

## Part 10c HDF5 Encoding

Consider encoding time series using the T dimension instead of separate datasets or groups

### Regular Grid

Current HDF5 Type2 S-111 v0.1.12	Restructured HDF5 Type2 Example using time dimension
Group_001 (596,433) SurfaceCurrentDirection SurfaceCurrentSpeed DateTime: 1  Group_002 (596,433) SurfaceCurrentDirection SurfaceCurrentSpeed DateTime: 1  Group_003 (596,433) SurfaceCurrentDirection SurfaceCurrentSpeed DateTime: 1	Dataset: DateTime (3) Compound Dataset: SurfaceCurrent (3, 596, 433) surfaceCurrentDirection surfaceCurrentSpeed  Regular x/y grid with three valid times

### Moving Platform

Current HDF5 Type4 S-111 v0.1.12	Restructure HDF5 Type4
Group_001(1, 384) SurfaceCurrentDirection SurfaceCurrentSpeed Group XY (1, 384) Latitude Longitude	Group: Station_001 Attribute: Title Dataset: DateTime (384) Compound Dataset: Position (384) Latitude Longitude Compound Dataset: SurfaceCurrent (384) surfaceCurrentDirection surfaceCurrentSpeed  Group: Station_002 Attribute: Title Dataset: DateTime (287) Compound Dataset: Position (287) Latitude Longitude

	<p>Compound Dataset: SurfaceCurrent (287)</p> <p>surfaceCurrentDirection</p> <p>surfaceCurrentSpeed</p> <p>2 stations; one with 287 observations, one with 384 observations – each stored in separate group</p>
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#### Fixed Station

Current HDF5 Type1 S-111 v0.1.12	Restructure Type1
<p>Group_001 (1, 481)</p> <p>SurfaceCurrentDirection</p> <p>SurfaceCurrentSpeed</p> <p>DateTime: 1</p> <p>Group_002 (1, 481)</p> <p>SurfaceCurrentDirection</p> <p>SurfaceCurrentSpeed</p> <p>DateTime: 1</p> <p>Group XY (1,4)</p> <p>Latitude</p> <p>Longitude</p>	<p>Group: Station_001</p> <p>Attribute: Title</p> <p>Compound Attribute: Position</p> <p>Latitude</p> <p>Longitude</p> <p>Dataset: DateTime (481)</p> <p>Compound Dataset: SurfaceCurrent (481)</p> <p>surfaceCurrentDirection</p> <p>surfaceCurrentSpeed</p> <p>Group: Station_002</p> <p>Attribute: Title</p> <p>Compound Attribute: Position</p> <p>Latitude</p> <p>Longitude</p> <p>Dataset: DateTime (481)</p> <p>Compound Dataset: SurfaceCurrent (481)</p> <p>surfaceCurrentDirection</p> <p>surfaceCurrentSpeed</p> <p>2 stations; each with 481 observations – each stored in separate group</p>

## Irregular Grid

Current HDF5 Type3 S-111 v0.1.12	Restructured HDF5 Type3 Example using time dimension
<p>Group_001 (1,13678)     SurfaceCurrentDirection     SurfaceCurrentSpeed     DateTime: 1</p> <p>Group_002 (1,13678)     SurfaceCurrentDirection     SurfaceCurrentSpeed     DateTime: 1</p> <p>Group_003 (1,13678)     SurfaceCurrentDirection     SurfaceCurrentSpeed     DateTime: 1</p> <p>Group_XY (1,13678)     Latitude     Longitude</p>	<p>Dataset: DateTime (3) Compound Dataset: Position (13678)     latitude     longitude Compound Dataset: SurfaceCurrent (3, 13678)     surfaceCurrentDirection     surfaceCurrentSpeed</p> <p>Irregular grid with three valid times</p>