may view flood maps and other National Flood Insurance Program (NFIP) products through the FEMA Map Service Center.(link leaves DEC's website) Links on this page will allow them to view the National Flood Hazard Layer (link leaves DEC's website) using the online map viewer in areas where there are digital mapping products. Alternatively, the project sponsor may locate the effective floodplain maps using a series of community drop down search menus. The project sponsor can then view scanned versions of FIRMs.

The National Flood Hazard Layer only includes areas of the state with digital mapping; and project sponsors will need to review paper based maps where no digital maps are available. Town, village, or city halls should have copies of flood maps. The U.S. Environmental Protection Agency's NEPAssist mapping tool (link leaves DEC's website) may also help you find floodplain information.

Answer no if there is no portion of the proposed project site within a 100-year flood plain.

Answer yes if there is any portion of the proposed project site within a 100-year flood plain.

E2 k. Is the project site in the 500-year floodplain?

Floodplains are low-lying lands next to rivers and streams. When left in a natural state, floodplain systems store and dissipate floodwaters without adverse impacts on humans, buildings, roads, and other infrastructure. Natural floodplains add to our quality of life by providing open space, habitat for wildlife, fertile land for agriculture, and opportunities for fishing, hiking, and biking.

A 500-year floodplain is the area that would be inundated by the 500-year flood, better thought of as an area that has a 0.2 percent or greater chance of experiencing a flood in any single year. On these maps, these areas of "moderate flood hazard" are either labeled "Zone B" in older maps or "Zone X (shaded)" on more recent maps. If an area is labeled "Zone X" but is unshaded, it is considered to have "minimal flood hazard" for the purposes of the FIRM.

Floodplains can be viewed as a type of natural infrastructure that can provide a safety zone between people and the damaging waters of a flood. However, more buildings, roads, and parking lots are being built where forests and meadows used to be—decreasing the land's natural ability to store and absorb water. Coupled with changing weather patterns, construction in floodplains has the potential to make floods more severe and increase everyone's chance of being flooded.

Answering the Question

The answer to this question will be automatically inserted into the PDF generated by the EAF Mapper.

If the project site is in a 500-year floodplain, the EAF Mapper will check "yes" on the SEAF PDF. If mapping coverage is available and the project site is not in the 500-year floodplain, the EAF Mapper will check "no" on the form.

Importantly, at present, there is only partial coverage of 500-year floodplain mapping in New York State. 500-year floodplains are only delineated in areas where there are "detailed" flood studies (VE zones, AE or Numbered A zones). Approximate A zones do not have mapped 500-year floodplains. If the project site is located in an area where there is no or partial coverage, the EAF Mapper will check neither 'yes' nor 'no' and instead will add a message in the report found on the last page of the SEAF Part 1 PDF that says 'insufficient data to answer this question.' If this response is received (neither a "yes" nor a "no"), the project sponsor should contact the municipality in which the project is located for any additional information on floodplain mapping in the area.

If the project sponsor believes the answer completed by the EAF Mapper is incorrect, they should provide supplemental information to the reviewing agency that explains the discrepancy.

The use of the EAF Mapper is recommended. If the project sponsor does not use the EAF Mapper, they may view flood maps and other National Flood Insurance Program (NFIP) products through the FEMA Map Service Center (link leaves DEC's website). Links on this page will allow them to view the National Flood Hazard Layer (link leaves DEC's website) using the online map viewer in areas where there are

digital mapping products. Alternatively, the project sponsor may locate the effective floodplain maps using a series of community drop down search menus. The project sponsor can then view scanned versions of FIRMs.

The National Flood Hazard Layer only includes areas of the state with digital mapping; and project sponsors will need to review paper-based maps where no digital maps are available. Town, village, or city halls should have copies of flood maps. The U.S. Environmental Protection Agency's NEPAssist mapping tool (link leaves DEC's website) may also help you find floodplain information.

Answer no if there is no portion of the proposed project site within a 500-year flood plain.
Answer yes if there is any portion of the proposed project site within a 500-year flood plain.

Full EAF Part 1 E.5

Future Physical Climate Risks

Background

Climate change impacts are increasing across local communities in New York State. The risks of flooding, extreme heat, and seasonal drought conditions are expected to increase across the state. These risks, and community vulnerability and preparedness, are not evenly distributed across the state. Additionally, risks often vary significantly even within individual communities.

When projects incorporate future climate conditions early in their design and site selection, they may avoid significant costs associated with repairs and adjustments. For example, projects may avoid hazards and impacts where possible, maximize natural features to minimize and buffer impacts, and mitigate impacts where they cannot be avoided. A project should first seek to avoid hazards and impacts, for example by siting a project outside a hazardous area. Ideally, projects incorporate elements that overall reduce an area's hazard exposure, such as increasing the overall area of vegetative cover to reduce area heat islands or improvements to an area's capacity to store and absorb stormwater runoff to reduce area vulnerabilities. Early consideration of future climate conditions can be particularly beneficial in ensuring the needs of individual projects and the community are met effectively while avoiding and minimizing future risks.

To avoid risks where possible and mitigate impacts where necessary, lead agencies must consider how future climate conditions and a proposed action interact with each other and within the broader community context. This means that future climate conditions must be considered not only for their impact on the proposed action (e.g., how future increased precipitation may expand flood impacts on a proposed action), but also for how the proposed action may affect the vulnerability of surrounding communities (e.g., an action may not cause flooding in downstream communities under current conditions, but may result in flooding with increased precipitation and runoff under future conditions).

Questions E.5 can help project sponsors and reviewing agencies determine possible impacts early on and help avoid them where necessary.

Answering Question E.5.a

Answer yes if the proposed action is vulnerable to damage from a projected 100-year flood.

To determine if a proposed action is vulnerable,[1] first determine if the proposed action is located in the projected 100-year floodplain; then determine if the proposed action may be vulnerable to flooding. A proposed action may be considered vulnerable if it is likely to experience damage, functional disruption, or reduced performance due to flooding conditions. An action also is vulnerable if it leads to such adverse effects in surrounding communities.'[1] For example, infill to reduce a project's vulnerability to future floods may shift, concentrate, or otherwise move risks to other areas or surrounding communities.

There is currently not a consistent statewide dataset to determine the projected future floodplain; instead, many areas have completed local studies that model or otherwise identify areas at risk of future flooding, including the projected 100-year floodplain. Examples include the NYSERDA Coastal New York Future Floodplain Mapper and New York City's projected future floodplain data. Some communities have delineated future flood risk areas or overlay districts as part of their comprehensive plans or zoning codes, which can be used as a proxy where the projected 100-year floodplain is not specifically modeled for a locality.

Locally specific modeling that delineates a projected 100-year floodplain should be used where available; alternatively, locally specific studies, modeling, or other mapping products that delineate a future floodplain should be used as a proxy.

The NYS Flood Risk Management Guidance (SFRMG) can be applied to approximate and accommodate future flood risks where no delineated future floodplain is available. In this case, project sponsors should answer "yes" if the proposed action is located within an area delineated by either

- the elevation and horizontal flood-hazard area that result from adding two feet (three feet for critical facilities) of freeboard to the base flood elevation and extending this level (transversely to the direction of flow in riverine situations) to its intersection with the ground;
- the vertical flood elevation and corresponding horizontal floodplain subject to flooding from the 0.2-percent annual chance flood (which may be shown as either a Zone B or Zone X (shaded) on the effective FEMA FIRM); or
- the elevation determined by a climate informed science guideline elevation in which adequate, actionable science is available (see SFRMG https://dec.ny.gov/docs/administration_pdf/crrafloodriskmgmtgdnc.pdf, p. 14).

To determine how an action affects the vulnerability of surrounding communities, project sponsors should identify or asses the anticipated runoff or downstream flows beyond the boundaries of the project sites, comparing post- and pre-action conditions under future flow conditions as identified in the SFRGM.

Answering Question E.5.b

Answer yes if the proposed action is vulnerable to damage from a projected 500-year flood.

To determine if a proposed action is vulnerable, first determine if the proposed action is located in the projected 500-year floodplain; then determine if the proposed action may be vulnerable to flooding.

[1] Vulnerability is a function of exposure (the presence of people, assets, and ecosystems in places where they could be adversely affected by hazard), sensitivity (the degree to which a system, population, or resource might be affected by said hazard), and adaptive capacity (the ability of a person, asset, or system to adjust to a hazard, take advantage of new opportunities, or cope with the change).

- A proposed action may be considered vulnerable if it is likely to lead to damage, functional disruption, reduced performance, or increased risk to people, property, or infrastructure due to flooding conditions (including at the project location or at surrounding or downstream communities), by
    - locating people or critical or sensitive structures/infrastructure in harm's way;
    - introducing land uses that may create or exacerbate downstream risks; or
    - shifting or concentrating flood risk onto surrounding communities, e.g., by introducing floodwalls or infill that has the potential to move waters off the site and onto surrounding communities.

There is currently not a consistent statewide dataset to determine the projected future 500-year floodplain; instead, many areas have completed local studies that model or otherwise identify future flood risk areas, including the projected 500-year floodplain. Examples include the NYSERDA Coastal New York Future Floodplain Mapper and New York City's projected future floodplain data. Some communities have delineated future flood risk areas or overlay districts as part of their comprehensive plans or zoning codes, which can be used as a proxy where the projected 500-year floodplain is not specifically modeled for a locality.

Locally specific modeling that delineates a projected 500-year floodplain should be used where available; alternatively, locally specific studies, modeling, or other mapping products that delineate a future flood risk area should be used as a proxy.

Where no locally specific modeling or maps are available, and until statewide data for the projected 500-year floodplain becomes available, applicants should use the most conservate available approach to approximate the projected 500-year floodplain.

At a minimum, applicants project sponsors should answer yes if the proposed action is located within an area delineated by the following approach, choosing whichever approach results in the greater area:

- Select the area affected by the current 500-year floodplain.
- Select the area of the projected 100-year floodplain using the method provided in the instructions for question E.5.a.

Answering Question E.5.c

Answer yes if the proposed action if in an area potentially affected by sea level rise.

In New York State, areas affected by sea level rise include Long Island, New York City, and tidally influenced segments of the Hudson River (extending north to the federal dam at Troy, NY). Areas outside of these regions should answer "no" to this question.

The State Flood Risk Management Guidance provides instructions for identifying the appropriate projections to use in determining if an area is potentially affected by sea level rise.

To determine if the proposed action is potentially affected by sea level rise, a project sponsor must at a minimum

- determine the level of projected sea level rise applicable to the location of the proposed action at the end of its expected useful lifespan; and
- use an available mapper to identify whether the proposed action is located within an area affected by the applicable sea level rise projection.

Determining the applicable sea level rise projections for the project:

There are different rates of observed and projected sea level rise for different areas of the state. The New York State Department of Environmental Conservation has adopted official sea level rise projections for New York State's tidal coast, including the marine coasts of Nassau and Suffolk counties (Long Island region), the main stem of the Hudson River, south from the mouth of Rondout Creek at Kingston, New York, and the marine coast of the five boroughs of New York City and the Long Island Sound in Westchester County (Lower Hudson-New York City region), and the main stem of the Hudson River, from the federal dam at Troy to the mouth of Rondout Creek at Kingston, New York (Mid-Hudson Region). Projections are available for 2030s, 2050s, 2080s, 2100, and 2150. The projections are included in 6 NYCRR Part 490.

- Based on the project location, use the sea level rise projections for the applicable region(s) in New York State: Mid-Hudson, Lower Hudson – New York City, or Long Island regions.
- Use the projection for the decade closest to the end of the expected useful lifespan of the project.
    - Use the projection for the decade closed to the end of the expected useful lifespan for the project (e.g., 2030s for projects ending in 2030-2039) – otherwise the following decade projection should be used (e.g., 2050s for projects with an expected useful lifespan ending in 2041).

Proposed actions that include critical project components such as facilities and/or infrastructure, particularly those with a long service life, or for which failure would be catastrophic, should take more protective measures to assess that the project components remain in service and accessible during times of critical need. For critical infrastructure projects where existing design or engineering standards or guidance for determining criticality do not exist, for the purposes of SEQR only, criticality can be determined by whether or not the project, if it were to be inundated or destroyed by flooding, is likely to result in significant disruption or danger to human or ecological systems or surrounding communities. If by that or other means, the proposed action is found to contain critical project components, the high sea level rise projection should be used. For all other projects, the medium sea level rise projection should be used.

Several mappers exist to help project sponsors identify if a proposed action is likely affected by sea level rise, including, but not limited to, the NOAA Sea Level Rise Viewer, NYSERDA Sea Level Rise Viewer, NYC Flood Hazard Mapper, and DEC Environmental Resource Mapper. Where a mapper does not allow users to select the specific sea level rise applicable to the proposed action, the values for the nearest amounts (rounded up) should be referenced.

Answering Questions E.5.d.i-vii – GENERAL INSTRUCTIONS

Background

The proposed action may be vulnerable to future physical climate risks or increase the vulnerability of human or ecological communities to future climate hazards.

Questions E.5.d i-vii ask if the proposed action is likely to increase the vulnerability of human or ecological communities to different climate hazards: drought, temperature extremes, extreme storms including high winds, landslides, coastal erosion, stormwater flooding, or other climate and weather hazards.

The purpose of these questions is to determine if the proposed action may contribute to the vulnerability of the surrounding area to specific climate hazards. These questions ask whether a proposed action would increase vulnerability to climate or weather hazards compared to existing conditions and in consideration of future projected conditions over the expected useful lifespan of the proposed action.

Considerations in Answering the Questions:

This section defines the general framework for answering questions E.5.d.i-vii. **Additional, hazard-specific instructions are provided below for each of the sub-question under E.5.d**

For each of the hazards, project sponsors should consider responses in the EAF describing the scale of the proposed action and its effects on the environment and relate them to hazard-specific impacts over the full expected useful lifespan of the proposed action. Sponsors should characterize the impacts on the proposed action and surrounding community that may result from conditions as they are reasonably expected to occur over its expected useful lifespan. To do so, project sponsors must, at a minimum,

- identify current and future hazards;
- characterize the vulnerability of the proposed action to current and future hazards; and
- characterize how they action may affect the vulnerability of surrounding communities.

How to identify current and future hazards

To identify and characterize current and future hazards, project sponsors should draw on existing data. Locally specific, reliable and verifiable data should be prioritized, where available. Where no more site-specific data exists, the following should be followed:

1) Projects sponsors should **identify and characterize current physical risks** as they may affect the project location and/or surrounding communities.
    - Statewide data is available at MitgateNY, which provides resources for assessing current risks at https://www.mitigateny.org/assess_risk.
    - Local hazard mitigation plans, climate action plans, climate resilience and adaptation plans, and similar locally-specific plans and resources may provide additional, more detailed data.

2) Project sponsors then should **characterize how existing risks change and new risks potentially emerge over time** and for the entire expected useful lifespan of the proposed action.
    - Statewide data on future expected conditions for key hazards are available as part of the New York State Climate Impacts Assessment, including climate projections and discussions by individual hazards, economic sectors, and geographic regions. NYS DEC also offers a summary of observed and projected climate change in NYS, based on the NYS Climate Impacts Assessment.

How to Answer the Questions: Assessing Vulnerability

Project sponsors finally should **characterize how the proposed action and surrounding communities may be vulnerable to these current and future risks** by comparing expected changes to the expected performance of the proposed project. The hazard-specific instructions provided in the following sections offer additional steps for this analysis. Project sponsors should especially consider whether the proposed action may:

- increase the number of people, structures, or assets exposed to a hazard;
- characterize how the proposed action may affect the ways in which a hazard impacts the site or surrounding human or ecological communities to a hazard (e.g. hardening shorelines that may push floodwaters onto surrounding communities, introduction of heat-trapping surfaces that increase a community's exposure to extreme heat, or creation of crossings that cause upstream flooding under future flow conditions); or
- reduce the ability of the site or surrounding human or ecological communities to respond to or recover from hazard events.

Project sponsors should refer to information provided in previous questions in the EAF to inform how they determine vulnerability to the individual hazard questions, including by assessing whether responses to previous questions would change as reasonably expected future conditions occur. A list of potentially relevant EAF questions is provided below as part of the hazard-specific instructions.

Responses should be proportional to the scale of the proposed action. Answers should be based on existing information, including reasonably available local, regional, or state data sources. New climate modeling or technical studies are not required; however, readily available studies, plans, or datasets relevant to the project location should be used where applicable.

Consider the vulnerability of the site and surrounding community to the relevant hazard, including existing stressors, known constraints, and the presence of vulnerable populations or critical infrastructure.

Answer "No" when BOTH of the following conditions apply

- There are no significant changes to how often or how severely a hazard is expected to affect the location of the proposed action and surrounding communities over the project's expected useful lifespan.
- Existing or planned capacities (including those implemented as part of the proposed action) are sufficient to manage the expected future intensity, duration, and frequency of the hazard without increasing risk to the site or vulnerability of the site and surrounding community.

Answer "Yes" when the hazard is expected to occur more frequently or severely over the duration of the full expected lifespan of the proposed action; **and AT LEAST ONE of the following applies**

- The action increases exposure to a hazard under current or future conditions (for example by constructing in the future floodplain or increasing heat-trapping surfaces).
- the action reduces the capacities to cope with the impacts of a hazard under current or future expected conditions (e.g., by degrading a site's capacity to absorb precipitation under future-projected rainfall intensities);
- protective natural or built features are removed as part of the prposed action; or
- vulnerable uses (e.g., processes that require permanent power supply and cooling in areas that are expected to see significant increases in extreme heat events) or populations (e.g., senior housing located in the future floodplain) are introduced into hazard-prone areas.

When there is uncertainty, project sponsors should use a conservative approach and answer "yes" if there is reasonable potential for increased vulnerability.

The hazard-specific instructions provide additional guidance on how to complete this analysis.

A "yes" answer to any of the sub-questions under E.5.d. indicates that the proposed action may affect the ways in which future physical risks impact the project location or surrounding communities. The answers do not, by themselves, quantify the level of risk or magnitude of impact. A "yes" response does not necessarily imply that mitigation is required; however, it indicates that further evaluation of the nature and significance of the risk may be warranted by the reviewing agency as part of Part 2 of the EAF.

Helpful Resources

Statewide Climate & Hazard Data

- DEC website with general data, resources and information for considering, assessing and planning for future climate risks.
- Flood Risk Management Guidance, Coastal Erosion Hazard Area maps, floodplain mapping, drought information, Urban Heat Island maps, Sea Level Rise viewer.
- Climate Impacts Assessment - Projections , Building Decarbonization and Resilience Guidelines,
- NYS Disadvantaged Communities maps
- MitigateNY

Local Sources

- County or municipal comprehensive plans
- Local hazard mitigation plans
- Local stormwater management plans or MS4 programs
- Local Climate Adaptation and Resilience Plans

Answering Question E.5.d.i - Drought

Answer yes if the proposed action increases the vulnerability of human or ecological communities to drought.

Project sponsors should evaluate whether the proposed action increases exposure or sensitivity to drought conditions, or reduces the ability of human or ecological communities to cope with drought, compared to existing and reasonably anticipated future conditions.

This question evaluates whether the proposed action may be affected by water scarcity considering projected changes in precipitation patterns, evapotranspiration, soil moisture, and streamflow. The purpose of this question is to ensure that a proposed action is taking expected future conditions into consideration and incorporate them in their design to avoid impacts as they may arise from reasonably expected future conditions.

Even where total annual precipitation is projected to increase, the entirety of New York State is projected to face increased risks of flash droughts, longer dry periods, increased summer drought risk, and reduced

water availability during peak demand periods. For purposes of this analysis, a generally increased risk for future drought risks should be assumed.

Actions that increase water demand, reduce groundwater recharge, or affect water-dependent systems should be evaluated considering future drought risks.

Answer "no" if where projected water use associated with an action remains unchanged, see SEQR question D.2.c.

For all other projects, answer "no" if ALL of the following apply to the proposed action:

- A safe yield study, well pumping test report, or similar environmental report has been developed for the project indicating that human communities, ecological communities, and water supplies will be unaffected by the project, including under drought conditions, as long as future conditions are included in the report and finding.
- The project will incorporate drought resilience planning or measures that eliminate the potential to impact human or ecological communities during drought, including water-efficient technologies.
- Recharge and water-dependent ecosystems are maintained or enhanced.
- No indirect or cumulative impacts to water availability are expected.

Answer "yes" if drought conditions are likely to increase (more frequent or severe, year-round or seasonally, locally or widespread) over the expected lifespan of the project (whereas a general increase in the risk of flash droughts is assumed for the entirety of New York State) and **AT LEAST ONE of the following apply to the proposed action:**

- The proposed action will increase water demand or reduce water availability during droughts;
- The proposed action relies on a constrained or drought-sensitive water source (e.g., shallow groundwater, small surface water bodies, or overall-allocated systems);
- Recharge areas are reduced or impaired (e.g., through increased impervious surface or soil compaction);
- The project may adversely affect water-dependent ecosystems or users, including downstream or adjacent users;
- Drought-resilience measures are insufficient to address historical or expected conditions; or
- The proposed action introduces uses that are highly water-dependent.

<u>Determining future conditions</u>

The NYS Climate Impacts Assessment anticipated an increased risk for flash drought conditions for New York State.

To account for future conditions, the most reliable, locally specific information should be used.

At a minimum (and unless locally specific data is available), applicants should consider

- historically observed maximum drought conditions;
- impacts associated with seasonal drought as identified in the NYS Climate Impacts Assessment (https://nysclimateimpacts.org/explore-the-assessment/explore-by-hazard/); and

- consider NYS Climate Impacts Assessment projections for changes in seasonal and NYS Climate projections for average precipitation changes, monthly precipitation change projections).

Where available, project sponsors should also consider region-specific drought projections, seasonal variability, and documented trends in groundwater and surface water availability.

Additional Relevant Resources

- NYS Climate Impacts Assessment
- New York State drought declarations and regional water supply information
- Interstate Basin Commissions
- Local or regional water supply and drought emergency plans
- USGS groundwater and streamflow data
- County or municipal comprehensive plans addressing water resources

The following question in the full EAF provide relevant context on water demand, availability and dependent resources: E.2.a, E.2.b (project water sources); E.2.c (estimated water use); E.2.d (wastewater disposal method); E.2.e (consistency with water supply plans or capacity); E.3.a (project location relative to surface waters); E.3.b (groundwater resources); D.2 (existing land cover and vegetation); and D.1.e (presence of wetlands or water-dependent ecological resources).

Answering Question E.5.d.ii – Temperature Extremes

Answer yes if the proposed action increases the vulnerability of human or ecological communities to temperature extremes (hot or cold).

Answer yes if the proposed action increases the vulnerability of human or ecological communities to **temperature extremes** (hot or cold).

Project sponsors should evaluate whether the proposed action increases exposure or sensitivity to extreme heat or extreme cold, or reduces the ability of human or ecological communities to cope with temperature extremes, compared to existing conditions and reasonably anticipated future conditions.

This question evaluates whether the proposed action increases vulnerability to **extreme heat or cold**, considering projected increases in heat waves, warmer winters, reduced nighttime cooling, and greater temperature variability. Vulnerability may increase through land cover change, introduction of sensitive populations, or increased reliance on energy systems that may be stressed during extreme events.

Project sponsors should consider whether the action would:

- increase exposure to extreme heat or cold (e.g., large areas of impervious surface, removal of tree canopy, wind-exposed development);
- intensify localized heat or cold conditions (e.g., urban heat island effects, loss of shading, altered airflow);
- introduce populations or uses that are particularly sensitive to temperature extremes (e.g., outdoor workers, vulnerable populations, temperature-sensitive species);

- increase reliance on energy-intensive heating or cooling systems that may be stressed during extreme temperature events; and
- reduce natural or built features that buffer temperature extremes (e.g., vegetation, wetlands, snow retention, passive cooling or insulation features).

In addition, project sponsors should consider whether the proposed action may contribute to cumulative heat island effects or localized microclimate changes at the neighborhood or community scale.

Answer "no" if ALL of the following apply to the proposed action:

- Vegetation and shading are maintained or enhanced, and no net increase in localized heat or cold exposure is expected.
- Buildings meet high energy-efficiency standards and are designed to maintain safe indoor conditions during extreme temperature events (e.g., passive survivability).
- No new heat-vulnerable populations (e.g., housing for seniors) or uses (e.g., temperature-dependent industrial processes) are introduced by the action.
- Passive design reduces temperature sensitivity.

Answer "yes" if extreme temperature conditions are likely to increase (more frequent or severe, year-round or seasonally, locally or widespread) over the expected lifespan of the proposed action and **AT LEAST ONE of the following apply:**

- Large areas of impervious surface are created, particularly without offsetting cooling or shading measures;
- Tree canopy is removed or significantly reduced without replacement or mitigation;
- Other natural features or built features that mitigate temperature extremes are removed, degraded, or functionally reduced;
- Heat- or cold-sensitive populations, processes, or uses are introduced;
- The proposed action is dependent on continuous or high levels of heating or cooling to maintain safe or functional conditions;
- Energy demand during extreme events is substantially increased, particularly where system capacity or reliability may be constrained; or
- The proposed action may exacerbate localized heat island or cold exposure effects in surrounding areas.

<u>Relevant Resources</u>

- NYS Climate Impacts Assessment (temperature projections, heat wave frequency, and variability)
- NYS Urban Heat Island maps and planning tools
- NYSDOH extreme heat guidance, county heat health profiles, heat vulnerability index
- State and local hazard mitigation plan, MitigateNY
- Local heat vulnerability or energy resilience studies

<u>The following questions in the full EAF provide relevant context on exposure, sensitivity, and buffering capacity related to temperature extremes:</u> A.2.a and A.2.b (project site size and extent of disturbance); B.2.a (type and intensity of land use); D.2 (existing vegetation and tree canopy); E.1.a and E.1.b (energy

sources and demand); E.1.c (heating and cooling requirements); and E.6 (populations or land uses served by the project).

Answering Question E.5.d.iii – Extreme Storms, Including High Winds

Answer yes if the proposed action increases the vulnerability of human or ecological communities to extreme storms, including harsh winds.

This question addresses vulnerability to **more frequent and intense storm events**, including high winds, heavy precipitation, and associated infrastructure disruption. Climate projections indicate increasing storm intensity and the potential for compound hazard events (e.g., wind, precipitation, and flooding occurring together) and cascading impacts.

Project sponsors should evaluate whether the proposed action increases exposure or sensitivity to extreme storm events (including high winds) or reduces the ability of human or ecological communities to withstand, respond to, or recover from such events, compared to existing and reasonably anticipated future conditions.

Project Sponsors should consider whether the action would

- increase exposure to extreme storm impacts (e.g., high winds, wind-driven rain, debris);
- introduce structures, infrastructure, or land uses that are vulnerable to wind or storm damage;
- remove, degrade, or fragment natural or built features that buffer storm impacts (e.g., forests, dunes, wetlands, topographic features);
- increase the risk of secondary impacts during storms (e.g., power outages, blocked access, infrastructure failure), including interdependence between systems (e.g., energy, transportation, communications); or
- adversely affect ecological communities sensitive to storm disturbance, erosion, or habitat loss.

In addition, project sponsors should consider whether the proposed action may contribute to cumulative or area-wide increases in vulnerability, particularly where multiple systems or assets may be affected simultaneously during storm events (e.g., where a proposed action adds demand to an area with an already increased demand on local roads, draining systems).

Resources for understanding storm and wind vulnerability:

FEMA provides guidance on storm and wind vulnerabilities, and identifies common wind vulnerabilities. NYS DHSES provides hazard specific information for severe storms, including risk profiles and mitigation strategies, including for hurricanes, ice storms, snowstorms, tornados, and wind. MitigateNY NOAA provides general know-your-risk information related to extreme storms and wind.

Answer "no" if ALL of the following apply to the proposed action:

- Structures are designed to perform under projected future storm conditions.
- Natural buffers are preserved or enhanced and their protective functions are maintained.
- No critical infrastructure is affected.

Answer "yes" if extreme storms (including high wind) conditions are likely to increase (more frequent or severe, year-round or seasonally, locally or widespread) over the expected lifespan of the proposed action and **AT LEAST ONE of the following apply:**

- Storm-vulnerable structures are introduced or existing structures are made more vulnerable.
- Utilities, infrastructure, or access routes are exposed or insufficiently protected, including reliance on systems prone to failure during storm events.
- Vegetation or other natural buffers are removed, degraded, or fragmented.
- The proposed action introduces uses or infrastructure that are highly sensitive to storm-related damage or disruption.
- Critical services could be disrupted.
- The proposed action places people, critical infrastructure, or sensitive uses in areas exposed to high winds or storm-related hazards.

Relevant Resources

- NYS Climate Impacts Assessment (extreme precipitation and storm trends)
- State Hazard Mitigation Plan
- Local hazard mitigation plans
- FEMA wind and storm hazard data

The following questions in the Full EAF provide relevant context on exposure, sensitivity, and buffering capacity related to extreme storms: A.3.a and A.3.b (site location and topography); B.1.a (structures proposed); B.2.a (land use type); D.2 (vegetation disturbance); E.1.a (energy infrastructure); and E.7.a and E.7.b (transportation access).

Answering Question E.5.d.iv - Landslides

Answer yes if the proposed action increases the vulnerability of human or ecological communities to landslides.

This question evaluates whether increased precipitation intensity, soil saturation, and freeze-thaw variability may increase slope instability. Climate projections indicate heavier rainfall events that may elevate landslide risk, particularly in steep or disturbed areas.

Project sponsors should evaluate whether the proposed action increases exposure or sensitivity to landslides or slope instability, or reduces the ability of human or ecological communities to withstand, respond to, or recover from slope failure, compared to existing and reasonably anticipated future conditions.

Project Sponsors should consider whether the action

- is located on or near steep slopes, bluffs, ravines, or other areas with known or potential slope instability;

- involves grading, excavation, vegetation removal, or changes to drainage that could destabilize slopes;
- increases loading on slopes through structures, fill, or infrastructure;
- alters surface or subsurface water flow in ways that increase slope saturation or erosion; or
- affects downslope communities, infrastructure, or ecological resources that could be impacted by slope failure, including through debris movement or sediment transport.

Answer "no" if ALL of the following applies to the proposed action:

- Slopes are undisturbed and are either not steep, or are not know for slope instability, or do not have potential for slope instability.
- Drainage and vegetation are maintained or enhanced, preserving slope stability functions.
- Stabilization measures are included, are appropriate for site conditions, and are expected to perform under projected future precipitation patterns.

Answer "yes" if conditions are likely to increase landslide risk (more frequent or severe, year-round or seasonally, locally or widespread) AND there is an existing topographical potential for landslide risks; and **AT LEAST ONE of the following applies:**

- Steep slopes are disturbed, including through grading, excavation, or vegetation removal.
- Drainage changes increase slope saturation or erosion, including through concentration of runoff or altered subsurface flow.
- Development is located downslope, increasing exposure to potential slope failure.
- Stabilization measures are not included or are insufficient to address expected conditions.
- The proposed action increases loading or stress on slopes.

Relevant Resources

- NYS Climate Impacts Assessment (extreme precipitation and storm trends)
- State Hazard Mitigation Plan
- Local hazard mitigation plans
- FEMA hazard data and any available landslide susceptibility or geologic mapping resources

The following questions in the Full EAF provide relevant context on exposure, sensitivity, and buffering capacity related to landslides: A.3.a and A.3.b (site location and topography); B.1.a (structures proposed); B.2.a (land use type); D.2 (vegetation disturbance); E.1.a (energy infrastructure); and E.7.a and E.7.b (transportation access).

Answering Question E.5.d.v – Coastal Erosion

Answer yes if the proposed action increases the vulnerability of human or ecological communities to coastal erosion.

This question evaluates vulnerability to ongoing and accelerating coastal erosion, which may be exacerbated by increased storm intensity, sea level rise, fluctuating water levels, and changing wave dynamics. Project sponsors should evaluate whether the proposed action increases exposure or sensitivity to shoreline erosion or reduces the ability of human or ecological communities to cope with or adapt to erosion over time, compared to existing and reasonably anticipated future conditions.

Project sponsors should consider whether the proposed action

- is located along or near an eroding shoreline, bluff, dune, beach, or coastal bank, including areas that have been identified (e.g., through local studies) to likely become erosion-prone over time; or increase development intensity or infrastructure in such areas;
- removes or degrades natural features that stabilize shorelines (e.g., dunes, beach, bluff, vegetation, wetlands); or
- alters sediment transport, wave energy, or shoreline dynamics.

Answer "no" if ALL of the following apply to the proposed action:

- The project is not located in a coastal area.
- Natural shoreline features are preserved or enhanced, maintaining their protective functions over time.
- Structures are set back or located to account for projected future shoreline change or erosion rates.
- Nature-based stabilization is prioritized, and general stabilization measures overall are expected to remain effective throughout the project lifespan.

Answer "yes" if coastal erosion, or conditions promoting coastal erosion, are present or likely to increase (e.g., more frequent or severe, year-round or seasonally, locally or widespread) over the expected lifespan of the proposed action, and **AT LEAST ONE of the following apply**:

- Development is placed in erosion-prone areas (current or expected future based on rates of existing erosion).
- New shoreline hardening is introduced and alters sediment movement, wave energy, or natural shoreline processes; or existing hardened shorelines are degraded or not functioning as designed.
- Long-lived or hard to move structures are placed in areas subject to shoreline change, thereby increasing a potential for their exposure to future shoreline changes.
- Natural shoreline features (e.g., dune, wetlands, vegetation) are removed, degraded, or prevented from migrating inland.
- The proposed action limits the ability of shorelines or ecosystems to adapt (e.g., through coastal squeeze).
- The proposed action increases risk to adjacent or downdrift areas through changes in shoreline processes (such as shoreline hardening, installation of groins or jetties that trap sediment, dredging or channel modifications affecting sediment transport, removal of coastal wetlands that buffer wave energy).

<u>Relevant Resources</u>

- NYS Climate Impacts Assessment (sea level rise, costal processes, and erosion trends, extreme precipitation and storm trends)
- State Hazard Mitigation Plan
- Local hazard mitigation plans
- Coastal Erosion Hazard Area maps, shoreline change data, DEC Coastal Erosion Hazard Area (CEHA) maps, NOAA shoreline datasets

The following questions in the Full EAF provide relevant context on exposure, sensitivity, and buffering capacity related to coastal erosion: A.3.c (coastal location); E.1.d (coastal erosion hazard areas); D.1.a and D.1.e (coastal resources); B.1.a (structures); C.2.a (grading); and E.7.a (coastal access).

Answering Question E.5.d.vi – Stormwater Flooding

Answer yes if the proposed action increases the vulnerability of human or ecological communities to stormwater flooding

This question evaluates vulnerability to localized flooding from heavy precipitation and pluvial (rainfall-driven) flooding, which is projected to increase in frequency and intensity statewide. Project sponsors should evaluate whether the proposed action increases exposure or sensitivity to stormwater flooding, or reduces the capacity of natural or built systems to manage heavy precipitation, compared to existing and reasonably anticipated future conditions.

Project sponsors should consider whether the action would

- increase impervious surfaces or reduce infiltration, including through soil composition or loss of vegetated cover;
- be located in areas with known drainage constraints or recurring flooding;
- alter drainage patterns, conveyance, or storage of stormwater, including upstream or downstream systems;
- increase runoff volumes or peak flows during heavy rain events, including under future precipitation intensification; or
- otherwise affect downstream communities, infrastructure, or water-dependent ecosystems, including by shifting or concentrating flood impacts.

Answer "no" if all of the following apply

- runoff is reduced or unchanged under both current and projected future precipitation conditions;
- there is no-net-rise form the site applying future flow multipliers consistent with the NYS State Flood Risk Management Guidance;
- green infrastructure is incorporated and is appropriately sized and maintained to function under projected future rainfall intensities; AND
- flood-prone areas are avoided and no increase in off-site stormwater impacts is expected (no net rise under future flow conditions).

Answer "yes" if stormwater flooding, or conditions causing such flooding, are likely to increase (more frequent or severe, year-round or seasonally, locally or widespread) over the expected lifespan of the proposed action, and **AT LEAST ONE following apply**:

- large impervious areas are created, particularly without adequate infiltration, detention, or retention capacity;
- drainage systems are undersized for current and/or future expected conditions or do not accounting for projected increases in precipitation intensity;
- flood risks are shifted, concentrated, or transferred to off-site or downstream areas, including adjacent properties or drainage basins;

- existing natural drainage pathways (e.g., wetlands, swales, floodplains) are reduced or eliminated;
- the proposed action increases peak discharge rates or runoff volumes beyond the capacity of receiving systems under future conditions; or
- the proposed action increases reliance on stormwater infrastructure that may be vulnerable to overload or failure during extreme precipitation events.

Relevant Resources

- NYS State Flood Risk Management Guidance
- NYS Climate Impacts Assessment - projections
- NYS Climate Impacts Assessment – hazards overview
- State Hazard Mitigation Plan
- Local hazard mitigation plans

The following questions in the Full EAF provide relevant context on exposure, sensitivity, and buffering capacity related to stormwater flooding: A.3.d (floodplains); C.2.a (impervious surface); C.2.b (stormwater practices); D.1.b (surface waters); E.3.a (drainageways); and E.7.b (roadways).

Answering Question E.5.d.vii – Other Climate or Weather Hazards

Answer yes if the proposed action increases the vulnerability of human or ecological communities to other climate or weather hazards.

If yes, provide further details.

Answer yes if the proposed action increases the vulnerability of human or ecological communities to **other climate or weather hazards**. This question should be used to take hazards into account that are more locally specific and not otherwise covered or addressed in preceding questions – such as saltwater intrusion due to sea-level rise, ice storm, freeze-thaw cycles, wildfire smoke, or compound events. Especially, hazards that are included in local hazard mitigation or climate action plans but are not covered by the preceding questions should be addressed in this question.

Project sponsors should consider whether the proposed action increases vulnerability to climate or weather hazards not otherwise addressed, such as icing, freeze–thaw cycles, snow load, wildfire smoke, or compound events. I

Project sponsors should consider whether the action would:

- increase exposure to regionally relevant climate or weather hazards;
- introduce sensitive uses or infrastructure susceptible to these hazards;
- reduce the ability of communities or ecosystems to cope with or recover from such events; or
- otherwise exacerbate existing risks under current or projected climate conditions.

Project sponsors should identify the relevant hazard(s) and the aspect(s) of the action that increase vulnerability. The project sponsor should follow the general guidelines for review provided introductorily to this section and should also draw on guidelines for related specific hazards provided above.

Full EAF Part 2 Question 5

c. The proposed action may result in development within an area potentially affected by sea level rise.

Coastal New York State on Long Island, New York City and up the tidally influenced segments of the Hudson River (ending at the Federal Dam by Troy, NY) are affected by sea level rise. Areas outside of those areas should answer “no” to this question and are not expected to be impacted.

To determine if an action is potentially affected by sea level rise, the project sponsor must

- determine the level of expected sea level rise projected by the end of the useful lifespan of the proposed action at the location of the proposed action; and
- use an available sea level rise mapper to identify if the proposed action lies within an area likely affected by the anticipated level of sea level rise for that location.

Determining the level of expected sea level rise:

There are different rates of observed and projected sea level rise for different areas of the state. The New York State Department of Environmental Conservation has adopted official sea level rise projections for New York State for each of those areas: the Mid-Hudon region, the Lower-Hudson and New York City region, and the Long Island region. Projections are available for 2030s, 2050s, 2080s, 2100, and 2150.

- Based on the project location, use the applicable projections for the Mid-Hudson, Lower Hudson – New York City, or Long Island regions.
- The projections for the period closest to the end of the expected useful lifespan should be used.
- Where the projected useful lifespan ends within the decade of projections, those projections should be used (e.g., 2030s for projects ending in 2030-2039) – otherwise the following decade projection should be used (e.g., 2050s for projects with an expected useful lifespan ending in 2041).

For critical infrastructure projects and such projects that, if inundated or destroyed, are likely to result in significantly disruption or danger to human or ecological systems or surrounding communities the high projection should be used. For all other projects, the medium projection should be used.

Determining whether the project location is impacted by the applicable projected sea level rise:

Several **sea level rise mappers** exist to help communities identify if a proposed action is likely affected by sea level rise, including but not limited to the NOAA Sea Level Rise Viewer, NYSERDA Sea Level Rise Viewer, NYC Flood Hazard Mapper, and DEC Environmental Resource Mapper. These mappers allow users to determine inundation of land areas under different levels of future-projected sea-level rise. Where a mapper does not allow to select the specific sea level rise applicable to the proposed action, the values for the next highest level of sea level rise should be referenced.

Applicable Part 1 Information

E.5.c

Analysis

- What land disturbance or construction will take place in an area potentially affected by sea level rise?
- Will the proposed project alter the flow of water or change drainage patterns, including to defend and divert rising sea levels away from the site and potentially on adjacent coastal areas?
- What is the base flood elevation, applying the SFRMG as described above, compared to the elevation of the structure and has the project sponsor calculated the base flood elevation?
- Does the proposal meet requirements of the local municipality's floodplain management law or ordinance?
- What flood protection is proposed?
- What is the extent of recurring flooding in that location? How will the extent evolve due to SLR?
- What is the vulnerability of existing and proposed development activities?
- Are any other mitigation methods included in the proposed project to reduce flooding or flood damage?
- Could the proposed action, including proposed mitigation methods, shift flood risks to adjacent areas (e.g., by installing flood walls that will displace sea waters and storm surge to adjacent areas)?

Will there be an impact?

In determining the potential impact of an action, the lead agency should relate the proposed action to its location relative to areas likely to be affected by Sea Level Rise over the entire expected useful lifespan of the proposed action. The reviewing agency should pay particular attention to information that relates to construction activities within the likely affected area, including temporary disturbances and permanent installation of structures or infrastructure that would risk temporary or permanent inundation.

Impacts may occur even if a location is not permanently inundated by Sea Level Rise but may otherwise experience persistent or nuisance flooding (“sunny day flooding”). In determining the impact, the reviewing agency should consider the consequences of inundation and the cost of adaptation – including the potential cost of future re-location.

The following questions in the full EAF provide relevant context for evaluating exposure, sensitivity, and potential impact significance related to sea level rise: A.3.c (location in a coastal area); A.3.d (location within a floodplain); E.1.d (coastal erosion hazard areas); D.1.a and D.1.e (coastal wetlands, tidal waters, and other water-dependent ecological resources); B.1.a and B.2.a (structures and land uses proposed in coastal areas); C.2.a and C.2.b (grading, filling, shoreline modification, and stormwater management practices); E.3.a (proximity to tidal waters or surface waters); E.7.a and E.7.b (transportation access and infrastructure potentially affected by coastal flooding); and E.6 (populations or uses served by the project).

If the proposed project is not vulnerable to impacts associated with projected sea level rise, check “No, or small impact may occur.”

Small Impact:

Some examples of small impacts that might fall into this category are:

- The proposed action introduces uses designed for temporary or permanent inundation due to sea-level-rise (e.g., public use parks with features designed for inundation).

- Nature-based shoreline stabilization measures.
- Projects designed to accommodate future shoreline change or periodic flooding.

Moderate to Large Impact

Some examples of moderate to large impacts that might fall into this category are:

- New habitable structures or critical infrastructure are located in areas projected to be affected by sea level rise.
- Construction of seawalls or other defensive structures that are likely to transfer flood or erosion risks to adjacent areas.
- Long-lived infrastructure with limited ability or high costs to adapt or relocate over time.
- Actions that have the potential to introduce additional vulnerable uses, processes, or populations in areas affected by sea level rise (e.g. infrastructure that could lead to the future introduction of new housing or industrial development in vulnerable areas).
- Land uses that store chemicals or petroleum products above ground or below ground in areas subject to future flooding due to sea level rise and storm surge.
- Waste treatment or solid waste facilities located in likely future-affected area.

Full EAF Part 2 Question 6

The proposed action may include a state-regulated air emission source. An air contamination source or emission source is defined in 6 NYCRR Part 200.1(f) as “Any apparatus, contrivance or machine capable of causing emission of any air contaminant to the outdoor atmosphere, including any appurtenant exhaust system or air cleaning device. Where a process at an emission unit uses more than one apparatus, contrivance or machine in combination, the combination may be considered a single emission source.” Actions that will result in a state air pollution control permit will include an air emission source.

Air pollutants and greenhouse gases are produced by many human activities. Most pollutants come from industries that manufacture chemicals and other goods, from on- and off-road vehicles and power equipment, and from energy generating facilities that burn fossil fuels.

This question asks the reviewing agency to evaluate potential impacts from air pollution, greenhouse gas emissions, or climate change. Air pollution can harm human health, and damage elements of the ecosystem. Exposure to air pollution is associated with numerous effects on human health, including pulmonary, cardiac, vascular, and neurological impairments. High-risk groups such as the elderly, infants, pregnant people, and people with chronic heart and lung diseases are more susceptible to air pollution. Children are at greater risk because they are generally more active outdoors, and their lungs are still developing.

The Federal Clean Air Act and Article 19 of the State Environmental Conservation Law (ECL) provide the framework for the State's air pollution control program. Article 19 of the ECL was enacted to safeguard the air resources of New York against pollution; and to ensure the protection of public health and welfare, the natural resources of the State, physical property, and industrial development. *See* ECL § 19-0103.

Greenhouse gases are a type of air pollution that do not have direct health impacts but are driving global climate change. Greenhouse gas emissions and climate change impact every aspect of the environment and human communities such as through increasing vulnerabilities to extreme temperature and precipitation, flooding, and sea level rise.

The Climate Leadership and Community Protection Act (Climate Act) (L. 2019, ch. 106) set ambitious statutory targets that guide the work of State agencies tasked with contributing to the transition to a clean energy economy and addressing climate change in New York. The Climate Act established a goal of net zero emissions across all sectors of the economy by 2050, a zero emissions electric sector by 2040 and 70% of the State's electricity from renewable sources by 2030. The Climate Act requires all State agencies, offices, authorities, and divisions to prioritize reductions of GHGs and co-pollutants in Disadvantaged Communities

It is the policy of the State to require the use of all available, practical and reasonable methods to prevent and control air pollution in New York. To facilitate this policy objective, the Legislature bestowed specific powers and duties on the Department of Environmental Conservation including the power to adopt and promulgate regulations for preventing, controlling and prohibiting air pollution including greenhouse gases.

To answer this question

Review Part 1 questions D.2.f., D.2.g., and D.2.h.

If information from the applicant, or from Part 1 already identifies that an air emission from the proposed project is one that is state regulated or that the project conflicts with a local plan addressing climate change, check "yes" and then answer sub-questions (a) through (i). However, the reviewing agency may need to first evaluate and answer the sub-questions (a) through (i) to know if emissions are state regulated or if the project conflicts. These sub-questions have largely 'yes' or 'no' answers and will assist in more fully identifying which, or how many, potential air or GHG emissions will be generated and if the project considers resiliency. Taken together, these sub-questions will determine how question 6 should be answered. If the reviewing agency has information from Part 1 that indicates no state regulated air emissions are part of the proposed project or that the project does not conflict with local comprehensive or individual plans addressing climate change, then check 'no' and move to Question 7.

Identifying potential impacts

The lead agency should evaluate the following sub-questions and decide if there will be any impact. If there will be an impact, the reviewing agency must then evaluate the magnitude of that impact and decide if the impact will be small or moderate to large. Whether the impact may be characterized as small or moderate to large depends on the overall scale and context of the proposed project as described in the Introduction to Part 2. The lead agency should be reasonable when conducting this review. For additional information on the concept of reasonableness as it applies to SEQR, refer to section F in the Introduction of the SEQR Handbook (PDF) (1.9MB).

- If the proposed project exceeds a numeric threshold in a question, it is presumed to be a moderate to large impact.

- If the proposed project does not exceed a numeric threshold in a question, the reviewing agency should consider the scale and context of the project in determining if an impact may be small or moderate to large.
- These sub-questions are not meant to be exhaustive. The reviewing agency should use the "Other impacts:" sub-question to include any additional elements they feel need to be analyzed for potential impacts.

Air Pollution

a. If the proposed action requires federal or state air emission permits, the action may also have the potential to emit one or more regulated air contaminants at or above the following levels:
i. more than 100 short tons/year of carbon monoxide (CO)
ii. More than 100 short tons/year of oxides of nitrogen (NOx) outside the NYC Metropolitan Area (6 NYCRR 200.1(au)) or Long Island OR 25 short tons/year within the NYC Metropolitan Area or Long Island
iii. More than 100 short tons/year of particulate matter (PM-10, PM-2.5)
iv. More than 50 short tons/year of volatile organic compounds (VOC) outside the NYC Metropolitan Area or Long Island OR 25 short tons/year within the NYC Metropolitan Area or Long Island
v. More than 100 short tons/year of sulfur dioxide (SO2)

b. The proposed action has the potential to emit 10 short tons/year or more of any one designated hazardous air pollutant, or 25 short tons/year or more of any combination of such hazardous air pollutants.

c. The proposed action may include a heat source capable of producing more than 20 million BTUs per hour.

d. The proposed action may exceed 50% of any of the thresholds in “a” or “b” above.

e. The action may result in the combustion or thermal treatment of solid, hazardous, or hospital/medical/infectious waste.

f. The proposed action is subject to the Nonattainment New Source Review or Prevention of Significant Deterioration requirements discussed in 6 NYCRR Part 231.

Applicable Part 1 Information

D.2.f., D.2.g., and D.2.s

Analysis

Answers to sub-questions (a) through (f) all offer information that will help the reviewing agency identify risks and hazards that may occur. Most of these are 'yes' or 'no' questions. Utilize the applicant’s responses to D.2.f, D.2.g, and D.2.s to evaluate (a) through (d). Sub-questions (a) through (d) provide numeric thresholds for emissions sources. When evaluating (a) through (d) utilize the emissions information provided by the applicant to determine if the proposed action will exceed these numeric thresholds. For proposed actions that exceed these thresholds, the reviewing agency should select moderated to large impact may occur.

When evaluating sub-questions (e) and (f), the reviewing agency should utilize the applicant's responses to D.2.f, D.2.g, and D.2.s. If the applicant's response indicates a 'yes' for sub-questions (e) and (f) the reviewing agency should select moderated to large impact may occur.

If needed, the lead agency should call upon others that do have expertise in air pollution to help them evaluate risks associated with air emissions. For example, DEC's Division of Air Resources is an important resource that a reviewing agency should use to help assess potential impacts of air emissions.

In addition, the National Park Service (NPS) has published a short 24 page document: Technical Guidance on Assessing Impacts to Air Quality in NEPA and Planning Documents. This report was developed specifically for use by the NPS. However, the analytical process outlined in chapter 4 can be easily applied to a much broader range of projects if a lead agency needs assistance making this assessment. These steps are summarized here:

- Determine the level of analysis needed
    - Describe the types of pollutants proposed to be emitted
    - Estimate proposed emission levels
    - Consider the distances from the source to potential impacts
- Obtain current air quality information
- Assess the potential impact levels
    - Consider impacts on human health
    - Consider impacts to flora and fauna; soils and water
    - Consider impacts to visibility, buildings, and infrastructure

In addition to the sub-questions, answering the following will assist the reviewing agency in determining the size and importance of these impacts.

- What are the identities of the air pollutants and what are the potential health effects associated with exposure to them?
- What measures are being proposed to minimize any impacts associated with exposure to the air pollutants?

Will there be an impact?

Once it has been determined that the project involves air emissions that may affect human health, it is unlikely that there will be situations where there are no impacts at all related to those emissions. The agency may determine that there may be minimal effects or that impacts are deemed to be not significant. However, it is not likely there will be situations where there will be no impacts at all.

The size of the impact depends on a variety of factors. For instance, the emission rate, type of pollutant, and location of the source all inform the determination of the magnitude of the impact. The reviewing agency should look carefully at all the information provided by the applicant and ask appropriate questions.

Small Impact:

A small impact could occur under one or more of these circumstances:

- Air emissions will take place, but the emissions will be at a level that will not affect pollution levels off-site.
- Air emissions will take place, but the emissions will occur rarely, for short intervals of time, and the source is not located near a potentially sensitive location, such as a school, hospital, daycare center, or park.

Moderate to Large Impact:

A moderate to large impact could occur under one or more of these circumstances:

- The reviewing agency answers 'yes' to any of the (a) through (f) sub-questions.
- Air emissions will take place, and the emissions will be at a level that will affect pollution levels off-site.
- Air emissions will take place, and the emissions will occur on a regular basis, for long periods of time
- Air emissions will take place, and the source is located near a potentially conflicting use, such as a school, hospital, daycare center, or park.

Climate Change

g. The proposed action will emit more than 10,000 metric tons of CO2 equivalents per year.

h. A municipality adopted comprehensive or individual plan addressing climate change applies to the proposed action and the proposed action would materially conflict with the achievement of one or more goals of the plan related to climate change.

i. Other impacts.

Applicable Part 1 Information

D.1.b, D.2.b, D.2.d., D.2.f, D.2.g, D.2.h, D.2.j, D.2.k, D.2.p, D.2.r, D.2.s,C.2.d,E.1, E.2.h

Analysis

Answers to sub-questions (g) through (i) all offer information that will help the reviewing agency identify risks and hazards that may occur. Most of these are 'yes' or 'no' questions and the related questions in Part 1 may also include numeric thresholds.

Materials created by DEC's Office of Climate Change, Division of Air Resources, and Division of Lands and Forests are important resources that a reviewing agency should use to help assess potential impacts of greenhouse gas emissions, forest and wetland carbon, and climate change. Additionally, the reviewing agency should refer to all relevant local climate planning and goals.

GHG emissions should be reported in metric tons of CO2e. GHG emissions can be calculated using standardized formulas, or Emission Factors, based on available information—such as fuel

quantity or operational data. 10,000 metric tons of the CO2e is about the same as the annual emissions from the natural gas used in 1,900 average New York State households.

The reviewing agency may find additional information in various sections of Part 1 that relate to greenhouse gas emissions. Some of the major sources of greenhouse gas emissions are also identified in questions related to energy (D.2.k, p), wastewater (D.2.d), solid waste (D.2.r, s), and transportation (D.2.j). Additionally, forests and wetlands store carbon and can become significant sources of greenhouse gas emissions if they are not sustainably managed (D.1.b, D.2.b, E.1, E.2.h).

DEC developed a simple online tool to help estimate certain facilities GHG emissions using existing fuel utilization volumes. The GHG estimator applies GHG Emission Factors to approximate GHG emissions in CO2e.

To decide if impacts will occur, the reviewing agency should look at the available information and ask:

- If greenhouse gas emissions exceed 10,000 metric tons, could the project still be considered consistent with the local plans or goals addressing climate change?
- Is any other information provided that may indicate an inconsistency with the State or local plans or goals addressing climate change?
- Would this project supply fuels or otherwise maintain or increase reliance on fuel combustion for electricity, transportation, or building heating?
- Will additional liquid or solid waste be generated and managed in a solid waste landfill, which may increase the generation and leakage of anaerobic methane?
- Does the action consider local strategies for resiliency, or does it potentially put people, property, or the local environment at a higher risk from climate change impacts?

Will there be an impact?

If the action does not impede the State or local jurisdiction from achieving established goals or plans for addressing climate change, then it may have a small impact. If the action does not consider these plans or is inconsistent with these plans, then it may have a moderate or large impact.

Small Impact:

A small impact could occur under one or more of these circumstances:

- There are greenhouse gas emissions, but the emissions will not undermine the ability for a local jurisdiction to achieve its emission targets or plan addressing climate change.
- Specific impacts were considered in other questions, such as the impacts of flooding in Question 5, and there is no conflict or additional consideration needed to ensure that the action is consistent with local initiatives for addressing climate change.

Moderate to Large Impact:

A moderate to large impact could occur under one or more of these circumstances:

- The reviewing agency answers 'yes' to any of the (d) through (f) sub-questions.
- Greenhouse gas emissions will take place, and the action or its emissions are not consistent with a local climate plan.
- The action increases vulnerabilities to certain climate change risks, such as flooding, and there is additional consideration needed to ensure that the action will align with the local jurisdiction's strategies for addressing these impacts.

Examples

Proposed Action:

Construction of a 12,000 square foot building to be used as an antique car repair facility

[Add the following section, modeled after existing content]

Scenario 5

- The proposed project is in a community that has adopted a policy to reduce greenhouse gas emissions.
- The strategies in the local plan refer to reducing reliance on fossil fuels in buildings and vehicles, but there is no explicit prohibition adopted into zoning regulations.

Then: The action is not necessarily incompatible with the local plan even though antique cars use fossil fuels. The facility may even have a small impact, if it is constructed to minimize energy and fuel use, such as by being energy efficient or by using renewable energy or heat pumps for heating. If the new facility would significantly increase the demand for energy or fuels in the community, it could have a moderate to large impact.

i. Other impacts:

There may be other impacts identified by the reviewing agency that are not addressed by the above questions. If so, they should be identified and briefly described here.

Some proposed actions may have beneficial impacts on the environment. The reviewing agency can use the 'other' category for that purpose, too.

Full EAF Part 2 Question 20

The proposed action may be vulnerable to future physical climate risks due to climate change, or it may increase the vulnerability of human or ecological communities to such risk. The Climate Risk and Resiliency Act (CRRA) (L.2014, ch. 355), as amended by the Climate Leadership and Community Protection Act (CLCPA or Climate Law) (L. 2019, ch. 106), tasks DEC to take actions to promote adaptation and resilience, including actions to help state agencies and other entities assess future climate risks.

Question 20 requires reviewing agencies to make determinations of impact related to future climate risks. To do so, reviewing agencies must consider reasonably anticipated future conditions over the expected useful lifespan of the proposed action. The analysis should consider conditions over the entire expected useful lifespan of the proposed action and relate

them to general project information, the reviewing agency's determinations in Part 2 of the EAF, and the applicant's responses in E5.d.i-vii.

Where needed for making its determination, the reviewing agency may request information about the climate projections used by the project sponsors in answering questions E.5.d., or the assumptions used by project sponsor where no projections or models considering future conditions are available. The reviewing agency may also refer to the NYS Climate Impacts Assessment for information about projected hazards and consult local climate adaptation, hazard mitigation, resilience or other climate-specific plans where they are available.

Helpful Resources

Statewide Climate & Hazard Data

- NYS Flood Risk Management Guidance, Coastal Erosion Hazard Area (CEHA) maps, Federal Emergency Management Agency (FEMA) floodplain mapping (historic data only), DEC drought information, Urban Heat Island maps, and sea level rise viewers.
- Department of State coastal management resources, Local Waterfront Revitalization Programs
- Climate Impacts Assessment, Climate Projections, Building Decarbonization and Resilience Guidelines.
- NYS Disadvantaged Communities maps.
- MitigateNY.

Local Sources

- County or municipal comprehensive plans
- Local hazard mitigation plans
- Local stormwater management plans or MS4 programs
- Local Climate Adaptation and Resilience Plans

Applicable Part 1 Information

D.1.h, D.2.b, D.2.e, E.1.d, E.2, E.2.j, E.5.a, E.2.k, E.5.b, E.5.c, E.5.d

Analysis

Review Part 1 questions E.2.j., E.5.a., E.2.k., E.5.b., E.5.c., and E.5.d.

The reviewing agency may find additional information in various sections of Part 1 that relate to climate change adaptation. Answers to sub-questions (a) through (e) all offer information that will help the reviewing agency identify future physical climate risks and hazards that may occur. Climate change intensifies the vulnerabilities considered in reference to liquid impoundment (D.1.h), wetlands and waterbodies (D.2.b), stormwater (D.2.e), facilities that serve vulnerable members of the community (E.1.d) and natural resources (E.2).

The reviewing agency should evaluate the following sub-questions and decide if there will be any impact. The reviewing agency must then evaluate the magnitude of that impact and determine whether the impact will be small or moderate to large. These impacts are analyzed as either:

- No, or small impact may occur; or
- Moderate to large impact may occur.

The determination should reflect the overall scale, context, location, and expected useful lifespan of the proposed action, as described in the Introduction to Part 2. The reviewing agency should apply a reasonable and proportionate level of review based on the scale, complexity, and potential impacts of the proposed action. For additional information on the concept of reasonableness as it applies to SEQR, refer to section F in the Introduction of the SEQR Handbook (PDF).

- If the proposed action meets or exceeds a numeric threshold in a question, it is presumed to be a moderate to large impact.
- If the proposed project does not exceed a numeric threshold in a question, the reviewing agency should consider the scale and context of the project in determining if an impact may be small or moderate to large.
- These sub-questions are not meant to be exhaustive. The reviewing agency should use the "Other impacts" sub-question to include any additional elements they warrant analysis.

If the proposed action is not vulnerable to future physical climate risks or does not increase the vulnerability of human or ecological communities to future physical climate risk, then check “No, or small impact may occur” and move to Part 3.

If yes, answer sub-questions (a) through (j).

Will there be an Impact?

a. The proposed action is vulnerable to damage from a projected 100-year flood.

In answering this question, lead agencies should consider responses to question E.5.a, responses to related questions in Part 1, and the following:

- Is the proposed action located within a projected future floodplain?
- Would structures, infrastructure, utilities, access routes, or critical systems be exposed to projected flooding?
- To the maximum extent practicable, have future floodplains been avoided, and where avoidance is not possible, have flood proving elevation, relocation, or other resilience measures been incorporated (prioritizing natural solutions and buffers)?
- Could flooding impair operation, access, emergency response, or recovery?

There is currently not a consistent statewide dataset to determine the projected future floodplain; instead, many areas have completed local studies that model or otherwise identify future flood risk areas, including the projected 100-year flood. Examples include the NYSERDA Coastal New York Future Floodplain Mapper and New York City's projected future floodplain data. Some communities have delineated future flood risk areas or overlay districts as part of their comprehensive plans or zoning codes, which can be used as proxy where the projected 100-year flood is not specifically modeled for a locality. Locally specific modeling that delineates a projected 100-year flood should be used where available; alternatively, locally specific studies, modeling, or other mapping products that delineate a future flood risk area should be used as a proxy. If the proposed project is not vulnerable to damage from a projected 100-year flood, check "No, or small impact may occur."

Note that a proposed action may be located within a projected floodplain where it is designed to accommodate future flood conditions without adversely impacting ecological or human communities.

Small Impact:

Some examples of small impacts that might fall into this category are:

- The proposed action involves only minor or temporary uses with limited or no flood sensitivity
- Projects to restore natural features for flood risk mitigation.
- Structures are elevated or flood proved above projected future flood elevations.
- Projects that do not increase flood risks to adjacent properties or infrastructure.

Moderate to Large Impact

Some examples of moderate to large impacts that might fall into this category are:

- New habitable structures or critical infrastructure located in the projected future flood plains.
- Introduction of processing, movement, or storage of hazardous materials in future flood plain.
- Increased exposure of utilities, transportation access, or emergency services to flooding under future conditions.
- Reliance on flood protection measures that may not perform under projected future conditions.
- Actions that shift or increase flood risks to adjacent properties or surrounding communities, for example through infill.

<u>b. The proposed action is vulnerable to damage from a projected 500-year flood.</u>

In answering this question, lead agencies should consider responses to question E.5.b, responses to related questions in Part 1, and the following:

- Is the proposed action located within a projected future 500-year floodplain?
- Would structures, infrastructure, utilities, access routes, or critical systems be exposed to projected flooding?
- To the maximum extent practicable, have future floodplains been avoided, and where avoidance is not possible, have flood proving elevation, relocation, or other resilience measures been incorporated (prioritizing natural solutions and buffers)?
- Could flooding impair operation, access, emergency response, or recovery?

A 500-year floodplain is the area that would be inundated by the 500-year flood, better thought of as an area that has a 0.2 percent or greater chance of experiencing a flood in any single year. On the Flood Insurance Rate Maps (FIRM), these areas of “moderate flood hazard” are either labeled “Zone B” in older maps or are “Zone X (shaded)” on more recent maps. If an area is labeled “Zone X” but is unshaded, it is considered to have “minimal flood hazard” for the purposes of the FIRM.

If the proposed project is not vulnerable to damage from a projected 500-year flood, check “No, or small impact may occur.”

Small Impact:

Some examples of small impacts that might fall into this category are:

- Flood compatible or minimally vulnerable land-uses.
- Introduced uses are designed to reduce future flood exposure.
- Projects are elevated or designed to accommodate for future flood exposure.
- The proposed action maintains or enhances natural flood storage, drainage patterns, and floodplain connectivity.

Moderate to Large Impact

Some examples of moderate to large impacts that might fall into this category are:

- Critical infrastructure or vulnerable populations are located in the projected future floodplain.
- Large impervious surfaces or fill reduce the project location’s ability to accommodate future floods, concentrate floodwaters, or shift them to surrounding communities.
- Projects that are dependent on uninterrupted access during flood events.
- New residential development, hospitals, emergency response facilities, schools, or other critical infrastructure are located within the projected floodplain.

<u>c. The proposed action is in an area potentially affected by sea level rise.</u>

Coastal New York State on Long Island, New York City and up the tidally influenced segments of the Hudson River (ending at the Federal Dam by Troy, NY) are affected by sea level rise. Areas

outside of those areas should answer “no” to this question and are not expected to be impacted. There are different rates of observed and projected sea level rise for different areas of the state. The New York State Department of Environmental Conservation has adopted official sea level rise projections for New York State for each of those areas: the Mid-Hudon region, the Lower-Hudson and New York City region, and the Long Island region. Projections are available for 2030s, 2050s, 2080s, 2100, and 2150. For critical infrastructure projects and such projects that, if inundated or destroyed, are likely to result in significantly disruption or danger to human or ecological systems or surrounding communities the high projection should be used. For all other projects, the medium projection should be used.

To determine if an action is potentially affected by sea level rise, the project sponsor must

- determine the level of expected sea level rise projected by the end of the useful lifespan of the proposed action at the location of the proposed action; and
- use an available sea level rise mapper to identify if the proposed action lies within an area likely affected by the anticipated level of sea level rise for that location.

In answering this question, lead agencies should consider responses to question E.5.c, responses to related questions in Part 1, and the following:

- Will the proposed site be located in an area potentially affected by sea level rise?
- Could the proposed action experience temporary, chronic, nuisance, or permanent flooding over its expected useful lifespan?
- Could the proposed action alter coastal processes, shoreline movement, or flood pathways?
- What land disturbance or construction will take place in an area potentially affected by sea level rise?
- Will the proposed project alter the flow of water or change drainage patterns, including to defend and divert rising sea levels away from the site and potentially on adjacent coastal areas?
- What is the base flood elevation, applying the State Flood Risk Management Guidance (SFRMG) as described above, compared to the elevation of the structure and has the project sponsor calculated the base flood elevation?
- Does the proposal meet requirements of the local municipality's floodplain management law or ordinance?
- What flood protection is proposed?
- What is the extent of recurring flooding in that location? How will the extent evolve due to SLR?
- What is the vulnerability of existing and proposed development activities?
- Are any other mitigation methods included in the proposed project to reduce flooding or flood damage?

- Could the proposed action, including proposed mitigation methods, shift flood risks to adjacent areas (e.g., by installing flood walls that will displace sea waters and storm surge to adjacent areas)?

Will there be an impact?

In determining the potential impact of an action, the lead agency should relate the proposed action to its location relative to areas likely to be affected by Sea Level Rise over the entire expected useful lifespan of the proposed action. The reviewing agency should pay particular attention to information that relates to construction activities within the likely affected area, including temporary disturbances and permanent installation of structures or infrastructure that would risk temporary or permanent inundation.

Impacts may occur even if a location is not permanently inundated by Sea Level Rise but may otherwise experience persistent or nuisance flooding ("sunny day flooding"). In determining the impact, the reviewing agency should consider the consequences of inundation and the cost of adaptation – including the potential cost of future re-location.

The following questions in the full EAF provide relevant context for evaluating exposure, sensitivity, and potential impact significance related to sea level rise: A.3.c (location in a coastal area); A.3.d (location within a floodplain); E.1.d (coastal erosion hazard areas); D.1.a and D.1.e (coastal wetlands, tidal waters, and other water-dependent ecological resources); B.1.a and B.2.a (structures and land uses proposed in coastal areas); C.2.a and C.2.b (grading, filling, shoreline modification, and stormwater management practices); E.3.a (proximity to tidal waters or surface waters); E.7.a and E.7.b (transportation access and infrastructure potentially affected by coastal flooding); and E.6 (populations or uses served by the project).oIf the proposed project is not vulnerable to impacts associated with projected sea level rise, check "No, or small impact may occur."**Small Impact:**

Some examples of small impacts that might fall into this category are:

- The proposed action introduces uses designed for temporary or permanent inundation due to sea-level-rise (e.g., public use parks with features designed for inundation).
- Nature-based shoreline stabilization measures.
- Projects designed to accommodate future shoreline change or periodic flooding.

Moderate to Large Impact

Some examples of moderate to large impacts that might fall into this category are:

- New habitable structures or critical infrastructure are located in areas projected to be affected by sea level rise.
- Construction of seawalls or other defensive structures that are likely to transfer flood or erosion risks to adjacent areas.
- Long-lived infrastructure with limited ability or high costs to adapt or relocate over time.
- Actions that have the potential to introduce additional vulnerable uses, processes, or populations in areas affected by sea level rise (e.g. infrastructure that could lead to the future introduction of new housing or industrial development in vulnerable areas).

- Land uses that store chemicals or petroleum products above ground or below ground in areas subject to future flooding due to sea level rise and storm surge.
- Waste treatment or solid waste facilities located in likely future-affected area.

d. The proposed action is in an area potentially affected by drought.

The reviewing agency should consider whether the proposed action increases vulnerability to drought relative to existing conditions, considering future climate projections. Impacts may occur even where current water supplies are adequate if projected conditions indicate increased drought frequency or severity on a chronic or seasonal basis.

In answering this question, lead agencies should consider responses to question E.5.d-i., responses to related questions in Part 1, and the following:

- Does the proposed action increase consumptive water use?
- Does a safe yield study exist, and does it incorporate future conditions?
- Is the water supply already subject to seasonal or drought-related constraints?
- Will the action reduce groundwater recharge or baseflow?
- Are water demands highest during projected future dry periods?
- Are water-dependent ecosystems affected?
- Does the action include water-efficiency or drought-resilience measures?

The following questions in the full EAF provide relevant context on water demand, availability, and dependent resources: E.2.a and E.2.b (project water sources); E.2.c (estimated water use); E.2.d (wastewater disposal method); E.2.e (consistency with water supply plans or capacity); E.3.a (project location relative to surface waters); E.3.b (groundwater resources); D.2 (existing land cover and vegetation); and/or D.1.e (presence of wetlands or water-dependent ecological resources).

If the proposed action does not increase the vulnerability of human or ecological communities to drought, then there will be no related impacts. Check ‘No, or small impact may occur.

o**Small Impact:**

Some examples of small impacts that might fall into this category are:

- The proposed action involves redevelopment or rehabilitation with little or no increase in water demand.
- The proposed action introduces water-efficient technologies, re-use systems, drought-tolerant landscaping, or stormwater infiltration measures in such a manner that water demand is reduced compared to current usage.

- Ecological restoration or open space projects that maintain or improve groundwater recharge and dependent ecosystems.

Moderate to Large Impact

Some examples of small impacts that might fall into this category are:

- Discharges associated with the proposed action may affect streams, rivers or lakes when considering future rather than historical low flow conditions.
- Large industrial, agricultural, institutional, or residential developments that substantially increase water demand.
- Projects that contribute to cumulative demand on a constrained or drought-sensitive water source.
- Water withdrawals or land disturbance that adversely affect streams, wetlands, aquifiers, or other water-dependent ecosystems during projected future dry periods.
- The proposed action introduces processes and uses that rely on large quantities of water or are highly water dependent.

e. The proposed action is in an area potentially affected by extreme temperatures (hot or cold).

This question evaluates whether the proposed action increases vulnerability to extreme heat or cold, considering projected increases in heat waves, warmer winters, and greater temperature variability. Vulnerability may increase through land cover change, introduction of sensitive populations, or increased reliance on energy systems stressed during extreme events.

In answering this question, lead agencies should consider responses to question E.5.d-ii., responses to related questions in Part 1, and the following:

- Will vegetation or shading be removed?
- Does the action increase impervious surface area?
- Are vulnerable populations introduced, such as seniors, medically vulnerable populations, outdoor workers, etc.?
- Is the project dependent on uninterrupted heating or cooling?
- Are passive cooling, shading, insulation, and backup power measures included?

The following questions in the full EAF provide relevant context on exposure, sensitivity, and buffering capacity related to temperature extremes: A.2.a and A.2.b (project site size and disturbance); B.2.a (land use type and intensity); D.2 (vegetation and tree canopy); E.1.a and E.1.b (energy sources and demand); E.1.c (heating and cooling requirements); and E.6 (populations or land uses served).

If the project does not increase vulnerability of human or ecological communities to temperature extremes (hot or cold), then there will be no related impact. Check ‘No, or small impact may occur.’

Small Impact:

Some examples of small impacts that might fall into this category are:

- The proposed action maintains or enhances tree canopy, shading, vegetation, or open space as compared to the existing condition.
- Buildings incorporate passive cooling and heating, high-efficiency insulation, backup power, and other resilience measures.
- The proposed action reduces impervious coverage or urban heat islands effect compared to the existing condition.

Moderate to Large Impact

Some examples of small impacts that might fall into this category are:

- Large commercial, industrial, transportation, or warehouse developments that substantially increase impervious surfaces, heat retention, or human sources of waste heat without full mitigation.
- The proposed action introduces large sources of heat from human processes, such as waste heat resulting from industrial processes or the installation of large scale air conditioning, or heat pollution and air pollution associated with the introduction of large volumes of traffic.
- Housing, healthcare, correctional, or institutional facilities serving vulnerable populations are introduced without adequate temperature resilience measures.
- The proposed action could contribute to brownouts and blackouts by adding strain on a constraint power network.
- The proposed action relies on uninterrupted heating or cooling to maintain safe operations during extreme temperature events.

f. The proposed action is in an area potentially affected by extreme storms, including high winds.

This question addresses vulnerability to more frequent and intense storms, including high winds, heavy precipitation, and infrastructure disruption. Climate projections indicate increasing storm intensity and compound hazard risks.

In answering this question, lead agencies should consider responses to question E.5.d-iii., responses to related questions in Part 1, and the following:

- Is the site exposed to wind, storm surge, or other related storm hazards?
- Are structures designed to withstand projected future conditions, such as more intense coastal storms?
- Are access routes or utilities vulnerable to disruption?
- Does the action remove, degrade, or fragment natural or built features that buffer storm impacts?

The following questions in the Full EAF provide relevant context on exposure, sensitivity, and buffering capacity related to temperature extreme storms, including high winds: A.3.a and A.3.b (site location and topography); B.1.a (structures proposed); B.2.a (land use type); D.2 (vegetation disturbance); E.1.a (energy infrastructure); and E.7.a and E.7.b (transportation access).

If the project does not increase vulnerability of human or ecological communities to extreme storms, including high winds, then there will be no related impact. Check 'No, or small impact may occur.'

Small Impact:

Some examples of small impacts that might fall into this category are:

- Structures are designed to withstand observed and reasonably expected winds and are sited to accommodate for future storm surge inundation accounting for sea level rise.
- Natural buffers such as wetlands, dunes, forests, or vegetated areas are preserved or restored.
- Small-scale development projects that do not substantially increase exposure of infrastructure or utilities to storm damage.
- Utility, transportation, or communication improvements that include redundancy or resilience measures that reduce storm vulnerabilities.

Moderate to Large Impact

Some examples of small impacts that might fall into this category are:

- New critical infrastructure, distribution facilities, utility corridors, or large structures are introduced in areas that are, or are expected to be, exposed to high winds and extreme storms and do not account for such storms in their design.
- The proposed action removes forests, dunes, wetlands, or other natural storm-buffering features.

g. The proposed action is in an area potentially affected by landslides.

The reviewing agency should consider whether future precipitation conditions increase the likelihood or consequences of slope failure. The reviewing agency's findings in Part 2, questions 1 & 2 should serve as baseline to which impacts under future conditions can be compared to. In answering this question, lead agencies should consider responses to question E.5.d-iv., responses to related questions in Part 1, and the following:

- Are steep slopes, unstable soils, bluffs, ravines, or other areas with known potential for slope instability present on or adjacent to the site?
- Will grading, excavation, vegetation removal, changes to drainage, or fill disturb slopes?
- Could projected future precipitation intensity increase erosion, runoff, or soil saturation?
- Are slope stabilization, drainage, or erosion-control measures incorporated?

- Could slope failure threaten structures, infrastructure, utilities, transportation access, or ecological resources?
- Will the proposed action alter surface or subsurface water flow in ways that increase slope saturation or erosion?

The following questions in the Full EAF provide relevant context on exposure, sensitivity, and buffering capacity related to landslides and slope instability: A.3.a (topography); A.3.b (slopes over 15 percent); D.1.c (soils); D.2 (vegetation); C.2.a and C.2.b (grading and fill); and E.3.a (surface waters).

If the project does not increase vulnerability of human or ecological communities to extreme storms, including high winds, then there will be no related impact. Check 'No, or small impact may occur.'

Small Impact:

Some examples of small impacts that might fall into this category are:

- The proposed action involves minor disturbance on previously developed or gently sloping sites with low landslide susceptibility.
- Slope stabilization, drainage improvements, erosion-control practices, and vegetation retention are incorporated into the proposed action.
- Ecological restoration, reforestation, or stormwater infiltration projects improve slope stability and reduce erosion risks.

Moderate to Large Impact

Some examples of small impacts that might fall into this category are:

- Residential, commercial, transportation, or industrial uses are introduced that substantially disturb steep slopes or unstable soils.
- The proposed action removes vegetation or alters drainage patterns in ways that increase erosion or soil saturation.
- Structures, roadways, pipelines, utilities or other critical uses are located downslope of vulnerable slopes.

h. The proposed action is in an area potentially affected by coastal erosion.

This question evaluates vulnerability to ongoing and accelerating coastal erosion, which may be exacerbated by increased storm intensity and sea level rise changing wave dynamics. In answering this question, lead agencies should consider responses to question E.5.d-v., responses to related questions in Part 1, and the following:

- Is the proposed action located in or near a shoreline, bluff, dune, beach, or coastal bank, including areas that have been identified (e.g., through local studies) to likely become erosion-prone over time?

- Is the proposed action located in a Coastal Erosion Hazard Area or other erosion-prone shoreline?
- Will the proposed action alter shoreline processes, sediment movement, or natural protective features?
- Is the proposed action located in an area where future coastal erosion is reasonably expected to occur over the expected lifespan of the action?
- Could erosion threaten structures, infrastructure, utilities, public access, or ecological resources over the expected useful lifespan of the proposed action?
- Are nature-based shoreline stabilization, setbacks, relocation, or adaptive design measures incorporated?
- Could the proposed action shift erosion risks to adjacent properties or shorelines?

The following questions in the Full EAF provide relevant context on exposure, sensitivity, and buffering capacity related to costal erosion: A.3.c (coastal location); E.1.d (coastal erosion hazard areas); D.1.a and D.1.e (coastal resources); B.1.a (structures); C.2.a (grading); and E.7.a (coastal access).

If the proposed action does not increase vulnerability of human or ecological communities to coastal erosion, check “No, or small impact may occur.”

Small Impact:

Some examples of small impacts that might fall into this category are:

- The proposed action preserves or restores dunes, wetlands, beaches, bluffs, or other natural shoreline features.
- Nature-based shoreline stabilization measures, living shorelines, or managed retreat approaches are incorporated.
- Structures are set back, elevated, relocatable, or otherwise designed to accommodate future shoreline movement.
- Public access improvements, parks, trails, habitat restoration, or ecological enhancement projects are designed to tolerate periodic shoreline change.

Moderate to Large Impact

Some examples of small impacts that might fall into this category are:

- Residential, commercial, industrial, or transportation infrastructure is introduced in erosion-prone shoreline areas.
- Seawalls, revetments, bulkheads, groins, or other hardened shoreline measures alter sediment transport or transfer erosion risks to adjacent shorelines.
- Long-lived infrastructure or critical facilities are located in areas likely to experience increasing erosion exposure over time.

- The proposed action limits future shoreline migration, relocation, adaptation opportunities, or ecological resilience.

i. The proposed action is in an area potentially affected by stormwater flooding.

In answering this question, lead agencies should consider responses to question E.5.d-vi., responses to related questions in Part 1, and the following:

- Does the proposed action substantially increase impervious surfaces or reduce infiltration through soil composition or loss of vegetated cover?
- Are stormwater systems designed for projected future precipitation conditions, including are future flow multipliers applied, consistent with the NYS Stormwater Management Guidance?
- Could runoff or peak flows during heave rain events increase downstream flooding or overwhelm existing drainage systems?
- Are green infrastructure, infiltration, storage, or natural drainage measures incorporated?
- Could future precipitation intensification impair operation, transportation access, emergency response, or water quality?

The following questions in the Full EAF provide relevant context on exposure, sensitivity, and buffering capacity related to stormwater flooding: A.3.d (floodplains); C.2.a (impervious surface); C.2.b (stormwater practices); D.1.b (surface waters); E.3.a (drainageways); and E.7.b (roadways).

If the proposed action does not increase vulnerability of human or ecological communities to stormwater flooding, check “No, or small impact may occur.”

Small Impact:

Some examples of small impacts that might fall into this category are:

- The proposed action incorporates green infrastructure, infiltration practices, restored floodplains, or other stormwater retention measures that reduce runoff compared to current conditions.
- Redevelopment or rehabilitation projects reduce impervious surface area or improve existing stormwater performance compared to existing conditions.
- Stormwater management systems are designed to lead to no net rice under future flow conditions (applying flow multipliers consistent with the NYS Stormwater Management Guidance).
- Parks, open space, ecological restoration, or low-density development projects maintain natural drainage patterns and flood storage capacity.

Moderate to Large Impact

Some examples of small impacts that might fall into this category are:

- Large residential, commercial, warehouse, industrial, or transportation developments substantially increase impervious surface area without adequate mitigation.
- Stormwater systems are undersized or designed only for current precipitation conditions despite projected future rainfall intensification.
- The proposed action increases runoff volumes or peak flows that may worsen downstream flooding or overwhelm drainage infrastructure.
- Filling, grading, or development in low-lying areas reduces natural drainage capacity or shifts flood risks to surrounding communities.

j. The proposed action is in an area potentially affected by other climate or weather hazards.

This question provides reviewing agencies the ability to take hazards into account that are more locally specific and not otherwise covered or addressed in preceding questions – such as ice storm, freeze-thaw cycles, wildfire smoke, or compound events. Especially, hazards that are included in local hazard mitigation or climate action plans should be considered in this question.

- NYS Climate Impacts Assessment
- State and County Hazard Mitigation Plans
- Local Hazard Assessments
- Local Climate Plans

The review should follow the general guidelines for review provided introductorily to this section and should also draw on guidelines for related specific hazards provided above.

In answering this question, lead agencies should consider responses to question E.5.d-vii., responses to related questions in Part 1, and the general analysis instructions as provided introductorily to this section.