

Framework for a Memorandum of Understanding between NERC and the Cabinet Office Civil Contingencies Secretariat

1. Purpose of the memorandum.

The Natural Environment Research Council (NERC) is a non-governmental public body whose purpose is to support in the UK excellent environmental science, to ensure its wider public understanding, and application to business and public policy and regulation. In pursuing this role, NERC supports research at Universities, Research Institutes and Charities, and maintains national-scale atmospheric, terrestrial, and marine measurement infrastructures, services and capacities that supports research of basic and applied natures. In its role as the primary commissioner of environmental science within the UK, NERC wishes to ensure that its strategic view of the future development of environmental science is informed by the present and future needs of government departments, and that it is mindful, in considering future changes to its funding, of those research infrastructures that are of particular importance and value to departments.

Statement of Department Goals

The Civil Contingencies Secretariat (CCS) is part of the Cabinet Office National Security Secretariat. CCS's overall role is to improve the UK's resilience to absorb, respond to, and recover from disruptive challenges. As part of this, CCS is responsible for leading the UK's crisis preparedness and response programme; developing Resilience Strategies as part of the National Security Strategy; building capability for emergencies and catastrophes; improving community and corporate resilience and improving the resilience of critical infrastructure.

2. Scope of the memorandum.

To identify:

- (i) Those elements, in the form of infrastructure, services and capacities, which NERC sustains through long-term national capability funding at National Oceanography Centre ("NOC"), Centre for Ecology & Hydrology ("CEH"), British Geological Survey ("BGS") and National Centre for Atmospheric Science ("NCAS"), of which NERC should be mindful in considering changes of its funding or organization.

3. Infrastructure, services and capacities.

Statement of Department Needs: what of the present provision is important or valuable to the Department?

During emergencies CCS works closely with the Government Office for Science and the SAGE (Scientific Advisory Group for Emergencies), together relying on NERC to provide scientific and technical advice, supported by up-to-date datasets. CCS attaches particular importance to rapid access to this expertise in emergencies, but also needs and uses scientific advice provided on a less urgent basis to support policy and decision making regarding improving resilience and in response planning. CCS also supports the maintenance of NERC datasets, archives and software, including models and decision-support tools, as set out in MOUs with DECC and DEFRA that support the provision of advice in emergencies.

Emergencies are often difficult to anticipate and come in a wide variety of forms. As such it is difficult to know in advance what specialist advice will be needed rapidly; however the following sets out some of the areas where scientific advice could be sought, either to understand and respond to a current crisis, or as part of resilience and response planning activity and risk assessment.

British Geological Survey (BGS)

- Providing scientific assessment of natural geo-hazards (including groundwater flooding, drought, landslides, subsidence, coastal vulnerability, naturally occurring radon gas, earthquakes, volcanoes, tsunamis, geomagnetic (solar) storms) on a daily basis as a member of the multi-agency Natural Hazards Partnership (NHP) and Co-Chair of the NHP Hazard Impact Model group. This includes day to day provision of advice through the Daily Hazard Assessment and bespoke advice for the National Risk Assessment.
- Providing expert advice in the development of preparedness strategies for severe space weather and effusive volcanic risks. This includes co-chairing the Expert Advisory Group for Effusive Volcanoes Project.
- To advise where assessments of environmental change impacts for coastal erosion, groundwater, land instability and soil contribute to contingency planning.
- Providing advice on safe sites to evacuate people during natural disasters (eg earthquakes, groundwater floods, landslides).
- Providing advice during other national emergencies. For example in the event of human/animal pandemics (foot and mouth outbreaks or avian flu) on safe sites for subsurface disposal of animal carcasses and impacts on groundwater and drinking water supplies.

Centre for Ecology & Hydrology (CEH)

- Providing scientific assessment of natural hazards (including flooding and drought) on a daily basis as a member of the multi-agency Natural Hazards Partnership and in review of the National Risk Register including the risks of concurrent hazards. (Chair of the NHP science strategy group). This includes day to day provision of advice through the Daily Hazard Assessment and bespoke advice for the National Risk Assessment.
- To monitor environmental impacts and remediation of pollutants, eg from volcanic eruptions, Chernobyl, Fukushima and advise where they need to be considered in contingency planning.
- Provision of data and expertise in the context of air quality and human health.
- Providing advice during national emergencies in areas such as flooding and drought.

National Oceanography Centre (NOC)

- Providing scientific assessment of natural hazards (including oil spills, tsunamis, and other oceanographic and coastal flooding hazards) on a daily basis as a member of the multi-agency Natural Hazards Partnership. This includes day to day provision of advice through the Daily Hazard Assessment and bespoke advice for the National Risk Assessment.
- Leading and coordinating the marine science community, including NOC's independent delivery partners and UK universities, providing a single voice to Government and contributing to the UK Marine Science Coordinating Committee (MSCC).
- To provide tsunami risk assessment and response for the UK and NE Atlantic.
- Provide forecasting for the transport of hazardous substances through the sea.
- Provide advice in relation to oceanographic and seafloor conditions in relation to rescue and recovery operations at sea

National Centre for Atmospheric Science

- Providing scientific assessment of natural hazards (including air quality, volcanic ash and gas, plume modeling, health advice on air pollutants and effects of climate change) on a daily basis as a member of the multi-agency Natural Hazards Partnership. This includes day to day provision of advice through the Daily Hazard Assessment and bespoke advice for the National Risk Assessment.
- Provide forecasting for the transport of hazardous substances through the atmosphere and scientific expertise for the measurement of chemicals once airborne.

- Responding to national emergencies where atmospheric composition is a significant factor, e.g. Buncefield oil depot fire 2005, volcanic ash 2010 and 2011, Elgin gas platform leak 2012.
- Providing expert advice in the development of preparedness strategies for the risk of an effusive volcanic eruption.